



Appendix S

Contaminated Land Detailed Site Investigation



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Project Number 19630.000.001

Preliminary Site Investigation and Detailed Site Investigation

Wairakei South Development, Bell Road, Papamoa,

Submitted to:
Bell Road Limited Partnership
1 Golden Sands Drive
Papamoa
Tauranga

Executive Summary

ENGEО's Preliminary and Detailed Site Investigation of the Wairakei South Development, Bell Road, Papamoa, examines contamination risks associated with both past and present land use. Soil and water analyses reveals localised contamination, predominantly heavy metals, asbestos, and persistent pesticides, primarily confined to near surface topsoil and fill materials. These contaminants can be linked to activities such as sheep dipping, aging building materials, horticulture, fuel storage or spills, and waste disposal. Contaminants are present at levels exceeding guideline screening values for residential land use (set by the NES-CS), for terrestrial ecofauna, and aquatic habitats (via surface water pathways). Synthetic Precipitate Leaching Potential (SPLP) testing indicates some mobility of arsenic, copper, lead, and zinc from multiple hotspots within surface topsoil and fill.

Indicative surface water testing within the Bell Road Drain catchment reports elevated zinc and copper concentrations above ANZG criteria for protection of 80% freshwater aquatic species, likely arising from agricultural land use within the wider catchment and discharging from the site. Sediment samples collected from the base of the drain (for the section that passes through the development footprint) report contaminant concentration below guideline sediment quality criteria for protection of aquatic habitats, however only the base of channel was directly sampled; the thickness of the sediment layer is unknown.

Assuming the contamination hotspots are retained *in situ* the long-term risks arising from soil contamination to human health and on-site terrestrial ecofauna are low. The development will include placement of imported fill material to cover surface topsoil, creating an effective barrier to exposure via direct contact. Should the materials be excavated for re-use on-site, further risk assessment will be required to inform suitability for re-use and placement as part of detailed design.

Noting some likely impact to surface water and groundwater from upgradient activities, the residual risk from ongoing passive discharges of leached contaminants in soils to receiving downgradient aquatic habitats such as the Kaituna River and adjacent wetlands are low. There is a sufficient setback distance of contaminated soils within the site from the river, and all intermediary surface water bodies within the site (acting as pathways) will be diverted to stormwater reserve for treatment prior to discharge off-site.

Care will need to be taken to avoid the generation of sediment from erosion of existing site topsoil and fills to surface water bodies and overland flow paths through construction. Where existing drains are dredged or de-silted as part of stormwater improvement works, this sediment material requires segregation, drying, and testing prior to making a decision on final end use. Provided that recommended controls are implemented, the risk to the receiving environment remains low. Further consideration of risk is required where the ecological value or anticipated recreational amenity of existing or future surface drains increases from that currently understood.

Key recommendations are to complete investigations in currently inaccessible zones, create a Contaminated Site Management Plan (CSMP) to ensure safe and sustainable soil and sediment management during construction. The contaminated land SQEP (Suitably Qualified and Experienced Practitioner) should be retained through the detailed design process to advise on contamination matters and review risks where design layout and construction methodologies are subject to change from that assumed.

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SQEP Certifying Statement

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

I am considered by ENGEO Limited to be a suitably qualified and experienced practitioner (SQEP) able to certify reports pursuant to the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011, based on the company's definition of a SQEP as given below.

Richard Griffiths

6 May 2026

ENGEO Limited requires that a SQEP has the following Qualifications / Experience:

- *Tertiary science or engineering qualification relevant to environmental assessment.*
- *A minimum of ten years of relevant experience.*
- *Registration with a professional body that assess and certifies environmental professionals in the competency criteria of training, experience, professional conduct, and ethical behaviour.*

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1 Introduction

1.1 Project Background

Bell Road Limited Partnership have engaged ENGEO NZ Ltd (ENGEO) to undertake a combined Preliminary Site Investigation and Detailed Site Investigation (PSI & DSI) to support the Wairakei South Development, Bell Road, Papamoa (herein referred to as 'the site'). This work has been carried out in accordance with our signed agreement dated 15 August 2025.

The approximately 350-hectare site is proposed for a comprehensive mixed-use development including residential and commercial zones, community and commercial spaces, school sites, and infrastructure such as stormwater and wetland management areas. The site will necessitate a combination of cut and fill earthworks to facilitate the formation of the required landform, however the development will be comprised of primarily filling, raising the low-lying floodplain landform to 3.5 m RL, a change of approximately 3 m of height.

A series of culverts and drains will be installed to effectively manage both surface and groundwater. Designated stormwater treatment reserves will also be established to further support the management of water resources.

1.2 Purpose of the Assessment

The objective of this assessment is to:

- Gather information relating to current and historical land uses to identify potentially contaminating activities included on the Hazardous Activities and Industries List (HAIL; MfE, 2011b); and to develop a preliminary conceptual site model (PCSM) to assess the potential exposure pathways present at the site.
- Obtain data relating to the type, extent, and concentration of contaminants of potential concern (CoPC) identified during the desktop assessment within site soils, and within the Bell Road Drain which runs through the site.
- Assess whether the identified contaminants of concern pose a potential unacceptable risk to human health or identified environmental receptors.
- Identify potential project risks and provide information on options for soil reuse and disposal at the site and anticipate challenges that may arise during development.
- Identify potential management strategies for identified risks, ensuring compliance with regulations, and promoting sustainable site practices through site reuse of soil where possible and assessing options for soil disposal if required.

The assessment is conducted to support the development application's progression through the Fast-track consenting process and evaluate risks to human health and the environment.

1.3 Scope of the Assessment

To achieve the identified objectives, the following scope of works has been undertaken:

- Desktop review of available information relating to the site including a review of historical aerial imagery, council files, consents, and contaminated land information and available research relating to on-site activities.
- Intrusive investigations (apart from areas B4, B5, and C2) including both targeted and grid-based surface and subsurface soil sampling.
- Test pit investigations conducted in areas of known potential filling and areas of known waste disposal to land.
- Sampling water and sediment from existing drains to determine possible contaminant discharge and movement, as well as assess potential impacts further downstream.
- Screening of results against Tier 1 risk screening criteria for both human health and ecological protection.
- Creation of a conceptual site model outlining risks associated with identified on-site contaminating activities and areas of risk identified through the intrusive investigations.
- Opportunities for reuse or on-site retention of soil, assessment of land suitability for development, and considerations for earthworks and construction stages, alongside recommendations for further investigations or considerations necessary to guide risk assessment and facilitate the development process at the site.

Due to access restrictions arising from incomplete acquisitions, properties within the development site at 285, 285A, 314 and 339 Bell Road could not be investigated and sampled. These properties are covered by the desktop study. Investigation and sampling of these properties is required to be completed prior to any future disturbance of soils. The findings of these investigations shall be included in an updated revision of this report, or as separate standalone Detailed Site Investigation reports.

This assessment was undertaken in general accordance with the Ministry for the Environment (MfE) Contaminated Land Management Guidelines (CLMG) No. 1: Reporting on Contaminated Sites in New Zealand (MfE, 2021a). For areas of the site covered by investigations, these were completed in accordance with CLMG No 5: Site Investigation and Analysis of Soils (MfE, 2021b). The investigations were supervised, and the report reviewed and approved by a suitably qualified and experienced contaminated land practitioner in accordance with national environmental regulations for soil contamination.

1.4 Limitations

We have prepared this report in accordance with the brief as provided. This report has been prepared for the use of our client, Bell Road Limited Partnership, their professional advisers, the relevant Territorial Authorities and the appointed Fast Track Panel in relation to the specified project brief described in this report. No liability is accepted for the use of any part of the report for any other purpose or by any other person or entity.

The recommendations in this report are based on the ground conditions indicated from published sources, site assessments and subsurface investigations described in this report based on accepted normal methods of site investigations. Only a limited amount of information has been collected to meet the specific financial and technical requirements of the client’s brief, and this report does not purport to completely describe all the site characteristics and properties. The nature and continuity of the ground between test locations has been inferred using experience and judgement and it should be appreciated that actual conditions could vary from the assumed model.

Subsurface conditions relevant to construction works should be assessed by contractors who can make their own interpretation of the factual data provided. They should perform any additional tests as necessary for their own purposes.

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2 Site Information

2.1 Overview

This section provides an overview of the proposed development site, detailing its current land use, surrounding environment, and key physical characteristics.

Table 1: Site Information

Item	Description
Site Area	The site spans about 350 ha across 6 properties. For easier reference and reporting, it is divided into 10 sub-areas: Areas A1 – A3 (southwest), B1 – B5 (north), and C1 – C2 (southeast). See Figure 1 for sub-area locations.
Site Address/s	252 Bell Road, Papamoa 285 Bell Road, Papamoa 285A Bell Road, Papamoa 314 Bell Road, Papamoa 314D Bell Road, Papamoa 339 Bell Road, Papamoa
Legal Descriptions	Section 13 SO 458365, Section 1 SO 457222, Section 8 SO 458365, Section 7 SO 458365, Section 12 SO 458365, Lot 1 DPS 81677, Lot 1 DP 553506, Lot 2 DP 553506, Part Lot 1 DP 29530, Section 2 SO 457222, Lot 1 DP 537375, Lot 2 DP 537375, Lot 2 DPS 69524, Section 3 SO 427562, Lot 1 DPS 69524, Lot 2 DPS 81677, Section 26 SO 427562, Lot 1 DPS 54113, Section 6 SO 427562, Section 9 SO 458365
Current Land Use	The majority of the site is in primary agriculture, with associated dwellings. 339 Bell Road is additionally being used for construction of galvanised steel trailers, and 314 Bell Road is used as a commercial molasses storage facility.

Item	Description
Proposed Land Use	It is proposed to redevelop the site into a mixed land use subdivision, including residential and commercial / industrial areas, associated community infrastructure, stormwater reserves and green spaces.
Territorial Authority	Western Bay of Plenty District Council
Zoning	Rural
Surrounding Land Use	The site is bordered by agricultural land to the east, south, and west. The northern boundary adjoins the Tauranga Eastern Link (TEL), with the Papamoa East residential suburb located on the opposite side of the TEL.

2.2 Environmental Setting

2.2.1 Geology

The site is located over low-lying floodplain on the immediate western bank of the Kaituna River, Pāpāmoa. Located within the Maketu Basin, GNS identifies the site as consisting of alluvial gravel, sand, silt, mud, clay, and local peat, with Holocene-aged River deposition. The area includes low terraces formed by Pleistocene to Holocene tephras, paleosols, swamp / marshland, and coastal sand dunes. The site geology reflects a history of tectonic subsidence and sedimentary infill, with similar sequences seen from Waihi Beach to Tauranga and south to Maketu and Matata.

The northern boundary of the site demarcates the transition from floodplain to coastal dunes morphology associated with the current Bay of Plenty coast. These coastal dune deposits comprise Holocene-age beach sands and minor gravels). Several tephra layers are present, sourced from the Ōkātina and Taupō volcanic centres (local ash units including Rotomahana Mud, Kaharoa Tephra, and Taupō Tephra).

2.2.2 Topography

The site topography is predominantly flat, with a gentle incline along the northern boundary where the land rises slightly toward the Tauranga Eastern Link (TEL) associated with the transition to coastal dune deposits mentioned above. The typical ground elevation across the property ranges between approximately 4 to 6 m RL, with only subtle variations across the site.

2.2.3 Hydrology

A network of shallow surface drains traverses the site, connecting to the main Bell Road Drain, which runs west to east across Bell Road through the centre of the site. The Kopuaroa Canal follows the southern boundary of the site, flowing from west to east before discharging into the Kaituna River.

The Bell Road Drain ultimately discharges into the Kaituna River, situated approximately 850 metres east of the site boundary. BoPRC identify the lower Kaituna River (at the point where the Bell Road drain discharges) as a Category B Indigenous Biological Diversity Area, which directs that significant adverse biodiversity effects must be avoided remedied or mitigated.

2.2.4 Hydrogeology

Groundwater is present at shallow depths across the site, with the shallowest occurrence at 0.3 m below ground level in the low-lying northern areas during intrusive environmental investigations. It is believed that groundwater from Areas B1 through B5 moves southward toward the Bell Road Drain. In Areas A1 to A3, the groundwater flows southwest, while in regions C1 and C2 it flows east. Shallow groundwater flow is likely influenced by the existing drain network. A review of the BOPRC mapping software, accessed February 2023, identified three active bores within the site, which are detailed in Table 2. All other bores are located >200 m from the site.

Table 2: Bay of Plenty Consented Bore Information

Bore No.	Property Address	Drill Date	Bore Type	Bore Depth	Water Level (before pumping)	Use
BN17-0062	Section 26 SO 427562	22/1/2018	Cold water	11 m	6.1 m	Production
BN-3296	339 Bell Road	22/3/1995	Cold water	9 m	4 m	-
BN-4925	252 Bell Road	-	Cold water	-	-	-

2.2.5 Sensitive Aquifer Assessment

Shallow groundwater beneath the site may be considered as a 'sensitive aquifer' as defined by Module 5, Section 5.2.3 of the MfE Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (MfE, 2011c, the 'Petroleum Guidelines'). An assessment to determine its sensitivity is presented in Table 3 which requires confirmation of Criteria 1 and 2, and one of Criteria 3 and 4. The aquifer is unconfined, shallow and can yield significant volumes of water. The guideline does not seek to assess the cultural importance of the groundwater; this is outside the scope of the PSI/DSI should be considered separately.

Table 3: Sensitive Aquifer Assessment per MfE 2011c

Criteria		Assessment
1	The aquifer is not artesian or confined; and	Yes
2	The aquifer is expected to be less than 10 metres below the source or suspected source of contamination; and	Yes
3	The aquifer is of a quality appropriate for use, can yield water at a useful rate and is in an area where extraction and use of groundwater may be reasonably foreseen; or	Yes
4	The source of contamination is less than 100 metres from a sensitive surface water body.	No

2.2.6 Ecology

A high-level review of potential on and off-site ecological receptors has been undertaken following guidance set out within the Petroleum Guidelines is provided in Table 4, as specific ecological assessment completed for the site was unavailable at the time of reporting. The review indicates nearby off-site receptors are ecologically sensitive, and any risk assessment should include consideration of ecological receptors.

Table 4: Ecological Assessment Checklist¹

Potential Receptor	On-Site	Off-Site	Comments
Marshes, swamps, tidal flats or other ecologically sensitive wetlands near ² the site?	N	Y	The Kaituna Wetlands are 1 km to the southeast but pathways intercepted by the Kaituna River.
Are other aquatic habitats such as rivers, lakes or streams near the site?	N	Y	Old Kaituna Riverbed Wildlife reserve (fed by the Bell Road Drain approximately 14 m east of the site. Kaituna River approximately 850 m east of the site
Are ecologically important marine or estuarine environments near the site?	N	N	-
Are ecologically important or sensitive environments such as national parks or nature reserves located near the site?	N	Y	BoPRC identify the lower Kaituna River (at the point where the Bell Road drain discharges) as a Category B Indigenous Biological Diversity Area
Are culturally important ecological receptors located near the site (including areas identified on regional council GIS mapping)?	N	N	-
Are commercially or recreationally important ecological receptors located near the site?	N	Y	The Kaituna River approximately 850 m east of the site is identified by BoPRC as water quality for Contact Recreation
Are forested, grassland or other habitats of significance located near the site	N	N	-
Is the site used for food production (arable or livestock)?	Y	Y	The site and surrounding land used for dairy farming

1. Table adapted from Appendix 4I, MfE 2011c

2. Near is judged on a site-specific basis given the contaminant's potential for transport by wind, surface run-off, groundwater transport, or preferential pathways from service lines etc., and should include positive factors such as reticulation of stormwater away from the site.

2.3 Summary of Environmental Conditions

The expected ground conditions at the site are characterised by a generally flat topography with a minor rise toward the north, featuring surface elevations around 4 to 6 metres RL. Geologically, the ground conditions are expected to consist of topsoil, peat, and underlying dune / alluvial sands, with shallow, potentially sensitive groundwater present between 0.1 and 1.7 metres below ground level.

A network of shallow surface drains traverses the site, connecting to the Bell Road Drain, which runs west to east across Bell Road through the centre of the property, ultimately discharging into the Kaituna River, a sensitive aquatic habitat, situated approximately 850 metres east of the site boundary.

This assessment considers only existing surface water bodies as receptors. After development, significant changes to landform and hydrology are expected, including new channels and retention basins. Ecological values of these modified or new features are not addressed in this assessment.

2.4 Site Inspection and Interview Summary

A site walkover limited to Areas A1 – A3 and B1 – B3 was completed on 19 May 2025, by ENGEO Environmental Scientists. The previous site owner and current occupier of these properties, Graham Thompson, was interviewed during the site walkover. Mr Thompson discussed the following information of note:

- Historically, the site operated as a sheep farm until the mid-1950s, at which point it was repurposed for dairy farming.
- A swim-through sheep dip was located adjacent to the woolshed in the eastern corner of Area A2. The dip remained in use until the mid-1900s, after which it was decommissioned and subsequently infilled as it was no longer required.
- The original woolshed, which was historically situated at the stockyards adjacent to the infilled sheep dip, was destroyed by fire. Subsequently, an ex-railway house was relocated to the site to serve as the replacement woolshed. This structure was positioned on the same footprint as the former historical woolshed.
- Fill was placed in several locations within Area A3, including areas to the east and south of the existing dairy shed. Additionally, fill was deposited in the paddock situated in the south-eastern corner of Area A3. According to Mr Thompson, fill was also placed in paddocks in the north-western section of Area B2.
- A section of the primary drainage system located in the eastern part of Area A3 has been filled in.
- Mr Thompson stated that a rubbish pit had been used in the past, but it was situated north of the site boundaries.
- Mr Thompson noted a potential rubbish burial pit directly adjacent to the Dairy Shed within Area A3.
- Mr Thompson noted that a diesel spill had previously occurred on the site. An approximately 1800 L aboveground diesel storage tank has been left filling a fuel tank to the southeast of the dairy shed (same location as the present-day fuel tank). No remedial actions were implemented at the time of the spill.

All other properties were unable to be accessed at the time of the site walkover being undertaken.

3 Record Search and Site History

3.1 Aerial Photographs Summary

Aerial photographs dating from 1939 to 2024 have been reviewed (refer to Appendix 2). The aerial photographs were sourced from Retrolens, and Google Earth Pro. Relevant visible features on the site and surrounding area are summarised in full in Appendix 3. A summary of significant land use changes over time is summarised below:

- From 1939 to around 1970, the site consisted primarily of agricultural land and scrub, with dwellings constructed along Bell Road in Areas A3 and C2. The dwellings in A3 are located along the northern area boundary. The dwelling in C2 is observed along the eastern boundary of the area.
- Between 1971 and approximately 1982, the scrub was mostly cleared, resulting in the conversion of the area to pasture. Portions of the Areas B2, B3, and C1 were also used for horticulture (kiwifruit).
- From 1983 to about 1985, significant areas on both the northern (Areas B2 and B3) and southern block (Area C1) were converted to kiwifruit orchards. Additional dwellings and structures were also constructed in the B5 area.
- Starting in 1986, a kiwifruit pack house was built at 339 Bell Road on the northern section of the site (Area B5), accompanied by further expansion of kiwifruit orchards. More dwellings were established along the northern site boundary in Area B4.
- By 1992, the kiwifruit orchards expanded further in the southern part of the site (Area C1), and soil disturbance related to drain clearance was observed.
- From 2003, the kiwifruit orchards were removed from the northern areas of the site (Areas B2 and B3), remaining only in the south, with no other major changes noted.
- By 2014, all orchards had been removed, and the site was used exclusively for dairy farming, pasture, and maize production, which continues to the present.

3.2 Bay of Plenty Regional Council HAIL Register

Potentially hazardous activities are defined on the MfE's Hazardous Activities and Industries List (HAIL) (MfE, 2011a). Bay of Plenty Regional Council (BoPRC) maintains a Land Use Register (LUR) of past and current land uses within the Bay of Plenty region which have had an activity included on the HAIL undertaken on them. If a site is not on the LUR it does not necessarily mean that an activity on the HAIL has not been undertaken, only that it is not known by BoPRC to have been undertaken.

The BoPRC LUR enquiry was requested by ENGEO on 24 September 2025 for the site. In response, BoPRC indicated that two portions of the site were listed on the LUR, a copy of the BoPRC enquiry response is provided in Appendix 4, a summary of the two sites is provided below:

- **LUR-WBP-02760: Area C1**

This area is listed on the LUR as 'Verified HAIL' for HAIL A10. Persistent pesticide bulk storage or use including sports turfs, market gardens, orchards, glass houses, or spray sheds. The sites inclusion is due to a review of aerial imagery between 2003, 2007, and 2011 confirming that an orchard was located on the property.

- **LUR-WBP-04147: Area B3**

This site is listed on the LUR as 'Contaminated for Land Use – Industrial Commercial' due to HAILs A10: Persistent pesticide bulk storage or use including sports turfs, market gardens, orchards, glass houses, or spray sheds and I: Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment. This site is listed due to a Preliminary Site Investigation Report (PSI) (2018) and a Detailed Site Investigation (DSI) (2019) completed by Geohazard Environmental and presented as part of application for a land use consent for the construction of the Papamoa East Interchange. No further information regarding the sites listing is provided.

3.3 Property File Review Summary

The property file held by Western Bay of Plenty District Council was received on 13 August 2025. A summary of the information potentially relevant to this investigation is provided below, with more in-depth details provided in Appendix 5:

- **252 Bell Road:** Since 1976, various permits have been sought for construction in the property, including replacing the former woolshed (burnt down, refer Section 2.2, located in the north-eastern corner of Area A3) with a relocated house, building dwellings (north-western corner of Area A3), and adding farm sheds (centre of Area A3). Geotechnical investigations led to peat removal and backfilling with suitable material. Imported sand fill was used after peat removal, and in 2023, cleanfill from nearby earthworks was brought in for a proposed cowshed in the southern centre portion of Area A3 (shed not constructed to date).
- **285 Bell Road:** The property file summarises a building permit application submitted to council in 1985 for construction of a residential property located on the western half of Area B4). The application includes plans indicating that potentially asbestos containing building materials (PACM) were to be used in the construction. A geotechnical investigation was completed at the time and identified subsurface conditions comprising of sandy topsoil and peat overlying sand, with groundwater observed at 1.5 m bgl. It was recommended to remove topsoil and underlying peat to enable geotechnical suitability of the site.
- **285A Bell Road:** The property file only details building consent documentation for the construction of an addition to a dwelling in 2000, construction of two implement sheds (constructed in 2002 and 2012 respectively) and installation of a fireplace, all located on the eastern half of Area B4).
- **314 Bell Road:** An application for the construction of a new dwelling (1974) included plans that indicated the use of decramastic roof tiles (PACM) and specified the presence of fill in the area composed of quarry rubble and compacted clay to support construction of the dwelling located on the western portion of Area C2. The plans also proposed placing additional fill to elevate the site above flood levels. A note was provided to council (2003) that a shed on the eastern portion of Area C2 had been removed from the site that had previously been used for bulk storage of grain.

The Western Bay of Plenty District Council informed the landowner that on-site activities are classified as a rural contractor's depot, requiring a resource consent to continue operations. A consent application was submitted in 2004, outlining the use of an on-site shed for farm machinery repairs and maintenance, proposed shed replacements, the existence of an aboveground storage tank (AST), and plans for cut and fill excavations to construct a 3000 m³ underground storage bladder for molasses on the eastern portion of Area C2. The application also details the intended use of buildings in the southeast corner of Area C2 for storing of chemicals and fertilisers used in maize and kiwifruit contracting.

- **314D Bell Road:** The property file details the construction of dwellings to both the east (1982) and west (1985) of the farm access route in area C1. The eastern dwelling was noted in plans to have decramastic tile roofings and hardiplank cladding. The western dwelling was noted to have the potential for exterior asbestos cement wall linings, soffits, verges, and porch ceilings (PACM). The landowner was notified in 1988 that land formerly used for sanitary drainage is no longer designated for that purpose. A building consent for the addition of a garage to the south of the western dwelling was submitted in 2000.

An application was submitted in 1991 for construction of a secondary dwelling for the purpose of employee accommodation. Although this file refers to 314D Bell Road, the dwelling was actually constructed in the western corner of area A3 / 252 Bell Road.

The landowner was notified in 2015 and 2020 that the entirety of the site / area C1 had been added to the Bay of Plenty Regional Council Land Use Register due to site use as an orchard due to potential use and storage of persistent pesticides.

- **339 Bell Road:** The property file records a kiwifruit cool store (1985) and a proposed implement shed addition (1994) 30 m east of the main cool store in the centre of area B5. Dangerous Goods Licenses from 1995 – 2002 show the presence of 24,000 L, 12,000 L, and 600 L LPG storage tanks likely associated with gas-powered glasshouses located in the centre of area B5, to the west of the packhouse. In 2018, a Preliminary Site Investigation (PSI) was conducted for the Papamoa Eastern Interchange (PEI), covering eastern sections of the property / area B5 associated with the PEI project. The PSI identified potential HAIL activities, including horticulture (HAIL A17), an infilled swimming pool, rubbish dumping, and burning (HAIL G5). A Detailed Site Investigation found arsenic in a burn pit exceeding human health criteria (108 mg/kg).

3.4 Relevant Previous Reports Summary

The following reports have been reviewed for information relevant to this investigation.

- **Geohazard Environmental, 2018 – Preliminary Site Investigation Report:**

Geohazard Environmental Ltd was commissioned by Bloxam, Burnett & Olliver to produce a Preliminary Site Investigation for the proposed Papamoa Eastern Interchange. The area consists of two sites separated by the Tauranga Eastern Link (TEL) toll road, with the southern site including part of Section 12 SO 458365. The investigation found that, according to the conceptual site model, contamination may exist due to several potential HAIL activities (HAIL A.10, E.1, G.5, and H). As a result, a Detailed Site Investigation was recommended.

- **Geohazard Environmental, 2019 – Detailed Site Investigation Report:**

Geohazard Environmental Ltd was engaged by Bloxam, Burnett & Olliver to prepare a Detailed Site Investigation report for the Papamoa Eastern Interchange to assess where contamination existed arising from sources identified by the PSI and whether they presented a risk to the construction of the road. A total of 121 soil samples were taken from 115 locations and analysed for metals, organochlorine pesticides (OCP), polycyclic aromatic hydrocarbons (PAH), and screened for asbestos. The results showed that most concentrations were below soil guideline risk values for metals, OCPs, PAHs, and asbestos; however, there was one instance of arsenic elevated above human health criteria and copper and zinc elevated above background in an area thought to have been used for rubbish burning.

- **ENGEO, 2022b - Combined Preliminary and Detailed Site Investigation (ENGEO Ref: 19630.000.001_04):**

A combined Preliminary and Detailed Site Investigation (PSI/DSI) for Bell Road, Wairakei South, Tauranga, was undertaken to evaluate environmental risks associated with historical and current land use, particularly in relation to proposed earthworks and anticipated development. The assessment concentrated on two trial embankment areas within a predominantly rural, low-lying site previously utilised for grazing, crop rotation, and limited horticultural activity.

Soil sampling and laboratory analyses reported no exceedances of human health or ecological criteria for heavy metals or organochlorine pesticides within the trial areas. Nonetheless, all samples recorded concentrations of cadmium, chromium, nickel, and zinc above regional background levels. Although these background exceedances did not constitute an immediate risk to human health or the environment in the areas assessed, they precluded the classification of site soils as “cleanfill” for off-site disposal. Consequently, any soil disturbance or removal would likely have required resource consent under the National Environmental Standard (NES) and regional regulations.

The report recommended additional investigation in areas with a known history of horticultural use, in proximity to power infrastructure, and in locations where undocumented fill or prior ground disturbance was suspected. It further advised the undertaking of asbestos and lead paint surveys for any buildings on-site constructed prior to 2000.

- **ENGEO, 2022a – Preliminary Geotechnical Assessment Report (ENGEO Ref: 19630.000.001_01):**

A preliminary geotechnical assessment was conducted to inform future planning, consenting, and design for a proposed mixed-use residential, commercial, and industrial development on a 126-hectare site at Bell Road. The site is characterised by low-lying farmland with a history of agricultural use, underlain by variable layers of topsoil, peat, dune sands, and fluvial deposits. The assessment identified significant geotechnical challenges, including high groundwater levels, compressible peat deposits (up to 4 metres thick), and susceptibility to liquefaction and settlement, particularly in areas where peat is present. The site is also mapped as being within a possible liquefaction vulnerability zone and is subject to flooding and tsunami hazards.

The report recommends further geotechnical investigations; the report provides a framework for managing geotechnical risks but emphasises that additional site-specific investigations and monitoring are essential before proceeding to resource consent and construction phases

3.5 Existing BoPRC Consents

Table 5 summarises current and expired Bay of Plenty Regional Consents noted on the site as of 24 September 2025.

Table 5: Summary of Consents

Consent Number	Area	Status	Consent Summary
RM17-0701-LC.01	B4	Expired	Installation of a cold water bore, well testing and discharge of drilling fluid to land
RM18-0753-LC.01	B5	Expired	Deposition of fill to raise ground level for protection of livestock.
RM23-0089-LC.01	A3	Current	Earthworks and associated activities for proposed cowshed building platform.
22552.0.01-DC	A3	Expired	Discharge of dairy effluent to ground soakage.
RM19-0665-DC.01	A3	Current	Discharge of dairy effluent.
60399.0.01-DC	A2	Expired	Discharge of untreated dairy effluent to pasture via irrigation.

3.6 Anecdotal Information

Additional online information search (see Appendix 6 for related papers) for the site area suggests that a pesticide trial may have occurred at 314D Bell Road between 2014 and 2015. *Noogoora burr*, an invasive species, was introduced into maize fields to assess pesticide effectiveness.

A list of the pesticides utilised in the trial is provided in Appendix 6. The pesticides were applied in controlled settings, and according to safety data sheets reviewed, all substances used are classified as non-persistent.

3.7 Site History Summary

The site has a history of agricultural use, with sheep farming recorded from at least the 1930s prior to its transition to dairy operations. Horticultural development, notably kiwifruit orchards, was established in areas B1, B2, B3, and C1 from the early 1970s through to the early 2000s. Presently, area B5 includes a packhouse and gas-powered greenhouses.

Site-wide infilling activities have enabled the construction of sheds and dwellings, and to raise land for flood protection. The removal of kiwifruit plantings south of the easter residence in Area C1 has resulted in the stockpiling of soil and horticultural waste items (e.g. plastic, treated timber poles, wire) in a small area south of the eastern residential dwelling. Buried waste is documented to exist along the western boundary of the centrally located dairy shed within Area A3.

Area A3 also contains infrastructure associated with dairy farming, such as a dairy milking shed, implement sheds, fuel tanks and evidence of a historical diesel spill. Additionally, Area C2 has served as a contractor's yard, featuring molasses storage, implement sheds, and chemical storage facilities, all operational since at least the early 2000s.

Alongside dairy production, Areas A1 – A3, B1 – B3, and C1 are used extensively for maize cultivation. Notably, a pesticide trial involving the introduction of *Noogoora burr* to maize fields was conducted on-site between 2014 and 2015.

4 Summary of Potentially Contaminating Activities

Based on the findings of the above desktop assessment a number of potentially contaminating activities listed on the MfE Hazardous Activities and Industries List (HAIL) have been identified within the site these are identified in Figures 2 – 2f and are summarised below:

- **A8.** Livestock dip or spray race operations – This activity is associated with a known sheep dip and stockyards in area A3.
- **A10.** Persistent pesticide bulk storage or use including sport turfs, market gardens, orchards, glass houses or spray sheds – Related to former kiwifruit orchards in areas A1, B1, B2, B3, and C1.
- **A17.** Storage tanks or drums for fuel, chemicals or liquid waste – Related to fuel storage activities in areas A3 and C2.
- **D5.** Engineering workshops with metal fabrication – Affiliated with a trailer manufacturer operating within a section of the packhouse located in area B5.
- **F4.** Motor vehicle workshops – This is related to a facility used for the maintenance of farm machinery located in area C2.
- **G5.** Waste disposal to land (excluding where biosolids have been used as soil conditioners) – Associated with known waste disposal locations in areas A1 and B3.
- **I.** Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment. Examples of this include deteriorated building materials in Areas A1, A3, B4, C1, and C2 associated with buildings and dwellings. Fill material is known to have been placed in areas A3, B2, B3, B4, C1, and C2. Additionally, a diesel fuel spill had previously occurred in Area A3.

5 Intrusive Investigation

5.1 Investigation Rationale

ENGEO completed an intrusive investigation and environmental soil sampling programme at the site between May and September 2025. Informed by project specific Data Quality Objectives (DQOs, refer Section 5.2) the sampling and analysis plan aimed to target potential contaminating activities identified through the preliminary review and to characterise the surface and subsurface soils across the site to determine the concentrations of contaminants in soil. Results were assessed in the context of the ability of contaminants to impact on:

- Health and safety of future site users;
- The environment and ecologically sensitive receptors identified for the site; and
- The design of works solutions, including management of material.

5.2 Data Quality Objectives

Ground investigation and environmental sampling methodologies completed in accordance with MfE CLMG are developed utilising specific Data Quality Objectives, a distinct seven-step process originally derived by the USEPA (2006) to assist in rationalising the approach of investigations, to maximise quality of data to make informed decisions and recommendations. A summary of the site-specific Data Quality Objectives considered to inform the site investigation is presented in Table 6.

Table 6: Data Quality Objectives

Step	Action
1. State the problem	The client proposes the redevelopment of primary production, rural residential and commercial land into a comprehensive mixed-use development including residential and commercial zones, community and commercial spaces, school sites, and infrastructure such as stormwater retention and management areas. It has been identified that the proposed development site has been subject to a number of potentially contaminating activities (refer Section 4) which could impact the health and safety of future site users and ecologically sensitive receptors.
2. Identify the goal of the study	Complete an environmental investigation to obtain site specific data on the level and extent of contamination within the sites soils, and the Bell Road drain to inform any development implications. Additional, samples shall be collected from Bell Road Drain to assess the existing quality of the main surface water receptor running through the site. This will include the collection of soil, surface water and sediment samples and laboratory analysis of CoPC, and screening against relevant Tier 1 human health and environmental criteria.
3. Identify information inputs	Based on the findings of the background information summary completed in the above sections, contamination could be present in shallow soils and fill material at the site. The primary CoPC include heavy metals, OCPs, ONOPs, TPH, PAH, and asbestos.
4. Define the boundaries of the study	The study boundaries were restricted by site access to the following properties: <ul style="list-style-type: none"> • 252 Bell Road • 314D Bell Road The properties at 285, 285A, 314, and 339 Bell Road have been excluded due to no access at the time of the investigation. To assist with ensuring data quality and management and for ease of reference the investigation site was broken up into investigation sub-areas A1 – A3, B1 – B3, and C1. The boundaries of the study area are shown in Figure 1.
5. Develop the analytical approach	Analytical results from laboratory analysis will be screened against Tier 1 risk screening levels for human health and environmental risk which will assist with developing an understanding of risk for the site. Contaminant concentrations exceeding Tier 1 criteria will inform the need for possible management / remediation and / or further investigation and assessment.

Step	Action
6. Specify performance or acceptance criteria	<p>Appropriate sampling methodologies will be undertaken by experienced field personnel.</p> <p>An IANZ (International Accreditation New Zealand) laboratory will be used for the given analytes. Appropriate laboratory limits of reporting will be implemented. The laboratory provides a QA/QC report, and this will be reviewed to evaluate whether the DQOs have been achieved.</p>
7. Develop the plan for obtaining data	<p>The investigation sample locations were selected to target the identified potential contaminating source activities within the site.</p>

5.3 Sampling Investigation

A judgemental sampling methodology was employed to evaluate the risk associated with contamination source activities at the site (shown in Figure 4). A targeted approach seeks to directly measure from known point sources of contamination to confirm or de-risk a 'likely worst case' scenario for risk assessment.

Areas of diffuse contamination source activity, such as the former orchards, were sampled utilising a grid-based sampling approach. In addition, a lower density of sampling was undertaken in uncharacterised topsoil areas (with no defined source activity) to provide an overview of the prevailing quality of this soil unit.

Intrusive investigations comprised of surface samples, hand auger samples and test pit investigations dependant on the specific activity area being investigated. At a minimum, surface (0 – 0.1 m bgl) and subsurface (0.3 – 0.4 m bgl) samples were collected from each sample location. Deeper samples were collected from test pits where it was considered a deeper contamination impact could be present to fully observe the soil profile and assess evidence of anthropogenic activity (such as filling or waste dumping). Sample locations are shown in Figures 4a – 4e.

All surface samples were submitted for analysis, with analytical testing of underlying soils prioritised where previous activities could have adversely impacted deeper soils or where noteworthy field observations were made.

Surface water and sediment were systematically sampled along the length of the Bell Road Drain which runs through and directly adjacent the site. Locations were selected using the following specific rationale:

- Assessing the quality of water from upgradient entering the site;
- Assess quality of drain water following inputs from major perpendicular drains discharging into Bell Road drain;
- Assess water quality exiting the drain east towards the Kaituna River; and
- Assess contamination concentrations within drain sediments.

Samples were collected directly from the water and base of drain utilising specific laboratory supplied sampling jars via mighty gripper.

Hill Laboratories was selected to perform analysis of all samples and are IANZ accredited and each of the test methods used are also IANZ accredited. All samples were analysed within the appropriate holding times for each analyte. In total 173 samples were analysed as per Table 7; a full analytical schedule is provided in Appendix 7.

Table 7: Sampling and Laboratory Analysis Summary

Contamination Source Activity	Investigation Methodology	Maximum Depth (m bgl)	Sampling Locations	Analysis Suite	Investigation Reference Areas
Orchard / Horticultural Activities	Surface / Subsurface Samples	0.4	A1-2 – 5, B1-1 – 6, B2-4 – 6, 8, 9, 10-16, B3-1 – 15, C1 – 2 – 9 and C1- 12 - 19	Heavy metals, OCPs	A1, B1, B2, B3 and C1
	Laboratory Compositing		C1-1, C1-20, C1-23, C-25, C1-60	Heavy metals, OCPs and ONOPs	C1
Historical sheep dip / area of waste disposal to land	Surface / Subsurface Samples	0.4	A3-38 – A3-47	Heavy metals and OCPs	A3
Past and present Building Curtilages	Surface / Subsurface Samples	0.4	A1-8-11, A3-1 – 17, A3-21-24, A3-28-30, A3-40 and A3-43	Heavy metals and asbestos (semi-quantities method)	A1 and A3
Soil Disturbance / Filling	Test Pit	2.2	A1-TP1 – A1-TP2, A3-TP1 – A3-TP3, B3-TP1 – B3-TP4, C1-TP1 – C1-TP10, TP2.35 and TP.41	Heavy metals and, where indicated by observations, asbestos (semi-quantitative method) and OCPs.	A1, A3, B3 and C1
Fuel Storage / Diesel Spill Area	Hand Auger	0.4	A3-18 - A3-20	Heavy metals, TPH and PAH	A3
Bell Road Drains	Water	-	DS-1 – DS-6	Total and dissolved Heavy metals, PAHs, TPHs and OCPs	No specific area reference, drain runs west to east adjacent to Bell Road.
	Sediment			Heavy metals, PAHs, OCPs and TPHs	

5.4 Quality Assurance and Quality Control

This section covers the Analysis Quality Assurance and Quality Control procedures applied to both field sampling activities and subsequent laboratory analyses. It describes the measures taken to ensure the precision, reliability, and integrity of all data collected throughout the investigation.

5.4.1 Field Methodology

Fieldwork and sampling were undertaken in 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 (MfE, 2021b). The following was undertaken during the investigation:

- All soil samples were logged for general soil type and visual / olfactory indicators of contamination.
- Soil samples were collected at specified depths for laboratory analysis / on-site screening.
- Fourteen duplicate samples were collected during intrusive investigations from nine sample locations and were submitted for heavy metal (As, Cd, Cr, Cu, Pb, Hg, Ni, and Zn) analysis.
- Samples were placed into laboratory supplied containers using a new pair of nitrile gloves for each sample. The containers were capped, labelled with the depth and a unique identifier, and placed into an insulated container and kept cool prior to transport to R J Hill Laboratories under a standard chain of custody.

Prior to the collection of each sample, sampling equipment was decontaminated using a triple wash procedure with potable water, Decon 90 solution, and deionised water.

5.4.2 Laboratory Methodology

Laboratory quality control (QC) analytes were generally reported within the method control limits, the following comments however, relating to QC were extracted from laboratory reports and are summarised in Appendix 7.

5.4.3 Duplicate Sample Relative Percentage Difference (RPD)

Duplicate samples were collected for calculating the Relative Percent Difference (RPD), which is a measure of precision between two analyses of the same sample. RPD is used as an indicator in ensuring quality data control by highlighting any inconsistencies in the reported values, thereby bolstering confidence in the precision of the reported data. RPD values ranging between 30 – 50% is considered acceptable and suggests that the method is reliable and that the sample preparation and analysis are being conducted consistently. See RPD calculations for parent and duplicate samples collected during this investigation in Appendix 9. Please note, where results are reported below the laboratory detection limit, the detection limit value has been used as the value for RPD calculation.

RPDs for the samples collected and analysed ranged from 0% to 87%. RPD values exceeding the expected threshold are marked in red in Appendix 9 and may be attributed to the heterogeneity of contamination sources (Contaminants from various sources lead to different levels and types of contamination throughout the soil profile) to at the sampled locations rather than sampling or laboratory error. RPDs shown in orange in Appendix 9 surpass the 50% RPD threshold potentially due to low analyte levels, introducing a negative bias and resulting in values above the preferred RPD.

5.5 Ground Conditions

5.5.1 Key Geological Units

Below is a summary of geological conditions found during the environmental investigations. For detailed site information, see "Appendix P - ENGEO Geotechnical Interpretive Report" in the appendices to the application. Test pit logs and associated photographs are presented in Appendix 10.

- **Unit 1 Fill:**

Undocumented fill was occasionally identified in various areas of the site, typically associated with the construction of raceways and building platforms intended to raise the ground surface above the adjacent terrain. Additionally, silts were noted as stockpiled materials within investigation block C1.

- **Unit 2: Topsoil & Kaharoa Ash:**

A surficial topsoil layer is located across majority of the site, typically described as an organic silt or containing trace amounts of sand. A notable Kaharoa Ash layer (typically 50 – 100 mm thick) comprising a grey-brown fine pumiceous sand is present beneath the topsoil layer in some portions of the site

- **Unit 3A: Pumice Airfall Deposits:**

This deposit seems to overlay deeper peat layers and is found across the slightly elevated part of the northwestern section of Area A1. It is mainly composed of orange pumiceous sand, silt, and gravel. The thickness of this layer is estimated to range from 0.1 m up to 1.0 m.

- **Unit 3B: Peat:**

Peat was identified across most of the site, gradually diminishing at the base of the undulating dune sands toward the northern B investigation areas. Wood inclusions were present throughout the peat, varying from fibres to logs.

- **Unit 4A: Dune Sands:**

Fine to medium dune sands are present along the northern perimeter of the site within investigation Area B. It is expected that these dune sands intergrade with alluvial sands at the northern boundary of the site.

- **Unit 4B and 4C: Alluvial Sands:**

Underlying the peat, alluvial sands, comprising variable density fine to coarse sands, cover the majority of the site. These alluvial sands are likely interfingered across the transition with the dune sands (Unit 4A) along the northern boundary. The thickness of these deposits range from 3 m to in excess of 15 m across the site, with typical thicknesses in the order of 5 to 8 m.

A number of additional deeper geological units are present, however are not considered to be relevant to this DSI, further information on deeper soils please refer to the referenced geotechnical report above.

5.5.2 Visual and Olfactory Observations

A table summarising the complete set of observations from intrusive investigations can be found in Appendix 11 which draws attention to 11 notable areas summarised as follows:

- Areas A1 to A3:
 - In Area A1, old vehicles are stored.
 - Waste material has been found mixed with topsoil at the northwest corner of Area A3, while asbestos-containing cement debris is present near the sheds in the northeast part of the same area.
 - Samples collected from the historical diesel spill site in Area A3 revealed a hydrocarbon odour.
 - Concrete and wire were identified within the soil on the eastern edge of the dairy shed in Area A3.
 - Also noted are treated timber, empty pesticide containers, spray mixing containers, and construction debris throughout these blocks.
- Area B2: The northern section of area B2 contains a burn pit, where burnt wood, plastic-treated timber, plastic, and other materials were observed, accompanied by visibly stressed vegetation nearby.
- Area C1:
 - Soil, wood, plastic-treated timber, wire, and assorted waste are stockpiled next to a burn pit directly south of the eastern residence in Area C1.
 - To the south of the western dwelling in C1, scrap metal, car batteries, appliances, unused oil tanks, and additional waste materials are present.
 - A water tank sits beside the accessway at the north end of C1, and disused freezers are being used for pesticide storage, along with jugs suggesting that chemical mixing has occurred in the area.
- All blocks: Pipes that could contain asbestos were observed to be stockpiled across all areas with some potentially asbestos containing pipes observed as being in use for farm drainage in Area C1.

6 Tier 1 Risk and Regulatory Screening Assessment

6.1 Introduction

The soil, sediment and water analytical results were assessed against three categories of Tier 1 generic acceptance criteria / guideline values for determining risk to human health and the environment. These values were obtained from reference guideline documents summarised in Section 6.2. Laboratory results screened against the Tier 1 criteria are provided in Appendix 12 and laboratory certificates provided in Appendix 7.

6.2 Tier 1 Risk Assessment Criteria

6.2.1 Human Health Criteria

Key human health receptors covered by Tier 1 risk screening primarily include: future residents, users of public recreation reserve and commercial / industrial outdoor workers. The criteria presented in Table 8 were used to assess the risk to receptors.

Table 8: Human Health Tier 1 Risk Screening Criteria

Receptor	Medium	Exposure Type	Guideline
Future Site Users	Soil	Dermal contact, ingestion and inhalation	<ul style="list-style-type: none"> The soil contaminant standards from the Methodology for Deriving Contaminants in Soil to Protect Human Health (“the Methodology”; MfE, 2011) for standard residential, recreational and commercial / industrial land use. (Australia) National Environmental Protection Measure Schedule B (1) Guideline on Investigation Levels for Soil and Groundwater (nickel and zinc only) for residential, recreational, and commercial / industrial land use (NEPM 2013). Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand, Module 4 and Module 5 Tier 1 acceptance criteria for all pathways (MfE, 1999).
Construction / Maintenance workers	Soil	Dermal contact, ingestion and inhalation	<ul style="list-style-type: none"> Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand, Module 4 Tier 1 acceptance criteria for maintenance / excavation workers (MfE, 1999). The soil guideline values for residential, recreational, and commercial / industrial land use from the New Zealand Guidelines for Assessing and Managing Asbestos in Soil (GAMAS; BRANZ, 2024).
Future Site Users	Soil (Asbestos only)	Inhalation	<ul style="list-style-type: none"> The soil guideline values for residential, recreational and commercial / industrial land use from the New Zealand Guidelines for Assessing and Managing Asbestos in Soil (GAMAS; BRANZ, 2024).

6.2.2 Environmental Criteria

Key environmental receptors covered by Tier 1 risk screening primarily include: on-site terrestrial ecofauna (direct soil contact); downgradient freshwater habitats (via discharge of water or sediment loading) are presented in Table 9.

Table 9: Tier 1 Environmental Risk Screening Criteria

Receptor	Medium	Exposure Type	Guideline
Future on-site terrestrial ecofauna	Soil	Leaching and uptake	<ul style="list-style-type: none"> Auckland Unitary Plan (AUP) Permitted Activity Criteria; Chapter E30 Contaminated Land, Auckland Council, Operative in part 5 November 2016 (updated 17 Jan 2020)¹.
On-site aquatic habitats	Surface water	Leaching and uptake	<ul style="list-style-type: none"> Australian and New Zealand Guideline (ANZG) toxicant default guideline values (DGVs) (2018) for fresh water in highly disturbed systems, 80% species protection values². Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand, Module 4 Tier 1 soil acceptance criteria for groundwater protection at 2 m in sands <1 m bgl (MfE, 1999).
Downgradient off-site aquatic habitats	Surface water	Leaching and uptake	<ul style="list-style-type: none"> Australian and New Zealand Guideline (ANZG) toxicant default guideline values (DGVs) (2018) for fresh water in highly disturbed systems, 90% species protection values³.
Downgradient off-site aquatic habitats	Sediment	Leaching and uptake	<ul style="list-style-type: none"> ANZG toxicant DGVs (2024) for sediment quality
	Soil	Direct discharge (erosion and scour leading to sedimentation)	

6.3 Regulatory Screening

6.3.1 Background Criteria (consenting and waste disposal)

To assess the results against the natural background levels, we have used a range of values representative of soils in the Bay of Plenty region, as provided in the Landcare Research 2019 Background soil concentrations for Bay of Plenty of selected trace elements and organic contaminants in New Zealand report. This assessment determines if consent or off-site disposal is required, and whether the material qualifies as cleanfill. Since the soil is assumed to stay on-site, results have not been compared against alternative waste classes.

¹ AUP permitted activity criteria has been used as an interim tool for on-site terrestrial ecological risk screening in the absence of specific criteria relevant to the Bay of Plenty Region.

² EcoLogical Solutions Ltd. Have advised 'Bell Road Drain is classified as Drain Water Quality (DWQ) meaning it is an artificial watercourse' and 'MCI and other benthic invertebrate indices show poor or moderate ecological health at all drain water quality sites'. As such the use of 80% species protection values is considered appropriate.

³ EcoLogical Solutions Ltd. Have advised the lower Kaituna catchment consisting primarily of land disturbed to varying degrees by grazing or pastoralism and intensive horticulture (primarily kiwifruit) and 'Invertebrate indices in the lower Kaituna River show low MCI scores, and an absence of sensitive invertebrate species. The poor invertebrate communities are linked to modified habitat and poor to moderate water quality'.

6.4 Sample Results Summary

6.4.1 Soil

The soil results summary table included in Appendix 12 compares soil contaminant concentrations in the samples tested with the adopted investigation criteria. Full analytical laboratory reports are included in Appendix 7. Soil sample locations exceeding human health and / or ecological criteria are shown in appended Figures 5 – 5b. Sample locations where human health criteria or ecological criteria is summarised in Appendix 13. A summary of the soils results is as follows:

- **Area A1:** In the north-western corner of the area, within the curtilage of the half round shed, two sample locations had zinc levels that exceeded the AUP ecological protection criteria.
- **Area A2:** No exceedances of human health or the AUP ecological criteria found.

Area A3: Arsenic (up to standard recreational land use), lead (up to high-density residential), and asbestos (up to standard residential land use) exceeded human health criteria around the dwelling and shed in the northwest of area A3. Arsenic, lead, and zinc also surpassed the AUP ecological protection criteria nearby.

Samples near the central fuel tank surpass human health and ecological criteria for arsenic, as well as the AUP ecological criteria for zinc, in recreational areas. Zinc levels in samples taken from around the shed at the centre of area A3 were found to be above the AUP ecological protection criteria.

Samples taken from both the eastern and western boundaries of the stockyard, which is located in the centre of area A3 near Bell Road, showed levels of zinc that surpassed both human health standards for residential areas and the AUP ecological protection criteria.

Concentrations of arsenic (up to recreational land use), cadmium (up to residential land use), and lead (up to recreational land use) exceeded human health thresholds, and levels also surpassed ecological protection criteria in the area surrounding the sheep dip and woolshed situated in the north-eastern corner of the site.

- **Area B1:** No human health or ecological criteria exceedances identified.
- **Area B2:** A sample taken from a burn pit in the northern part of the area was found to exceed the human health criteria for residential land use.
- **Area B3:** No human health or ecological criteria exceedances identified.
- **Areas B4 and B5:** Areas not sampled.
- **Area C1:** Levels of zinc and arsenic were typically higher than ecological protection criteria near homes in the area. Arsenic concentrations exceeded human health guidelines for residential land use in a sample taken next to a shed by the eastern house. The material stored south of the eastern house was above the AUP ecological protection criteria for arsenic, copper, lead, and zinc. In addition, one sample from the stockpiled material exceeded human health criteria for arsenic specific to commercial or industrial land use.
- **Area C2:** Area not sampled.

6.4.2 Drain Surface Water and Sediment

Results of sediment and water samples collected from the Bell Road drain are provided in Appendix 12 and full laboratory analytical reports are provided in Appendix 6.

All water samples collected from the Bell Road drain exceeded the adopted Australia and New Zealand Guidelines (ANZG) criteria established for the protection of species at the 80% confidence level for total zinc, additionally three samples (DS-2 and DS-3 from internal farm drains, and DS-6 from the bell road drain) also exceeded for total copper.

To assess potential impacts on ecological receptors at the point where the drain discharges into the Kaituna River, a dilution factor of 20 was applied to the guideline values to allow for reasonable mixing into a large tidally influenced river body as per the United States (US) Environmental Protection Agency (EPA) Soil Screening Guidance. Following this adjustment, all analysed water samples were within the calculated guideline thresholds.

Sediment samples collected from the base of the Bell Road drain were assessed against the ANZG DGVs for Toxicants in Sediment. All samples returned within the applicable guideline values; however, it is noted that sample DS-5 returned a detection of the PAH, perylene, for which there is no available DGV. The presence of Perylene is likely due to the breakdown of organic material due breakdown of organic matter deposited in historical aquatic environments in anaerobic conditions (Aizenshtat, 1973; Hanke, Wakeham, & Wörmer, 2019)

6.5 Summary of Investigation Findings

Investigations found that environmental criteria were exceeded in areas A1, A3, and C1. Additionally, soil in areas A3, B2, and C1 surpassed human health criteria. Water samples from the Bell Road drain went above the ANZG 80% confidence limit for zinc, and three of these also exceeded the copper limit. However, once adjusted for dilution at the drain's entry into the Kaituna River, all water samples met acceptable standards. All sediment samples complied with the relevant ANZG Default Guideline Values (DGVs) for sediment toxicants. It is also likely that agricultural and horticultural activities throughout the broader catchment area are influencing both water and sediment quality upstream.

Contamination was mostly limited to topsoil in areas with previous contaminating activities, such as deteriorated buildings (HAIL I), waste disposal sites (HAIL G5), stockyards (HAIL I), and historical sheep dips (HAIL A8). Peat subsurface soil generally showed minimal impact from former land uses except for discrete location such as in the area of the diesel spill and buried asbestos adjacent to the north-western buildings in Area A3, which were at or near expected background concentrations.

Previous horticultural zones (HAIL A10) typically had contaminant levels within background ranges, except for a mixing area in northern Area C1, where organonitrogen pesticide was found in shallow soil. In Area C1, soils from relocated historical orchards and orchard materials (HAIL I) exhibited elevated arsenic, chromium, copper, lead, and zinc above predicted background levels in stockpiled and shallow soils. Arsenic exceeded all assessed human health criteria in stockpiled material and residential criteria down to 0.5 m below ground level in this area.

7 Conceptual Site Model

7.1 Introduction

A conceptual site model (CSM) has been prepared to inform assessment of risk to the proposed development from contamination hazard. The CSM makes some assumptions around future site conditions, acknowledging the scope of proposed redevelopment work, particularly in relation to the effects on end users, and long-term ecological risks. Key assumptions in the development of the conceptual site model include:

- The placement of fill material to raise the landform across the majority of the site by up to 5 m to create appropriate building platforms for proposed development and mitigate flood hazard.
- Removal of farm drainage, development of comprehensive stormwater management including two primary retention areas.
- Anticipated modification of the Bell Road drain including disconnection of direct discharge to the Kaituna River.

Utilising the findings of the ground investigation, this section of the report outlines our assessment of completed contaminant exposure pathways from which outstanding risks to the development requiring management can be identified.

7.2 CSM Overview

A 'contaminant' as relates to contaminated land risk assessment is a hazardous substance that has the potential to cause adverse effects to human health and environmental receptors. This environmental risk assessment is based on a 'source of contamination - pathway – receptor' methodology.

Source A contamination source is any location or activity from which harmful substances are introduced into the environment. Sources can include particular ground conditions or objects, for example below or above ground tanks, which have the potential to impact on redevelopment proposals. Refer Section 7.3 for specific contamination sources on-site.

Pathway The route by which the source is brought into contact with the receptor. This can include the transport of contamination via water (surface and groundwater), wind borne dust, vapours, excavation, and deposition.

Receptor Human beings, other living organisms, physical systems, and built structures that could be affected by the source. A receptor will only be affected if a pathway from the source to the receptor is present. Groundwater and surface water systems can be considered as receptors in their own right as their quality is regulated by statutory bodies, as well as being pathways for contaminant migration to other receptors.

The source-pathway-receptor relationship allows an assessment of potential environmental risk to be determined, based on the nature of the source, the degree of exposure of a receptor to a source and the sensitivity of the receptor. The scope of the report is to assess risk arising from contamination in relation to the proposed development, as such the risk to current users (occupiers) of the site are not considered.

7.3 Areas of Concern – Contamination Sources

For the purpose of this assessment and the development of the conceptual site model, on-site sources refer to sources located within the entire site. A summary of both on-site and off-site areas of concern are presented in Table 10 and shown in Figure 6.

Table 10: Summary of Identified Areas of Concern

HAIL ID	Activity	Contaminants of Concern	Location
HAIL A8. <i>Livestock dip or spray race operations.</i>	Sheep dip	Heavy metals and OCPs	Area A3 (Refer Figure 6a)
HAIL A10. <i>Persistent pesticide bulk storage or use including sport turfs, market gardens, orchards, glass houses or spray sheds</i>	Glasshouses and orchards	Heavy metals and OCPs	Area B5 (Refer Figure 6)
HAIL A17. <i>Storage tanks or drums for fuel, chemicals or liquid waste</i>	Fuel storage	Lead, TPH and PAH	Area A3 (Refer Figure 6a) Area C1 (Refer Figure 6)
HAIL D5. <i>Engineering workshops with metal fabrication</i>	Trailer manufacturing	Heavy metals	Area B5 (Refer Figure 6)
HAIL F4. <i>Motor vehicle workshops</i>	Farming contractors implement / vehicle shed and workshop	Heavy metals, TPH, and PAH	Area C2 (Refer Figure 6)
HAIL I. <i>Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment</i>	Deterioration of building materials	Heavy metals and asbestos	Area A1 (Refer Figure 6) Area A3 (Refer Figure 6a) Area C1 (Refer Figure 6b)
	Burning of waste	Heavy metals and asbestos	Area B2 (Refer Figure 6a)
	Diesel spill	Lead, TPH, and PAH	Area A3 (Refer Figure 6a)
	Soil disturbance / placement of fill	Heavy metals, OCPs, and asbestos	Area B4 (Refer Figure 6) Area B5 (Refer Figure 6) Area C2 (Refer Figure 6)
HAIL G5. <i>Waste disposal to land (excluding where biosolids have been used as soil conditioners)</i>	Disposal of waste to land	Heavy metals	Area A3 (Refer Figure 6a) Area C1 (Refer Figure 6b)

7.4 Site Specific Contamination Migration Pathways

The potential pathways for contaminant exposure to both people and the environment are interwoven and include:

- Site drainage;
- Release through the air (particularly if disturbed during demolition and excavation) such as asbestos;
- Leaching of contaminants in response to infiltration, with direct discharge to groundwater;
- Direct contact with soil (which can lead to dermal absorption or ingestion); and
- Direct discharge of sediment and contaminated groundwater to nearby watercourses.

The potential exists for the migration of contaminants from the site from contamination sources via groundwater and / or drainage. Airborne release can result from excavation activities, and dermal absorption can occur via direct contact with contaminated material. During the construction phase of a project contaminated soil can reach off-site receptors during transportation or movement of stockpiles.

The dispersal and migration of chemical contaminants is generally controlled by sub-surface conditions (e.g. soil type, permeability, and moisture content) along with the physical and chemical properties of individual contaminants. Other factors which may impact the movement and migration of contaminants on the site include:

- Erosion of disturbed and cleared areas that contribute to sediment transport and deposition;
- Stripping of topsoil material;
- On-site movement of light vehicles and machinery that will contribute to shallow soils being disturbed;
- The presence of naturally occurring erodible soils;
- The presence of surface water drainage pathways and culverts forming preferential migration pathways down gradient of identified areas of environmental concern; and
- Weather conditions.

7.5 Potential Receptors

A summary of potential receptors is presented in Table 11.

Table 11: Potential Receptors

Receptor Group	Primary Exposure Pathway	Specific Development Receptors
Future site users (post project completion)	Dermal contact, ingestion and inhalation	Future residents, outdoor workers and users of proposed recreational reserves
Adjacent site users	Inhalation (dust and odour)	Adjacent residents and occupiers, primarily through construction phase of the project
Construction workers	Dermal contact, ingestion and inhalation	Construction works involved in completing the site development.
Maintenance workers (post project completion)	Dermal contact, ingestion and inhalation	-
Groundwater	Leaching from soil, transport in perched or static groundwater	-
Surface water	Transport in perched groundwater to stream, surface run-off	Key surface water receptors potentially include: <ul style="list-style-type: none"> • Kaituna River • Any new ecological reserves / stormwater reserves and drains constructed to service the development • Bell Road Drain
Ecosystems	Uptake through soil, direct contact	Terrestrial ecofauna in upper 300 mm of future site surface.

7.6 Environmental Considerations in the Conceptual Site Model

A summary of the environmental considerations that form the basis of the conceptual site model and risk assessment is presented in Table 12.

Table 12: Summary of Environmental Site Considerations and Risk

Consideration	Discussion
Site development and proposed earthworks	<p>The site will be developed as part of a large-scale mixed use urban development comprising a combination of residential and commercial land, with areas of recreation and stormwater reserve. It is not anticipated that groundwater and surface water bodies will be used for recreation, or as potable water supply.</p> <p>While the project is still in the early stages of master planning and design, it has been confirmed that the placement of fill will be required cross the site to bring the site out of flood hazard zones. Between three and five metres of fill shall be placed.</p> <p>Engineered fill placement likely comprised virgin excavated natural material (VENM) imported to site. No site stripping of topsoil or fill is proposed ahead of any new engineered fill placement.</p>

Consideration	Discussion
<p>Current geological and hydrogeological setting</p>	<p>The site comprises a layer of topsoil with an average thickness of 0.3 m bgl, underlain by an upper layer of peat and organic soils up to 4 m thick. The peat soils are underlain by dune sands and/or alluvial sands with a thickness of up to 8 m. Anecdotally, some uncontrolled filling is present in localised areas.</p> <p>Groundwater typically ranges from between 0.1 and 1.7 m bgl. It is anticipated that groundwater levels will rise in response to fill placement, fully saturating current surface topsoil, and saturating overlying engineered fills placed. Currently groundwater flow is north to south in the northern areas of the site, southwest in the A blocks and east in the C block located to the south</p>
<p>Hydrology</p>	<p>The site is currently drained by numerous channels running between paddock areas. These drains discharge into the main Bell Road drain which discharges directly into the Kaituna River. The current surface water drainage regime will be significantly modified as part of the proposed development. Current designs show that the Bell Road drain will direct flow to newly constructed stormwater retention basins adjacent to Kopuaroa Canal (south) and TEL (east).</p>
<p>Contamination conditions within on-site soils</p>	<p>A number of contamination source activities have been identified at the site (refer Table 8). The results of investigations completed to date indicate that hotspots of contamination exist within surface topsoil and fill</p> <p>Soil assessments indicate that sites within the following areas exceed the following criteria for human health:</p> <ul style="list-style-type: none"> • A3 – Residential, high-density residential, recreational and commercial / industrial land use • B2 – Residential land use • C1 – Residential, high-density residential, recreational and commercial / industrial land use <p>Sites in Areas A1, A3, and C1 exceed ecological protection criteria set for both terrestrial on-site ecology and downgradient aquatic habitats.</p> <p>Some areas of the site have not been investigated. These areas, until confirmed otherwise, are deemed to represent contamination sources in exceedance of human health risk screening criteria for the least sensitive (commercial) land use, along with risk screening criteria for direct exposure to terrestrial ecofauna.</p> <p>Localised hotspots of contamination in areas A3 and C1 are demonstrated by SPLP testing to have some mobility in response to infiltration.</p>

Consideration	Discussion
<p>Contamination conditions within water and sediment</p>	<p>The Bell Road Drain catchment upgradient of the site consists of intensive agricultural and horticultural operations, these activities are likely adversely affecting baseline water and sediment quality. It is expected that drains entering the site will exhibit poor quality prior to any discharges from the site entering the surrounding waterways, leading to a poor baseline water quality. Testing of surface water and sediment directly from Bell Road Drain reports all sediment samples returning within the ANZG default guideline value for toxicants in sediment.</p> <p>Water samples collected from the Bell Road drain were analysed for heavy metals, OCPs, PAHs, and TPHs based on the likely contaminants of potential concern identified through the desktop study. Three out of six samples analysed exceeded the applied ANZG default guideline value for 80% level of protection of species for copper and all samples analysed exceeded the ANZG default guideline value for 80% protection of species of zinc in all samples collected.</p> <p>No investigation or testing of groundwater has been undertaken to date, but we assume that shallow groundwater will be of similar quality to surface water in Bell Road Drain.</p>
<p>Soil contamination exposure to future site users</p>	<p>The placement of fill to 5 m will effectively create a barrier / cap that isolates contamination present within the current topsoil and surface fill layer from future users of the site via direct exposure pathways (such as dermal contact or ingestion). There are no volatile contaminants of concern, thus inhalation pathways can be discounted.</p> <p>Development considerations pertinent to the CSM include creation of a physical barrier between future site users and identified contamination and interaction of groundwater with identified ecological exceedances.</p>
<p>Soil contamination exposure to adjacent site users</p>	<p>A viable pathway exists for exposure to adjacent property owners via dust and odour should current surface topsoil and fill be disturbed. As it is proposed to place fill directly over these soil layers, the probability of exposure is anticipated to be very low.</p>
<p>Contamination exposure to construction site workers</p>	<p>A viable pathway exists for exposure to site construction workers via direct exposure pathways (ingestion, dermal contact, and inhalation) should current surface topsoil and fill be disturbed. As it is proposed to place fill directly over these soil layers, the probability of exposure from soil contamination is anticipated to be very low.</p> <p>It is likely however that some modification of existing drains is likely, and the surface water and sediment is degraded by on-site and upgradient activities. Excavations to re-direct or increase capacity of the drains is likely to result in a much higher probability of contaminant exposure to construction workers (dermal contact, ingestion).</p>
<p>Contamination exposure to on-site terrestrial ecofauna</p>	<p>Some concentrations of arsenic (areas A3 and C1), copper (Areas A3 and C1), lead (Area A3), and zinc (Areas A1 and A3) in topsoil are reported in exceedance of risk screening criteria for terrestrial ecofauna on-site. The development is not proposed to increase or worsen any current on-site effects to existing ecofauna. The placement of fill to 5 m will effectively create a barrier / cap that isolates contamination present within the current topsoil and surface fill layer from ecofauna that re-establish on-site post-construction.</p>

Consideration	Discussion
Contamination discharge to groundwater	The current status of groundwater quality is unknown but anticipated to be of degraded water quality. There is potential that saturation of upper surface topsoils on-site in response to filling may result in additional leaching of contaminants to groundwater. The likely effect of this is expected to be minimal, noting that saturation of these soils is already viable in response to heavy rainfall events and localised flooding, and the flux of groundwater would result in rapid attenuation and dilution over short distances.
Contamination discharges to surface water	Limited testing of the Bell Road Drain indicates surface water quality to be degraded. Currently, the drain and upgradient feeder channels are located away from identified contamination hotspots within surface topsoil. The greatest risk of discharge to surface water bodies as a result of the proposed development would arise from direct discharge of sediment, where any soil disturbance to modify or construct new surface water drainage is undertaken in close proximity of known hotspot areas. Risk to downgradient aquatic habitats in the Kaituna River is likely to reduce as a result of the development, as surface water will be directed to on-site treatment reserves, intercepting primary flow paths.
Risk to built environment	In some instances, the presence of contamination has potential to reduce durability of below ground structures, foundation systems, and utility infrastructure where in direct exposure. To date, no significant volumes of gross contamination resulting in increased degradation of buried construction materials has been reported to date. Most future buried structures and utility infrastructure will be constructed out of the future water table. It is unclear a viable source exists, with resulting probability of exposure very unlikely.

7.7 Risk Assessment

A qualitative risk assessment was conducted considering the sources of potential contamination identified above, and the series of potential receptors identified, together with linking pathways. This assessment also takes account of specific chemicals of concern or groups of similar chemicals of concern. It is implicit that, where a source has been identified during the desktop study, it has been included within the list. The derivation of the hazard classification is presented in Table 13.

Table 13: Derivation of Hazard Classification

Classification	Human Health	Ground and Surface Water Bodies	Ecological Habitats
Severe	Irreversible damage to human health	Substantial contaminant loading of sensitive water resource	Significant change to the number of one or more species or ecosystems
Moderate	Non-permanent health effects	Substantial contaminant loading of non-sensitive water resources or small-scale loading of sensitive water resource	Change to population densities of non-sensitive species or ecosystems
Mild	Slight short term health effects	Small-scale contaminant loading of non-sensitive water resource	Some change to population densities but with no negative effects on the function of the ecosystem
Negligible	No measurable health effects	Negligible contaminant loading of non-sensitive water resource	No significant changes to population densities in receiving environment or ecosystem.

Probability of a source pathway receptor (SPR) linkage being connected is defined in Table 14.

Table 14: Definition of SPR Linkage Probability

Probability Classification	Summary Description and Evidence Indicators
Very Unlikely	<ul style="list-style-type: none"> • SPR linkage is theoretically conceivable but is not supported by any site evidence and is inconsistent with known conditions. • No plausible transport pathway exists. • Contaminant distribution and hydrogeological data directly contradict the linkage. • The source type is inconsistent with the receptor impact.
Unlikely	<ul style="list-style-type: none"> • SPR linkage is plausible but is considered improbable given the available evidence. • A transport pathway is conceivable but is incomplete or ineffective. • Evidence for an alternative source is stronger. • Contaminant concentrations or patterns do not strongly support the linkage.
Possible	<ul style="list-style-type: none"> • The weight of evidence is inconclusive. A linkage is credible, but there is insufficient data to confirm or refute it. • A plausible pathway exists, but key data is missing (e.g., groundwater gradient not defined). • Similar weight(s) of evidence both support and refute the linkage. • The source is a potential contributor, but its significance is unknown.

Probability Classification	Summary Description and Evidence Indicators
Likely	<ul style="list-style-type: none"> The balance of evidence indicates that a linkage is probable. A complete and viable transport pathway has been identified. Chemical fingerprinting or concentration gradients are consistent with the linkage. There is no strong evidence that refutes the linkage
Very Likely / Almost Certain	<ul style="list-style-type: none"> The evidence overwhelmingly supports the existence of a linkage. There is a high degree of confidence in the connection. A continuous and active transport pathway has been conclusively demonstrated (e.g., via tracer test or direct observation). The chemical signature is a definitive match. There is a clear spatial and temporal relationship between the source and the impact; the impact has been directly observed at the receptor.

An overall risk matrix is presented in Table 15 with a further summary definition of risk classifications defined in Table 16.

Table 15: Overall Risk Matrix

Potential Hazard	Likelihood				
	Very Unlikely	Unlikely	Possible	Likely	Almost Certain
Severe	Low	Low	Moderate	High	Very High
Moderate	Negligible	Low	Moderate	Moderate	High
Mild	Negligible	Low	Low	Moderate	Moderate
Negligible	Negligible	Negligible	Negligible	Low	Low

Table 16: Definition of Risk Classification

RISK LEVEL	DISCUSSION
Very High	It is almost certain or very likely that severe and unacceptable harm will occur to a receptor.
High	Likely that significant harm will occur to a receptor and remediation or management will be required to reduce the level of harm.
Moderate	Possible that moderate harm will occur, or likely that only minor harm will occur. A longer period of low consequence effects or a lower duration of more significant effect without remediation or management.
Low	It is unlikely that more than minor and reversible harm will occur to a receptor.
Negligible	Very unlikely that any discernible harm will occur to a receptor. The source does not pose a credible risk.

In Table 16, a two-stage assessment has been carried out based on the identified sources, pathways, and receptors. Initially, the column designated as ‘Potential Consequence of Contaminant - Receptor Linkage’, gives an indication of the sensitivity of a given receptor to a particular source or contaminant of concern under consideration. It is a worst-case classification and is based on full exposure via the particular linkage being examined.

Table 17: Detailed CSM and Risk Assessment

Location & Source	HAIL ID	Contaminant	Critical Receptor	Pathway	Potential Effects	Potential Consequence of Contaminant-Receptor Linkage	Likelihood of Source-Receptor Linkage	Risk Classification
Area A1 – Degraded building materials associated with a half round shed located in the northwest of the area	I	Zinc	Surface Water	Groundwater flow and run off	Surface water contamination	Mild	Very unlikely	Negligible
			Groundwater	Permeation through soil profile	Groundwater contamination	Mild	Very unlikely	Negligible
			Future on-site terrestrial ecofauna	Leaching and uptake	Toxic, phytotoxic	Mild	Unlikely	Low
			Downgradient aquatic habitats	Leaching and uptake	Toxic, aquatic toxicity	Mild	Possible	Low
Area A3 – Waste disposal location in the centre of the area	G5	Heavy Metals (Arsenic, cadmium, chromium, lead, mercury and zinc) Asbestos	Surface Water	Groundwater flow and run off	Surface water contamination	Mild	Very unlikely	Negligible
			Groundwater	Permeation through soil profile	Groundwater contamination	Mild	Very unlikely	Negligible
			Future on-site terrestrial ecofauna	Leaching and uptake	Toxic, phytotoxic	Mild	Very unlikely	Negligible
			Downgradient aquatic habitats	Leaching and uptake	Toxic, aquatic toxicity	Mild	Very unlikely	Negligible
Area A3 - Degraded building materials - Multiple areas	I	Heavy Metals (Arsenic, lead and zinc) Asbestos	Future Site Users	Dermal contact, ingestion and inhalation	Toxic, carcinogenic, hazardous to human health	Mild	Very unlikely	Negligible
			Surface Water	Groundwater flow and run off	Surface water contamination	Mild	Very unlikely	Negligible
			Groundwater	Permeation through soil profile	Groundwater contamination	Mild	Very unlikely	Negligible
			Future on-site terrestrial ecofauna	Leaching and uptake	Toxic, phytotoxic	Mild	Unlikely	Low
			Downgradient aquatic habitats	Leaching and uptake	Toxic, aquatic toxicity	Moderate	Possible	Moderate
Area A3 – Fuel storage	A17	Heavy Metals (Arsenic and zinc) Hydrocarbons	Future Site Users	Dermal contact, ingestion and inhalation	Toxic, carcinogenic, hazardous to human health	Mild	Very unlikely	Negligible
			Surface Water	Groundwater flow and run off	Surface water contamination	Mild	Very unlikely	Negligible
			Groundwater	Permeation through soil profile	Groundwater contamination	Moderate	Possible	Moderate
			Future on-site terrestrial ecofauna	Leaching and uptake	Toxic, phytotoxic	Mild	Very unlikely	Negligible
			Downgradient aquatic habitats	Leaching and uptake	Toxic, aquatic toxicity	Mild	Possible	Low

Location & Source	HAIL ID	Contaminant	Critical Receptor	Pathway	Potential Effects	Potential Consequence of Contaminant-Receptor Linkage	Likelihood of Source-Receptor Linkage	Risk Classification
Area A3 – Fuel Spill	I	Heavy Metals (Arsenic and zinc)	Future Site Users	Dermal contact, ingestion and inhalation	Toxic, carcinogenic, hazardous to human health	Moderate	Very unlikely	Negligible
			Surface Water	Groundwater flow and run off	Surface water contamination	Mild	Very unlikely	Negligible
			Groundwater	Permeation through soil profile	Groundwater contamination	Mild	Very unlikely	Negligible
		Hydrocarbons	Future on-site terrestrial ecofauna	Leaching and uptake	Toxic, phytotoxic	Mild	Very unlikely	Negligible
			Downgradient aquatic habitats	Leaching and uptake	Toxic, aquatic toxicity	Moderate	Possible	Moderate
Area A3 – Sheep dip, stockyards and disposal of waste in the northeast corner of the area	A8 and I	Heavy metals (Arsenic, cadmium, lead and zinc)	Future Site Users	Dermal contact, ingestion and inhalation	Toxic, carcinogenic, hazardous to human health	Moderate	Very unlikely	Negligible
			Surface Water	Groundwater flow and run off	Surface water contamination	Mild	Very unlikely	Negligible
			Groundwater	Permeation through soil profile	Groundwater contamination	Mild	Possible	Low
		Organochlorine pesticides (Dieldrin)	Future on-site terrestrial ecofauna	Leaching and uptake	Toxic, phytotoxic	Moderate	Very unlikely	Negligible
			Downgradient aquatic habitats	Leaching and uptake	Toxic, aquatic toxicity	Moderate	Possible	Moderate
Areas A1, B1, B2, B3 and C1 – Kiwifruit orchards located across multiple locations in the areas	A10	Heavy metals (Arsenic, lead, cadmium and copper)	Future Site Users	Dermal contact, ingestion and inhalation	Toxic, carcinogenic, hazardous to human health	Mild	Very unlikely	Negligible
			Surface Water	Groundwater flow and run off	Surface water contamination	Mild	Very unlikely	Negligible
			Groundwater	Permeation through soil profile	Groundwater contamination	Mild	Very unlikely	Negligible
		Organochlorine Pesticides Organonitrogen Pesticides	Future on-site terrestrial ecofauna	Leaching and uptake	Toxic, phytotoxic	Mild	Very unlikely	Negligible
			Downgradient aquatic habitats	Leaching and uptake	Toxic, aquatic toxicity	Mild	Very unlikely	Negligible

Location & Source	HAIL ID	Contaminant	Critical Receptor	Pathway	Potential Effects	Potential Consequence of Contaminant-Receptor Linkage	Likelihood of Source-Receptor Linkage	Risk Classification
Preliminary Assessment Only – Areas B4, B5 and C2								
Area B4 – Soil disturbance and fill placement	I	Heavy Metals (Arsenic, cadmium, chromium, lead, mercury and zinc) Asbestos	Future Site Users	Dermal contact, ingestion and inhalation	Toxic, carcinogenic, hazardous to human health	Moderate	Very unlikely	Negligible
			Surface Water	Groundwater flow and run off	Surface water contamination	Mild	Very unlikely	Negligible
			Groundwater	Permeation through soil profile	Groundwater contamination	Mild	Possible	Low
			Future on-site terrestrial ecofauna	Leaching and uptake	Toxic, phytotoxic	Moderate	Very unlikely	Negligible
			Downgradient aquatic habitats	Leaching and uptake	Toxic, aquatic toxicity	Moderate	Possible	Moderate
Area B4 – Building materials in a deteriorated condition	I	Heavy Metals (Arsenic, chromium, copper, lead, and zinc) Asbestos	Future Site Users	Dermal contact, ingestion and inhalation	Toxic, carcinogenic, hazardous to human health	Moderate	Very unlikely	Negligible
			Surface Water	Groundwater flow and run off	Surface water contamination	Mild	Very unlikely	Negligible
			Groundwater	Permeation through soil profile	Groundwater contamination	Mild	Possible	Low
			Future on-site terrestrial ecofauna	Leaching and uptake	Toxic, phytotoxic	Moderate	Very unlikely	Negligible
			Downgradient aquatic habitats	Leaching and uptake	Toxic, aquatic toxicity	Moderate	Possible	Moderate
Area B5 – Horticultural land use (glasshouses and historical orchard)	A10	Heavy metals (Arsenic, lead, cadmium and copper) Organochlorine Pesticides Organonitrogen Pesticides	Future Site Users	Dermal contact, ingestion and inhalation	Toxic, carcinogenic, hazardous to human health	Mild	Very unlikely	Negligible
			Surface Water	Groundwater flow and run off	Surface water contamination	Mild	Very unlikely	Negligible
			Groundwater	Permeation through soil profile	Groundwater contamination	Mild	Possible	Low
			Future on-site terrestrial ecofauna	Leaching and uptake	Toxic, phytotoxic	Mild	Very unlikely	Negligible
			Downgradient aquatic habitats	Leaching and uptake	Toxic, aquatic toxicity	Mild	Possible	Low

Location & Source	HAIL ID	Contaminant	Critical Receptor	Pathway	Potential Effects	Potential Consequence of Contaminant-Receptor Linkage	Likelihood of Source-Receptor Linkage	Risk Classification
Area B5 – Trailer manufacturing	D5	Heavy Metals (Arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc) Hydrocarbons	Future Site Users	Dermal contact, ingestion and inhalation	Toxic, carcinogenic, hazardous to human health	Mild	Very unlikely	Negligible
			Surface Water	Groundwater flow and run off	Surface water contamination	Mild	Very unlikely	Negligible
			Groundwater	Permeation through soil profile	Groundwater contamination	Moderate	Possible	Moderate
			Future on-site terrestrial ecofauna	Leaching and uptake	Toxic, phytotoxic	Mild	Very unlikely	Negligible
			Downgradient aquatic habitats	Leaching and uptake	Toxic, aquatic toxicity	Moderate	Possible	Moderate
Area C1 - Building materials in a deteriorated condition	I	Heavy Metals (Arsenic, lead, and zinc)	Future Site Users	Dermal contact, ingestion and inhalation	Toxic, carcinogenic, hazardous to human health	Moderate	Very unlikely	Negligible
			Surface Water	Groundwater flow and run off	Surface water contamination	Mild	Very unlikely	Negligible
			Groundwater	Permeation through soil profile	Groundwater contamination	Mild	Possible	Low
			Future on-site terrestrial ecofauna	Leaching and uptake	Toxic, phytotoxic	Moderate	Very unlikely	Negligible
			Downgradient aquatic habitats	Leaching and uptake	Toxic, aquatic toxicity	Moderate	Possible	Moderate
Area C1 – Soil disturbance and fill placement	I	Heavy Metals (Arsenic, cadmium, chromium, lead, and zinc)	Future Site Users	Dermal contact, ingestion and inhalation	Toxic, carcinogenic, hazardous to human health	Moderate	Very unlikely	Negligible
			Surface Water	Groundwater flow and run off	Surface water contamination	Mild	Very unlikely	Negligible
			Groundwater	Permeation through soil profile	Groundwater contamination	Mild	Possible	Low
			Future on-site terrestrial ecofauna	Leaching and uptake	Toxic, phytotoxic	Moderate	Very unlikely	Negligible
			Downgradient aquatic habitats	Leaching and uptake	Toxic, aquatic toxicity	Moderate	Possible	Moderate
Area C2 – Soil disturbance and fill placement	I	Heavy Metals (Arsenic, cadmium, chromium, lead, mercury, nickel and zinc) Asbestos	Future Site Users	Dermal contact, ingestion and inhalation	Toxic, carcinogenic, hazardous to human health	Moderate	Very unlikely	Negligible
			Surface Water	Groundwater flow and run off	Surface water contamination	Mild	Very unlikely	Negligible
			Groundwater	Permeation through soil profile	Groundwater contamination	Mild	Possible	Low
			Future on-site terrestrial ecofauna	Leaching and uptake	Toxic, phytotoxic	Mild	Very unlikely	Negligible
			Downgradient aquatic habitats	Leaching and uptake	Toxic, aquatic toxicity	Moderate	Possible	Moderate

Location & Source	HAIL ID	Contaminant	Critical Receptor	Pathway	Potential Effects	Potential Consequence of Contaminant-Receptor Linkage	Likelihood of Source-Receptor Linkage	Risk Classification
Area C2 – Fuel storage	A17	Heavy Metals (Lead) Hydrocarbons	Future Site Users	Dermal contact, ingestion and inhalation	Toxic, carcinogenic, hazardous to human health	Mild	Very unlikely	Negligible
			Surface Water	Groundwater flow and run off	Surface water contamination	Mild	Very unlikely	Negligible
			Groundwater	Permeation through soil profile	Groundwater contamination	Mild	Possible	Low
			Future on-site terrestrial ecofauna	Leaching and uptake	Toxic, phytotoxic	Mild	Very unlikely	Negligible
			Downgradient aquatic habitats	Leaching and uptake	Toxic, aquatic toxicity	Mild	Possible	Low
Area C2 – Farm vehicle workshop	F4	Heavy Metals (Arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc) Hydrocarbons	Future Site Users	Dermal contact, ingestion and inhalation	Toxic, carcinogenic, hazardous to human health	Mild	Very unlikely	Negligible
			Surface Water	Groundwater flow and run off	Surface water contamination	Mild	Very unlikely	Negligible
			Groundwater	Permeation through soil profile	Groundwater contamination	Mild	Possible	Low
			Future on-site terrestrial ecofauna	Leaching and uptake	Toxic, phytotoxic	Mild	Very unlikely	Negligible
			Downgradient aquatic habitats	Leaching and uptake	Toxic, aquatic toxicity	Mild	Possible	Low

8 Discussion

8.1 Development Suitability – Human Health Risk

Contamination identified on-site to date is confined to near surface topsoil and fill material. Current site plans propose substantial filling to elevate the development above existing flood plain levels. The use of engineered barriers and clean fill materials offers both physical and chemical separation between any remaining contaminants and future end users of the site. It is expected that these activities will eliminate the pathway to future site users.

The removal of exposure pathways means that future users of the site - including residents, workers, and visitors - will not have direct contact with potentially contaminated soils and indirect exposure routes, such as the ingestion of home-grown produce cultivated in contaminated ground or inhalation of dust particles generated during site use or landscaping activities, are also eliminated. No volatile contaminants have been identified by investigations on-site to date.

The development will include connection to municipal services and therefore groundwater is not considered a viable pathway for ingestion (i.e. as a potable water source). It is not anticipated that future surface water bodies (stormwater reserve) are proposed to be used for recreation activities (swimming, fishing etc).

Considering the above, the risk to human health upon completion of the development is considered to be very low, and it is suitable for redevelopment. Additional investigations will be required in previously inaccessible properties to confirm the above conclusions remain valid. Should the design or construction methodology change from that assumed, this will require review by a SQEP. If surplus to requirements, contaminated soils presenting risk to human health can be:

- Retained on-site in areas of lower sensitivity land use, with the possible need for encapsulation; or
- Stabilised to reduce mobility; or
- Disposed off-site to an appropriately consented landfill

8.2 Development Suitability - Environmental Risks

Key environmental receptors at the site include:

- On-site terrestrial ecofauna (biota such as soil microbes, plants, and soil invertebrates); and
- Downgradient aquatic habitats.

8.2.1 Terrestrial Ecology

In consideration of on-site ecofauna, the landform is proposed to be raised without prior stripping or re-use of existing surface soils for stabilisation purposes. As such, any new eco fauna and soil biota present at the site post-development will be imported with topsoil or slowly migrate over time to site. The raising of the landform limits future interaction with contamination in existing topsoil on-site, and thus a clear plausible pathway for receptors cannot be established.

8.2.2 Aquatic Habitats

Two pathways are identified for exposure to aquatic habitats:

- Mobilisation of contaminated soil, as sediment in response to erosion, to overland flow paths and surface water bodies.
- Leaching of contaminants from hotspots in soil to groundwater, and mobilisation to surface water. This will be driven by relative rise in groundwater in response to filling, or infiltration due to rainfall events.

Exceedances of the ANZG criteria for 80% level of protection of species for SPLP data of on-site contaminants are limited to discrete locations within Areas A1, A3, and C1, all of which are situated at a considerable distance from sensitive ecological receptors such as the Kaituna River, further than 2 km from the nearest sample exceedance.

The closest existing surface water body, the Bell Road Drain (and / or feeder drains) which runs through the site shows some evidence of impact by existing and upgradient land use in the area (agricultural, horticultural) and as per the ANZG guidance is likely to meet the threshold of a highly disturbed system.

It is considered that any migration of leachable contaminants to the Bell Road Drain would have a negligible effect on the existing water quality. Additionally, large volume stormwater reserves are planned as a component of future stormwater management strategies, the Bell Road Drain is proposed to be connected to the reserves which will function as passive treatment systems, likely resulting in reducing contaminant loads and potentially improving water quality discharges into the Kaituna River.

Considering the above, long term risk to aquatic habitats arising from the proposed development are anticipated to be low, however care should be taken during construction to limit adverse discharges during disturbance of soils and stabilise landforms to prevent erosion and scour during future design where new surface water drains and channels intercept the current shallow topsoil layer (particularly where exceedances are reported).

Where existing drains are dredged or de-silted as part of stormwater improvement works, this sediment material requires segregation, drying and testing prior to making a decision on final end use.

8.3 Construction Phase Risks

The placement of fill over the existing topsoil and areas of fill limits the amount of exposure site workers will have to contaminated soils, and limit the amount of accidental airborne or waterborne discharges. It is unlikely that exposure of site workers to contaminated soil can completely be ruled out, and a Contaminated Site Management Plan will be required. Outstanding construction phase risks, requiring allowance in budget and programme, include:

- Completion of investigations to test and report currently inaccessible areas. We recommend these investigations are reported as part of an updated DSI report. Uncharacterised areas not sampled should be assumed contaminated.
- The survey and removal of asbestos from any buildings that pre-date 2000, and potential for additional asbestos management should known hotspots in soil be disturbed.

- Sediment is likely to require dredging and de-silting from current drains and waterways to improve capacity or modify alignments. This sediment will need more robust characterisation to inform final re-use opportunities (such as landscaping) or off-site disposal. Allowance should be made for:
 - Investigation to understand depth and extent of sediment in drains and characterise environmental quality
 - Excavation and temporary stockpiling to dry out on site through construction
 - Design of appropriate Erosion and Sediment Controls to capture and discharge run-off
- Should dewatering be required, it is unlikely that water quality would meet regional stormwater standards (typically similar to ANZG standards for protection of 95% freshwater species).
- Asbestos pipes have been observed across the development footprint during the course of investigations.

8.4 Waste Disposal and Sustainability Opportunities

The proposed development plan includes strategies to retain and lower risks from historical contamination, such as capping via filling. Taking this approach, its integration into broader catchment management frameworks and noting the distance from sensitive areas, these measures ensure that both human health and environmental risks are kept low. By leaving contamination on-site, the traditional "dig and dump" method is avoided, preventing soil from unnecessarily ending up in landfills and reducing truck movements associated with cartage.

On the basis the project philosophy emphasised on importing fill to the site and containing the identified contamination, minimal waste is expected to be generated associated with contaminated land. If contaminated soil material is to be removed from the site, it will not meet the requirements of cleanfill and likely require disposal at Green Park in Oropi, or Hampton Downs / Ridge Road in North Waikato.

The project design, which includes the construction of large-scale stormwater reserves takes advantage of natural processes like sedimentation, filtration, and microbial activity to improve water quality before water is discharged into sensitive waterways, and likely to result in net improvement in discharges to the Kaituna in comparison to current conditions. These passive treatment systems help reduce contaminant levels and promote local biodiversity by creating habitats for wetland plants and aquatic species. As a result, they address immediate stormwater management challenges while also supporting the long-term ecological sustainability of the area.

8.5 Regulatory Considerations

In the Bay of Plenty Region, the management of potentially contaminated soils is governed by the following regulations:

- Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS, 2011).
- Bay of Plenty Regional Natural Resources Plan (Bay of Plenty Regional Council, 2023).

It is anticipated that consents will be required for the site pursuant to both legislative frameworks.

8.5.1 The NESCS

A consent would be required for the site under the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS) because all activities involving the disturbance, remediation, or change of use of potentially contaminated land must be managed. Given that the site has been identified as land subject to a HAIL activity, it will be necessary to obtain Resource Consent under Regulation 10 of the NESCS to support the land use change, subdivision and bulk earthworks activities. As the results of testing report exceedances above the NES for applicable land use criteria, a restricted discretionary consent will be required.

8.5.2 Bay of Plenty Regional Council Regional Natural Resources Plan

A consent will be required under the Bay of Plenty Regional Natural Resources Plan, specifically Rule DW R25 (Rule 35), because this rule regulates the disturbance, deposition, and discharge of contaminants to land and water. The proposed activity involves managing soils that have been identified as potentially contaminated and importing fill, which requires a consent under the plan.

9 Recommendations

The following recommendations based on both desktop and intrusive investigations are as follows:

- **Contaminated Land SQEP:** Retention to provide advice and input into any future project risk or design workshops, undertake additional investigation and assessments, and inform future stages of design, tendering and construction;
- **Further Soil Investigation:** Completion of investigations at 285, 285A, and 339 Bell Road to confirm contamination conditions within these areas, update risk, and develop suitable management strategies as required.
- **Risk Assessment:** Further risk assessment to human health and environmental receptors will be where changes to the design, development plan or construction methodology beyond that described by this report is proposed.
- **Contaminated Site Management Plan (CSMP):** Development of a CSMP prepared by a SQEP to outline management of potential human health and environmental risks during soil / sediment disturbance and construction activities. The CSMP will be a live document and will require updates as further investigation and assessment is completed. A 'for consent' version of the CSMP shall be prepared to submission as part of the fast-track consent application.
- **Temporary laydown:** Identify areas suitable for laydown of surplus soil and sediment if likely to be required during the course of construction. Laydown areas should be positioned to avoid double handling and creating obstructions during the course of development.
- **Construction phase:** Consider construction phase activities early, such as sustainable reuse of excavated soils elsewhere on the site or wider property (subject to management controls), mitigation through design (ground gas, discharges).
- **Potential Asbestos Pipes:** Mapping and making safe of asbestos pipes present across the development footprint.

Report prepared by



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Environmental Scientist

Report reviewed by



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Associate Geo-Environmental Engineer



Aaron Graham, CEnvP

Senior Environmental Scientist

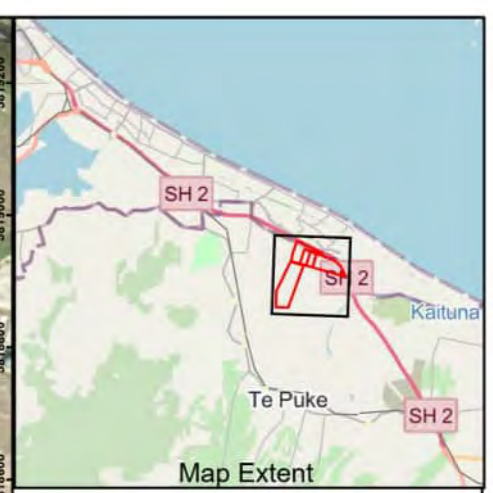
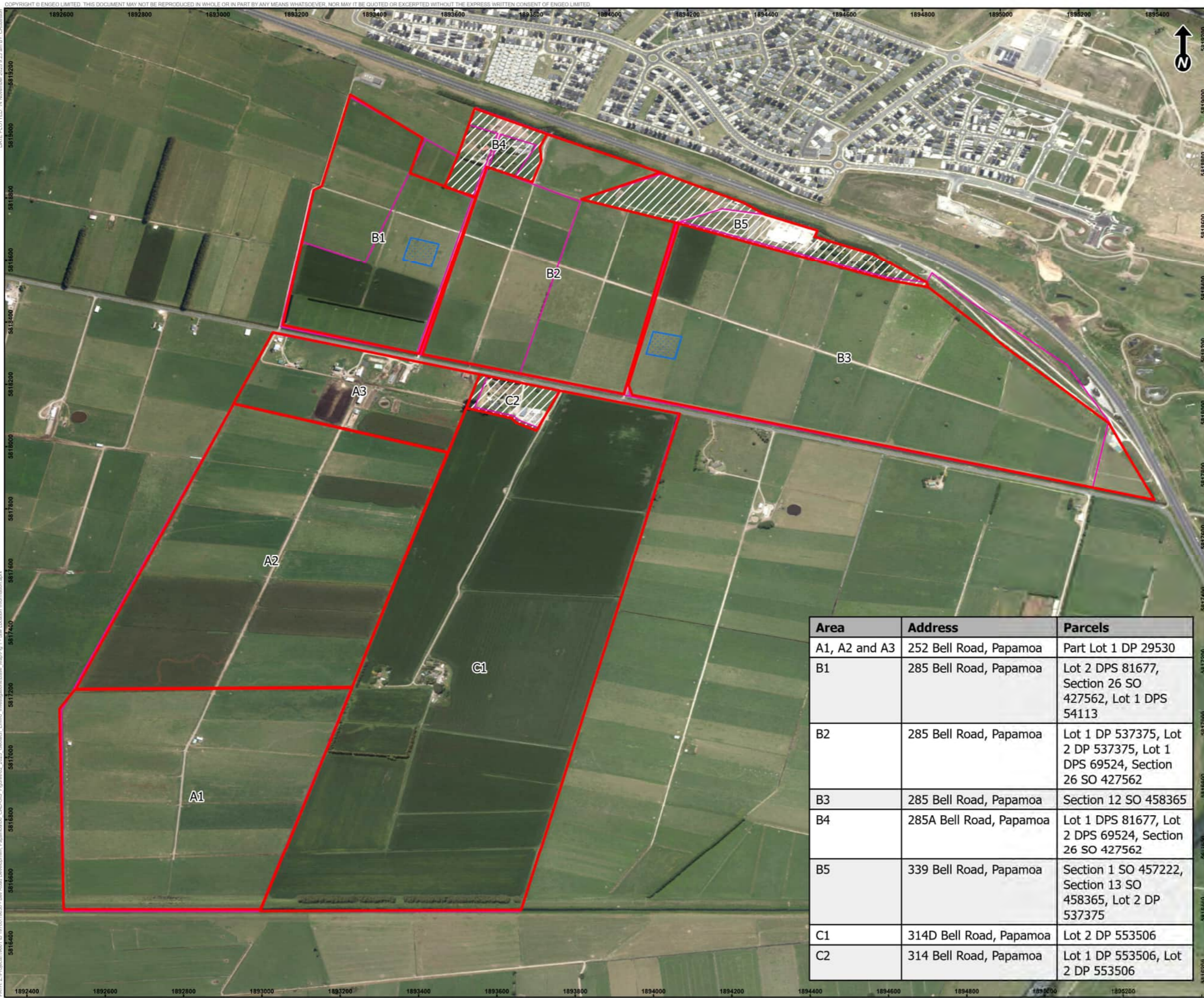
10 References

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FIGURES

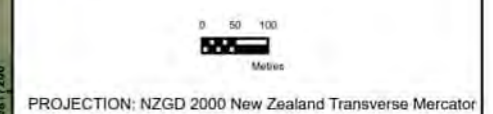


Legend

- DesktopOnlyAreas
- Site Boundaries
- ENGEO, 2022. Investigation Areas
- Land Parcels

Note: White hatched areas indicate desktop review only

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Map image: Eagle Technology.



ENGEO

Tauranga Office
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Tel: 07 777 0209, www.engeo.co.nz

Area	Address	Parcels
A1, A2 and A3	252 Bell Road, Papamoa	Part Lot 1 DP 29530
B1	285 Bell Road, Papamoa	Lot 2 DPS 81677, Section 26 SO 427562, Lot 1 DPS 54113
B2	285 Bell Road, Papamoa	Lot 1 DP 537375, Lot 2 DP 537375, Lot 1 DPS 69524, Section 26 SO 427562
B3	285 Bell Road, Papamoa	Section 12 SO 458365
B4	285A Bell Road, Papamoa	Lot 1 DPS 81677, Lot 2 DPS 69524, Section 26 SO 427562
B5	339 Bell Road, Papamoa	Section 1 SO 457222, Section 13 SO 458365, Lot 2 DP 537375
C1	314D Bell Road, Papamoa	Lot 2 DP 553506
C2	314 Bell Road, Papamoa	Lot 1 DP 553506, Lot 2 DP 553506

Title: **Site Location**

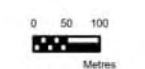
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Project: Wairakei South Development	Designed: CR Drawn: CR Checked: AG Date: Nov 25
Proj No: 19630.000.001	Scale: 1:11,500 Revision: A



Legend

- Investigation Areas
- Potential HAIL Type**
- A8
- A8 and I
- A10
- A17
- D5
- F4 and I
- G5
- I

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PROJECTION: NZGD 2000 New Zealand Transverse Mercator

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Title: Preliminary HAIL Mapping		Figure No: 2
Client: Bell Road Limited Partnership	Designed: CR	Size: A3
Project: Wairakei South Development	Drawn: CR	
	Checked: AG	
Proj No: 19630.000.001	Date: Nov 25	Revision: A
	Scale: 1:11,500	



Legend

Investigation Areas

Potential HAIL Type

A10

G5

I

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Title: Preliminary HAIL Mapping - Area A1		
Client: Bell Road Limited Partnership	Figure No:	2a
Project: Wairakei South Development	Designed: CR	
	Drawn: CR	
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	Date: Nov 25	Size: A3
Proj No: 19630.000.001	Scale: 1:3,000	Revision: A



Legend

- Investigation Areas

Potential HAIL Type

- A8
- A8 and I
- A10
- A17
- G5
- I

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Title: Preliminary HAIL Mapping - Area A3		
Client: Bell Road Limited Partnership	Figure No:	2b
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	Drawn: CR	
	Checked: AG	
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Proj No: 19630.000.001	Scale: 1:2,500	Revision: A

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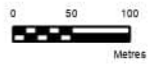


Legend

- Investigation Areas
- Potential HAIL Type**
- A10
- A17
- F4 and I
- G5
- I



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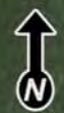
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Title:
Preliminary HAIL Mapping - Area C1

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- Legend**
- Investigation Areas
- Potential HAIL Type
- A10
 - I

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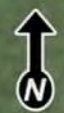
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- Legend**
- Investigation Areas
- Potential HAIL Type**
- A8 and I
 - A10
 - A17
 - F4 and I
 - I

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Title: Preliminary HAIL Mapping - Area C2		
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- Legend**
- Investigation Areas
 - Potential HAIL Type**
 - I

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Title:
Preliminary HAIL Mapping - Area B4

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Legend

- Investigation Areas
- Potential HAIL Type**
- D5
- G5
- I
- A10

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Title:
Preliminary HAIL Mapping - Area B5

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Investigation Areas



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Title:
Site Observations

Client: Bell Road Limited Partnership	Figure No:
Project: Wairakei South Development	Designed: CR
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Proj No: 19630.000.001	Scale: 1:11,500
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Size: A3

Revision: A



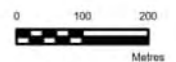
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Investigation Areas

Sample Locations

- Drain
- General Characterisation
- Horticultural Samples
- Targeted Samples
- Test Pit

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Title: **Investigation Locations**

Client: Bell Road Limited Partnership	Figure No:
Project: Wairakei South Development	Designed: CR
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	Date: Nov 25
Proj No: 19630.000.001	Scale: 1:11,500
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4

Size: A3

Revision: A



Legend

- Investigation Areas
- Sample Locations**
- Drain
- General Characterisation
- Horticultural Samples
- Targeted Samples
- Test Pit



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Map image: Eagle Technology.



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



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Investigation Locations - Areas A1 and A2

Client: Bell Road Limited Partnership		Figure No:
Project: Wairakei South Development	Designed: CR	4a
	Drawn: CR	
Checked: AG	Size: A3	
Date: Nov 25	Revision: A	
Proj No: 19630.000.001	Scale: 1:6,500	



- Legend**
- Investigation Areas
 - Sample Locations**
 - Drain
 - General Characterisation
 - Horticultural Samples
 - Targeted Samples
 - Test Pit

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PROJECTION: NZGD 2000 New Zealand Transverse Mercator



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Title: **Investigation Locations - Areas B1, B2 and B3**

Client: Bell Road Limited Partnership	Figure No:
Project: Wairakei South Development	4b
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Checked: AG	Size: A3
Date: Nov 25	Revision: A
Proj No: 19630.000.001	Scale: 1:2,500



- Legend**
- Investigation Areas
- Sample Locations**
- Drain
 - General Characterisation
 - Horticultural Samples
 - Targeted Samples
 - Test Pit

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Investigation Locations - Areas B1, B2 and B3

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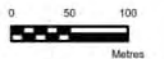
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Investigation Areas

Sample Locations

- Drain
- General Characterisation
- Horticultural Samples
- Targeted Samples
- Test Pit

Aerial: LINZ and Eagle Technology, CC BY 4.0.
Map image: Eagle Technology.



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



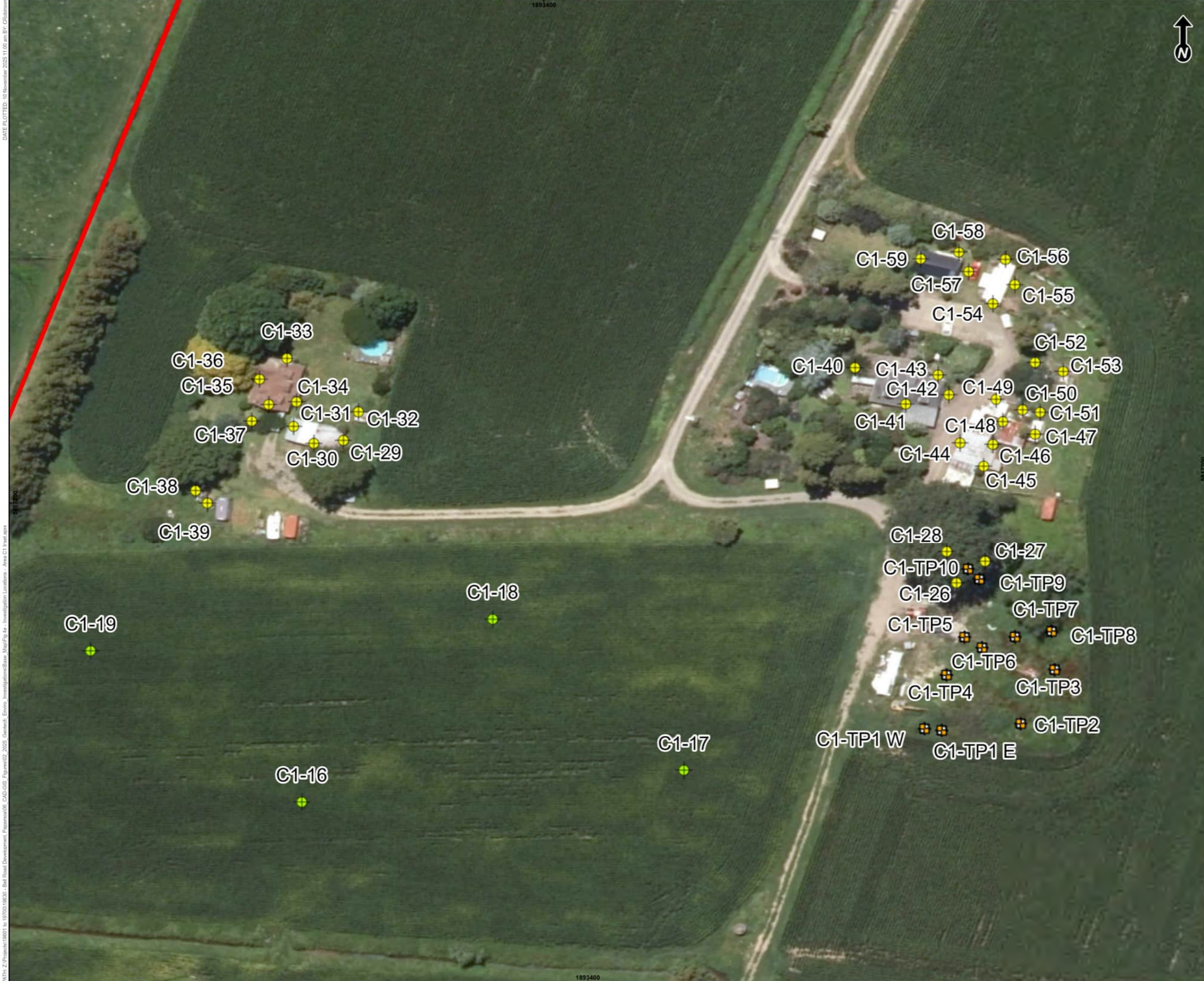
Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title:
Investigation Locations - Area C1

Client: Bell Road Limited Partnership	Figure No:
Project: Wairakei South Development	Designed: CR
	Drawn: CR
	Checked: AG
	Date: Nov 25
Proj No: 19630.000.001	Scale: 1:6,500
	Revision: A

4d

DATE PLOTTED: 10 November 2025 10:56 am BY: C0849900
PATH: Z:\Projects\19630 - Bell Road Development\Paperwork\09_CAD\GIS\Figures\Fig 4d - Investigation Locations - Area C1.mxd



- Legend**
- Investigation Areas
- Sample Locations**
- ◆ Drain
 - ◆ General Characterisation
 - ◆ Horticultural Samples
 - ◆ Targeted Samples
 - Test Pit

Aerial: LINZ and Eagle Technology, CC BY 4.0.
Map image: Eagle Technology.



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Investigation Locations - Area C1 Residences

Client: Bell Road Limited Partnership		Figure No:
Project: Wairakei South Development	Designed: CR	4e
	Drawn: CR	
	Checked: AG	
Date: Nov 25	Size: A3	
Proj No: 19630.000.001	Scale: 1:1,000	Revision: A



Legend

- Investigation Areas
- Samples Exceeding Human Health and / or Ecological Protection Criteria
 - Ecological Protection Exceedance
 - Human Health Exceedance
 - Human Health and Ecological Protection Exceedance

Aerial: LINZ and Eagle Technology, CC BY 4.0.
Map image: Eagle Technology.



PROJECTION: NZGD 2000 New Zealand Transverse Mercator

ENGEO

Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: Tier 1 Exceedances - Whole Site		
Client: Bell Road Limited Partnership	Figure No:	5
Project: Wairakei South Development	Designed: CR	
	Drawn: CR	
	Checked: AG	
	Date: Nov 25	Size: A3
Proj No: 19630.000.001	Scale: 1:11,500	Revision: A



Legend

- Investigation Areas
- Samples Exceeding Human Health and / or Ecological Protection Criteria
- Ecological Protection Exceedance
- Human Health Exceedance
- Human Health and Ecological Protection Exceedance

Aerial: LINZ and Eagle Technology, CC BY 4.0.
Map image: Eagle Technology.



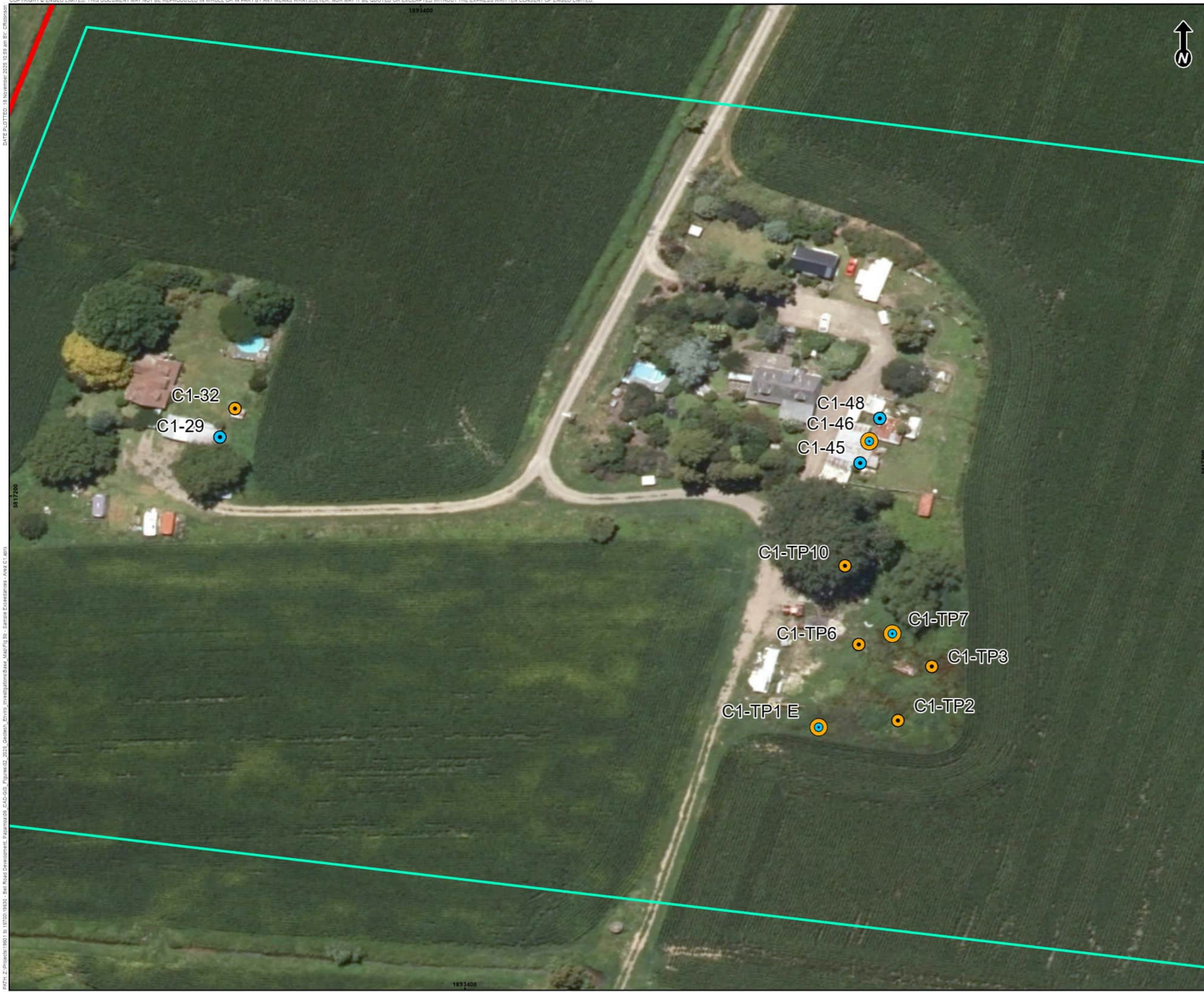
PROJECTION: NZGD 2000 New Zealand Transverse Mercator

ENGEO

Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Tier 1 Exceedances - Area A3		
Client: Bell Road Limited Partnership		Figure No:
Project: Wairakei South Development	Designed: CR	5a
	Drawn: CR	
	Checked: AG	
Date: Nov 25	Size: A3	
Proj No: 19630.000.001	Scale: 1:2,100	Revision: A

DATE PLOTTED: 10 November 2025 11:09 am BY: CR/abraham
PATH: Z:\Projects\19630 - Bell Road Development\19630_CAD\GIS\Figures\25_2025_Geotech_Enviro_Investigation\Basemap\Fig 5a - Sample Exceedances - Area A3.mxd



Legend

- Investigation Areas
- Human Health and Ecological Exceedances**
- Ecological Protection Exceedance
- Human Health Exceedance
- Human Health Exceedance and Ecological Protection Exceedance

Aerial: LINZ and Eagle Technology, CC BY 4.0.
Map image: Eagle Technology.



PROJECTION: NZGD 2000 New Zealand Transverse Mercator

ENGEO

Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Tier 1 Exceedances - Area C1		
Client: Bell Road Limited Partnership	Figure No:	
Project: Wairakei South Development	Designed: CR	5b
	Drawn: CR	
	Checked: AG	
	Date: Nov 25	Size: A3
Proj No: 19630.000.001	Scale: 1:1,000	Revision: B



Legend

- Investigation Areas
- Areas Meeting the Definition of HAIL
 - A10
 - A17
 - A8 and I
 - D5
 - F4 and I
 - I

Aerial: LINZ and Eagle Technology, CC BY 4.0. Map image: Eagle Technology.



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



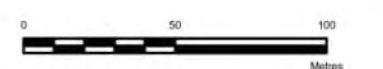
Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: Detailed HAIL Mapping - Whole Site			Figure No.:
Client: Bell Road Limited Partnership	Designed: CR	<div style="font-size: 2em; font-weight: bold; text-align: center;">6</div>	Size: A3
Project: Wairakei South Development	Drawn: CR		
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Proj No: 19630.000.001	Scale: 1:11,500	Revision: A	



- Legend**
- Investigation Areas
 - Areas Meeting the Definition of HAIL
 - A17
 - A8 and I
 - I

Aerial: LINZ and Eagle Technology, CC BY 4.0.
Map image: Eagle Technology.



PROJECTION: NZGD 2000 New Zealand Transverse Mercator

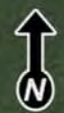
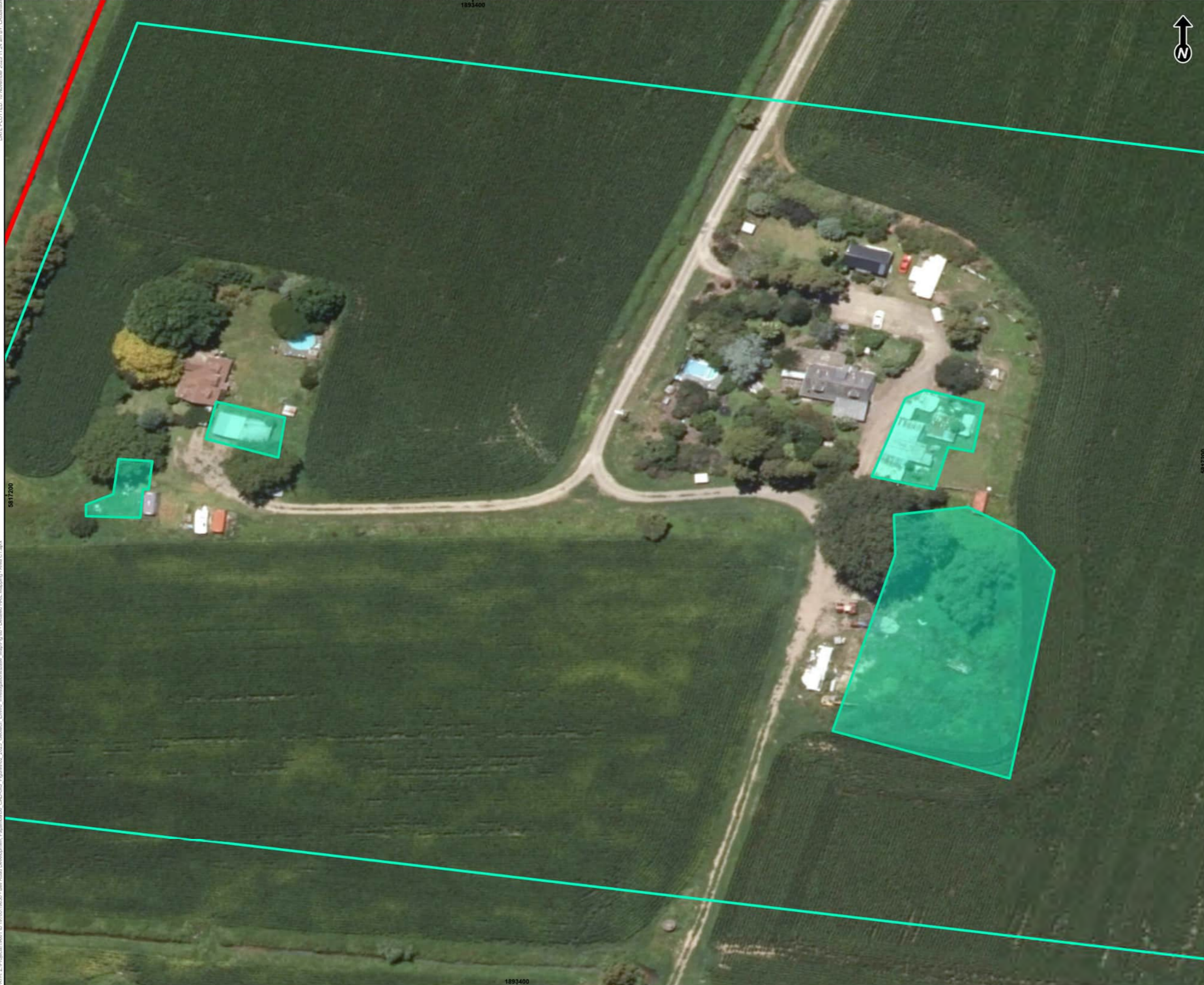


Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: Detailed HAIL Mapping - Area A3		
Client: Bell Road Limited Partnership	Figure No:	6a
Project: Wairakei South Development	Designed: CR	
	Drawn: CR	
	Checked: AG	
	Date: Nov 25	Size: A3
Proj No: 19630.000.001	Scale: 1:2,500	Revision: A

DATE PLOTTED: 10 November 2025 11:29 am BY: CR/abraham

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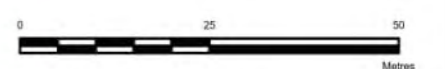
Legend

Investigation Areas

Areas Meeting the Definition of HAIL

|

Aerial: LINZ and Eagle Technology, CC BY 4.0.
Map image: Eagle Technology.



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: Detailed HAIL Mapping - Area C1		
Client: Bell Road Limited Partnership	Figure No:	6b
Project: Wairakei South Development	Designed: CR	
	Drawn: CR	
	Checked: AG	
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5817200

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1893400

PATH: Z:\Projects\19630 - Bell Road Development\19630_CAD\GIS\Figures\2_2025_Geotech_Enviro_Investigation\Basemap\Fig 6b - Detailed HAIL Mapping - Area C1.aprx

DATE PLOTTED: 10 November 2025 11:24 am BY: CR/ahm



- Legend**
- Investigation Areas
- Risk Type**
- Area of potential ecological risk
 - Area of potential human health and ecological risk
 - Area of potential human health risk

Aerial: LINZ and Eagle Technology, CC BY 4.0.
Map image: Eagle Technology.



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title:
Risk Mapping - Whole Site

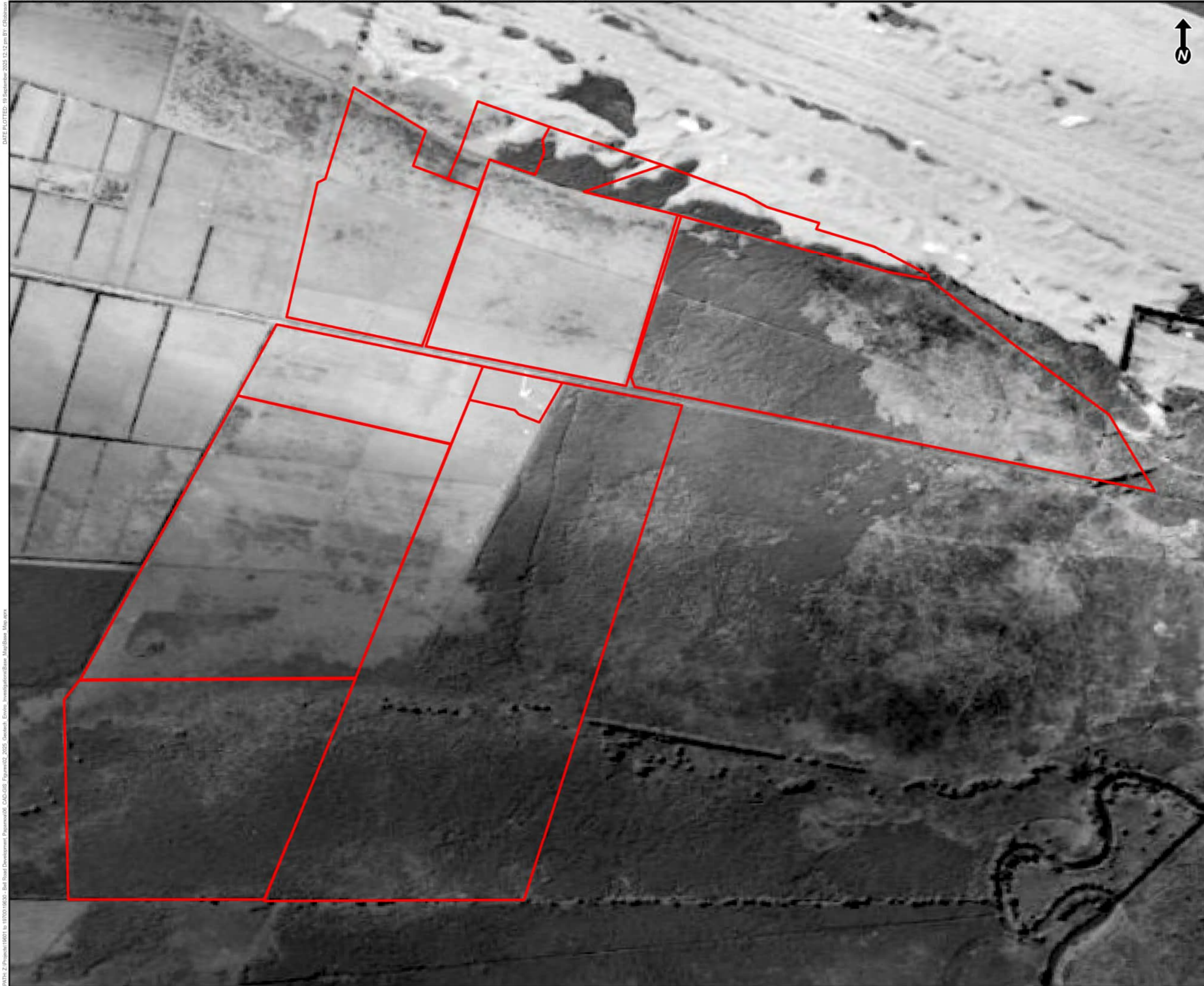
Client: Bell Road Limited Partnership	Figure No:
Project: Wairakei South Development	Designed: CR
	Drawn: CR
	Checked: AG
	Date: Nov 25
Proj No: 19630.000.001	Scale: 1:11,500
	Revision: A

7

Size: A3

Revision: A

Appendix 1: Historical Aerial Imagery



Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery
1939**

Client: Bell Road Limited Partnership

Project: Bell Road Development FTA	Designed: CR
	Drawn: CR
	Checked: AG
	Date: Sept 25

Proj No: 19630.000.001	Scale: 1:11,500	Revision: A
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Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery
1959**

Client: Bell Road Limited Partnership		
Project:	Designed: CR	
Bell Road Development FTA	Drawn: CR	
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Proj No:	Scale:	Revision:
19630.000.001	1:11,500	A

DATE PLOTTED: 19 September 2025 12:15 pm BY: CR/abraham
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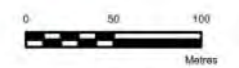
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5428200

Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery
1961**

Client: Bell Road Limited Partnership

Project:	Bell Road Development FTA	Designed:	CR
		Drawn:	CR
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		Date:	Sept 25

Proj No:	19630.000.001	Scale:	1:11,500	Revision:	A
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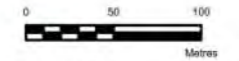
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Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery
1971**

Client: Bell Road Limited Partnership

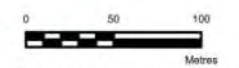
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		Checked:	AG
		Date:	Sept 25

Proj No:	19630.000.001	Scale:	1:11,500	Revision:	A
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Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

**Historical Aerial Imagery
1983**

Client: Bell Road Limited Partnership

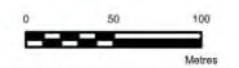
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		Date:	Sept 25

Proj No:	19630.000.001	Scale:	1:11,500	Revision:	A
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Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery
1986**

Client: Bell Road Limited Partnership

Project:	Bell Road Development FTA	Designed: CR
		Drawn: CR
		Checked: AG
		Date: Sept 25

Proj No:	19630.000.001	Scale:	1:11,500	Revision:	A
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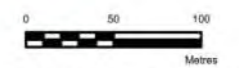


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Legend

Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator

ENGEO

Tauranga Office
 1/314 Maunganui Road
 Mount Maunganui, Tauranga 3116
 Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery
 1992**

Client: Bell Road Limited Partnership

Project:	Bell Road Development FTA	Designed: CR
		Drawn: CR
		Checked: AG
		Date: Sept 25

Proj No:	19630.000.001	Scale:	1:11,500	Revision:	A
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1749400 1749600 1749800



Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery
1994**

Client: Bell Road Limited Partnership

Project:	Bell Road Development FTA	Designed: CR
		Drawn: CR
		Checked: AG
		Date: Sept 25

Proj No:	19630.000.001	Scale:	1:11,500	Revision:	A
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Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery
2003**

Client: Bell Road Limited Partnership

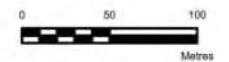
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		Checked: AG
		Date: Sept 25

Proj No:	19630.000.001	Scale:	1:11,500	Revision:	A
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Legend

Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
 1/314 Maunganui Road
 Mount Maunganui, Tauranga 3116
 Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery
 2005**

Client: Bell Road Limited Partnership

Project:	Bell Road Development FTA	Designed:	CR
		Drawn:	CR
		Checked:	AG
		Date:	Sept 25

Proj No:	19630.000.001	Scale:	1:11,500	Revision:	A
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Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery 2006**

Client: Bell Road Limited Partnership

Project:	Designed: CR
Bell Road Development FTA	Drawn: CR
	Checked: AG
	Date: Sept 25

Proj No:	Scale:	Revision:
19630.000.001	1:11,500	A

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1749000

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1749400

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1749800

DATE PLOTTED: 18 September 2025 2:00 pm BY: C083838

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Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery
2007**

Client: Bell Road Limited Partnership

Project:	Bell Road Development FTA	Designed:	CR
		Drawn:	CR
		Checked:	AG
		Date:	Sept 25

Proj No:	19630.000.001	Scale:	1:11,500	Revision:	A
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1749400

1749600

1749800

DATE PLOTTED: 18 September 2025 2:02 pm BY: CRobinson

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Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery
2009**

Client: Bell Road Limited Partnership

Project:	Bell Road Development FTA	Designed:	CR
		Drawn:	CR
		Checked:	AG
		Date:	Sept 25

Proj No:	19630.000.001	Scale:	1:11,500	Revision:	A
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1200

Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery
2011**

Client: Bell Road Limited Partnership

Project:	Bell Road Development FTA	Designed:	CR
		Drawn:	CR
		Checked:	AG
		Date:	Sept 25

Proj No:	19630.000.001	Scale:	1:11,500	Revision:	A
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1748600

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1749000

1749200

1749400

1749600

1749800



Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: Historical Aerial Imagery 2012

Client: Bell Road Limited Partnership

Project:	Designed: CR
Bell Road Development FTA	Drawn: CR
	Checked: AG
	Date: Sept 25

Proj No:	Scale:	Revision:
19630.000.001	1:11,500	A

DATE PLOTTED: 18 September 2015 2:04 pm BY: CR/abn

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Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery
2013**

Client: Bell Road Limited Partnership		
Project:	Bell Road Development FTA	Designed: CR
		Drawn: CR
		Checked: AG
		Date: Sept 25
Proj No:	19630.000.001	Scale: 1:11,500
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1749000

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1749400

1749600

1749800

DATE PLOTTED: 18 September 2015 3:59 pm BY: CR/abm



428200

Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery
2014**

Client: Bell Road Limited Partnership		
Project:	Designed: CR	
Bell Road Development FTA	Drawn: CR	
	Checked: AG	
	Date: Sept 25	
Proj No:	Scale:	Revision:
19630.000.001	1:11,500	A

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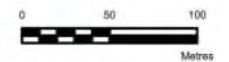
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9200

Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery
2015**

Client: Bell Road Limited Partnership

Project:	Bell Road Development FTA	Designed: CR
		Drawn: CR
		Checked: AG
		Date: Sept 25

Proj No:	19630.000.001	Scale:	1:11,500	Revision:	A
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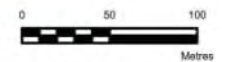
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Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

**Historical Aerial Imagery
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Client: Bell Road Limited Partnership

Project: Bell Road Development FTA

Designed: CR

Drawn: CR

Checked: AG

Date: Sept 25

Proj No: 19630.000.001

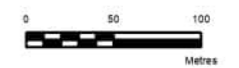
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Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title:
**Historical Aerial Imagery
2018**

Client: Bell Road Limited Partnership
Project: Bell Road Development FTA
Designed: CR
Drawn: CR
Checked: AG
Date: Oct 25

Proj No: 19630.000.001
Scale: 1:11,500
Revision: A

DATE PLOTTED: 21 October 2025 11:37 AM BY: CRONSON
P:\174_2\Projects\19630_19630 - Bell Road Development - P\19630_05_CAD\05_Figures\02_2018_0101_Enviro_Investigation\Basis_Map\Historical Aerial Imagery\Basis_Map_2018.apr



Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
 1/314 Maunganui Road
 Mount Maunganui, Tauranga 3116
 Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery
 2019**

Client: Bell Road Limited Partnership

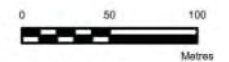
Project:	Bell Road Development FTA	Designed:	CR
		Drawn:	CR
		Checked:	AG
		Date:	Sept 25

Proj No:	19630.000.001	Scale:	1:11,500	Revision:	A
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Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery
2019**

Client: Bell Road Limited Partnership

Project:	Designed: CR
Bell Road Development FTA	Drawn: CR
	Checked: AG
	Date: Sept 25

Proj No:	Scale:	Revision:
19630.000.001	1:11,500	A



Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery 2022**

Client: Bell Road Limited Partnership

Project:	Bell Road Development FTA	Designed:	CR
		Drawn:	CR
		Checked:	AG
		Date:	Sept 25

Proj No:	19630.000.001	Scale:	1:11,500	Revision:	A
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Legend

 Site Boundary



PROJECTION: NZGD 2000 New Zealand Transverse Mercator



Tauranga Office
1/314 Maunganui Road
Mount Maunganui, Tauranga 3116
Tel: 07 777 0209, www.engeo.co.nz

Title: **Historical Aerial Imagery
2024**

Client: Bell Road Limited Partnership

Project:	Designed: CR
Bell Road Development FTA	Drawn: CR
	Checked: AG
Date: Sept 25	

Proj No:	Scale:	Revision:
19630.000.001	1:11,500	A

Appendix 2: Historical Aerial Imagery Review

Date (Source)	Area										Off-Site	
	A1	A2	A3	B1	B2	B3	B4	B5	C1	C2		
1939 (Bay of Plenty Regional Council / LINZ)	The area is covered by dense vegetation, with no visible indications of human activity. A stream flows from east to west through the northern part of the area.	The area has been predominantly cleared of vegetation. A manmade drainage channel runs north to south across the area, with two additional channels extending east to west. An area of vegetation remains located in the southwest corner of the area.	The area is currently utilised for pastoral activities. Drains run in both north-south and east-west directions across the area. Minor soil disturbances are observed near the drains along the eastern, western, and southern boundaries. Small animal handling pens are located in the north-eastern corner, situated south of the road.	The area serves as pastoral land with two east-west drains and one north-south drain. Minor soil disturbances near the drains likely result from accessway construction.	The southern part of area B2 is used for pasture, with three east-west drains on area. The north contains densely vegetated sand dunes.	A drain runs east-west across the area, with two north-south drains intersecting it. The area is densely vegetated, and large trees occupy the southwestern corner.	The area is comprised of vegetated sand dunes to the north and pasture in the southwestern corner.		The area is comprised of vegetated sand dunes	The southern and eastern sections of the area are densely vegetated. The western section has been cleared, with drainage channels constructed down the centre and multiple offshoots extending east to west toward the main drain. Areas of soil disturbance are present in the western portion, some of which appear intended to provide access across the drainage channels.	A dwelling and associated accessway is observed in the center of area.	<p>North: Sand dunes line the northern area boundary.</p> <p>South: The area to the south contains dense vegetation.</p> <p>East: The surrounding area contains dense vegetation, and the Kaituna River is located about 200 metres west of the area boundary. There is an area of soil disturbance and unidentified structures extending to the boundary of area B3.</p> <p>West: The southern part of the eastern boundary is densely vegetated, while the northern part is used for pasture, featuring shelter belts and drains.</p>
1950 (Bay of Plenty Regional Council / LINZ)	Some vegetation has been removed, and no other significant changes have been noted in the area.	A new east-west drain has been built across the area. No other major changes are noted.	The animal pens that were previously situated in the north-western corner of the area have been removed, and a larger structure has been constructed in their place. A wool shed, stockyards, and an associated sheep dip are located in the north-eastern corner. Soil disturbance is present along the east-west drain at the centre of the area.	A shelter belt extends east to west through the central portion of the area. No additional notable changes are observed.	A shelter belt extends east to west through the central portion of the area. No additional notable changes are observed.	Most of the vegetation in the area has been removed. There is an accessway extending from Bell Road to a area located to the northeast across the area.	A shelter belt has been planted between the vegetated dunes and pasture.	No significant changes are observed.	Vegetation has been removed from the northeastern section of the area. Further drains extend from the central drain towards the east.	A couple of additional small buildings are now present on the southern boundary of the area.	<p>North: No significant changes are observed.</p> <p>South: Some vegetation clearance is observed. No other significant changes area observed.</p> <p>East: No significant changes are observed.</p> <p>West: Some vegetation clearance is observed. No other significant changes area observed.</p>	
1959 (Bay of Plenty Regional Council / LINZ)	Vegetation has largely been removed from the area. A drainage channel has been installed along the southern section of the area. No additional significant alterations are observed.	No significant changes are observed.	An additional structure has been constructed in the north-western corner of the area along with an accessway. A small animal pen is now present centrally along the northern boundary.	No significant changes are observed.	The northern sand dunes have been converted into pasture.	No significant changes are observed.	No significant changes are observed.	Vegetation has been cleared from the dunes.	The southern portion of the area has been converted to pasture.	The driveway has been extended south of the existing dwelling extending to one of the small buildings.	<p>North: The sand dunes have predominantly been converted into pastureland.</p> <p>South: No significant changes are observed.</p> <p>East: No significant changes are observed.</p> <p>West: A woolshed and stockyard are located on the eastern boundary.</p>	

Date (Source)	Area										Off-Site
	A1	A2	A3	B1	B2	B3	B4	B5	C1	C2	
1961 (Bay of Plenty Regional Council / LINZ)	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	An accessway extends from the southern to the northern part of the eastern area.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	Additional vegetation has been cleared from the southern part of the area.	The driveway has been extended, and further small structures are visible.	No significant changes are observed
1971 (Retrolens)	A structure is present on the western area boundary.	No significant changes are observed.	A dairy shed and access race have been constructed in the centre of the area.	A drain has been constructed extending east to west through the centre of the area.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	An accessway has been constructed through the area.	Vegetation has been removed from the area's southern area, with no other significant changes observed.	Further small structures have been constructed.	<p>North: No significant changes are observed.</p> <p>South: No significant changes are observed.</p> <p>East: No significant changes are observed.</p> <p>West: Shelter belts have been removed from the western area boundary. Additional structures have been constructed along the western boundary of the area.</p>
1983 (Retrolens)	A race extends through the area from north to south. On the eastern side of the race, in the northern part of the area, a half-round shed has been built. A small shed is also present on the western boundary.	No significant changes are observed.	Stockyards are located in the northeastern part of the area. A shed has been added south of the dairy shed at the area's centre. Soil disturbance is observed to the north of the dairy shed. The wool shed building has been replaced by a new building.	No significant changes are observed.	The southwestern section of the property has been converted into an orchard. No other significant changes are observed.	Shelter belts are located along the western boundary of the property. The northwestern corner is developed as an orchard. Vegetation is cleared from the northeastern portion of the area. An access way extends from the northern boundary to the south.	Some soil disturbance is observed in the centre of the area.	Orchards have been planted along the southern boundary, with associated sheds and accessway.	Shelterbelts have been planted in a paddock on the southern boundary; no other significant changes are observed	Large sheds are present on the area and a dwelling is present in the western portion of the area.	<p>North: Orchards have been established along the northern boundary, with adjacent supporting structures.</p> <p>South: Vegetation has been removed, and much of the land is now used for pasture.</p> <p>East: Orchards are located northeast of the area. The Kaituna River has been altered, with visible disturbance along its banks.</p> <p>West: No significant changes are observed</p>

Date (Source)	Area										Off-Site
	A1	A2	A3	B1	B2	B3	B4	B5	C1	C2	
1986 (Retrolens)	No notable changes are seen; the image does not show the southern area due to its limited coverage.	No significant changes are observed.	A shed has been built to the south of the dairy shed, and soil disturbance is present to the north of the dairy shed.	The whole area is now used for maize production.	Maize is planted in the northwest, while orchard operations in the southwest have expanded northward with added shelterbelts.	Orchards have been established along the entire western boundary. No additional significant changes have been identified.	Two dwellings have been built in the area. Soil disturbance is observed associated with the construction of the dwellings and is observed to be leading off area into the sand dunes.	A packhouse and small shed has been constructed in the center of the area.	Shelterbelts have been added to paddocks along the western boundary, and two dwellings built just north of the shelter belts.	No significant changes are observed.	<p>North: No significant changes are observed.</p> <p>South: No significant changes are observed – Aerial Image extent is limited.</p> <p>East: No significant changes are observed.</p> <p>West: No significant changes are observed.</p>
1992 (Retrolens)	No significant changes are observed.	No significant changes are observed.	An additional dwelling and associated driveway has been constructed in the northwestern corner of the area. The dairy shed has been expanded to the north.	Orchards have been planted along the southern boundary. No other significant changes are observed.	Small stockpiles are visible along the drains in the northern half of the area, likely associated with recent drain clearing. Some of the orchard has been partially cleared.	The orchard has been extended along the northern area boundary. Patches of soil disturbance are visible in the centre of the area. Vegetation in the eastern corner of the area has been cleared.	Ancillary structures have been constructed adjacent to the dwellings present on the area. Trees have been planted in the centre of the area, along with shelterbelts around the dwellings.	No significant changes are observed.	<p>The existing orchard has been extended to the south. The wider area appears to have been converted to maize.</p> <p>Some soil disturbance is observed around the western dwelling.</p> <p>Significant gardens have been planted around the eastern dwelling.</p> <p>An area has been cleared to the south of the eastern dwelling.</p>	No significant changes are observed.	<p>North: No significant changes are observed.</p> <p>South: No significant changes are observed.</p> <p>East: Vegetation has been cleared from the easternmost point of the area. Additional dwellings have been constructed on neighbouring farmland.</p> <p>West: No significant changes are observed.</p>
1994 (Retrolens)	What appears to be a silage heap is present to the east of the existing farm track in the northern portion of the area.	No significant changes are observed.	A accessway has been constructed running from the northwestern corner of the area to the dairy shed.	No significant changes are observed.	All orchards in the area have been removed. An accessway has been constructed from the southern boundary to the northern portion of the area.	All orchards in the area have been removed.	No significant changes are observed.	Orchards have been cleared from the area.	No significant changes are observed.	No significant changes are observed.	<p>North: The orchards previously present along the area boundary have been removed.</p> <p>South: No significant changes are observed.</p> <p>East: No significant changes are observed.</p> <p>West: No significant changes are observed.</p>

Date (Source)	Area										Off-Site
	A1	A2	A3	B1	B2	B3	B4	B5	C1	C2	
2003 (Google Earth)	The silage area observed in the 1994 imagery has been removed.	No significant changes are observed.	A large area of soil disturbance is present in the centre of the area.	All orchards appear to have been removed from the area. An accessway is present, running across the area and running to the south from the centre.	Accessways are now present running from the southern boundary, across the centre of the area and to the north.	Shelter belts in the western portion of the area have been removed.	Poor image quality – no significant changes are observed.	Glasshouses have been constructed to the west of the packhouse.	The southern portion of horticultural use has been converted to maize.	No significant changes are observed.	<p>North: A commercial glasshouse has been constructed along the northern area boundary.</p> <p>South: No significant changes are observed.</p> <p>East: No significant changes are observed.</p> <p>West: No significant changes are observed.</p>
2005 (Google Earth)	No significant changes are observed.	No significant changes are observed.	The soil disturbance in the centre of the area has been developed into a feed pad. Soil disturbance is present on the northeastern portion of the area around one of the dwellings. The area is being used for silage storage along the centre of the southern boundary.	No significant changes are observed.	A small area of soil disturbance is observed in the centre of the area.	No significant changes are observed.	Trees adjacent to the dwellings have been removed.	The area is being used for silage storage on the western portion of the area.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.
2006 (Google Earth)	No significant changes are observed.										<p>North: No significant changes are observed.</p> <p>South: No significant changes are observed.</p> <p>East: No significant changes are observed.</p> <p>West: A neighbouring area is observed as using a paddock on the western boundary for horticultural use.</p>

Date (Source)	Area										Off-Site	
	A1	A2	A3	B1	B2	B3	B4	B5	C1	C2		
2007 (Google Earth)	No significant changes are observed.	Maize has been planted along a portion of the eastern boundary of the area.	Soil disturbance is observed around existing structures in the centre of the area.	No significant changes are observed.	Maize has been planted in the centre of the area.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	<p>North: No significant changes are observed.</p> <p>South: No significant changes are observed.</p> <p>East: No significant changes are observed.</p> <p>West: No significant changes are observed.</p>
2009 (Google Earth)	No significant changes are observed.	Soil disturbance is observed in a paddock on the southwestern boundary of the area, likely associated with the cultivation of maize.	Further soil disturbance is observed in the centre of the area. No other significant changes are observed due to poor image quality.	Significant soil disturbance is present on the northern area boundary.	Trees have been planted in the paddock along the northern area boundary. Paddocks used for maize have been returned to pasture.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	Significant soil disturbance is present on area, likely associated with cultivation of maize.	Soil disturbance is observed in the northeast corner of the area.	<p>North: Soil disturbance is observed along the northern boundary of area B2. Trees have been removed to the northeast of area B3.</p> <p>South: No significant changes are observed.</p> <p>East: Soil disturbance is observed to the east of area B3</p> <p>West: No significant changes are observed.</p>	
2011 (Google Earth)	No significant changes are observed.	Maize appears to have been planted in the southwestern paddock.	An additional structure is present on the in the northeast corner of the area.	Soil disturbance is observed in the northwest corner of the area.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed due to poor image quality	Soil disturbance is observed in the southwest corner of the area for silage storage area	Maize has been replanted across area.	No significant changes are observed.	<p>North: No significant changes are observed.</p> <p>South: No significant changes are observed.</p> <p>East: Areas of soil disturbance observed in 2009 imagery are now grassed.</p> <p>West: No significant changes are observed.</p>	

Date (Source)	Area										Off-Site	
	A1	A2	A3	B1	B2	B3	B4	B5	C1	C2		
2012 (Google Earth)	No significant changes are observed.	No significant changes are observed.	Further soil disturbance is observed around structures in the centre of the area.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	<p>North: The Tauranga Eastern Link (TEL) has begun construction along the northern boundary of the area.</p> <p>South: No significant changes are observed.</p> <p>East: No significant changes are observed.</p> <p>West: No significant changes are observed.</p>
2013 (Google Earth)	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	Access to the TEL through the northern boundary of the area has been established, this access is likely to enable construction of an underpass.	Stockpiles are observed along the western area boundary, likely associated with drain clearance.	Soil disturbance is observed in the northeastern corner of the area associated with the accessway/underpass construction.	No significant changes are observed.	Maize has been cultivated. Stockpiles of soil are observed to the south of the main dwelling.	Soil disturbance is observed across the area.	<p>North: Construction on the TEL has progressed.</p> <p>South: No significant changes are observed.</p> <p>East: No significant changes are observed.</p> <p>West: No significant changes are observed.</p>	
2014 (Google Earth)	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	Construction of the TEL underpass at the northern boundary of the area appears to be complete.	Soil disturbance is observed on the southeastern corner of the area associated with the construction of the TEL.	No significant changes are observed.	Soil disturbance is observed in the southwestern corner of the area.	The orchards in the southwestern portion of the area have been removed. Further stockpiles are observed to the south of the main dwelling.	Soil disturbance is observed across the area.	<p>North: Construction of the TEL has progressed.</p> <p>South: No significant changes are observed.</p> <p>East: No significant changes are observed.</p> <p>West: No significant changes are observed.</p>	

Date (Source)	Area										Off-Site
	A1	A2	A3	B1	B2	B3	B4	B5	C1	C2	
2015 (Google Earth)	Soil disturbance is observed in the southwestern portion of the area likely associated with the cultivation of maize.	No significant changes are observed.	No significant changes are observed.	An additional accessway has been constructed through the center of the area.	No significant changes are observed.	Significant soil disturbance is observed in the southwestern corner of the area likely associated with the cultivation of maize.	No significant changes are observed.	A silage pit has been dug out on the western portion of the area.	No significant changes are observed.	Soil disturbance is observed in the northeast corner of the area.	<p>North: Construction of the TEL has progressed. Enabling earthworks for a large subdivision have commenced.</p> <p>South: No significant changes are observed.</p> <p>East: No significant changes are observed.</p> <p>West: No significant changes are observed.</p>
2016 (Google Earth)	No significant changes are observed.	No significant changes are observed.	Soil stockpiled center of the area.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	Soil disturbance is observed in the northeast corner of the area.	<p>North: Construction on the TEL has finished.</p> <p>South: No significant changes are observed.</p> <p>East: No significant changes are observed.</p> <p>West: No significant changes are observed.</p>
2017 (Google Earth)	No significant changes are observed.	No significant changes are observed.	Soil disturbance is observed associated with the development of a round raised pad.	No significant changes are observed.	No significant changes are observed.	Maize has been cultivated in the southwestern corner of the area.	No significant changes are observed.	No significant changes are observed.	Further stockpiles are observed to the south of the main dwelling.	No significant changes are observed.	<p>North: Soil disturbance is observed along the northern boundary of area B1.</p> <p>South: No significant changes are observed.</p> <p>East: No significant changes are observed.</p> <p>West: No significant changes are observed.</p>

Date (Source)	Area										Off-Site
	A1	A2	A3	B1	B2	B3	B4	B5	C1	C2	
2018 (Google Earth)	No significant changes are observed.	No significant changes are observed.	The raised pad has been grassed.	No significant changes are observed.	Material is observed to be being stockpiled and spread in the northern paddocks of the area.	No significant changes are observed.	No significant changes are observed.	Soil disturbance is observed along the northern boundary.	The stockpiled located to the south of the main dwelling are now grassed. Maize has been planted across the area.	Soil disturbance is observed in the northeast corner of the area.	<p>North:</p> <p>Earthworks associated with a subdivision on the northern side of the TEL have progressed. A substation is now present where soil disturbance was previously observed to the north of area B1.</p> <p>South:</p> <p>No significant changes are observed.</p> <p>East:</p> <p>Soil disturbance is observed at the northeastern corner of area C1.</p> <p>West:</p> <p>No significant changes are observed.</p>
2019 (Google Earth)	No significant changes are observed.	No significant changes are observed.	The effluent tank has been constructed on the raised pad in the center of the area. A structure around the woolshed has been removed.	No significant changes are observed.	The northern paddocks are regrassed.	Soil disturbance is observed in the northwestern corner of the area.	No significant changes are observed.	No significant changes are observed.	Maize has been cultivated.	No significant changes are observed.	<p>North:</p> <p>Earthworks associated with a subdivision on the northern side of the TEL have progressed.</p> <p>South:</p> <p>No significant changes are observed.</p> <p>East:</p> <p>The area of soil disturbance at the northeastern corner of area C1 has been grassed.</p> <p>West:</p> <p>No significant changes are observed.</p>
2021 (Google Earth)	Maize has been planted in the northwestern corner of the area.	Maize has been planted in the northeastern corner of the area.	Further soil disturbance around the effluent treatment pond is observed.	Maize has been planted in the center of the area.	Soil disturbance is observed though paddocks in the center of the area, likely associated with cultivation of maize.	No significant changes are observed.	No significant changes are observed.	Soil disturbance is observed around the packhouse.	Maize has been cultivated.	No significant changes are observed.	<p>North:</p> <p>Houses have been constructed associated with the subdivision on the northern side of the TEL.</p> <p>South:</p> <p>No significant changes are observed.</p> <p>East:</p> <p>No significant changes are observed.</p> <p>West:</p> <p>No significant changes are observed.</p>

Date (Source)	Area										Off-Site
	A1	A2	A3	B1	B2	B3	B4	B5	C1	C2	
2022 (Google Earth)	Maize has been cultivated.	Maize has been cultivated	No significant changes are observed.	Maize has been cultivated	No significant changes are observed.	No significant changes are observed.	No significant changes are observed.	Stockpiling of soil is observed along the northern boundary of the area.	No significant changes are observed.	Soil disturbance is observed in the northeast corner of the area.	<p>North: No significant changes are observed.</p> <p>South: Soil disturbance is observed along the southern boundary of area C1.</p> <p>East: No significant changes are observed.</p> <p>West: No significant changes are observed.</p>
2024 (Google Earth)	No significant changes are observed.	Maize has been planted in the southern and northeastern portions of the area.	Maize has been planted in the southeastern corner of the area. Significant soil disturbance is observed in the center of the area.	Maize has been planted in the southern portion of the area.	Soil disturbance is observed along the northern boundary of the area.	A laydown area associated with further works occurring for the TEL is observed on the southeastern corner of the area.	Soil disturbance is observed along the northern boundary of the area.	No significant changes are observed.	No significant changes are observed.	Soil disturbance is observed in the northeast corner of the area.	<p>North: Further earthworks are observed on the northern side of the TEL.</p> <p>South: No significant changes are observed.</p> <p>East: No significant changes are observed.</p> <p>West: No significant changes are observed.</p>

Appendix 3: BoPRC LUR Information



HORIZONTAL DATUM: New Zealand Geodetic Datum 2000 For practical purposes, NZGD2000 equates to WGS84 VERTICAL DATUM: Mean Sea Level PROJECTION: New Zealand Transverse Mercator 2000 © Bay of Plenty Regional Council, 2013 © Sourced from Land Information New Zealand data. CROWN COPYRIGHT RESERVED

HAIL Request - Bell Road, Papamoa

Projection: NZGD_2000_New_Zealand_Transverse_Mercator

SCALE 1: 18,056

Date Printed:
24 September 2025



LUR-WBP-02760 Polygon Map

SCALE 1: 8,250

Projection: NZGD_2000_New_Zealand_Transverse_Mercator

Date Printed:
18 May 2020



Land Use Site Details



Site ID :	LUR-WBP-02760	Printed :	24/09/2025
Site Address(es) :	314 Bell Road, Upper Papamoa, Western Bay of Plenty District R314 Bell Road, Western Bay of Plenty District		
Parcel(s)/Lot(s) :	4567147 : Part Lot 1 DP 29530		
Site Classification :	Verified HAIL site		

Description

The land use history has been confirmed. The site has been confirmed as one that appears on the Hazardous Activities and Industries List (<https://www.mfe.govt.nz/land/hazardous-activities-and-industries-list-hail>). The information used in making this classification of the site contamination status is available in file held by Western Bay of Plenty District and file held by Bay of Plenty Regional Council.

Land Use

Persistent pesticide bulk storage or use including sport turfs, market gardens, orchards, glass houses or spray sheds

Site Information

9 March 2020 - subdivision consent (2 lots) at 314 Bell Road, Papamoa (Western Bay of Plenty District Council, RCA200312508). The proposal is to create one additional rural lot around one of the existing dwellings adjacent to Bell Road. The subdivision will not cause proposed Lot 2 to stop being production land, therefore it is considered the National Environment Standards for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) do not apply. The NESCS should be reassessed as part of any future development of proposed Lot 2.

February 2015: A review of aerial photographs from 2003, 2007 & 2011 has confirmed an orchard is located on this property, where persistent pesticides have been stored or used.

Other Information

The enclosed information is derived from the Western Bay of Plenty District Council and Bay of Plenty Regional Council's Selected Land Use register and is made available to you under the Local Government Official and Information Meetings Act 1987 (LGOIMA), Building Act 1991 or Privacy Act 2020.

The database has been established by the Western Bay of Plenty District Council and Bay of Plenty Regional Council for the purpose of performing its functions under the Resource Management Act 1991.

It has been compiled in accordance with national Site Classification and Information Management Protocols for Land Contamination.

This information reflects the Western Bay of Plenty District Council and Bay of Plenty Regional Council's current understanding of this site. The Western Bay of Plenty District Council, the Bay of Plenty Regional Council and their officers, employees and agents accept no liability for any inaccuracy in, or omission from, this information; or liability for any loss of damage suffered by any person which may directly or indirectly result from any person acting or refraining from acting on this information. This information has been prepared for the recipient to whom it is addressed and is intended for the recipient's use only. This is not intended to be relied on by any other party.

Land Use Site Details



Site ID :	LUR-WBP-04147	Printed :	12/02/2025
Site Address(es) :	4-6 Stevenson Drive, Upper Papamoa, Tauranga City 461-463 Bell Road, Upper Papamoa, Tauranga City Bell Road, Upper Papamoa, Western Bay of Plenty District		
Parcel(s)/Lot(s) :	4374560 : Lot 3 DPS 10111 6748966 : Lot 67 DP 345260 7413191 : Section 12 SO 458365 7413192 : Section 13 SO 458365 7478832 : Section 1 SO 465254 7478833 : Section 2 SO 465254 7854426 : Lot 4 DP 517522		
Site Classification :	Contaminated for Land Use - Industrial Commercial		

Description

The land use history has been confirmed. The site has been confirmed as one that appears on the Hazardous Activities and Industries List (<https://www.mfe.govt.nz/land/hazardous-activities-and-industries-list-hail>). The information used in making this classification of the site contamination status is available in file held by Tauranga City and file held by Bay of Plenty Regional Council.

Land Use

Persistent pesticide bulk storage or use including sport turfs, market gardens, orchards, glass houses or spray sheds

Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment

Site Information

12 September 2019 - land use consent for earthworks within the Floodable Area hazard overlay & change of land use in association with Temporary Preload Bund Earthworks for Papamoa East Interchange at Bell Road, Papamoa (Western Bay of Plenty District Council consent: RC11537L)

The application report included a preliminary site investigation (6 November 2018) and a detailed site investigation (12 April 2019) prepared by Geohazard Environmental. The reports are discussed below for BOPRC consent: RM19-0351 and the comments remain the same. All land comprised within Section 13 SO 458365 is confirmed within the detailed site investigation as not being a "piece of land" and the NES:CS does not apply.

29 July 2019 - land use consent - bulk earthworks and soil disturbance + NESCS consent in association with the Papamoa East Interchange (PEI) at 4 & 6 Stevenson Drive and 4631L & 4635L Bell Road, Pāpāmoa (Tauranga City Council consent: RC27230)

The application report included two preliminary site investigations (6 November 2018 and 12 April 2019) and a detailed site investigation (12 April 2019) prepared by Geohazard Environmental. The reports are discussed below for BOPRC consent: RM19-0351 and the comments remain the same. The former orchard area in Section 2 SO 465254 is considered to be a “piece of land” under the NES:CS however, the detailed site investigation has demonstrated that contaminant concentrations are suitable for commercial industrial land use.

23 July 2019 - land use consent for NESCS soil disturbance and change of land use (in association with the Papamoa East Interchange (PEI)) at 311 - 339A & 461 - 463 Bell Road, Papamoa (Western Bay of Plenty District Council consent: RC11529L)

The application report included a preliminary site investigation (6 November 2018), detailed site investigation (12 April 2019) and contamination verification letter (28 May 2019), prepared by Geohazard Environmental. The reports are discussed below for BOPRC consent: RM19-0351 and the comments remain the same.

20 June 2019 - earthworks consent for Pāpāmoa Eastern Interchange, 4-6 Stevenson Drive, 311-339A Bell Road & 461-463 Bell Road, Papamoa (BOPRC consent: RM19-0351)

The application report included two preliminary site investigations (6 November 2018 and 12 April 2019), detailed site investigation (12 April 2019) and contamination verification letter (28 May 2019), prepared by Geohazard Environmental. The detailed site investigation and contamination verification letter confirmed that small scale remediation is required for the suspected old rubbish burning area on the southern site (sample location HA79 0.0m) on Section 2 SO 457222. BOPRC agrees that a Completion Report is adequate to cover off the low risk of soil disturbance in the burn area. The former orchard area is considered to be a “piece of land” (Section 2 SO 465254) however, the contaminant concentrations are suitable for commercial industrial land use. Excluding the former orchard area and suspected old rubbish burning area outlined above, it is more likely than not that HAIL activities did not occur on the remainder of the site (Lot 3 DPS 10111, Lot 67 DP 345260, Section 12 SO 458365, Section 13 SO 458365, Section 1 SO 465254, Section 2 SO 465254, Lot 4 DP 517522). However, these sites have been included on LUR-WBP-04147 as an investigation has been undertaken.

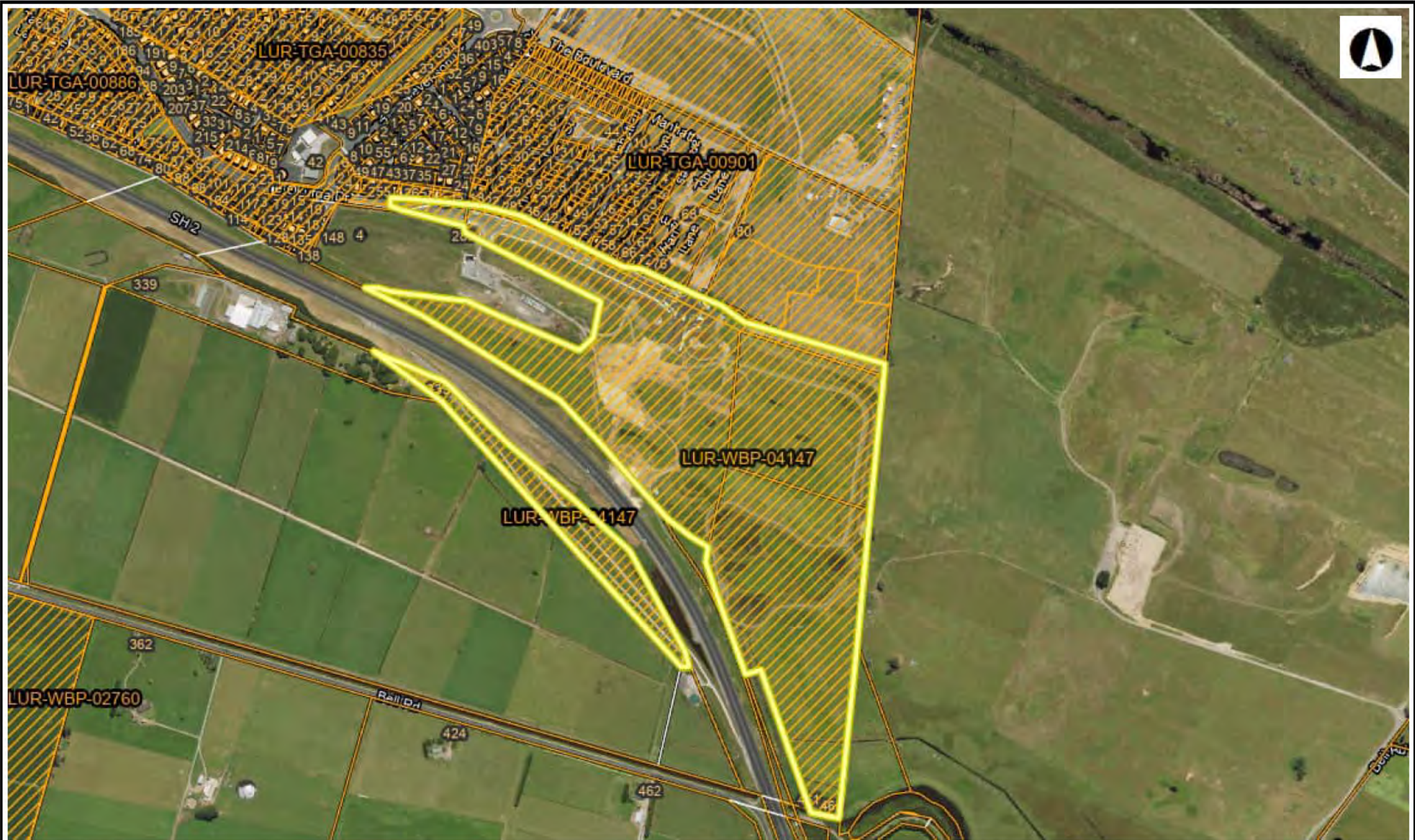
Other Information

The enclosed information is derived from the Tauranga City Council and Bay of Plenty Regional Council's Selected Land Use register and is made available to you under the Local Government Official and Information Meetings Act 1987 (LGOIMA), Building Act 1991 or Privacy Act 2020.

The database has been established by the Tauranga City Council and Bay of Plenty Regional Council for the purpose of performing its functions under the Resource Management Act 1991.

It has been compiled in accordance with national Site Classification and Information Management Protocols for Land Contamination.

This information reflects the Tauranga City Council and Bay of Plenty Regional Council's current understanding of this site. The Tauranga City Council, the Bay of Plenty Regional Council and their officers, employees and agents accept no liability for any inaccuracy in, or omission from, this information; or liability for any loss of damage suffered by any person which may directly or indirectly result from any person acting or refraining from acting on this information. This information has been prepared for the recipient to whom it is addressed and is intended for the recipient's use only. This is not intended to be relied on by any other party.





Appendix 4:
Property Files

Appendix 5 – Property File Summary Sheets

252 Bell Road				
Document / Consent / File Number	Document Date	Document / Title	Author / Entity	Description and notes
BP19623	7/12/1976	Permit to relocate ex-railway house to replace woolshed post fire	WBDC	Woolshed destroyed due to fire, so ex-railway house is relocated to site to replace the woolshed.
BP 910271	5/04/1991	Building permit to construct dwelling	WBDC	Geotechnical investigations note topsoil transitioning into peat in the proposed foundation footprint, groundwater was observed at 0.5 m bgl. Placement of fill is recommended to ensure that the septic tank and drainage is kept out of groundwater. House plans identify it may be clad with Hardiplank which may contain asbestos.
-	4/07/1991	Building permit to construct garage	WBDC	Permit to construct garage associated with new dwelling. Geotechnical investigations note topsoil transitioning into peat in the proposed foundation footprint, groundwater was observed at 0.5 m bgl. Recommendations include placement of approx. 400-500 mm of sand fill below foundations. Garage was to be constructed using either galvanised steel or fibrolite (which may contain asbestos) - document is unclear which material was used.
BP 920321	30/04/1992	Building permit for an extension to existing cowshed	WBDC	Building permit for extension to cowshed. The plans note that sand fill was placed under the concrete for the yard addition. Plans also note that the existing roof structure is to be removed and replaced with corrugated iron - it isn't clear what the previous roofing material was.
BC65757	16/07/2002	Consent for construction of a new dwelling	WBDC	Consent for construction of a new dwelling. Notes that the area is to be filled by owner prior to construction.
BC70651	13/04/2004	Consent for construction of a urea silo foundation	WBDC	Consent for construction of foundations for a silo to store urea. Geotechnical report states that the footprint of the foundation must be stripped of peat and backfilled with sand or other suitable granular soil.
BC83635	27/04/2012	Consent for construction of a farm shed and workshop	WBDC	Consent for construction of a farm shed and workshop. Notes that imported sand was used to backfill, raise the drainage field/septic tank area and backfill the foundation slab area after the removal of peat. Drainage fields located to the north of the shed between the road and shed. Shed is constructed using timber framing and colour steel exterior cladding.
RC13935L	1/03/2023	Application for consent to construct a new cowshed (not built) and import cleanfill for foundation construction	WBDC	Geotechnical investigations note that the area was underlain by topsoil up to 0.2 m bgl, sand layer to 0.4 m bgl and fibrous peat up to 1.8 m bgl. An undercut and fill are proposed to construct the foundation of the proposed dairy shed. The fill proposed to be imported is sand surplus to the construction of the Tauranga Eastern Link Highway Construction. Material noted to be used for filling the area was stockpiled on the paddock to the north of 285A Bell Road.

285 Bell Road

Document / Consent / File Number	Document Date	Document / Title	Author / Entity	Description and Notes
1368/4/4	29/03/1985	Letter: Building Permit application: Mr and Mrs D G Fulton, Bell Road, Papamoa	Trevor Thompson, Civil Engineering Consultant	Letter to TCC confirming house site, based on geotechnical report recommendations, which included all topsoil and peat be excavated and sands be compacted or hardfill to provide a suitable platform.
-	27/03/1985	House Site Foundation Investigation for D.Fulton, Bell Road Papamoa	Ground Technology Ltd	Geotechnical investigation of house site. Investigations included two hand augers to 2m bgl, and five scala's to 3m bgl. The Investigation identified the top 0.3-0.5m comprising of sandy topsoil and sandy peat overlying fine to medium sand with a density ranging from loose to dense. GW was at 1.5m bgl in both hand augers. Report findings include medium dense sands at 0.6-0.9m bgl suitable for founding the house, topsoil and peat will require removal, Possible for loose sands to be compacted to become suitable.
-	30/04/1985	TCC Application for Building Permit	-	Building plans identify the following building materials that could contain ACM: Rusticated exterior weatherboards, Hardiflex soffit lining.

285A Bell Road

Document / Consent / File Number	Document Date	Document / Title	Author / Entity	Description and Notes
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Building consent docs for addition to dwelling (2000) and for two implement sheds (2002 and 2012), and fireplace (2025).

314 Bell Road

Document / Consent / File Number	Document Date	Document / Title	Author / Entity	Description and Notes
RC14228L	30/09/1974	House Plans	T.S. Gollup	House plans showing potentially asbestos containing decramastic tile roofing, rusticated weatherboards, septic tank to west of dwelling, fill consisting of quarry rubble and compacted clay,
RC14228L	7/10/1974	Proposed House on Farm	W.G. Mitchinson Consulting Engineers	Letter relating to filling house site above flood levels.
BC70456	30/08/2003	Replacement shed foundation recommendations	Harrison Grierson	Notes that a removed and replaced building was previously used for bulk storage of grain
P/1386/3002/2	8/03/2004	Planning Issues - Rural Contracting Depot: Part Lot 1 DP 29530, 314 Bell Road	WBDC	Letter informing property owner that their activities at the property fit the definition of rural contractor's depot, and they need to apply for resource consent to undertake that activity in the rural zone.
RC402639L	8/03/2004	Land use consent application for rural contractors' yard and new implement shed, workshop and office.	TCC	South part of shed to be utilised for repairs and maintenance of farm machinery and storing crop inputs. North part office for maize and kiwifruit duties.
RC402639L	8/03/2004	Landowner comment on WBDC consenting issues	Dovaston Family Partnership	Outlines plan for shed replacement. Document includes photos of the shed to be removed. An AST is present in the foreground of images provided.
RC14228L		Land-Use Consent application for Molasses Storage Facility (Depot) on Lot 1 DP 553506		Includes earthworks associated with a 3000 m ³ below ground storage basin containing a molasses bladder, excavated material used to bund the bladder. Includes loading and unloading platform, tanks and pump shed. Section 3.1.4 of the application provides assessment under the NESCS, the assessment identifies - The Contractors depot buildings at the south-east corner of Lot 1 DP 553506 would be expected to have provided for storage of chemicals, including fertilisers, associated with Rural Contracting, and sheds associated with maize or kiwifruit contracting including potential storage of pesticides. It is

also identifies maintenance of equipment and possibly farm vehicles has likely occurred in the workshop area, as well as fuel storage associated with these activities.

The proposed earthworks to occur at the north side of the site outside the identified "piece of land" as being at the location of the prior Rural Contractors workshop and storage area for fuel and agrichemicals. It was considered that the area of land to be subject to the earthworks is unlikely to have been utilised for HAIL activities. The assessment concluded that the proposed earthworks activity does not disturb soils in an area considered likely to be subject to HAIL activity.

314D Bell Road

Document / Consent / File Number	Document Date	Document / Title	Author / Entity	Description and Notes
	18/05/2015	Registration of site on Bay of Plenty Regional Council's Land Use Register –Bell Road, Te Puke	BoPRC	Letter notifying landowner that their property or part of their property has been identified for inclusion on our Land Use Register.
LUR-WPB-02760	18/09/2020	Land Use Site Details	BoPRC	Site classification: Verified HAIL site associated with aerial review of 2003, 2007 and 2011 confirming an orchard at the property where persistent pesticides may have been used or stored.
1386/3002/2	28/03/1991	Application For Planning Approval for Second Dwelling - Pt Lot 1 Dp 29530 Blk IV Te Tuhu S.D.	WBDC	Application for a secondary dwelling for employee accommodation associated with the dairy farm.
-	12/05/1988	Redesignation for Sanitary Drainage Part Lot 2 DP 29530, Bell Road, Te Puke	TCC	Letter notifying landowner that land formerly designated for sanitary drainage purposes is no longer designated for that purpose.
BC62801	1/01/2000	Multiple	WBDC	Building consent application for a Garage. Plans show the cladding to be Zinalume.
24746	12/12/1982	Multiple	TCC	Building permit application for new dwelling to the east of the farm access. Design specifications identify potentially asbestos containing Decramastic tile roofing. Plans identify potentially asbestos containing Hardiplank cladding.

24747	23/12/1985	Multiple	TCC	Building permit application for new dwelling west of farm access. Design specifications identify potential for exterior asbestos cement wall linings, soffits verges and porch ceilings to be lined with flat asbestos cement sheets.
339 Bell Road				
Document / Consent / File Number	Document Date	Document / Title	Author / Entity	Description and Notes
-	12/04/1985	Building permit to relocate an ex-school building to the site	TCC	The school building was noted as being clad in fibrolite, have a corrugated iron roof and was noted to be good condition and includes a plan noting it is to be placed in the footprint of the existing orchard.
-	1/11/1985	Kiwifruit cool store plan and elevation	Lanwood Industries Ltd	
BC10070	25/01/1991	Building plans for construction of coolstore and canopy	WBDC	Plans note construction of an extension to the existing cool store and packhouse. The permit application notes that filling occurred prior to the construction of the foundation using a sand with the topsoil being stripped from the area. The extension was constructed using treated timber and steel bracing with Trimline cladding
BC141563	13/03/1995	Application for a building permit to relocate ex-school building to the site	WBDC	Application and permit to relocate ex-school building to the site.
BC 40447	22/04/1994	Packhouse extension plans	WBDC	Plan shows existing packhouse location and proposed implement shed 30 m to the east
BC50487	27/04/1995	Application for the construction of glasshouses	WBDC	The building permit application details the plan for construction of glasshouses adjacent to the existing packhouse. It is noted that the glasshouses were to be heated using gas burners.
BC40262	11/05/1994	Application for construction of an implement shed	WBDC	The building permit application notes the proposed implement shed location as 30 meters to the east of the packhouse. A letter is attached from Peter W. M. Ewart (Engineer) noting that the clean fill material below the floor slab of the building was geotechnically tested, it's unclear if the material was sourced in-situ or imported to site.
-	19/07/1995	Application approval for installation for a 12 Tonne LPG storage Tank	-	-

-	16/02/1996	Dangerous Goods Licence for Twin Crest Holdings at 339 Bell Road	WBDC	2D GAS LPG
	6/08/1997	Proposal to install LPG cylinder filling station	WBDC	-
D98/1963	25/03/1998	Dangerous Goods Licence for Twin Crest Holdings at 339 Bell Road	WBDC	2D GAS LPG 24000L
D2000/2511	20/04/1999	Dangerous Goods Licence for Twin Crest Holdings at 339 Bell Road	WBDC	2D GAS LPG 24000L
D20000/3124	20/12/2000	Dangerous Goods Licence for Twin Crest Holdings at 339 Bell Road	WBDC	2D GAS LPG 24000L
D/3545	26/04/2001	Dangerous Goods Licence for Twin Crest Holdings at 339 Bell Road	WBDC	2D GAS LPG 12000L
BC64477	2/03/2001	Application to extend the packhouse	WBDC	Notes that the packhouse requires an extension to enable space for labelling kiwifruit as per additional Zespri requirements.
P/1386/3395	21/10/2001	Non recorded building works	WBDC	Letter sent to the landowner notifying them of building works undertaken without council notification. Works completed included additions of an office, carport, patio covering and double garage to the dwelling and construction of an open sided curing shed adjacent to the packhouse. The landowner provided a letter from a registered builder noting that the additions had been constructed in accordance with best practice
D/3942	20/04/2002	Dangerous Goods Licence for Twin Crest Holdings at 339 Bell Road	WBDC	2D GAS LPG 24000L
D/4337	24/04/2002	Dangerous Goods Licence for Twin Crest Holdings at 339 Bell Road	WBDC	2D GAS LPG 600L

RC11529L	6/11/2018	Preliminary Site Investigation Report, Papamoa Eastern Interchange. Papamoa	Geohazard Environmental	PSI identified potential HAIL A10 (Horticultural land use), E1 (buildings/building material in deteriorated condition), HAIL G5 (infilled swimming pool) within 339 Bell Road additional suspected former rubbish storage/burning.
RC11529L	12/04/2019	Detailed Site Investigation Report, Papamoa Eastern Interchange. Papamoa	Geohazard Environmental	DSI sampling identified arsenic in a past burn pit area. Arsenic was found in excess of human health criteria (108 mg/kg).
RC11165L	1/10/2018	Resource application for change in land use	Maven	Proposal to convert the partial use of the existing packhouse building for assembly of trailers and a storage facility to be used by a food production company. A plan is provided as part of the consent application outlining the planned use of the packhouse infrastructure onsite.
1264	23/06/2025	Building WOF for Industrial - Workshop, storage, office and amenities	Compliance Service Inc	-
-	undated	Site plan for proposed gas-powered glasshouses	-	-

Appendix 5: Pesticides Used in Site Trial

Appendix 6: Pesticides known to be used in Noogora Burr Trials – Bell Road Development, Papamoa

Pesticide	Soil Half-Life ¹
Dicamba	30 - 60 days
Nicosulfuron	14 - 49 days
Mesotrione	2 - 50 days
Atrazine	37 - 73 days
Synoil	Not applicable – This oil is utilised alongside other pesticides to enhance their effectiveness.
Topramezone	15 - 19 days
Hasten	Not applicable – This oil is utilised alongside other pesticides to enhance their effectiveness.
Banvel	14 days
Astound Ultra	30.95 days (Safety Datasheets unavailable, assumed likely half life based on active ingredient nicosulfuron)
Callisto	5 – 32 days
Gesaprim	18 – 148 days
Banvel	5 – 14 days
Arietta	137 – 297 days
Adengo	Up to 108 days based on the active ingredients noted in the product (isoxaflutole, thien carbazono-methyl and cyprosulfamide)

¹ Soil half-life is noted to potentially be longer in soils with a higher organic content

Appendix 6: Investigation Approach

Table 1: Investigation Appraisal

Potential Source of Contamination	Primary Contaminants of Concern	Possible distribution of Contamination	Investigation approach
<p>Historical sheep dip (HAIL ID: A8)</p>	<p>Heavy metals and organochlorine pesticides (OCPs)</p>	<p>Shallow soils in the vicinity of historical sheep dipping and chemical container disposal sites, as well as potentially deeper subsurface soils in discharge areas, may be affected.</p>	<p>Surface soil samples were selectively collected near the suspected sheep dip location and the woolshed. On-site assessment of heavy metals was conducted using a portable X-Ray Fluorescence (pXRF) device to inform subsequent laboratory analysis. Test pits were also completed in the area where the sheep dip was believed to be located to identify potential buried and infilled structures and located the sheep dip.</p>
<p>Persistent pesticide use in horticultural areas (HAIL ID: A10)</p>	<p>Heavy metals and OCPs and Organo-nitrogen and Organo-Phosphate Pesticides (ONOPs)</p>	<p>Shallow soil / Topsoil</p>	<p>Surface and subsurface samples (0.3 – 0.4 m below ground level) were collected from areas with a history of orcharding activities using a large grid-based pattern to enable broadscale characterisation of potential impacts from persistent pesticide use. Surface samples will be composited (4:1) and analysed in the laboratory, while subsurface samples will be retained under cold storage for subsequent analysis if elevated contaminant levels are detected, allowing for further delineation of contamination. Compositing of samples is considered appropriate to assess broadscale application and to assess shallow soils that have likely been homogenized through agricultural practices following orcharding (kiwifruit) disestablishment.</p>
<p>Fuel storage (HAIL ID: A17)</p>	<p>Heavy metals, polycyclic aromatic hydrocarbons (PAHs) and Total Petroleum Hydrocarbons (TPHs)</p>	<p>Shallow soil around the fuel storage.</p>	<p>Soil samples will be obtained from both surface and subsurface depths (0.3 – 0.4 m bgl) to assess potential impacts related to fuel storage in the area, such as minor leaks or spills resulting from regular operations. Surface samples will be forwarded for laboratory analysis, while subsurface samples will be maintained under refrigeration to support further assessment of potential contamination, should it be required.</p>

<p>Potential impact from lead-based paint and other building material on former and existing buildings <i>(HAIL ID: I)</i></p>	<p>Heavy metals</p>	<p>Shallow soil within and adjacent to the former dwelling footprint</p>	<p>Shallow and subsurface soil samples (0.3 – 0.4 m below ground level) will be collected within building curtilages. As only surface soils are expected to be affected, heavy metal laboratory analysis will focus on these samples, while subsurface samples will be retained in cold storage should further depth delineation become necessary.</p>
<p>Building materials containing asbestos <i>(HAIL ID: I)</i></p>	<p>Asbestos fines and fibrous asbestos</p>	<p>Shallow soil within and adjacent to the former dwelling footprint</p>	<p>Shallow and subsurface soil samples (0.3 – 0.4 m below ground level) will be collected within building curtilages constructed prior to the 1990's. As only surface soils are expected to be affected, asbestos laboratory analysis will focus on these samples, while subsurface samples will be retained in cold storage should further depth delineation become necessary</p>
<p>Undocumented filling <i>(HAIL ID: I)</i></p>	<p>Metals / metalloids, OCPs, PAHs, and asbestos fines and fibrous asbestos</p>	<p>Fill material to varying depths</p>	<p>Test pit investigations were determined to be an effective method for evaluating the impact of historical filling activities, as they provide a complete view of the soil profile and facilitate assessment of anthropogenic influences and waste. Soil samples are to be collected at all locations where unique fill layers are observed as well as from underlying native soils and will be submitted for laboratory analysis based on field observations.</p>
<p>Diesel Spill <i>(HAIL ID: I)</i></p>	<p>Heavy metals, polycyclic aromatic hydrocarbons and Total Petroleum Hydrocarbons</p>	<p>Surface and potentially deeper subsurface soil</p>	<p>Soil samples will be obtained from both surface and subsurface depths (0.3 – 0.4 m below ground level) for the purpose of assessing potential impacts associated with the historical diesel spill. Any observed odours or evidence of staining identified during the sampling process will be documented accordingly.</p>

Appendix 7: Laboratory Analytical Reports

Certificate of Analysis

Page 1 of 27

Client:	Engeo Limited	Lab No:	3900458	SPV3
Contact:	Aaron Graham C/- Engeo Limited PO Box 305136 Triton Plaza Auckland 0757	Date Received:	27-May-2025	
		Date Reported:	05-Aug-2025	(Amended)
		Quote No:	82742	
		Order No:		
		Client Reference:	19630.000.001	
		Submitted By:	Lucas Brydon	

Sample Type: Soil						
Sample Name:	A3-1.1	A3-2.1	A3-3.1	A3-4 0-0.1	A3-5 0-0.1	
	26-May-2025	26-May-2025	26-May-2025	26-May-2025	26-May-2025	
Lab Number:	3900458.1	3900458.3	3900458.5	3900458.7	3900458.9	
Individual Tests						
Dry Matter	g/100g as rcvd	-	-	53	87	75
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	6	7	144	3	5
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	0.91	< 0.10	< 0.10
Total Recoverable Chromium	mg/kg dry wt	4	4	166	3	13
Total Recoverable Copper	mg/kg dry wt	7	7	199	< 2	12
Total Recoverable Lead	mg/kg dry wt	12.9	36	390	2.0	9.2
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	< 2	< 2	6	< 2	< 2
Total Recoverable Zinc	mg/kg dry wt	68	59	1,950	16	101
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	-	-	< 0.5	< 0.3	-
1-Methylnaphthalene	mg/kg dry wt	-	-	< 0.019	< 0.012	-
2-Methylnaphthalene	mg/kg dry wt	-	-	< 0.03	< 0.013	-
Acenaphthylene	mg/kg dry wt	-	-	< 0.019	< 0.012	-
Acenaphthene	mg/kg dry wt	-	-	< 0.019	< 0.012	-
Anthracene	mg/kg dry wt	-	-	< 0.019	< 0.012	-
Benzo[a]anthracene	mg/kg dry wt	-	-	< 0.019	< 0.012	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	-	< 0.019	< 0.012	-
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	-	< 0.045	< 0.028	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	-	< 0.044	< 0.028	-
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	-	-	< 0.019	< 0.012	-
Benzo[e]pyrene	mg/kg dry wt	-	-	< 0.019	< 0.012	-
Benzo[g,h,i]perylene	mg/kg dry wt	-	-	< 0.019	< 0.012	-
Benzo[k]fluoranthene	mg/kg dry wt	-	-	< 0.019	< 0.012	-
Chrysene	mg/kg dry wt	-	-	< 0.019	< 0.012	-
Dibenzo[a,h]anthracene	mg/kg dry wt	-	-	< 0.019	< 0.012	-
Fluoranthene	mg/kg dry wt	-	-	< 0.019	< 0.012	-
Fluorene	mg/kg dry wt	-	-	< 0.019	< 0.012	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	-	-	< 0.019	< 0.012	-
Naphthalene	mg/kg dry wt	-	-	< 0.10	< 0.06	-
Perylene	mg/kg dry wt	-	-	< 0.019	< 0.012	-
Phenanthrene	mg/kg dry wt	-	-	< 0.019	< 0.012	-
Pyrene	mg/kg dry wt	-	-	0.020	< 0.012	-

Sample Type: Soil						
Sample Name:	A3-1.1 26-May-2025	A3-2.1 26-May-2025	A3-3.1 26-May-2025	A3-4 0-0.1 26-May-2025	A3-5 0-0.1 26-May-2025	
Lab Number:	3900458.1	3900458.3	3900458.5	3900458.7	3900458.9	
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	-	-	-	-	< 20
C10 - C14	mg/kg dry wt	-	-	-	-	< 20
C15 - C36	mg/kg dry wt	-	-	-	-	54
Total hydrocarbons (C7 - C36)	mg/kg dry wt	-	-	-	-	< 80
Sample Name:	A3-6 0-0.1 26-May-2025	A3-7 0-0.1 26-May-2025	A3-7 0.3-0.4 26-May-2025	A3-8 0-0.1 26-May-2025	A3-9 0-0.1 26-May-2025	
Lab Number:	3900458.11	3900458.13	3900458.14	3900458.15	3900458.17	
Individual Tests						
Dry Matter	g/100g as rcvd	-	-	-	60	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	5	7	4	18	8
Total Recoverable Cadmium	mg/kg dry wt	0.17	0.50	0.34	0.58	< 0.10
Total Recoverable Chromium	mg/kg dry wt	8	7	4	8	7
Total Recoverable Copper	mg/kg dry wt	11	24	16	15	13
Total Recoverable Lead	mg/kg dry wt	171	690	250	54	14.1
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	< 2	3	3	5	< 2
Total Recoverable Zinc	mg/kg dry wt	1,210	260	138	310	171
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	-	-	-	< 30	-
C10 - C14	mg/kg dry wt	-	-	-	< 20	-
C15 - C36	mg/kg dry wt	-	-	-	< 40	-
Total hydrocarbons (C7 - C36)	mg/kg dry wt	-	-	-	< 90	-
Sample Name:	A3-10 0-0.1 26-May-2025	A3-11 0-0.1 26-May-2025	A3-12 0-0.1 26-May-2025	A3-13 0-0.1 26-May-2025	A3-14 0-0.1 26-May-2025	
Lab Number:	3900458.19	3900458.21	3900458.23	3900458.25	3900458.27	
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	6	3	4	3	2
Total Recoverable Cadmium	mg/kg dry wt	0.24	< 0.10	< 0.10	0.12	0.16
Total Recoverable Chromium	mg/kg dry wt	11	2	2	3	2
Total Recoverable Copper	mg/kg dry wt	15	3	3	10	7
Total Recoverable Lead	mg/kg dry wt	19.2	3.1	3.1	4.5	3.0
Total Recoverable Mercury	mg/kg dry wt	0.73	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	< 2	< 2	< 2	< 2	< 2
Total Recoverable Zinc	mg/kg dry wt	220	14	19	27	23
Sample Name:	A3-15 0-0.1 26-May-2025	A3-16 0-0.1 26-May-2025	A3-18 0-0.1 26-May-2025	A3-18 0.3-0.4 26-May-2025	A3-19 0-0.1 26-May-2025	
Lab Number:	3900458.29	3900458.31	3900458.35	3900458.36	3900458.37	
Individual Tests						
Dry Matter	g/100g as rcvd	-	-	78	87	67
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	4	2	16	3	122
Total Recoverable Cadmium	mg/kg dry wt	0.15	< 0.10	0.12	< 0.10	0.26
Total Recoverable Chromium	mg/kg dry wt	3	2	18	8	131
Total Recoverable Copper	mg/kg dry wt	7	< 2	34	7	240
Total Recoverable Lead	mg/kg dry wt	11.0	2.0	7.5	7.2	10.2
Total Recoverable Mercury	mg/kg dry wt	0.23	< 0.10	< 0.10	0.12	< 0.10
Total Recoverable Nickel	mg/kg dry wt	< 2	< 2	2	2	4
Total Recoverable Zinc	mg/kg dry wt	111	11	280	34	590
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	-	-	< 0.3	< 0.3	< 0.4
1-Methylnaphthalene	mg/kg dry wt	-	-	< 0.013	< 0.011	< 0.015
2-Methylnaphthalene	mg/kg dry wt	-	-	< 0.013	< 0.011	< 0.015
Acenaphthylene	mg/kg dry wt	-	-	< 0.013	< 0.011	< 0.015

Sample Type: Soil

Sample Name:		A3-15 0-0.1 26-May-2025	A3-16 0-0.1 26-May-2025	A3-18 0-0.1 26-May-2025	A3-18 0.3-0.4 26-May-2025	A3-19 0-0.1 26-May-2025
Lab Number:		3900458.29	3900458.31	3900458.35	3900458.36	3900458.37
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Acenaphthene	mg/kg dry wt	-	-	< 0.013	< 0.011	< 0.015
Anthracene	mg/kg dry wt	-	-	< 0.013	< 0.011	< 0.015
Benzo[a]anthracene	mg/kg dry wt	-	-	< 0.013	< 0.011	< 0.015
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	-	< 0.013	< 0.011	< 0.015
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	-	< 0.030	< 0.027	< 0.036
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	-	< 0.030	< 0.027	< 0.035
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	-	-	< 0.013	< 0.011	< 0.015
Benzo[e]pyrene	mg/kg dry wt	-	-	< 0.013	< 0.011	< 0.015
Benzo[g,h,i]perylene	mg/kg dry wt	-	-	< 0.013	< 0.011	< 0.015
Benzo[k]fluoranthene	mg/kg dry wt	-	-	< 0.013	< 0.011	< 0.015
Chrysene	mg/kg dry wt	-	-	< 0.013	< 0.011	< 0.015
Dibenzo[a,h]anthracene	mg/kg dry wt	-	-	< 0.013	< 0.011	< 0.015
Fluoranthene	mg/kg dry wt	-	-	< 0.013	< 0.011	< 0.015
Fluorene	mg/kg dry wt	-	-	< 0.013	< 0.011	< 0.015
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	-	-	< 0.013	< 0.011	< 0.015
Naphthalene	mg/kg dry wt	-	-	< 0.07	< 0.06	< 0.08
Perylene	mg/kg dry wt	-	-	< 0.013	< 0.011	< 0.015
Phenanthrene	mg/kg dry wt	-	-	< 0.013	< 0.011	< 0.015
Pyrene	mg/kg dry wt	-	-	< 0.013	< 0.011	< 0.015
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	-	-	< 20	< 20	< 30
C10 - C14	mg/kg dry wt	-	-	< 20	< 20	< 20
C15 - C36	mg/kg dry wt	-	-	210	54	106
Total hydrocarbons (C7 - C36)	mg/kg dry wt	-	-	220	< 80	125
Sample Name:		A3-19 0.3-0.4 26-May-2025	A3-20 0-0.1 26-May-2025	A3-20 0.3-0.4 26-May-2025	A3-21 0-0.1 26-May-2025	A3-22 0-0.1 26-May-2025
Lab Number:		3900458.38	3900458.39	3900458.40	3900458.41	3900458.42
Individual Tests						
Dry Matter	g/100g as rcvd	68	77	63	81	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	14	3	18	3	4
Total Recoverable Cadmium	mg/kg dry wt	0.23	< 0.10	0.26	< 0.10	< 0.10
Total Recoverable Chromium	mg/kg dry wt	7	4	10	6	9
Total Recoverable Copper	mg/kg dry wt	15	8	14	9	20
Total Recoverable Lead	mg/kg dry wt	21	3.6	125	16.6	7.5
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	3	< 2	< 2	< 2	< 2
Total Recoverable Zinc	mg/kg dry wt	138	111	123	111	300
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	5.2	< 0.4	< 0.4	< 0.3	-
1-Methylnaphthalene	mg/kg dry wt	1.22	< 0.013	< 0.016	< 0.013	-
2-Methylnaphthalene	mg/kg dry wt	1.76	< 0.013	< 0.016	< 0.013	-
Acenaphthylene	mg/kg dry wt	< 0.015	< 0.013	< 0.016	< 0.013	-
Acenaphthene	mg/kg dry wt	0.036	< 0.013	< 0.016	< 0.013	-
Anthracene	mg/kg dry wt	0.133	< 0.013	< 0.016	< 0.013	-
Benzo[a]anthracene	mg/kg dry wt	0.071	< 0.013	< 0.016	< 0.013	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	0.063	< 0.013	< 0.016	< 0.013	-
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	0.082	< 0.031	< 0.038	< 0.030	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	0.081	< 0.031	< 0.038	< 0.030	-
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	0.049	< 0.013	< 0.016	< 0.013	-

Sample Type: Soil						
Sample Name:	A3-19 0.3-0.4 26-May-2025	A3-20 0-0.1 26-May-2025	A3-20 0.3-0.4 26-May-2025	A3-21 0-0.1 26-May-2025	A3-22 0-0.1 26-May-2025	
Lab Number:	3900458.38	3900458.39	3900458.40	3900458.41	3900458.42	
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Benzo[e]pyrene	mg/kg dry wt	0.050	< 0.013	< 0.016	< 0.013	-
Benzo[g,h,i]perylene	mg/kg dry wt	0.085	< 0.013	< 0.016	< 0.013	-
Benzo[k]fluoranthene	mg/kg dry wt	< 0.015	< 0.013	< 0.016	< 0.013	-
Chrysene	mg/kg dry wt	0.051	< 0.013	< 0.016	< 0.013	-
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.015	< 0.013	< 0.016	< 0.013	-
Fluoranthene	mg/kg dry wt	0.164	< 0.013	< 0.016	< 0.013	-
Fluorene	mg/kg dry wt	0.24	< 0.013	< 0.016	< 0.013	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	0.040	< 0.013	< 0.016	< 0.013	-
Naphthalene	mg/kg dry wt	0.38	< 0.07	< 0.08	< 0.07	-
Perylene	mg/kg dry wt	< 0.015	< 0.013	< 0.016	< 0.013	-
Phenanthrene	mg/kg dry wt	0.56	< 0.013	< 0.016	< 0.013	-
Pyrene	mg/kg dry wt	0.33	< 0.013	< 0.016	< 0.013	-
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 30	< 20	< 30	< 20	-
C10 - C14	mg/kg dry wt	185	< 20	< 20	< 20	-
C15 - C36	mg/kg dry wt	2,700	77	< 40	47	-
Total hydrocarbons (C7 - C36)	mg/kg dry wt	2,900	94	< 90	< 80	-
Sample Name:	A3-23 0-0.1 26-May-2025	A3-24 0-0.1 26-May-2025	A3-25 0-0.1 26-May-2025	A3-26 0-0.1 26-May-2025	A3-27 0-0.1 26-May-2025	
Lab Number:	3900458.44	3900458.46	3900458.48	3900458.49	3900458.50	
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	7	3	< 2	< 2	< 2
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.13	< 0.10	< 0.10	0.15
Total Recoverable Chromium	mg/kg dry wt	7	4	< 2	5	5
Total Recoverable Copper	mg/kg dry wt	44	7	< 2	10	23
Total Recoverable Lead	mg/kg dry wt	5.2	5.6	1.6	4.0	3.5
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	< 2	< 2	< 2	3	9
Total Recoverable Zinc	mg/kg dry wt	107	109	30	210	57
Sample Name:	A3-28 0-0.1 26-May-2025	A3-29 0-0.1 26-May-2025	A3-30 0-0.1 26-May-2025	A3-31 0-0.1 26-May-2025	A3-32 0-0.1 26-May-2025	
Lab Number:	3900458.52	3900458.54	3900458.55	3900458.56	3900458.58	
Individual Tests						
Dry Matter	g/100g as rcvd	-	-	54	-	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	6	< 2	2	< 2	3
Total Recoverable Cadmium	mg/kg dry wt	0.18	0.14	0.13	< 0.10	< 0.10
Total Recoverable Chromium	mg/kg dry wt	10	6	3	4	2
Total Recoverable Copper	mg/kg dry wt	31	11	13	11	3
Total Recoverable Lead	mg/kg dry wt	21	12.6	3.8	6.2	2.8
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	2	2	< 2	< 2	< 2
Total Recoverable Zinc	mg/kg dry wt	460	930	480	62	23
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	-	-	< 0.019	-	-
alpha-BHC	mg/kg dry wt	-	-	< 0.019	-	-
beta-BHC	mg/kg dry wt	-	-	< 0.019	-	-
delta-BHC	mg/kg dry wt	-	-	< 0.019	-	-
gamma-BHC (Lindane)	mg/kg dry wt	-	-	< 0.019	-	-
cis-Chlordane	mg/kg dry wt	-	-	< 0.019	-	-
trans-Chlordane	mg/kg dry wt	-	-	< 0.019	-	-
2,4'-DDD	mg/kg dry wt	-	-	< 0.019	-	-
4,4'-DDD	mg/kg dry wt	-	-	< 0.019	-	-
2,4'-DDE	mg/kg dry wt	-	-	< 0.019	-	-

Sample Type: Soil						
Sample Name:	A3-28 0-0.1 26-May-2025	A3-29 0-0.1 26-May-2025	A3-30 0-0.1 26-May-2025	A3-31 0-0.1 26-May-2025	A3-32 0-0.1 26-May-2025	
Lab Number:	3900458.52	3900458.54	3900458.55	3900458.56	3900458.58	
Organochlorine Pesticides Screening in Soil						
4,4'-DDE	mg/kg dry wt	-	-	< 0.019	-	-
2,4'-DDT	mg/kg dry wt	-	-	< 0.019	-	-
4,4'-DDT	mg/kg dry wt	-	-	< 0.019	-	-
Total DDT Isomers	mg/kg dry wt	-	-	< 0.11	-	-
Dieldrin	mg/kg dry wt	-	-	< 0.019	-	-
Endosulfan I	mg/kg dry wt	-	-	< 0.019	-	-
Endosulfan II	mg/kg dry wt	-	-	< 0.019	-	-
Endosulfan sulphate	mg/kg dry wt	-	-	< 0.019	-	-
Endrin	mg/kg dry wt	-	-	< 0.019	-	-
Endrin aldehyde	mg/kg dry wt	-	-	< 0.019	-	-
Endrin ketone	mg/kg dry wt	-	-	< 0.019	-	-
Heptachlor	mg/kg dry wt	-	-	< 0.019	-	-
Heptachlor epoxide	mg/kg dry wt	-	-	< 0.019	-	-
Hexachlorobenzene	mg/kg dry wt	-	-	< 0.019	-	-
Methoxychlor	mg/kg dry wt	-	-	< 0.019	-	-
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	-	-	< 0.5	-	-
1-Methylnaphthalene	mg/kg dry wt	-	-	< 0.019	-	-
2-Methylnaphthalene	mg/kg dry wt	-	-	< 0.019	-	-
Acenaphthylene	mg/kg dry wt	-	-	< 0.019	-	-
Acenaphthene	mg/kg dry wt	-	-	< 0.019	-	-
Anthracene	mg/kg dry wt	-	-	< 0.019	-	-
Benzo[a]anthracene	mg/kg dry wt	-	-	< 0.019	-	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	-	< 0.019	-	-
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	-	< 0.044	-	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	-	< 0.044	-	-
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	-	-	< 0.019	-	-
Benzo[e]pyrene	mg/kg dry wt	-	-	< 0.019	-	-
Benzo[g,h,i]perylene	mg/kg dry wt	-	-	< 0.019	-	-
Benzo[k]fluoranthene	mg/kg dry wt	-	-	< 0.019	-	-
Chrysene	mg/kg dry wt	-	-	< 0.019	-	-
Dibenzo[a,h]anthracene	mg/kg dry wt	-	-	< 0.019	-	-
Fluoranthene	mg/kg dry wt	-	-	< 0.019	-	-
Fluorene	mg/kg dry wt	-	-	< 0.019	-	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	-	-	< 0.019	-	-
Naphthalene	mg/kg dry wt	-	-	< 0.10	-	-
Perylene	mg/kg dry wt	-	-	< 0.019	-	-
Phenanthrene	mg/kg dry wt	-	-	< 0.019	-	-
Pyrene	mg/kg dry wt	-	-	< 0.019	-	-
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	-	-	< 30	-	-
C10 - C14	mg/kg dry wt	-	-	< 30	-	-
C15 - C36	mg/kg dry wt	-	-	290	-	-
Total hydrocarbons (C7 - C36)	mg/kg dry wt	-	-	310	-	-
Sample Name:	A3-33 0-0.1 26-May-2025	A3-34 0-0.1 26-May-2025	A3-35 0-0.1 26-May-2025	A3-36 0-0.1 26-May-2025	A3-36 0.3-0.4 26-May-2025	
Lab Number:	3900458.60	3900458.62	3900458.63	3900458.65	3900458.66	
Individual Tests						
Dry Matter	g/100g as rcvd	-	-	-	-	92
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	3	< 2	3	4	2
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	0.53	< 0.10	< 0.10

Sample Type: Soil						
Sample Name:	A3-33 0-0.1 26-May-2025	A3-34 0-0.1 26-May-2025	A3-35 0-0.1 26-May-2025	A3-36 0-0.1 26-May-2025	A3-36 0.3-0.4 26-May-2025	
Lab Number:	3900458.60	3900458.62	3900458.63	3900458.65	3900458.66	
Heavy Metals with Mercury, Screen Level						
Total Recoverable Chromium	mg/kg dry wt	3	7	6	2	3
Total Recoverable Copper	mg/kg dry wt	4	15	17	3	< 2
Total Recoverable Lead	mg/kg dry wt	2.9	5.8	3.9	2.4	2.9
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	< 2	2	3	< 2	< 2
Total Recoverable Zinc	mg/kg dry wt	31	181	104	43	32
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	-	-	-	-	< 0.3
1-Methylnaphthalene	mg/kg dry wt	-	-	-	-	< 0.011
2-Methylnaphthalene	mg/kg dry wt	-	-	-	-	< 0.011
Acenaphthylene	mg/kg dry wt	-	-	-	-	< 0.011
Acenaphthene	mg/kg dry wt	-	-	-	-	< 0.011
Anthracene	mg/kg dry wt	-	-	-	-	< 0.011
Benzo[a]anthracene	mg/kg dry wt	-	-	-	-	< 0.011
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	-	-	-	< 0.011
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	-	-	-	< 0.026
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	-	-	-	< 0.026
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	-	-	-	-	< 0.011
Benzo[e]pyrene	mg/kg dry wt	-	-	-	-	< 0.011
Benzo[g,h,i]perylene	mg/kg dry wt	-	-	-	-	< 0.011
Benzo[k]fluoranthene	mg/kg dry wt	-	-	-	-	< 0.011
Chrysene	mg/kg dry wt	-	-	-	-	< 0.011
Dibenzo[a,h]anthracene	mg/kg dry wt	-	-	-	-	< 0.011
Fluoranthene	mg/kg dry wt	-	-	-	-	< 0.011
Fluorene	mg/kg dry wt	-	-	-	-	< 0.011
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	-	-	-	-	< 0.011
Naphthalene	mg/kg dry wt	-	-	-	-	< 0.06
Perylene	mg/kg dry wt	-	-	-	-	< 0.011
Phenanthrene	mg/kg dry wt	-	-	-	-	< 0.011
Pyrene	mg/kg dry wt	-	-	-	-	< 0.011
Sample Name:	A3-37 0-0.1 26-May-2025	A3-37 0.3-0.4 26-May-2025	A1-2_0.3-0.4 27-May-2025	A1-6_0-0.1 27-May-2025	A1-7_0-0.1 27-May-2025	
Lab Number:	3900458.67	3900458.68	3900458.72	3900458.79	3900458.81	
Individual Tests						
Total Organic Carbon*	g/100g dry wt	-	15.0	14.8	-	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	5	-	-	9	9
Total Recoverable Cadmium	mg/kg dry wt	0.25	-	-	0.41	0.47
Total Recoverable Chromium	mg/kg dry wt	3	-	-	6	6
Total Recoverable Copper	mg/kg dry wt	4	-	-	8	12
Total Recoverable Lead	mg/kg dry wt	5.2	-	-	7.2	8.6
Total Recoverable Mercury	mg/kg dry wt	< 0.10	-	-	< 0.10	0.11
Total Recoverable Nickel	mg/kg dry wt	< 2	-	-	3	5
Total Recoverable Zinc	mg/kg dry wt	20	-	-	40	64
Sample Name:	A1-8_0-0.1 27-May-2025	A1-9_0-0.1 27-May-2025	A1-10_0-0.1 27-May-2025	A1-11_0-0.1 27-May-2025	A2-1_0-0.1 27-May-2025	
Lab Number:	3900458.83	3900458.85	3900458.87	3900458.89	3900458.91	
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	16	18	13	15	< 2
Total Recoverable Cadmium	mg/kg dry wt	0.18	0.16	0.29	0.55	< 0.10
Total Recoverable Chromium	mg/kg dry wt	6	5	4	5	2
Total Recoverable Copper	mg/kg dry wt	9	8	6	10	3

Sample Type: Soil						
Sample Name:	A1-8_0-0.1 27-May-2025	A1-9_0-0.1 27-May-2025	A1-10_0-0.1 27-May-2025	A1-11_0-0.1 27-May-2025	A2-1_0-0.1 27-May-2025	
Lab Number:	3900458.83	3900458.85	3900458.87	3900458.89	3900458.91	
Heavy Metals with Mercury, Screen Level						
Total Recoverable Lead	mg/kg dry wt	10.4	9.4	8.8	17.0	3.9
Total Recoverable Mercury	mg/kg dry wt	0.11	0.17	< 0.10	0.12	< 0.10
Total Recoverable Nickel	mg/kg dry wt	< 2	< 2	< 2	< 2	< 2
Total Recoverable Zinc	mg/kg dry wt	210	96	430	800	22
Sample Name:	A2-2_0-0.1 27-May-2025	A2-3_0-0.1 27-May-2025	A2-3_0.3-0.4 27-May-2025	A2-4_0-0.1 27-May-2025	A2-5_0-0.1 27-May-2025	
Lab Number:	3900458.93	3900458.95	3900458.96	3900458.97	3900458.99	
Individual Tests						
Total Organic Carbon*	g/100g dry wt	-	-	26	-	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	2	< 2	-	< 2	2
Total Recoverable Cadmium	mg/kg dry wt	0.33	0.44	-	0.51	0.30
Total Recoverable Chromium	mg/kg dry wt	4	5	-	7	5
Total Recoverable Copper	mg/kg dry wt	6	9	-	10	13
Total Recoverable Lead	mg/kg dry wt	3.1	2.2	-	3.7	5.1
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	-	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	2	5	-	4	2
Total Recoverable Zinc	mg/kg dry wt	43	130	-	84	121
Sample Name:	B1-7_0-0.1 29-May-2025	B1-8_0-0.1 29-May-2025	B2-1_0-0.1 29-May-2025	B2-1_0.3-0.4 29-May-2025	B2-2_0-0.1 29-May-2025	
Lab Number:	3900458.113	3900458.115	3900458.117	3900458.118	3900458.119	
Individual Tests						
Dry Matter	g/100g as rcvd	-	-	78	-	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	< 2	< 2	36	6	4
Total Recoverable Cadmium	mg/kg dry wt	0.31	0.45	0.12	< 0.10	< 0.10
Total Recoverable Chromium	mg/kg dry wt	3	4	5	2	2
Total Recoverable Copper	mg/kg dry wt	6	10	13	3	2
Total Recoverable Lead	mg/kg dry wt	2.3	2.4	1.7	1.5	2.4
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	3	4	< 2	< 2	< 2
Total Recoverable Zinc	mg/kg dry wt	45	64	35	11	14
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	-	-	< 0.3	-	-
1-Methylnaphthalene	mg/kg dry wt	-	-	< 0.013	-	-
2-Methylnaphthalene	mg/kg dry wt	-	-	< 0.016	-	-
Acenaphthylene	mg/kg dry wt	-	-	< 0.013	-	-
Acenaphthene	mg/kg dry wt	-	-	< 0.013	-	-
Anthracene	mg/kg dry wt	-	-	< 0.013	-	-
Benzo[a]anthracene	mg/kg dry wt	-	-	< 0.013	-	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	-	< 0.013	-	-
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	-	< 0.030	-	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	-	< 0.030	-	-
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	-	-	< 0.013	-	-
Benzo[e]pyrene	mg/kg dry wt	-	-	< 0.013	-	-
Benzo[g,h,i]perylene	mg/kg dry wt	-	-	< 0.013	-	-
Benzo[k]fluoranthene	mg/kg dry wt	-	-	< 0.013	-	-
Chrysene	mg/kg dry wt	-	-	< 0.013	-	-
Dibenzo[a,h]anthracene	mg/kg dry wt	-	-	< 0.013	-	-
Fluoranthene	mg/kg dry wt	-	-	< 0.013	-	-
Fluorene	mg/kg dry wt	-	-	< 0.013	-	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	-	-	< 0.013	-	-

Sample Type: Soil

Sample Name:	B1-7_0-0.1 29-May-2025	B1-8_0-0.1 29-May-2025	B2-1_0-0.1 29-May-2025	B2-1_0.3-0.4 29-May-2025	B2-2_0-0.1 29-May-2025
Lab Number:	3900458.113	3900458.115	3900458.117	3900458.118	3900458.119

Polycyclic Aromatic Hydrocarbons Screening in Soil*

Naphthalene	mg/kg dry wt	-	-	< 0.07	-	-
Perylene	mg/kg dry wt	-	-	< 0.013	-	-
Phenanthrene	mg/kg dry wt	-	-	< 0.013	-	-
Pyrene	mg/kg dry wt	-	-	< 0.013	-	-

Sample Name:	B2-2_0.3-0.4 29-May-2025	B2-3_0-0.1 29-May-2025	B2-3_0.3-0.4 29-May-2025	B2-7_0-0.1 29-May-2025	B2-17_0-0.1 29-May-2025
Lab Number:	3900458.120	3900458.121	3900458.122	3900458.129	3900458.149

Individual Tests

Total Organic Carbon*	g/100g dry wt	1.70	-	-	-	-
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Heavy Metals with Mercury, Screen Level

Total Recoverable Arsenic	mg/kg dry wt	2	2	2	3	< 2
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.12	0.11	0.28	0.14
Total Recoverable Chromium	mg/kg dry wt	2	2	< 2	4	3
Total Recoverable Copper	mg/kg dry wt	< 2	< 2	< 2	10	3
Total Recoverable Lead	mg/kg dry wt	2.0	2.1	2.0	3.2	1.9
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	< 2	< 2	< 2	3	< 2
Total Recoverable Zinc	mg/kg dry wt	15	20	15	47	24

Sample Name:	B2-18_0-0.1 29-May-2025	B2-19_0-0.1 29-May-2025	B2-20_0-0.1 29-May-2025	B3-21_0-0.1 29-May-2025	B3-21_0.3-0.4 29-May-2025
Lab Number:	3900458.151	3900458.153	3900458.155	3900458.157	3900458.158

Individual Tests

Total Organic Carbon*	g/100g dry wt	-	-	-	-	4.0
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Heavy Metals with Mercury, Screen Level

Total Recoverable Arsenic	mg/kg dry wt	9	< 2	< 2	4	-
Total Recoverable Cadmium	mg/kg dry wt	0.33	0.51	0.46	0.29	-
Total Recoverable Chromium	mg/kg dry wt	4	6	5	3	-
Total Recoverable Copper	mg/kg dry wt	9	10	8	3	-
Total Recoverable Lead	mg/kg dry wt	5.0	2.6	2.3	2.4	-
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	-
Total Recoverable Nickel	mg/kg dry wt	< 2	5	5	4	-
Total Recoverable Zinc	mg/kg dry wt	32	34	34	41	-

Sample Name:	B3-20_0-0.1 29-May-2025	B3-19_0-0.1 29-May-2025	B3-18_0-0.1 29-May-2025	B3-17_0-0.1 29-May-2025	B3-16_0-0.1 30-May-2025
Lab Number:	3900458.159	3900458.161	3900458.163	3900458.165	3900458.204

Heavy Metals with Mercury, Screen Level

Total Recoverable Arsenic	mg/kg dry wt	3	3	2	3	3
Total Recoverable Cadmium	mg/kg dry wt	0.47	0.56	0.34	0.38	0.45
Total Recoverable Chromium	mg/kg dry wt	4	5	3	4	4
Total Recoverable Copper	mg/kg dry wt	5	7	6	8	4
Total Recoverable Lead	mg/kg dry wt	2.7	2.5	1.6	2.3	1.8
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	3	4	3	4	3
Total Recoverable Zinc	mg/kg dry wt	54	77	55	99	41

Sample Name:	A3-38_0-0.1 30-May-2025	A3-39_0-0.1 30-May-2025	A3-40_0-0.1 30-May-2025	A3-41_0-0.1 30-May-2025	A3-42_0-0.1 30-May-2025
Lab Number:	3900458.206	3900458.208	3900458.210	3900458.211	3900458.213

Individual Tests

Dry Matter	g/100g as rcvd	-	-	66	67	73
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Heavy Metals with Mercury, Screen Level

Total Recoverable Arsenic	mg/kg dry wt	21	12	7	21	46
Total Recoverable Cadmium	mg/kg dry wt	0.41	0.46	0.25	0.24	0.27
Total Recoverable Chromium	mg/kg dry wt	15	18	7	13	5
Total Recoverable Copper	mg/kg dry wt	19	30	10	24	15

Sample Type: Soil						
Sample Name:	A3-38 0-0.1 30-May-2025	A3-39 0-0.1 30-May-2025	A3-40 0-0.1 30-May-2025	A3-41 0-0.1 30-May-2025	A3-42 0-0.1 30-May-2025	A3-42 0-0.1 30-May-2025
Lab Number:	3900458.206	3900458.208	3900458.210	3900458.211	3900458.213	3900458.213
Heavy Metals with Mercury, Screen Level						
Total Recoverable Lead	mg/kg dry wt	6.6	12.2	48	105	28
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	2	6	< 2	2	< 2
Total Recoverable Zinc	mg/kg dry wt	220	420	164	171	151
Asbestos in Soil						
As Received Weight Presence / Absence Testing	g	-	-	100.3	129.5	103.3
Dry Weight Presence / Absence Testing	g	-	-	66.0	80.4	78.3
<2mm Subsample Weight Presence / Absence Testing	g dry wt	-	-	41.8	50.2	51.4
Asbestos Presence / Absence from Presence / Absence Testing		-	-	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form Presence / Absence Testing		-	-	-	-	-
Asbestos in Soil Presence / Absence Testing ESdat Electronic Transfer						
Amosite Presence / Absence Testing	Detect	-	-	0	0	0
Chrysotile Presence / Absence Testing	Detect	-	-	0	0	0
Crocidolite Presence / Absence Testing	Detect	-	-	0	0	0
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
alpha-BHC	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
beta-BHC	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
delta-BHC	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
gamma-BHC (Lindane)	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
cis-Chlordane	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
trans-Chlordane	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
2,4'-DDD	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
4,4'-DDD	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
2,4'-DDE	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
4,4'-DDE	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
2,4'-DDT	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
4,4'-DDT	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
Total DDT Isomers	mg/kg dry wt	-	-	< 0.09	< 0.09	< 0.08
Dieldrin	mg/kg dry wt	-	-	< 0.015	< 0.015	0.051
Endosulfan I	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
Endosulfan II	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
Endosulfan sulphate	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
Endrin	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
Endrin aldehyde	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
Endrin ketone	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
Heptachlor	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
Heptachlor epoxide	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
Hexachlorobenzene	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
Methoxychlor	mg/kg dry wt	-	-	< 0.015	< 0.015	< 0.014
Sample Name:	A3-43 0-0.1 30-May-2025	A3-44 0-0.1 30-May-2025	A3-44 0.3-0.4 30-May-2025	A3-45 0-0.1 30-May-2025	A3-45 0.3-0.4 30-May-2025	A3-45 0.3-0.4 30-May-2025
Lab Number:	3900458.215	3900458.216	3900458.217	3900458.218	3900458.219	3900458.219
Individual Tests						
Dry Matter	g/100g as rcvd	54	70	38	65	60
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	19	103	22	34	57
Total Recoverable Cadmium	mg/kg dry wt	3.7	0.39	< 0.10	0.47	0.30
Total Recoverable Chromium	mg/kg dry wt	63	6	2	5	4
Total Recoverable Copper	mg/kg dry wt	67	13	3	9	4
Total Recoverable Lead	mg/kg dry wt	980	57	7.0	10.2	5.3

Sample Type: Soil						
Sample Name:	A3-43 0-0.1 30-May-2025	A3-44 0-0.1 30-May-2025	A3-44 0.3-0.4 30-May-2025	A3-45 0-0.1 30-May-2025	A3-45 0.3-0.4 30-May-2025	
Lab Number:	3900458.215	3900458.216	3900458.217	3900458.218	3900458.219	
Heavy Metals with Mercury, Screen Level						
Total Recoverable Mercury	mg/kg dry wt	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	5	4	< 2	4	< 2
Total Recoverable Zinc	mg/kg dry wt	1,490	97	11	52	23
Asbestos in Soil						
As Received Weight Presence / Absence Testing	g	134.6	113.3	-	-	-
Dry Weight Presence / Absence Testing	g	76.7	80.2	-	-	-
<2mm Subsample Weight Presence / Absence Testing	g dry wt	46.8	52.4	-	-	-
Asbestos Presence / Absence from Presence / Absence Testing		Asbestos NOT detected.	Asbestos NOT detected.	-	-	-
Description of Asbestos Form Presence / Absence Testing		-	-	-	-	-
Asbestos in Soil Presence / Absence Testing ESdat Electronic Transfer						
Amosite Presence / Absence Testing	Detect	0	0	-	-	-
Chrysotile Presence / Absence Testing	Detect	0	0	-	-	-
Crocidolite Presence / Absence Testing	Detect	0	0	-	-	-
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
alpha-BHC	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
beta-BHC	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
delta-BHC	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
gamma-BHC (Lindane)	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
cis-Chlordane	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
trans-Chlordane	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
2,4'-DDD	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
4,4'-DDD	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
2,4'-DDE	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
4,4'-DDE	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
2,4'-DDT	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
4,4'-DDT	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
Total DDT Isomers	mg/kg dry wt	< 0.11	< 0.09	< 0.15	< 0.10	< 0.10
Dieldrin	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
Endosulfan I	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
Endosulfan II	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
Endosulfan sulphate	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
Endrin	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
Endrin aldehyde	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
Endrin ketone	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
Heptachlor	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
Heptachlor epoxide	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
Hexachlorobenzene	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
Methoxychlor	mg/kg dry wt	< 0.018	< 0.014	< 0.03	< 0.016	< 0.016
Sample Name:	A3-46 0-0.1 30-May-2025	A3-47 0-0.1 30-May-2025	A1 - TP1 1 03-Jun-2025	A1 - TP1 2 03-Jun-2025	A1 - TP2 1 03-Jun-2025	
Lab Number:	3900458.220	3900458.222	3900458.230	3900458.231	3900458.233	
Individual Tests						
Dry Matter	g/100g as rcvd	62	67	-	-	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	9	9	4	< 2	6
Total Recoverable Cadmium	mg/kg dry wt	0.39	0.37	0.25	< 0.10	0.33
Total Recoverable Chromium	mg/kg dry wt	4	5	4	< 2	4
Total Recoverable Copper	mg/kg dry wt	8	14	8	< 2	8
Total Recoverable Lead	mg/kg dry wt	5.0	37	6.0	3.5	5.7
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Sample Type: Soil

Sample Name:		A3-46 0-0.1 30-May-2025	A3-47 0-0.1 30-May-2025	A1 - TP1 1 03-Jun-2025	A1 - TP1 2 03-Jun-2025	A1 - TP2 1 03-Jun-2025
Lab Number:		3900458.220	3900458.222	3900458.230	3900458.231	3900458.233
Heavy Metals with Mercury, Screen Level						
Total Recoverable Nickel	mg/kg dry wt	3	3	4	< 2	3
Total Recoverable Zinc	mg/kg dry wt	69	180	83	20	68
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.016	< 0.015	-	-	-
alpha-BHC	mg/kg dry wt	< 0.016	< 0.015	-	-	-
beta-BHC	mg/kg dry wt	< 0.016	< 0.015	-	-	-
delta-BHC	mg/kg dry wt	< 0.016	< 0.015	-	-	-
gamma-BHC (Lindane)	mg/kg dry wt	< 0.016	< 0.015	-	-	-
cis-Chlordane	mg/kg dry wt	< 0.016	< 0.015	-	-	-
trans-Chlordane	mg/kg dry wt	< 0.016	< 0.015	-	-	-
2,4'-DDD	mg/kg dry wt	< 0.016	< 0.015	-	-	-
4,4'-DDD	mg/kg dry wt	< 0.016	< 0.015	-	-	-
2,4'-DDE	mg/kg dry wt	< 0.016	< 0.015	-	-	-
4,4'-DDE	mg/kg dry wt	< 0.016	< 0.015	-	-	-
2,4'-DDT	mg/kg dry wt	< 0.016	< 0.015	-	-	-
4,4'-DDT	mg/kg dry wt	< 0.016	< 0.015	-	-	-
Total DDT Isomers	mg/kg dry wt	< 0.10	< 0.09	-	-	-
Dieldrin	mg/kg dry wt	< 0.016	< 0.015	-	-	-
Endosulfan I	mg/kg dry wt	< 0.016	< 0.015	-	-	-
Endosulfan II	mg/kg dry wt	< 0.016	< 0.015	-	-	-
Endosulfan sulphate	mg/kg dry wt	< 0.016	< 0.015	-	-	-
Endrin	mg/kg dry wt	< 0.016	< 0.015	-	-	-
Endrin aldehyde	mg/kg dry wt	< 0.016	< 0.015	-	-	-
Endrin ketone	mg/kg dry wt	< 0.016	< 0.015	-	-	-
Heptachlor	mg/kg dry wt	< 0.016	< 0.015	-	-	-
Heptachlor epoxide	mg/kg dry wt	< 0.016	< 0.015	-	-	-
Hexachlorobenzene	mg/kg dry wt	< 0.016	< 0.015	-	-	-
Methoxychlor	mg/kg dry wt	< 0.016	< 0.015	-	-	-
Sample Name:		A1 - TP2 2 03-Jun-2025	A3 - TP1 1 03-Jun-2025	A3 - TP1 2 03-Jun-2025	A3 - TP1 3 03-Jun-2025	TP2.35 1 03-Jun-2025
Lab Number:		3900458.234	3900458.236	3900458.237	3900458.238	3900458.240
Individual Tests						
Dry Matter	g/100g as rcvd	-	-	-	-	68
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	< 2	3	< 2	< 2	10
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.15	< 0.10	< 0.10	0.33
Total Recoverable Chromium	mg/kg dry wt	2	5	2	2	8
Total Recoverable Copper	mg/kg dry wt	< 2	10	< 2	< 2	10
Total Recoverable Lead	mg/kg dry wt	3.2	5.1	1.6	1.5	6.5
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	< 2	< 2	< 2	< 2	6
Total Recoverable Zinc	mg/kg dry wt	17	73	14	16	70
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	-	-	-	-	< 0.4
1-Methylnaphthalene	mg/kg dry wt	-	-	-	-	< 0.015
2-Methylnaphthalene	mg/kg dry wt	-	-	-	-	< 0.03
Acenaphthylene	mg/kg dry wt	-	-	-	-	< 0.015
Acenaphthene	mg/kg dry wt	-	-	-	-	< 0.015
Anthracene	mg/kg dry wt	-	-	-	-	< 0.015
Benzo[a]anthracene	mg/kg dry wt	-	-	-	-	< 0.015
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	-	-	-	< 0.015
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	-	-	-	< 0.036
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	-	-	-	< 0.035

Sample Type: Soil						
Sample Name:	A1 - TP2 2 03-Jun-2025	A3 - TP1 1 03-Jun-2025	A3 - TP1 2 03-Jun-2025	A3 - TP1 3 03-Jun-2025	TP2.35 1 03-Jun-2025	
Lab Number:	3900458.234	3900458.236	3900458.237	3900458.238	3900458.240	
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	-	-	-	-	< 0.015
Benzo[e]pyrene	mg/kg dry wt	-	-	-	-	< 0.015
Benzo[g,h,i]perylene	mg/kg dry wt	-	-	-	-	< 0.015
Benzo[k]fluoranthene	mg/kg dry wt	-	-	-	-	< 0.015
Chrysene	mg/kg dry wt	-	-	-	-	< 0.015
Dibenzo[a,h]anthracene	mg/kg dry wt	-	-	-	-	< 0.015
Fluoranthene	mg/kg dry wt	-	-	-	-	< 0.015
Fluorene	mg/kg dry wt	-	-	-	-	< 0.015
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	-	-	-	-	< 0.015
Naphthalene	mg/kg dry wt	-	-	-	-	< 0.08
Perylene	mg/kg dry wt	-	-	-	-	0.027
Phenanthrene	mg/kg dry wt	-	-	-	-	< 0.015
Pyrene	mg/kg dry wt	-	-	-	-	< 0.015
Sample Name:	TP2.35 2 03-Jun-2025	TP2.41 1 03-Jun-2025	TP2.41 2 03-Jun-2025	TP2.41 3 03-Jun-2025	B3 - TP1 1 03-Jun-2025	
Lab Number:	3900458.241	3900458.243	3900458.244	3900458.245	3900458.247	
Individual Tests						
Dry Matter	g/100g as rcvd	74	74	73	70	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	4	7	5	7	2
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.24	< 0.10	0.14	0.14
Total Recoverable Chromium	mg/kg dry wt	5	4	5	6	2
Total Recoverable Copper	mg/kg dry wt	3	7	3	3	5
Total Recoverable Lead	mg/kg dry wt	7.8	4.2	8.8	10.4	1.9
Total Recoverable Mercury	mg/kg dry wt	0.12	< 0.10	0.15	0.16	< 0.10
Total Recoverable Nickel	mg/kg dry wt	< 2	3	< 2	< 2	< 2
Total Recoverable Zinc	mg/kg dry wt	34	54	38	58	78
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	1.0	< 0.4	< 0.4	< 0.4	-
1-Methylnaphthalene	mg/kg dry wt	< 0.014	< 0.013	< 0.014	< 0.014	-
2-Methylnaphthalene	mg/kg dry wt	< 0.02	< 0.02	< 0.02	< 0.03	-
Acenaphthylene	mg/kg dry wt	< 0.014	< 0.013	< 0.014	< 0.014	-
Acenaphthene	mg/kg dry wt	< 0.014	< 0.013	< 0.014	< 0.014	-
Anthracene	mg/kg dry wt	< 0.014	< 0.013	< 0.014	< 0.014	-
Benzo[a]anthracene	mg/kg dry wt	< 0.014	< 0.013	< 0.014	< 0.014	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.014	< 0.013	< 0.014	< 0.014	-
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	< 0.032	< 0.032	< 0.032	< 0.034	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	< 0.032	< 0.032	< 0.032	< 0.034	-
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	< 0.014	< 0.013	< 0.014	< 0.014	-
Benzo[e]pyrene	mg/kg dry wt	< 0.014	< 0.013	< 0.014	< 0.014	-
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.014	< 0.013	< 0.014	< 0.014	-
Benzo[k]fluoranthene	mg/kg dry wt	< 0.014	< 0.013	< 0.014	< 0.014	-
Chrysene	mg/kg dry wt	< 0.014	< 0.013	< 0.014	< 0.014	-
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.014	< 0.013	< 0.014	< 0.014	-
Fluoranthene	mg/kg dry wt	< 0.014	< 0.013	< 0.014	< 0.014	-
Fluorene	mg/kg dry wt	< 0.014	< 0.013	< 0.014	< 0.014	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.014	< 0.013	< 0.014	< 0.014	-
Naphthalene	mg/kg dry wt	< 0.07	< 0.07	< 0.07	< 0.07	-
Perylene	mg/kg dry wt	1.04	0.018	0.29	0.153	-
Phenanthrene	mg/kg dry wt	< 0.014	< 0.013	< 0.014	< 0.014	-
Pyrene	mg/kg dry wt	< 0.014	< 0.013	< 0.014	< 0.014	-

Sample Type: Soil

Sample Name:	B3 - TP1 2 03-Jun-2025	B3 - TP2 1 03-Jun-2025	B3 - TP3 1 03-Jun-2025	B3 - TP3 2 03-Jun-2025	B3 - TP4 1 03-Jun-2025
Lab Number:	3900458.248	3900458.249	3900458.251	3900458.252	3900458.254
Individual Tests					
Total Organic Carbon*	g/100g dry wt	9.7	-	-	-
Heavy Metals with Mercury, Screen Level					
Total Recoverable Arsenic	mg/kg dry wt	-	2	4	< 2
Total Recoverable Cadmium	mg/kg dry wt	-	0.15	0.46	< 0.10
Total Recoverable Chromium	mg/kg dry wt	-	2	4	< 2
Total Recoverable Copper	mg/kg dry wt	-	5	13	< 2
Total Recoverable Lead	mg/kg dry wt	-	1.9	3.4	0.5
Total Recoverable Mercury	mg/kg dry wt	-	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	-	2	3	< 2
Total Recoverable Zinc	mg/kg dry wt	-	22	126	13

Sample Name:	Composite of B1-1_0-0.1, B1-2_0-0.1 & B1-3_0-0.1	Composite of B1-4_0-0.1, B1-5_0-0.1 & B1-6_0-0.1	Composite of B2-4_0-0.1, B2-5_0-0.1 & B2-6_0-0.1	Composite of B2-8_0-0.1, B2-9_0-0.1 & B2-10_0.01	Composite of B2-11_0-0.1, B2-12_0-0.1 & B2-13_0-0.1
Lab Number:	3900458.256	3900458.257	3900458.258	3900458.259	3900458.260

Individual Tests					
Dry Matter	g/100g as rcvd	65	62	57	57
Heavy Metals with Mercury, Screen Level					
Total Recoverable Arsenic	mg/kg dry wt	< 2	< 2	2	< 2
Total Recoverable Cadmium	mg/kg dry wt	0.39	0.37	0.39	0.34
Total Recoverable Chromium	mg/kg dry wt	5	7	6	5
Total Recoverable Copper	mg/kg dry wt	10	9	9	10
Total Recoverable Lead	mg/kg dry wt	2.9	3.1	2.7	3.1
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	6	5	4	4
Total Recoverable Zinc	mg/kg dry wt	51	44	56	106

Organochlorine Pesticides Screening in Soil					
Aldrin	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
alpha-BHC	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
beta-BHC	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
delta-BHC	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
gamma-BHC (Lindane)	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
cis-Chlordane	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
trans-Chlordane	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
2,4'-DDD	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
4,4'-DDD	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
2,4'-DDE	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
4,4'-DDE	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
2,4'-DDT	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
4,4'-DDT	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
Total DDT Isomers	mg/kg dry wt	< 0.09	< 0.10	< 0.11	< 0.11
Dieldrin	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
Endosulfan I	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
Endosulfan II	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
Endosulfan sulphate	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
Endrin	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
Endrin aldehyde	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
Endrin ketone	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
Heptachlor	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
Heptachlor epoxide	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
Hexachlorobenzene	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017
Methoxychlor	mg/kg dry wt	< 0.015	< 0.016	< 0.018	< 0.017

Sample Type: Soil

Sample Name:	Composite of B2-14_0-0.1, B2-15_0-0.1 & B2-16_0-0.1	Composite of B3-2 0-0.1, B3-14 0-0.1 & B3-15 0-0.1	Composite of B3-3 0-0.1, B3-5 0-0.1 & B3-7 0-0.1	Composite of B3-1 0-0.1, B3-4 0-0.1 & B3-6 0-0.1	Composite of B3-9 0-0.1, B3-11 0-0.1 & B3-12 0-0.1
Lab Number:	3900458.261	3900458.262	3900458.263	3900458.264	3900458.265

Individual Tests						
Dry Matter	g/100g as rcvd	60	58	58	78	61
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	< 2	4	3	2	3
Total Recoverable Cadmium	mg/kg dry wt	0.34	0.51	0.48	0.15	0.27
Total Recoverable Chromium	mg/kg dry wt	4	5	4	4	5
Total Recoverable Copper	mg/kg dry wt	9	7	8	5	4
Total Recoverable Lead	mg/kg dry wt	2.7	2.0	2.1	2.4	2.2
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	3	5	4	4	2
Total Recoverable Zinc	mg/kg dry wt	83	45	49	35	54

Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
alpha-BHC	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
beta-BHC	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
delta-BHC	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
gamma-BHC (Lindane)	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
cis-Chlordane	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
trans-Chlordane	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
2,4'-DDD	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
4,4'-DDD	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
2,4'-DDE	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
4,4'-DDE	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
2,4'-DDT	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
4,4'-DDT	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
Total DDT Isomers	mg/kg dry wt	< 0.10	< 0.11	< 0.10	< 0.08	< 0.10
Dieldrin	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
Endosulfan I	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
Endosulfan II	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
Endosulfan sulphate	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
Endrin	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
Endrin aldehyde	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
Endrin ketone	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
Heptachlor	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
Heptachlor epoxide	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
Hexachlorobenzene	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017
Methoxychlor	mg/kg dry wt	< 0.017	< 0.017	< 0.017	< 0.013	< 0.017

Sample Name:	Composite of B3-8 0-0.1, B3-10 0-0.1 & B3-13 0-0.1				
Lab Number:	3900458.266				

Individual Tests						
Dry Matter	g/100g as rcvd	59				
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	< 2				
Total Recoverable Cadmium	mg/kg dry wt	0.41				
Total Recoverable Chromium	mg/kg dry wt	3				
Total Recoverable Copper	mg/kg dry wt	7				
Total Recoverable Lead	mg/kg dry wt	2.1				
Total Recoverable Mercury	mg/kg dry wt	< 0.10				
Total Recoverable Nickel	mg/kg dry wt	3				
Total Recoverable Zinc	mg/kg dry wt	41				

Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.017				
alpha-BHC	mg/kg dry wt	< 0.017				

Sample Type: Soil		
Sample Name:	Composite of B3-8 0-0.1, B3-10 0-0.1 & B3-13 0-0.1	
Lab Number:	3900458.266	
Organochlorine Pesticides Screening in Soil		
beta-BHC	mg/kg dry wt	< 0.017
delta-BHC	mg/kg dry wt	< 0.017
gamma-BHC (Lindane)	mg/kg dry wt	< 0.017
cis-Chlordane	mg/kg dry wt	< 0.017
trans-Chlordane	mg/kg dry wt	< 0.017
2,4'-DDD	mg/kg dry wt	< 0.017
4,4'-DDD	mg/kg dry wt	< 0.017
2,4'-DDE	mg/kg dry wt	< 0.017
4,4'-DDE	mg/kg dry wt	< 0.017
2,4'-DDT	mg/kg dry wt	< 0.017
4,4'-DDT	mg/kg dry wt	< 0.017
Total DDT Isomers	mg/kg dry wt	< 0.10
Dieldrin	mg/kg dry wt	< 0.017
Endosulfan I	mg/kg dry wt	< 0.017
Endosulfan II	mg/kg dry wt	< 0.017
Endosulfan sulphate	mg/kg dry wt	< 0.017
Endrin	mg/kg dry wt	< 0.017
Endrin aldehyde	mg/kg dry wt	< 0.017
Endrin ketone	mg/kg dry wt	< 0.017
Heptachlor	mg/kg dry wt	< 0.017
Heptachlor epoxide	mg/kg dry wt	< 0.017
Hexachlorobenzene	mg/kg dry wt	< 0.017
Methoxychlor	mg/kg dry wt	< 0.017

Sample Type: Sediment						
Sample Name:		DS-1	DS-2	DS-3	DS-4	DS-5
		29-May-2025	29-May-2025	29-May-2025	29-May-2025	29-May-2025
Lab Number:		3900458.167	3900458.168	3900458.169	3900458.170	3900458.171
Individual Tests						
Dry Matter	g/100g as rcvd	49	74	48	33	29
Heavy metals, screen As,Cd,Cr,Cu,Ni,Pb,Zn,Hg						
Total Recoverable Arsenic	mg/kg dry wt	< 2	< 2	3	7	8
Total Recoverable Cadmium	mg/kg dry wt	0.12	< 0.10	0.13	0.31	0.25
Total Recoverable Chromium	mg/kg dry wt	3	< 2	7	5	4
Total Recoverable Copper	mg/kg dry wt	5	< 2	7	21	14
Total Recoverable Lead	mg/kg dry wt	9.8	1.1	3.6	16.0	10.6
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	< 2	< 2	3	< 2	2
Total Recoverable Zinc	mg/kg dry wt	42	19	75	142	112
Organochlorine Pesticides Screening in Solids						
Aldrin	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
alpha-BHC	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
beta-BHC	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
delta-BHC	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
gamma-BHC (Lindane)	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
cis-Chlordane	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
trans-Chlordane	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
2,4'-DDD	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
4,4'-DDD	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
2,4'-DDE	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
4,4'-DDE	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
2,4'-DDT	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
4,4'-DDT	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Total DDT Isomers	mg/kg dry wt	< 0.13	< 0.09	< 0.13	< 0.18	< 0.3
Dieldrin	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Endosulfan I	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04

Sample Type: Sediment						
Sample Name:	DS-1	DS-2	DS-3	DS-4	DS-5	
	29-May-2025	29-May-2025	29-May-2025	29-May-2025	29-May-2025	
Lab Number:	3900458.167	3900458.168	3900458.169	3900458.170	3900458.171	
Organochlorine Pesticides Screening in Solids						
Endosulfan II	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Endosulfan sulphate	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Endrin	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Endrin aldehyde	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Endrin ketone	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Heptachlor	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Heptachlor epoxide	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Hexachlorobenzene	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Methoxychlor	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Polycyclic Aromatic Hydrocarbons Screening in Solids*						
Total of Reported PAHs in Soil	mg/kg dry wt	< 0.5	< 0.4	< 0.5	< 0.8	< 0.9
1-Methylnaphthalene	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
2-Methylnaphthalene	mg/kg dry wt	< 0.03	< 0.017	< 0.03	< 0.04	< 0.05
Acenaphthylene	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Acenaphthene	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Anthracene	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Benzo[a]anthracene	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	< 0.049	< 0.033	< 0.049	< 0.071	< 0.083
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	< 0.049	< 0.033	< 0.049	< 0.071	< 0.082
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Benzo[e]pyrene	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Benzo[k]fluoranthene	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Chrysene	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Fluoranthene	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Fluorene	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Naphthalene	mg/kg dry wt	< 0.11	< 0.07	< 0.11	< 0.15	< 0.17
Perylene	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	0.05
Phenanthrene	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Pyrene	mg/kg dry wt	< 0.03	< 0.014	< 0.03	< 0.03	< 0.04
Total Petroleum Hydrocarbons in Solids						
C7 - C9	mg/kg dry wt	< 30	< 20	< 30	< 50	< 50
C10 - C14	mg/kg dry wt	< 30	< 20	< 30	< 40	< 50
C15 - C36	mg/kg dry wt	< 50	< 40	< 50	< 70	< 90
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 110	< 80	< 110	< 150	< 170
Sample Name:		DS-6 29-May-2025				
Lab Number:		3900458.172				
Individual Tests						
Dry Matter	g/100g as rcvd	37				
Heavy metals, screen As,Cd,Cr,Cu,Ni,Pb,Zn,Hg						
Total Recoverable Arsenic	mg/kg dry wt	3				
Total Recoverable Cadmium	mg/kg dry wt	< 0.10				
Total Recoverable Chromium	mg/kg dry wt	< 2				
Total Recoverable Copper	mg/kg dry wt	4				
Total Recoverable Lead	mg/kg dry wt	4.1				
Total Recoverable Mercury	mg/kg dry wt	< 0.10				
Total Recoverable Nickel	mg/kg dry wt	< 2				
Total Recoverable Zinc	mg/kg dry wt	48				

Sample Type: Sediment

Sample Name:	DS-6 29-May-2025	
Lab Number:	3900458.172	
Organochlorine Pesticides Screening in Solids		
Aldrin	mg/kg dry wt	< 0.03
alpha-BHC	mg/kg dry wt	< 0.03
beta-BHC	mg/kg dry wt	< 0.03
delta-BHC	mg/kg dry wt	< 0.03
gamma-BHC (Lindane)	mg/kg dry wt	< 0.03
cis-Chlordane	mg/kg dry wt	< 0.03
trans-Chlordane	mg/kg dry wt	< 0.03
2,4'-DDD	mg/kg dry wt	< 0.03
4,4'-DDD	mg/kg dry wt	< 0.03
2,4'-DDE	mg/kg dry wt	< 0.03
4,4'-DDE	mg/kg dry wt	< 0.03
2,4'-DDT	mg/kg dry wt	< 0.03
4,4'-DDT	mg/kg dry wt	< 0.03
Total DDT Isomers	mg/kg dry wt	< 0.16
Dieldrin	mg/kg dry wt	< 0.03
Endosulfan I	mg/kg dry wt	< 0.03
Endosulfan II	mg/kg dry wt	< 0.03
Endosulfan sulphate	mg/kg dry wt	< 0.03
Endrin	mg/kg dry wt	< 0.03
Endrin aldehyde	mg/kg dry wt	< 0.03
Endrin ketone	mg/kg dry wt	< 0.03
Heptachlor	mg/kg dry wt	< 0.03
Heptachlor epoxide	mg/kg dry wt	< 0.03
Hexachlorobenzene	mg/kg dry wt	< 0.03
Methoxychlor	mg/kg dry wt	< 0.03
Polycyclic Aromatic Hydrocarbons Screening in Solids*		
Total of Reported PAHs in Soil	mg/kg dry wt	< 0.7
1-Methylnaphthalene	mg/kg dry wt	< 0.03
2-Methylnaphthalene	mg/kg dry wt	< 0.04
Acenaphthylene	mg/kg dry wt	< 0.03
Acenaphthene	mg/kg dry wt	< 0.03
Anthracene	mg/kg dry wt	< 0.03
Benzo[a]anthracene	mg/kg dry wt	< 0.03
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.03
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	< 0.064
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	< 0.064
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	< 0.03
Benzo[e]pyrene	mg/kg dry wt	< 0.03
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.03
Benzo[k]fluoranthene	mg/kg dry wt	< 0.03
Chrysene	mg/kg dry wt	< 0.03
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.03
Fluoranthene	mg/kg dry wt	< 0.03
Fluorene	mg/kg dry wt	< 0.03
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.03
Naphthalene	mg/kg dry wt	< 0.14
Perylene	mg/kg dry wt	< 0.03
Phenanthrene	mg/kg dry wt	< 0.03
Pyrene	mg/kg dry wt	< 0.03
Total Petroleum Hydrocarbons in Solids		
C7 - C9	mg/kg dry wt	< 40
C10 - C14	mg/kg dry wt	< 40
C15 - C36	mg/kg dry wt	< 70

Sample Type: Sediment	
Sample Name:	DS-6 29-May-2025
Lab Number:	3900458.172
Total Petroleum Hydrocarbons in Solids	
Total hydrocarbons (C7 - C36) mg/kg dry wt	< 140

Sample Type: Aqueous						
Sample Name:	DS-1	DS-2	DS-3	DS-4	DS-5	
	30-May-2025	30-May-2025	30-May-2025	30-May-2025	30-May-2025	
Lab Number:	3900458.224	3900458.225	3900458.226	3900458.227	3900458.228	
Individual Tests						
Dissolved Mercury	g/m ³	-	< 0.00008	-	< 0.00008	< 0.00008
Total Mercury	g/m ³	< 0.00011	< 0.00011	< 0.00011	< 0.00011	< 0.00011
Heavy metals, dissolved, trace As,Cd,Cr,Cu,Ni,Pb,Zn						
Dissolved Arsenic	g/m ³	-	0.0046	-	0.0016	0.0014
Dissolved Cadmium	g/m ³	-	< 0.00005	-	0.00005	0.00006
Dissolved Chromium	g/m ³	-	0.0007	-	0.0008	0.0008
Dissolved Copper	g/m ³	-	0.0033	-	0.0017	0.0016
Dissolved Lead	g/m ³	-	< 0.00010	-	0.00015	0.00016
Dissolved Nickel	g/m ³	-	0.0008	-	0.0006	0.0007
Dissolved Zinc	g/m ³	-	0.021	-	0.045	0.045
Heavy metals, totals, trace As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Arsenic	g/m ³	0.0019	0.0046	0.0057	0.0019	0.0017
Total Cadmium	g/m ³	0.000073	< 0.000053	0.00031	0.000063	0.000069
Total Chromium	g/m ³	0.00092	0.00085	0.00179	0.00079	0.00084
Total Copper	g/m ³	0.00189	0.0047	0.0083	0.0020	0.00190
Total Lead	g/m ³	0.00050	0.00015	0.00170	0.00036	0.00035
Total Nickel	g/m ³	< 0.00053	0.00092	0.00119	0.00056	0.00059
Total Zinc	g/m ³	0.051	0.035	0.170	0.049	0.048
Organochlorine Pesticides Screening in Water, By Liq/Liq*						
Aldrin	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
alpha-BHC	g/m ³	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
beta-BHC	g/m ³	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
delta-BHC	g/m ³	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
gamma-BHC (Lindane)	g/m ³	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
cis-Chlordane	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
trans-Chlordane	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
2,4'-DDD	g/m ³	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDD	g/m ³	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
2,4'-DDE	g/m ³	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDE	g/m ³	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
2,4'-DDT	g/m ³	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDT	g/m ³	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Total DDT Isomers*	g/m ³	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Dieldrin	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Endosulfan I	g/m ³	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan II	g/m ³	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan sulphate	g/m ³	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Endrin aldehyde	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Endrin ketone	g/m ³	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Heptachlor	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Heptachlor epoxide	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Hexachlorobenzene	g/m ³	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008
Methoxychlor	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Polycyclic Aromatic Hydrocarbons Screening in Water, By Liq/Liq						
Acenaphthene	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Acenaphthylene	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Anthracene	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Benzo[a]anthracene	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010

Sample Type: Aqueous						
Sample Name:	DS-1	DS-2	DS-3	DS-4	DS-5	
	30-May-2025	30-May-2025	30-May-2025	30-May-2025	30-May-2025	
Lab Number:	3900458.224	3900458.225	3900458.226	3900458.227	3900458.228	
Polycyclic Aromatic Hydrocarbons Screening in Water, By Liq/Liq						
Benzo[a]pyrene (BAP)	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Benzo[b]fluoranthene + Benzo[j]fluoranthene	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Benzo[g,h,i]perylene	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Benzo[k]fluoranthene	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Chrysene	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Dibenzo[a,h]anthracene	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Fluoranthene	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Fluorene	g/m ³	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Indeno(1,2,3-c,d)pyrene	g/m ³	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Naphthalene	g/m ³	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Phenanthrene	g/m ³	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Pyrene	g/m ³	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Total Petroleum Hydrocarbons in Water						
C7 - C9	g/m ³	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
C10 - C14	g/m ³	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
C15 - C36	g/m ³	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Total hydrocarbons (C7 - C36)	g/m ³	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Sample Name:		DS-6 30-May-2025				
Lab Number:		3900458.229				
Individual Tests						
Dissolved Mercury	g/m ³	< 0.00008				
Total Mercury	g/m ³	< 0.00011				
Heavy metals, dissolved, trace As,Cd,Cr,Cu,Ni,Pb,Zn						
Dissolved Arsenic	g/m ³	0.0016				
Dissolved Cadmium	g/m ³	< 0.00005				
Dissolved Chromium	g/m ³	0.0008				
Dissolved Copper	g/m ³	0.0019				
Dissolved Lead	g/m ³	0.00014				
Dissolved Nickel	g/m ³	0.0006				
Dissolved Zinc	g/m ³	0.047				
Heavy metals, totals, trace As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Arsenic	g/m ³	0.0036				
Total Cadmium	g/m ³	0.000143				
Total Chromium	g/m ³	0.00116				
Total Copper	g/m ³	0.0033				
Total Lead	g/m ³	0.00135				
Total Nickel	g/m ³	0.00084				
Total Zinc	g/m ³	0.066				
Organochlorine Pesticides Screening in Water, By Liq/Liq*						
Aldrin	g/m ³	< 0.00010				
alpha-BHC	g/m ³	< 0.0002				
beta-BHC	g/m ³	< 0.0002				
delta-BHC	g/m ³	< 0.0002				
gamma-BHC (Lindane)	g/m ³	< 0.0002				
cis-Chlordane	g/m ³	< 0.00010				
trans-Chlordane	g/m ³	< 0.00010				
2,4'-DDD	g/m ³	< 0.0002				
4,4'-DDD	g/m ³	< 0.0002				
2,4'-DDE	g/m ³	< 0.0002				
4,4'-DDE	g/m ³	< 0.0002				
2,4'-DDT	g/m ³	< 0.0002				
4,4'-DDT	g/m ³	< 0.0002				
Total DDT Isomers*	g/m ³	< 0.005				

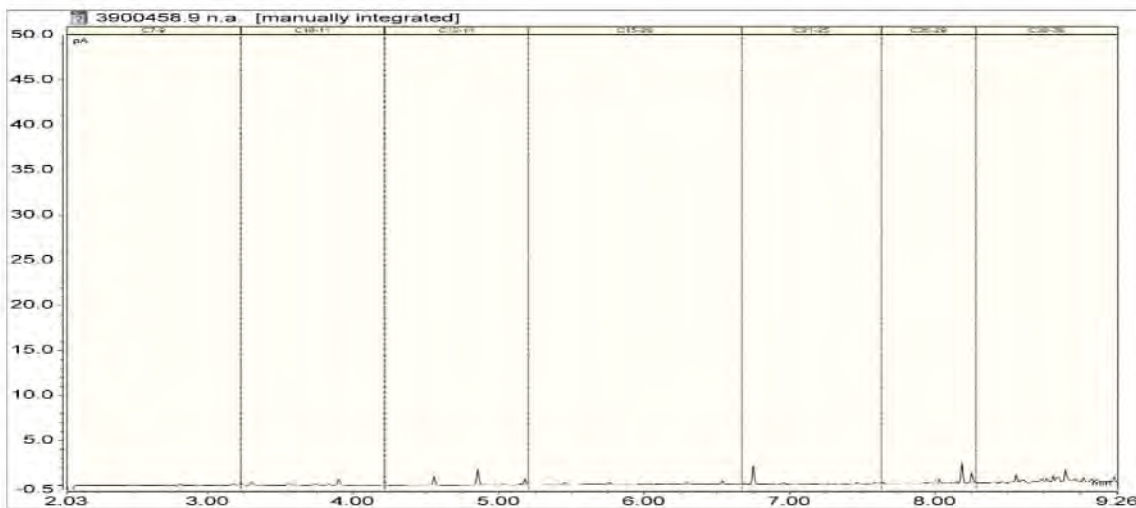
Sample Type: Aqueous

Sample Name:	DS-6 30-May-2025		
Lab Number:	3900458.229		
Organochlorine Pesticides Screening in Water, By Liq/Liq*			
Dieldrin	g/m ³		< 0.00010
Endosulfan I	g/m ³		< 0.0002
Endosulfan II	g/m ³		< 0.0002
Endosulfan sulphate	g/m ³		< 0.0002
Endrin	g/m ³		< 0.00010
Endrin aldehyde	g/m ³		< 0.00010
Endrin ketone	g/m ³		< 0.0002
Heptachlor	g/m ³		< 0.00010
Heptachlor epoxide	g/m ³		< 0.00010
Hexachlorobenzene	g/m ³		< 0.0008
Methoxychlor	g/m ³		< 0.00010
Polycyclic Aromatic Hydrocarbons Screening in Water, By Liq/Liq			
Acenaphthene	g/m ³		< 0.00010
Acenaphthylene	g/m ³		< 0.00010
Anthracene	g/m ³		< 0.00010
Benzo[a]anthracene	g/m ³		< 0.00010
Benzo[a]pyrene (BAP)	g/m ³		< 0.00010
Benzo[b]fluoranthene + Benzo[j]fluoranthene	g/m ³		< 0.00010
Benzo[g,h,i]perylene	g/m ³		< 0.00010
Benzo[k]fluoranthene	g/m ³		< 0.00010
Chrysene	g/m ³		< 0.00010
Dibenzo[a,h]anthracene	g/m ³		< 0.00010
Fluoranthene	g/m ³		< 0.00010
Fluorene	g/m ³		< 0.0002
Indeno(1,2,3-c,d)pyrene	g/m ³		< 0.00010
Naphthalene	g/m ³		< 0.0005
Phenanthrene	g/m ³		< 0.0004
Pyrene	g/m ³		< 0.0002
Total Petroleum Hydrocarbons in Water			
C7 - C9	g/m ³		< 0.10
C10 - C14	g/m ³		< 0.2
C15 - C36	g/m ³		< 0.4
Total hydrocarbons (C7 - C36)	g/m ³		< 0.7

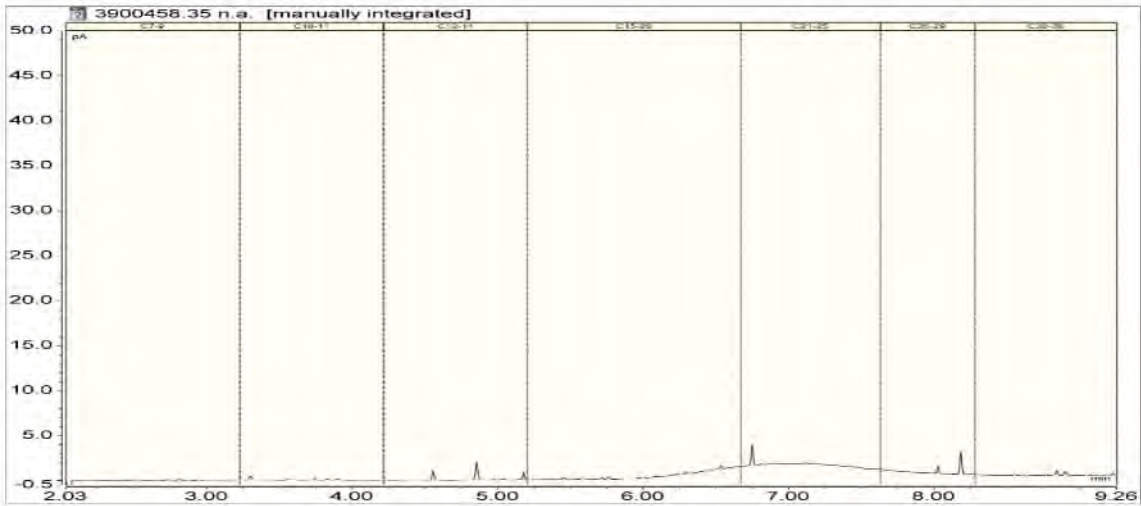
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A3-5 0-0.1 26-May-2025

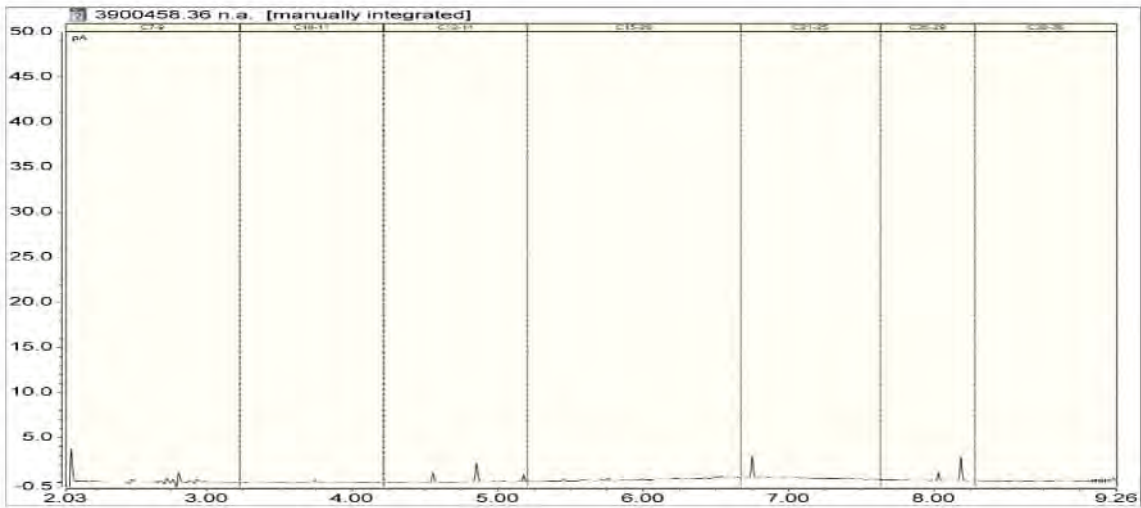
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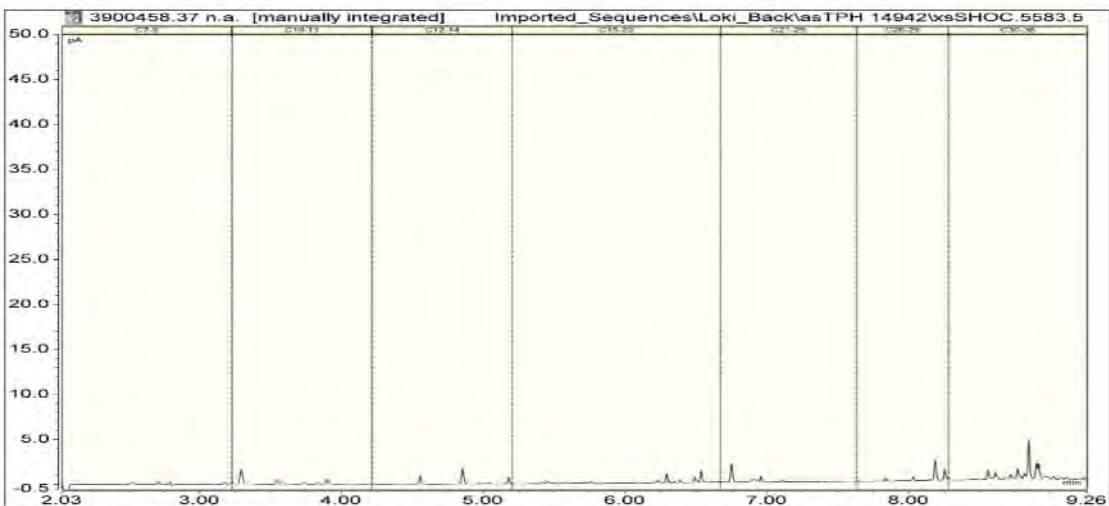
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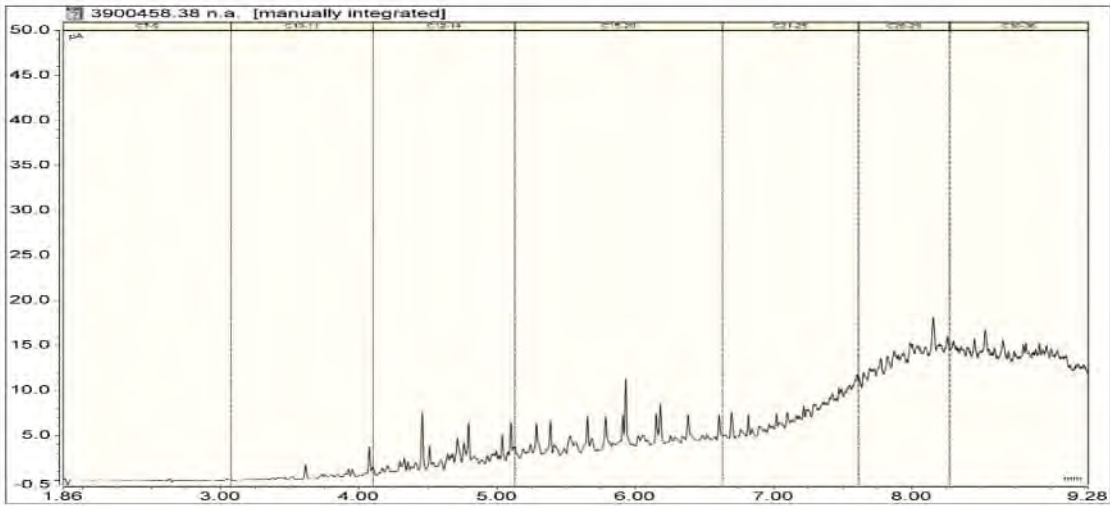
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3900458.38

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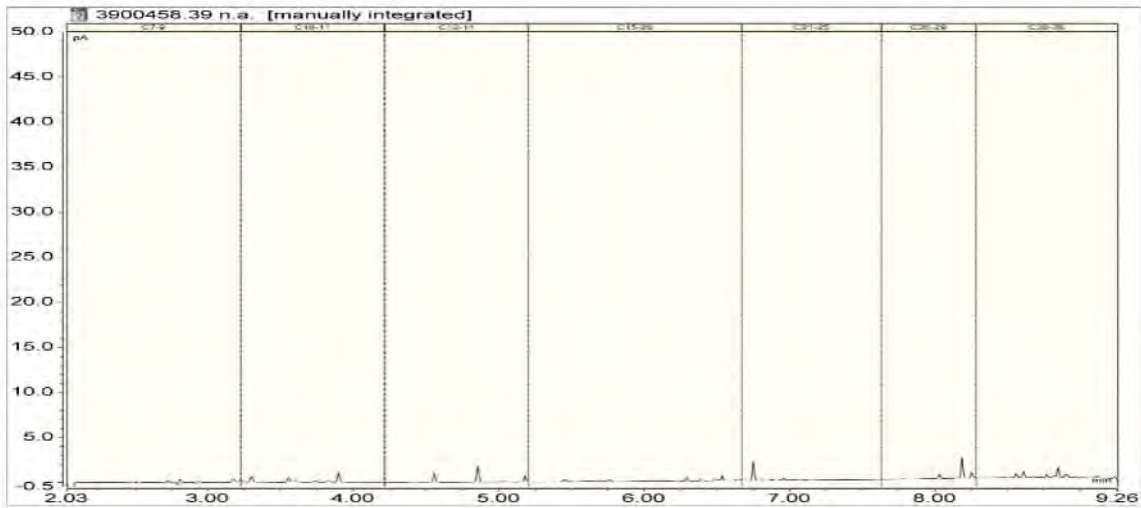
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3900458.39

A3-20 0-0.1 26-May-2025

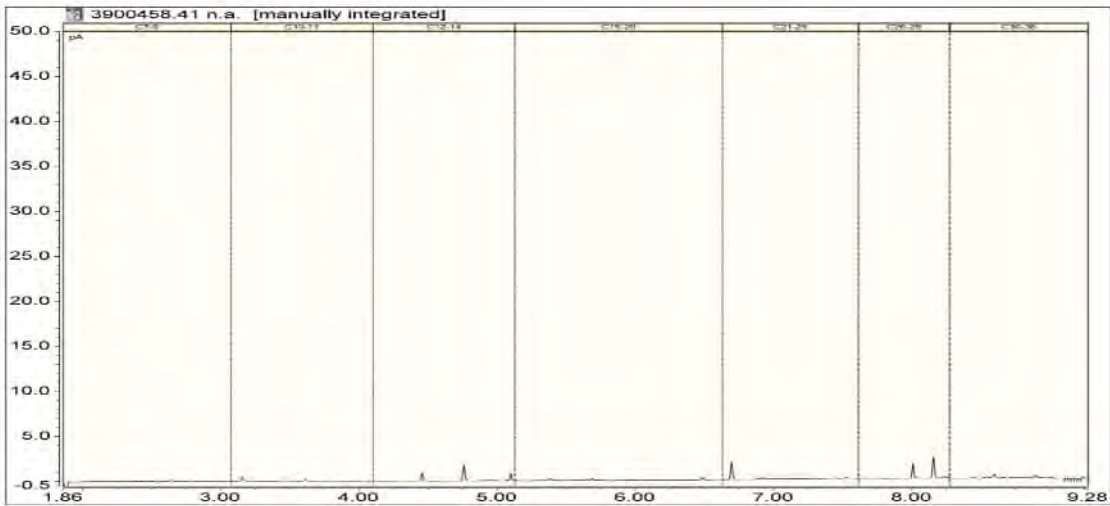
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3900458.41

A3-21 0-0.1 26-May-2025

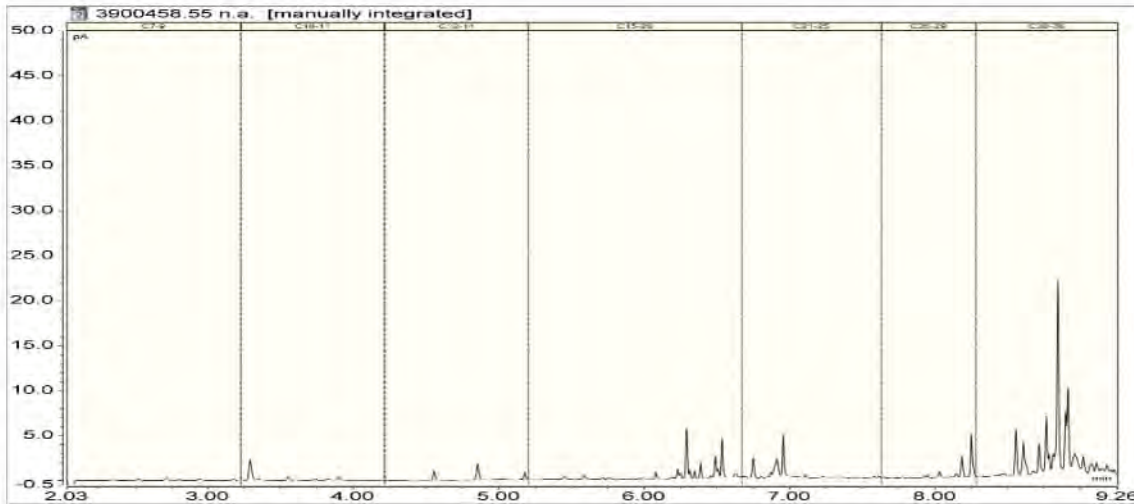
Client Chromatogram for TPH by FID



3900458.55

A3-30 0-0.1 26-May-2025

Client Chromatogram for TPH by FID



Analyst's Comments

Amended Report: This certificate of analysis replaces report '3900458-SPv2' issued on 25-Jun-2025 at 8:26 am.
Reason for amendment: Testing added.

Appendix No.1 - Chain of Custody

Summary of Methods

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

Sample Type: Soil

Test	Method Description	Default Detection Limit	Sample No
Individual Tests			

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, 3, 5, 7, 9, 11, 13-15, 17, 19, 21, 23, 25, 27, 29, 31, 35-42, 44, 46, 48-50, 52, 54-56, 58, 60, 62-63, 65-68, 72, 79, 81, 83, 85, 87, 89, 91, 93, 95-97, 99, 113, 115, 117-122, 129, 149, 151, 153, 155, 157-159, 161, 163, 165, 167-172, 204, 206, 208, 210-211, 213, 215-220, 222, 230-231, 233-234, 236-238, 240-241, 243-245, 247-249, 251-252, 254, 256-266
Environmental Solids Sample Preparation	Air dried at 35°C and sieved, <2mm fraction. Used for sample preparation May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	68, 72, 96, 158, 167-172, 248
Total of Reported PAHs in Soil	Sonication extraction, GC-MS/MS analysis. In-house based on US EPA 8270.	0.03 mg/kg dry wt	5, 7, 35-41, 55, 66, 117, 240-241, 243-245
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, 7, 9, 15, 35-41, 55, 66, 117, 167-172, 210-211, 213, 215-220, 222, 240-241, 243-245, 256-266
Composite Environmental Solid Samples*	Individual sample fractions mixed together to form a composite fraction.	-	101, 103, 105, 107, 109, 111, 123, 125, 127, 131, 133, 135, 137, 139, 141, 143, 145, 147, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Total Organic Carbon*	Acid pretreatment to remove carbonates present followed by Catalytic Combustion (O ₂), separation, Thermal Conductivity Detector [Elementar Analyser].	0.05 g/100g dry wt	68, 72, 96, 120, 158, 248
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	BaP Potency Equivalence calculated from; Benzo(a)anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(j)fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Benzo(a)pyrene x 1.0 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Fluoranthene x 0.01 + Indeno(1,2,3-c,d)pyrene x 0.1. Ministry for the Environment. 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health. Wellington: Ministry for the Environment.	0.024 mg/kg dry wt	5, 7, 35-41, 55, 66, 117, 240-241, 243-245
Benzo[a]pyrene Toxic Equivalence (TEF)*	Benzo[a]pyrene Toxic Equivalence (TEF) calculated from; Benzo[a]pyrene x 1.0 + Benzo(a)anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Indeno(1,2,3-c,d)pyrene x 0.1. Guidelines for assessing and managing contaminated gasworks sites in New Zealand (GMG) (MfE, 1997).	0.024 mg/kg dry wt	5, 7, 35-41, 55, 66, 117, 240-241, 243-245
TPH Oil Industry Profile + PAHscreen	Sonication extraction, GC-FID and GC-MS/MS analysis. Tested on as received sample. In-house based on US EPA 8015 and US EPA 8270.	0.010 - 70 mg/kg dry wt	35-41, 55
Heavy Metals with Mercury, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.10 - 4 mg/kg dry wt	1, 3, 5, 7, 9, 11, 13-15, 17, 19, 21, 23, 25, 27, 29, 31, 35-42, 44, 46, 48-50, 52, 54-56, 58, 60, 62-63, 65-67, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99, 113, 115, 117-122, 129, 149, 151, 153, 155, 157, 159, 161, 163, 165, 204, 206, 208, 210-211, 213, 215-220, 222, 230-231, 233-234, 236-238, 240-241, 243-245, 247, 249, 251-252, 254, 256-266
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	55, 210-211, 213, 215-220, 222, 256-266
Polycyclic Aromatic Hydrocarbons Screening in Soil*	Sonication extraction, GC-MS/MS analysis. Tested on as received sample. In-house based on US EPA 8270.	0.010 - 0.05 mg/kg dry wt	5, 7, 66, 117, 240-241, 243-245
Asbestos in Soil			
As Received Weight Presence / Absence Testing	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	210-211, 213, 215-216
Dry Weight Presence / Absence Testing	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	210-211, 213, 215-216

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
<2mm Subsample Weight Presence / Absence Testing	Sample dried at 100 to 105°C, weight of <2mm sample fraction taken for asbestos identification if less than entire fraction. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	-	210-211, 213, 215-216
Asbestos Presence / Absence from Presence / Absence Testing	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%	210-211, 213, 215-216
Description of Asbestos Form Presence / Absence Testing	Description of asbestos form and/or shape if present.	-	210-211, 213, 215-216
Asbestos in Soil Presence / Absence Testing ESdat Electronic Transfer			
Amosite Presence / Absence Testing	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Presence / Absence testing.	0 Detect	210-211, 213, 215-216
Chrysotile Presence / Absence Testing	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Presence / Absence testing.	0 Detect	210-211, 213, 215-216
Crocidolite Presence / Absence Testing	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Presence / Absence testing.	0 Detect	210-211, 213, 215-216
Total Petroleum Hydrocarbons in Soil			
Client Chromatogram for TPH by FID	Small peaks associated with QC compounds may be visible in chromatograms with low TPH concentrations. QC peaks are as follows: one peak in the C12 - 14 band, the C21 - 25 band and the C30 - 36 band. All QC peaks are corrected for in the reported TPH concentrations.	-	9, 35-39, 41, 55
C7 - C9	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg dry wt	9, 15, 35-41, 55, 167-172
C10 - C14	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg dry wt	9, 15, 35-41, 55, 167-172
C15 - C36	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	40 mg/kg dry wt	9, 15, 35-41, 55, 167-172
Total hydrocarbons (C7 - C36)	Calculation: Sum of carbon bands from C7 to C36. In-house based on US EPA 8015.	70 mg/kg dry wt	9, 15, 35-41, 55, 167-172
Sample Type: Sediment			
Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
Total Recoverable digestion	Nitric / hydrochloric acid digestion. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	-	167-172
Heavy metals, screen As,Cd,Cr,Cu,Ni,Pb,Zn,Hg	Dried sample, <2mm fraction. Nitric/Hydrochloric acid digestion, ICP-MS, screen level.	0.10 - 4 mg/kg dry wt	167-172
Sample Type: Aqueous			
Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
Total Digestion	Nitric acid digestion. APHA 3030 E (modified) : Online Edition.	-	224-229
Total Digestion with HCl	Nitric/hydrochloric acid digestion. APHA 3030 E (modified) : Online Edition.	-	224-229
Dissolved Mercury	0.45µm filtration, bromine oxidation followed by atomic fluorescence. US EPA Method 245.7, Feb 2005.	0.00008 g/m ³	225, 227-229
Total Mercury	Acid digestion, ICP-MS, screen level. APHA 3125 B : Online Edition.	0.00011 g/m ³	224-229
Heavy metals, dissolved, trace As,Cd,Cr,Cu,Ni,Pb,Zn	0.45µm Filtration, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.00005 - 0.0010 g/m ³	225, 227-229
Heavy metals, totals, trace As,Cd,Cr,Cu,Ni,Pb,Zn	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.000053 - 0.0011 g/m ³	224-229
Organochlorine Pesticides Screening in Water, By Liq/Liq*	Liquid / liquid extraction, GC-ECD analysis. In-house based on US EPA 8081.	0.00010 - 0.005 g/m ³	224-229
Polycyclic Aromatic Hydrocarbons Screening in Water, By Liq/Liq	Liquid / liquid extraction, GC-MS/MS analysis. In-house based on US EPA 8270.	0.00010 - 0.0005 g/m ³	224-229
Total Petroleum Hydrocarbons in Water			

Sample Type: Aqueous			
Test	Method Description	Default Detection Limit	Sample No
C7 - C9	Solvent extraction, GC-FID analysis. In-house based on US EPA 8015.	0.10 g/m ³	224-229
C10 - C14	Solvent extraction, GC-FID analysis. In-house based on US EPA 8015.	0.2 g/m ³	224-229
C15 - C36	Solvent extraction, GC-FID analysis. In-house based on US EPA 8015.	0.4 g/m ³	224-229
Total hydrocarbons (C7 - C36)	Calculation: Sum of carbon bands from C7 to C36. In-house based on US EPA 8015.	0.7 g/m ³	224-229

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

Testing was completed between 06-Jun-2025 and 05-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

390 0458

ENGE0 Ltd

Client Ref: 19630.000.001

Submitted by Lucas Brydon and Caitlin Robinson. Primary Contact Aaron Graham
lbrydon@engeo.co.nz, crobinson@engeo.co.nz, agraham@engeo.co.nz

Received by: Nathaniel Sua



3939004582

110

Sent on 27/05/2025

No.	SampleName	SampleDate	SampleType	SampleTests
1	A3 - 1.1	26-May-25	Tub + Jar	Cold Hold
2	A3 - 1.2	26-May-25	T + J	Cold Hold
3	A3 - 2.1	26-May-25	T + J	Cold Hold
4	A3 - 2.2	26-May-25	T + J	Cold Hold
5	A3 - 3.1	26-May-25	T + J	Cold Hold
6	A3 - 3.2	26-May-25	T + J	Cold Hold
7	A3 - 4 0-0.1	26-May-25	T + J	Cold Hold
8	A3 - 4 0.3-0.4	26-May-25	T + J	Cold Hold
9	A3 - 5 0-0.1	26-May-25	T + J	Cold Hold
10	A3 - 5 0.3-0.4	26-May-25	T + J	Cold Hold
11	A3 - 6 0-0.1	26-May-25	T + J	Cold Hold
12	A3 - 6 0.3-0.4	26-May-25	T + J	Cold Hold
13	A3 - 7 0-0.1	26-May-25	T + J	Cold Hold
14	A3 - 7 0.3-0.4	26-May-25	T + J	Cold Hold
15	A3 - 8 0-0.1	26-May-25	J	Cold Hold
16	A3 - 8 0.3-0.4	26-May-25	J	Cold Hold
17	A3 - 9 0-0.1	26-May-25	T + J	Cold Hold
18	A3 - 9 0.3-0.4	26-May-25	J	Cold Hold
19	A3 - 10 0-0.1	26-May-25	T + J	Cold Hold
20	A3 - 10 0.3-0.4	26-May-25	J	Cold Hold
21	A3 - 11 0-0.1	26-May-25	T + J	Cold Hold
22	A3 - 11 0.3-0.4	26-May-25	J	Cold Hold
23	A3 - 12 0-0.1	26-May-25	T + J	Cold Hold
24	A3 - 12 0.3-0.4	26-May-25	T + J	Cold Hold
25	A3 - 13 0-0.1	26-May-25	T + J	Cold Hold
26	A3 - 13 0.3-0.4	26-May-25	T + J	Cold Hold
27	A3 - 14 0-0.1	26-May-25	J	Cold Hold
28	A3 - 14 0.3-0.4	26-May-25	J	Cold Hold
29	A3 - 15 0-0.1	26-May-25	T + J	Cold Hold
30	A3 - 15 0.3-0.4	26-May-25	J	Cold Hold
31	A3 - 16 0-0.1	26-May-25	T + J	Cold Hold
32	A3 - 16 0.3-0.4	26-May-25	J	Cold Hold
33	A3 - 17 0-0.1	26-May-25	T + J	Cold Hold
34	A3 - 17 0.3-0.4	26-May-25	T + J	Cold Hold
35	A3 - 18 0-0.1	26-May-25	J	Cold Hold
36	A3 - 18 0.3-0.4	26-May-25	J	Cold Hold
37	A3 - 19 0-0.1	26-May-25	J	Cold Hold
38	A3 - 19 0.3-0.4	26-May-25	J	Cold Hold
39	A3 - 20 0-0.1	26-May-25	J	Cold Hold
40	A3 - 20 0.3-0.4	26-May-25	J	Cold Hold
41	A3 - 21 0-0.1	26-May-25	J	Cold Hold
42	A3 - 22 0-0.1	26-May-25	T + J	Cold Hold
43	A3 - 22 0.3-0.4	26-May-25	J	Cold Hold
44	A3 - 23 0-0.1	26-May-25	T + J	Cold Hold
45	A3 - 23 0.3-0.4	26-May-25	J	Cold Hold
46	A3 - 24 0-0.1	26-May-25	T + J	Cold Hold
47	A3 - 24 0.3-0.4	26-May-25	J	Cold Hold
48	A3 - 25 0-0.1	26-May-25	J	Cold Hold
49	A3 - 26 0-0.1	26-May-25	T + J	Cold Hold
50	A3 - 27 0-0.1	26-May-25	T + J	Cold Hold
51	A3 - 27 0.3-0.4	26-May-25	T + J	Cold Hold
52	A3 - 28 0-0.1	26-May-25	T + J	Cold Hold
53	A3 - 28 0.3-0.4	26-May-25	T + J	Cold Hold
54	A3 - 29 0-0.1	26-May-25	T + J	Cold Hold
55	A3 - 30 0-0.1	26-May-25	T + J	Cold Hold
56	A3 - 31 0-0.1	26-May-25	J	Cold Hold
57	A3 - 31 0.3-0.4	26-May-25	J	Cold Hold
58	A3 - 32 0-0.1	26-May-25	J	Cold Hold
59	A3 - 32 0.3-0.4	26-May-25	J	Cold Hold
60	A3 - 33 0-0.1	26-May-25	J	Cold Hold
61	A3 - 33 0.3-0.4	26-May-25	J	Cold Hold
62	A3 - 34 0-0.1	26-May-25	J	Cold Hold
63	A3 - 35 0-0.1	26-May-25	J	Cold Hold
64	A3 - 35 0.3-0.4	26-May-25	J	Cold Hold
65	A3 - 36 0-0.1	26-May-25	T + J	Cold Hold
66	A3 - 36 0.3-0.4	26-May-25	T + J	Cold Hold
67	A3 - 37 0-0.1	26-May-25	J	Cold Hold
68	A3 - 37 0.3-0.4	26-May-25	J	Cold Hold

ENGE0 Ltd

Client Ref: 19630.000.001

Submitted by Lucas Brydon and Caitlin Robinson. Primary Contact Aaron Graham
 lbrydon@engeo.co.nz, crobison@engeo.co.nz, agraham@engeo.co.nz

Sent on 27/05/2025

No.	SampleName	SampleDate	SampleType	SampleTests
1	A3 - 1.1	26-May-25	Tub + Jar	Cold Hold
2	A3 - 1.2	26-May-25	T + J	Cold Hold
3	A3 - 2.1	26-May-25	T + J	Cold Hold
4	A3 - 2.2	26-May-25	T + J	Cold Hold
5	A3 - 3.1	26-May-25	T + J	Cold Hold
6	A3 - 3.2	26-May-25	T + J	Cold Hold
7	A3 - 4 0 0-1	26-May-25	T + J	Cold Hold
8	A3 - 4 0.3-0.4	26-May-25	T + J	Cold Hold
9	A3 - 5 0 0-1	26-May-25	T + J	Cold Hold
10	A3 - 5 0.3-0.4	26-May-25	T + J	Cold Hold
11	A3 - 6 0 0-1	26-May-25	T + J	Cold Hold
12	A3 - 6 0.3-0.4	26-May-25	T + J	Cold Hold
13	A3 - 7 0 0-1	26-May-25	T + J	Cold Hold
14	A3 - 7 0.3-0.4	26-May-25	T + J	Cold Hold
15	A3 - 8 0 0-1	26-May-25	J	Cold Hold
16	A3 - 8 0.3-0.4	26-May-25	J	Cold Hold
17	A3 - 9 0 0-1	26-May-25	T + J	Cold Hold
18	A3 - 9 0.3-0.4	26-May-25	J	Cold Hold
19	A3 - 10 0-0.1	26-May-25	T + J	Cold Hold
20	A3 - 10 0.3-0.4	26-May-25	J	Cold Hold
21	A3 - 11 0-0.1	26-May-25	T + J	Cold Hold
22	A3 - 11 0.3-0.4	26-May-25	J	Cold Hold
23	A3 - 12 0-0.1	26-May-25	T + J	Cold Hold
24	A3 - 12 0.3-0.4	26-May-25	T + J	Cold Hold
25	A3 - 13 0-0.1	26-May-25	T + J	Cold Hold
26	A3 - 13 0.3-0.4	26-May-25	T + J	Cold Hold
27	A3 - 14 0-0.1	26-May-25	J	Cold Hold
28	A3 - 14 0.3-0.4	26-May-25	J	Cold Hold
29	A3 - 15 0-0.1	26-May-25	T + J	Cold Hold
30	A3 - 15 0.3-0.4	26-May-25	J	Cold Hold
31	A3 - 16 0-0.1	26-May-25	T + J	Cold Hold
32	A3 - 16 0.3-0.4	26-May-25	J	Cold Hold
33	A3 - 17 0-0.1	26-May-25	T + J	Cold Hold
34	A3 - 17 0.3-0.4	26-May-25	T + J	Cold Hold
35	A3 - 18 0-0.1	26-May-25	J	Cold Hold
36	A3 - 18 0.3-0.4	26-May-25	J	Cold Hold
37	A3 - 19 0-0.1	26-May-25	J	Cold Hold
38	A3 - 19 0.3-0.4	26-May-25	J	Cold Hold
39	A3 - 20 0-0.1	26-May-25	J	Cold Hold
40	A3 - 20 0.3-0.4	26-May-25	J	Cold Hold
41	A3 - 21 0-0.1	26-May-25	J	Cold Hold
42	A3 - 22 0-0.1	26-May-25	T + J	Cold Hold
43	A3 - 22 0.3-0.4	26-May-25	J	Cold Hold
44	A3 - 23 0-0.1	26-May-25	T + J	Cold Hold
45	A3 - 23 0.3-0.4	26-May-25	J	Cold Hold
46	A3 - 24 0-0.1	26-May-25	T + J	Cold Hold
47	A3 - 24 0.3-0.4	26-May-25	J	Cold Hold
48	A3 - 25 0-0.1	26-May-25	J	Cold Hold
49	A3 - 26 0-0.1	26-May-25	T + J	Cold Hold
50	A3 - 27 0-0.1	26-May-25	T + J	Cold Hold
51	A3 - 27 0.3-0.4	26-May-25	T + J	Cold Hold
52	A3 - 28 0-0.1	26-May-25	T + J	Cold Hold
53	A3 - 28 0.3-0.4	26-May-25	T + J	Cold Hold
54	A3 - 29 0-0.1	26-May-25	T + J	Cold Hold
55	A3 - 30 0-0.1	26-May-25	T + J	Cold Hold
56	A3 - 31 0-0.1	26-May-25	J	Cold Hold
57	A3 - 31 0.3-0.4	26-May-25	J	Cold Hold
58	A3 - 32 0-0.1	26-May-25	J	Cold Hold
59	A3 - 32 0.3-0.4	26-May-25	J	Cold Hold
60	A3 - 33 0-0.1	26-May-25	J	Cold Hold
61	A3 - 33 0.3-0.4	26-May-25	J	Cold Hold
62	A3 - 34 0-0.1	26-May-25	J	Cold Hold
63	A3 - 35 0-0.1	26-May-25	J	Cold Hold
64	A3 - 35 0.3-0.4	26-May-25	J	Cold Hold
65	A3 - 36 0-0.1	26-May-25	T + J	Cold Hold
66	A3 - 36 0.3-0.4	26-May-25	T + J	Cold Hold
67	A3 - 37 0-0.1	26-May-25	J	Cold Hold
68	A3 - 37 0.3-0.4	26-May-25	J	Cold Hold

ENGE0 Ltd

Client Ref: 19630.000.001

Submitted by Lucas Brydon and Callin Robinson. Primary Contact Aaron Graham
 lbrydon@engeo.co.nz, crobison@engeo.co.nz, agraaham@engeo.co.nz

Sent on 27/05/2025

No.	SampleName	SampleDate	SampleType	SampleTests
1	A3 - 1.1	26-May-25	Tub + Jar	Cold Hold
2	A3 - 1.2	26-May-25	T + J	Cold Hold
3	A3 - 2.1	26-May-25	T + J	Cold Hold
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5	A3 - 3.1	26-May-25	T + J	Cold Hold
6	A3 - 3.2	26-May-25	T + J	Cold Hold
7	A3 - 4.0-0.1	26-May-25	T + J	Cold Hold
8	A3 - 4.0.3-0.4	26-May-25	T + J	Cold Hold
9	A3 - 5.0-0.1	26-May-25	T + J	Cold Hold
10	A3 - 5.0.3-0.4	26-May-25	T + J	Cold Hold
11	A3 - 6.0-0.1	26-May-25	T + J	Cold Hold
12	A3 - 6.0.3-0.4	26-May-25	T + J	Cold Hold
13	A3 - 7.0-0.1	26-May-25	T + J	Cold Hold
14	A3 - 7.0.3-0.4	26-May-25	T + J	Cold Hold
15	A3 - 8.0-0.1	26-May-25	J	Cold Hold
16	A3 - 8.0.3-0.4	26-May-25	J	Cold Hold
17	A3 - 9.0-0.1	26-May-25	T + J	Cold Hold
18	A3 - 9.0.3-0.4	26-May-25	J	Cold Hold
19	A3 - 10.0-0.1	26-May-25	T + J	Cold Hold
20	A3 - 10.0.3-0.4	26-May-25	J	Cold Hold
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24	A3 - 12.0.3-0.4	26-May-25	T + J	Cold Hold
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26	A3 - 13.0.3-0.4	26-May-25	T + J	Cold Hold
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31	A3 - 16.0-0.1	26-May-25	T + J	Cold Hold
32	A3 - 16.0.3-0.4	26-May-25	J	Cold Hold
33	A3 - 17.0-0.1	26-May-25	T + J	Cold Hold
34	A3 - 17.0.3-0.4	26-May-25	T + J	Cold Hold
35	A3 - 18.0-0.1	26-May-25	J	Cold Hold
36	A3 - 18.0.3-0.4	26-May-25	J	Cold Hold
37	A3 - 19.0-0.1	26-May-25	J	Cold Hold
38	A3 - 19.0.3-0.4	26-May-25	J	Cold Hold
39	A3 - 20.0-0.1	26-May-25	J	Cold Hold
40	A3 - 20.0.3-0.4	26-May-25	J	Cold Hold
41	A3 - 21.0-0.1	26-May-25	J	Cold Hold
42	A3 - 22.0-0.1	26-May-25	T + J	Cold Hold
43	A3 - 22.0.3-0.4	26-May-25	J	Cold Hold
44	A3 - 23.0-0.1	26-May-25	T + J	Cold Hold
45	A3 - 23.0.3-0.4	26-May-25	J	Cold Hold
46	A3 - 24.0-0.1	26-May-25	T + J	Cold Hold
47	A3 - 24.0.3-0.4	26-May-25	J	Cold Hold
48	A3 - 25.0-0.1	26-May-25	J	Cold Hold
49	A3 - 26.0-0.1	26-May-25	T + J	Cold Hold
50	A3 - 27.0-0.1	26-May-25	T + J	Cold Hold
51	A3 - 27.0.3-0.4	26-May-25	T + J	Cold Hold
52	A3 - 28.0-0.1	26-May-25	T + J	Cold Hold
53	A3 - 28.0.3-0.4	26-May-25	T + J	Cold Hold
54	A3 - 29.0-0.1	26-May-25	T + J	Cold Hold
55	A3 - 30.0-0.1	26-May-25	T + J	Cold Hold
56	A3 - 31.0-0.1	26-May-25	J	Cold Hold
57	A3 - 31.0.3-0.4	26-May-25	J	Cold Hold
58	A3 - 32.0-0.1	26-May-25	J	Cold Hold
59	A3 - 32.0.3-0.4	26-May-25	J	Cold Hold
60	A3 - 33.0-0.1	26-May-25	J	Cold Hold
61	A3 - 33.0.3-0.4	26-May-25	J	Cold Hold
62	A3 - 34.0-0.1	26-May-25	J	Cold Hold
63	A3 - 35.0-0.1	26-May-25	J	Cold Hold
64	A3 - 35.0.3-0.4	26-May-25	J	Cold Hold
65	A3 - 36.0-0.1	26-May-25	T + J	Cold Hold
66	A3 - 36.0.3-0.4	26-May-25	T + J	Cold Hold
67	A3 - 37.0-0.1	26-May-25	J	Cold Hold
68	A3 - 37.0.3-0.4	26-May-25	J	Cold Hold

Quality Assurance Report

Page 1 of 50

Client:	Engeo Limited	Lab No:	3900458	QCPv3
Contact:	Aaron Graham C/- Engeo Limited PO Box 305136 Triton Plaza Auckland 0757	Date Received:	27-May-2025	
		Date Reported:	05-Aug-2025	(Amended)
		Quote No:	82742	
		Order No:		
		Client Reference:	19630.000.001	
		Submitted By:	Lucas Brydon	

Sample Specific QCs

Polycyclic Aromatic Hydrocarbons Screening in Soil

		3900458.5	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	103	65 – 130	No
Benzo[a]pyrene-d12	%	105	70 – 140	No
Fluoranthene-d10	%	99	66 – 130	No

Polycyclic Aromatic Hydrocarbons Screening in Soil

		3900458.7	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	102	65 – 130	No
Benzo[a]pyrene-d12	%	105	70 – 140	No
Fluoranthene-d10	%	99	66 – 130	No

Polycyclic Aromatic Hydrocarbons Screening in Soil

		3900458.35	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	107	65 – 130	No
Benzo[a]pyrene-d12	%	107	70 – 140	No
Fluoranthene-d10	%	99	66 – 130	No

Polycyclic Aromatic Hydrocarbons Screening in Soil

		3900458.36	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	102	65 – 130	No
Benzo[a]pyrene-d12	%	100	70 – 140	No
Fluoranthene-d10	%	94	66 – 130	No

Polycyclic Aromatic Hydrocarbons Screening in Soil

		3900458.37	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	99	65 – 130	No
Benzo[a]pyrene-d12	%	99	70 – 140	No
Fluoranthene-d10	%	99	66 – 130	No

Polycyclic Aromatic Hydrocarbons Screening in Soil

		3900458.38	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	105	65 – 130	No
Benzo[a]pyrene-d12	%	109	70 – 140	No
Fluoranthene-d10	%	101	66 – 130	No

Polycyclic Aromatic Hydrocarbons Screening in Soil

		3900458.39	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	97	65 – 130	No
Benzo[a]pyrene-d12	%	98	70 – 140	No
Fluoranthene-d10	%	98	66 – 130	No

Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3900458.40	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	98	65 – 130	No
Benzo[a]pyrene-d12	%	98	70 – 140	No
Fluoranthene-d10	%	98	66 – 130	No

Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3900458.41	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	91	65 – 130	No
Benzo[a]pyrene-d12	%	92	70 – 140	No
Fluoranthene-d10	%	90	66 – 130	No

Organochlorine Pesticides Screening in Soil				
		3900458.55	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	112	40 – 120	No

Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3900458.55	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	101	65 – 130	No
Benzo[a]pyrene-d12	%	102	70 – 140	No
Fluoranthene-d10	%	101	66 – 130	No

Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3900458.66	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	98	65 – 130	No
Benzo[a]pyrene-d12	%	98	70 – 140	No
Fluoranthene-d10	%	96	66 – 130	No

Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3900458.117	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	105	65 – 130	No
Benzo[a]pyrene-d12	%	104	70 – 140	No
Fluoranthene-d10	%	101	66 – 130	No

Organochlorine Pesticides Screening in Solids				
		3900458.167	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	113	40 – 120	No

Polycyclic Aromatic Hydrocarbons Screening in Solids				
		3900458.167	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	98	65 – 130	No
Benzo[a]pyrene-d12	%	96	70 – 140	No
Fluoranthene-d10	%	93	66 – 130	No

Organochlorine Pesticides Screening in Solids				
		3900458.168	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	109	40 – 120	No

Polycyclic Aromatic Hydrocarbons Screening in Solids				
		3900458.168	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	106	65 – 130	No
Benzo[a]pyrene-d12	%	106	70 – 140	No
Fluoranthene-d10	%	100	66 – 130	No

Organochlorine Pesticides Screening in Solids				
		3900458.169	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	94	40 – 120	No

Polycyclic Aromatic Hydrocarbons Screening in Solids				
		3900458.169	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	92	65 – 130	No
Benzo[a]pyrene-d12	%	93	70 – 140	No
Fluoranthene-d10	%	88	66 – 130	No

Organochlorine Pesticides Screening in Solids				
		3900458.170	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	113	40 – 120	No

Polycyclic Aromatic Hydrocarbons Screening in Solids				
		3900458.170	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	101	65 – 130	No
Benzo[a]pyrene-d12	%	100	70 – 140	No
Fluoranthene-d10	%	99	66 – 130	No

Organochlorine Pesticides Screening in Solids				
		3900458.171	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	114	40 – 120	No

Polycyclic Aromatic Hydrocarbons Screening in Solids				
		3900458.171	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	97	65 – 130	No
Benzo[a]pyrene-d12	%	98	70 – 140	No
Fluoranthene-d10	%	94	66 – 130	No

Organochlorine Pesticides Screening in Solids				
		3900458.172	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	106	40 – 120	No

Polycyclic Aromatic Hydrocarbons Screening in Solids				
		3900458.172	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	108	65 – 130	No
Benzo[a]pyrene-d12	%	110	70 – 140	No
Fluoranthene-d10	%	104	66 – 130	No

Organochlorine Pesticides Screening in Soil				
		3900458.210	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	109	40 – 120	No

Organochlorine Pesticides Screening in Soil				
		3900458.211	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	109	40 – 120	No

Organochlorine Pesticides Screening in Soil				
		3900458.213	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	106	40 – 120	No

Organochlorine Pesticides Screening in Soil				
		3900458.215	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	111	40 – 120	No

Organochlorine Pesticides Screening in Soil				
		3900458.216	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	112	40 – 120	No

Organochlorine Pesticides Screening in Soil				
		3900458.217	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	111	40 – 120	No

Organochlorine Pesticides Screening in Soil			
	3900458.218	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	% 107	40 – 120	No

Organochlorine Pesticides Screening in Soil			
	3900458.219	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	% 109	40 – 120	No

Organochlorine Pesticides Screening in Soil			
	3900458.220	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	% 107	40 – 120	No

Organochlorine Pesticides Screening in Soil			
	3900458.222	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	% 109	40 – 120	No

Organochlorine Pesticides Screening in Water, By Liq/Liq			
	3900458.224	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	% 77	40 – 120	No

Polycyclic Aromatic Hydrocarbons Screening in Water, By Liq/Liq			
	3900458.224	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	% 113	40 – 130	No
Benzo[a]pyrene-d12	% 119	40 – 130	No
Fluoranthene-d10	% 109	40 – 130	No

Organochlorine Pesticides Screening in Water, By Liq/Liq			
	3900458.225	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	% 82	40 – 120	No

Polycyclic Aromatic Hydrocarbons Screening in Water, By Liq/Liq			
	3900458.225	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	% 112	40 – 130	No
Benzo[a]pyrene-d12	% 119	40 – 130	No
Fluoranthene-d10	% 107	40 – 130	No

Organochlorine Pesticides Screening in Water, By Liq/Liq			
	3900458.226	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	% 85	40 – 120	No

Polycyclic Aromatic Hydrocarbons Screening in Water, By Liq/Liq			
	3900458.226	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	% 113	40 – 130	No
Benzo[a]pyrene-d12	% 122	40 – 130	No
Fluoranthene-d10	% 105	40 – 130	No

Organochlorine Pesticides Screening in Water, By Liq/Liq			
	3900458.227	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	% 99	40 – 120	No

Polycyclic Aromatic Hydrocarbons Screening in Water, By Liq/Liq			
	3900458.227	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	% 112	40 – 130	No
Benzo[a]pyrene-d12	% 120	40 – 130	No
Fluoranthene-d10	% 107	40 – 130	No

Organochlorine Pesticides Screening in Water, By Liq/Liq			
	3900458.228	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	% 90	40 – 120	No

Polycyclic Aromatic Hydrocarbons Screening in Water, By Liq/Liq				
		3900458.228	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	112	40 – 130	No
Benzo[a]pyrene-d12	%	120	40 – 130	No
Fluoranthene-d10	%	106	40 – 130	No

Organochlorine Pesticides Screening in Water, By Liq/Liq				
		3900458.229	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	89	40 – 120	No

Polycyclic Aromatic Hydrocarbons Screening in Water, By Liq/Liq				
		3900458.229	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	112	40 – 130	No
Benzo[a]pyrene-d12	%	120	40 – 130	No
Fluoranthene-d10	%	107	40 – 130	No

Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3900458.240	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	97	65 – 130	No
Benzo[a]pyrene-d12	%	96	70 – 140	No
Fluoranthene-d10	%	91	66 – 130	No

Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3900458.241	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	99	65 – 130	No
Benzo[a]pyrene-d12	%	99	70 – 140	No
Fluoranthene-d10	%	94	66 – 130	No

Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3900458.243	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	100	65 – 130	No
Benzo[a]pyrene-d12	%	100	70 – 140	No
Fluoranthene-d10	%	95	66 – 130	No

Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3900458.244	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	97	65 – 130	No
Benzo[a]pyrene-d12	%	96	70 – 140	No
Fluoranthene-d10	%	91	66 – 130	No

Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3900458.245	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	104	65 – 130	No
Benzo[a]pyrene-d12	%	106	70 – 140	No
Fluoranthene-d10	%	97	66 – 130	No

Organochlorine Pesticides Screening in Soil				
		3900458.256	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	81	40 – 120	No

Organochlorine Pesticides Screening in Soil				
		3900458.257	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	85	40 – 120	No

Organochlorine Pesticides Screening in Soil				
		3900458.258	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	87	40 – 120	No

Organochlorine Pesticides Screening in Soil			
	3900458.259	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene %	82	40 – 120	No

Organochlorine Pesticides Screening in Soil			
	3900458.260	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene %	85	40 – 120	No

Organochlorine Pesticides Screening in Soil			
	3900458.261	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene %	80	40 – 120	No

Organochlorine Pesticides Screening in Soil			
	3900458.262	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene %	84	40 – 120	No

Organochlorine Pesticides Screening in Soil			
	3900458.263	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene %	82	40 – 120	No

Organochlorine Pesticides Screening in Soil			
	3900458.264	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene %	82	40 – 120	No

Organochlorine Pesticides Screening in Soil			
	3900458.265	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene %	104	40 – 120	No

Organochlorine Pesticides Screening in Soil			
	3900458.266	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene %	91	40 – 120	No

Blank QCs

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12199.16

	Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12199.30

	Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12200.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12200.55

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

50x Manual Dilution Digest Blank PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12200.80

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12201.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12201.32

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12201.32

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12202.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12202.29

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

50x Manual Dilution Digest Blank PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12202.75

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12203.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12203.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12203.30

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

50x Manual Dilution Digest Blank PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12203.74

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12204.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12204.30

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12205.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12205.31

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Blank 1 PrepWS xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17046.1

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	mg/kg dry wt	< 0.010 ± 0.032	0.0 – 0.0100	No
2-Methylnaphthalene	mg/kg dry wt	< 0.013 ± 0.032	0.0 – 0.0100	Yes #1
Acenaphthylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Acenaphthene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No
Anthracene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No

Blank 1 PrepWS xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17046.1

		Results	Control Limits	Outside Limit (Yes/No)
Benzo[a]anthracene	mg/kg dry wt	< 0.010 ± 0.0062	0.0 – 0.0100	No
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[e]pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[k]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Chrysene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluorene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Naphthalene	mg/kg dry wt	< 0.05 ± 0.031	0.0 – 0.050	No
Perylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Phenanthrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12206.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12206.41

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12206.41

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

50x Manual Dilution Digest Blank PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12206.75

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Blank 1 PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 8936.1

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
alpha-BHC	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
beta-BHC	mg/kg dry wt	< 0.010 ± 0.0028	0.0 – 0.0100	No
delta-BHC	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010 ± 0.0031	0.0 – 0.0100	No
cis-Chlordane	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
trans-Chlordane	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
2,4'-DDD	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
4,4'-DDD	mg/kg dry wt	< 0.010 ± 0.0024	0.0 – 0.0100	No
2,4'-DDE	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
4,4'-DDE	mg/kg dry wt	< 0.010 ± 0.0023	0.0 – 0.0100	No
2,4'-DDT	mg/kg dry wt	< 0.010 ± 0.0021	0.0 – 0.0100	No
4,4'-DDT	mg/kg dry wt	< 0.010 ± 0.0017	0.0 – 0.0100	No
Dieldrin	mg/kg dry wt	< 0.010 ± 0.0026	0.0 – 0.0100	No
Endosulfan I	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
Endosulfan II	mg/kg dry wt	< 0.010 ± 0.0026	0.0 – 0.0100	No
Endosulfan sulphate	mg/kg dry wt	< 0.010 ± 0.0013	0.0 – 0.0100	No
Endrin	mg/kg dry wt	< 0.010 ± 0.00048	0.0 – 0.0100	No

Blank 1 PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 8936.1

		Results	Control Limits	Outside Limit (Yes/No)
Endrin aldehyde	mg/kg dry wt	< 0.010 ± 0.0019	0.0 – 0.0100	No
Endrin ketone	mg/kg dry wt	< 0.010 ± 0.0024	0.0 – 0.0100	No
Heptachlor	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
Heptachlor epoxide	mg/kg dry wt	< 0.010 ± 0.0031	0.0 – 0.0100	No
Hexachlorobenzene	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
Methoxychlor	mg/kg dry wt	< 0.010 ± 0.00048	0.0 – 0.0100	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12208.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12208.33

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12209.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12209.33

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12209.33

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

50x Manual Dilution Digest Blank PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12209.75

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12210.63

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12210.69

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Blank 1 PrepWS xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17047.1

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	mg/kg dry wt	< 0.010 ± 0.032	0.0 – 0.0100	No
2-Methylnaphthalene	mg/kg dry wt	< 0.013 ± 0.032	0.0 – 0.0100	Yes #1
Acenaphthylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Acenaphthene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No
Anthracene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No
Benzo[a]anthracene	mg/kg dry wt	< 0.010 ± 0.0062	0.0 – 0.0100	No
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[e]pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[k]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Chrysene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluorene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Naphthalene	mg/kg dry wt	< 0.05 ± 0.031	0.0 – 0.050	No
Perylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Phenanthrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No

Blank 1 PrepWS xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17047.2

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	mg/kg dry wt	< 0.10 ± 0.039	0.0 – 0.0100	Yes #1
2-Methylnaphthalene	mg/kg dry wt	0.148 ± 0.048	0.0 – 0.0100	Yes #1
Acenaphthylene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Acenaphthene	mg/kg dry wt	< 0.10 ± 0.0060	0.0 – 0.0100	No

Blank 1 PrepWS xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17047.2

		Results	Control Limits	Outside Limit (Yes/No)
Anthracene	mg/kg dry wt	< 0.10 ± 0.0060	0.0 – 0.0100	No
Benzo[a]anthracene	mg/kg dry wt	< 0.10 ± 0.0062	0.0 – 0.0100	No
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	< 0.10 ± 0.0064	0.0 – 0.0100	No
Benzo[e]pyrene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.10 ± 0.0064	0.0 – 0.0100	No
Benzo[k]fluoranthene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Chrysene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Fluoranthene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Fluorene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Naphthalene	mg/kg dry wt	< 0.5 ± 0.031	0.0 – 0.050	No
Perylene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Phenanthrene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Pyrene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No

Blank 1 PrepWS xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17050.1

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	mg/kg dry wt	< 0.010 ± 0.032	0.0 – 0.0100	No
2-Methylnaphthalene	mg/kg dry wt	< 0.011 ± 0.032	0.0 – 0.0100	Yes #1
Acenaphthylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Acenaphthene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No
Anthracene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No
Benzo[a]anthracene	mg/kg dry wt	< 0.010 ± 0.0062	0.0 – 0.0100	No
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[e]pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[k]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Chrysene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluorene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Naphthalene	mg/kg dry wt	< 0.05 ± 0.031	0.0 – 0.050	No
Perylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Phenanthrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No

Blank 1 PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 8940.1

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
alpha-BHC	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
beta-BHC	mg/kg dry wt	< 0.010 ± 0.0028	0.0 – 0.0100	No
delta-BHC	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No

Blank 1 PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 8940.1

		Results	Control Limits	Outside Limit (Yes/No)
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010 ± 0.0031	0.0 – 0.0100	No
cis-Chlordane	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
trans-Chlordane	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
2,4'-DDD	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
4,4'-DDD	mg/kg dry wt	< 0.010 ± 0.0024	0.0 – 0.0100	No
2,4'-DDE	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
4,4'-DDE	mg/kg dry wt	< 0.010 ± 0.0023	0.0 – 0.0100	No
2,4'-DDT	mg/kg dry wt	< 0.010 ± 0.0021	0.0 – 0.0100	No
4,4'-DDT	mg/kg dry wt	< 0.010 ± 0.0017	0.0 – 0.0100	No
Dieldrin	mg/kg dry wt	< 0.010 ± 0.0026	0.0 – 0.0100	No
Endosulfan I	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
Endosulfan II	mg/kg dry wt	< 0.010 ± 0.0026	0.0 – 0.0100	No
Endosulfan sulphate	mg/kg dry wt	< 0.010 ± 0.0013	0.0 – 0.0100	No
Endrin	mg/kg dry wt	< 0.010 ± 0.00048	0.0 – 0.0100	No
Endrin aldehyde	mg/kg dry wt	< 0.010 ± 0.0019	0.0 – 0.0100	No
Endrin ketone	mg/kg dry wt	< 0.010 ± 0.0024	0.0 – 0.0100	No
Heptachlor	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
Heptachlor epoxide	mg/kg dry wt	< 0.010 ± 0.0031	0.0 – 0.0100	No
Hexachlorobenzene	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
Methoxychlor	mg/kg dry wt	< 0.010 ± 0.00048	0.0 – 0.0100	No

Blank 1 PrepWS xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17052.1

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	mg/kg dry wt	< 0.010 ± 0.032	0.0 – 0.0100	No
2-Methylnaphthalene	mg/kg dry wt	< 0.010 ± 0.032	0.0 – 0.0100	No
Acenaphthylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Acenaphthene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No
Anthracene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No
Benzo[a]anthracene	mg/kg dry wt	< 0.010 ± 0.0062	0.0 – 0.0100	No
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[e]pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[k]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Chrysene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluorene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Naphthalene	mg/kg dry wt	< 0.05 ± 0.032	0.0 – 0.050	No
Perylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Phenanthrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No

Blank 1 PrepWS xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17053.1

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	mg/kg dry wt	< 0.010 ± 0.032	0.0 – 0.0100	No
2-Methylnaphthalene	mg/kg dry wt	< 0.010 ± 0.032	0.0 – 0.0100	No
Acenaphthylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Acenaphthene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No
Anthracene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No
Benzo[a]anthracene	mg/kg dry wt	< 0.010 ± 0.0062	0.0 – 0.0100	No
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[e]pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[k]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Chrysene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluorene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Naphthalene	mg/kg dry wt	< 0.05 ± 0.031	0.0 – 0.050	No
Perylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Phenanthrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No

Blank 1 PrepWS xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17054.1

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	mg/kg dry wt	< 0.010 ± 0.032	0.0 – 0.0100	No
2-Methylnaphthalene	mg/kg dry wt	< 0.010 ± 0.032	0.0 – 0.0100	No
Acenaphthylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Acenaphthene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No
Anthracene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No
Benzo[a]anthracene	mg/kg dry wt	< 0.010 ± 0.0062	0.0 – 0.0100	No
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[e]pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[k]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Chrysene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluorene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Naphthalene	mg/kg dry wt	< 0.05 ± 0.031	0.0 – 0.050	No
Perylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Phenanthrene	mg/kg dry wt	< 0.010 ± 0.0067	0.0 – 0.0100	No
Pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No

Blank 1 PrepWS xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17054.2

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	mg/kg dry wt	0.126 ± 0.044	0.0 – 0.0100	Yes #2
2-Methylnaphthalene	mg/kg dry wt	0.195 ± 0.057	0.0 – 0.0100	Yes #2
Acenaphthylene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Acenaphthene	mg/kg dry wt	< 0.10 ± 0.0060	0.0 – 0.0100	No
Anthracene	mg/kg dry wt	< 0.10 ± 0.0060	0.0 – 0.0100	No
Benzo[a]anthracene	mg/kg dry wt	< 0.10 ± 0.0062	0.0 – 0.0100	No
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	< 0.10 ± 0.0064	0.0 – 0.0100	No
Benzo[e]pyrene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.10 ± 0.0064	0.0 – 0.0100	No
Benzo[k]fluoranthene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Chrysene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Fluoranthene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Fluorene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Naphthalene	mg/kg dry wt	< 0.5 ± 0.040	0.0 – 0.050	Yes #3
Perylene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Phenanthrene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No
Pyrene	mg/kg dry wt	< 0.10 ± 0.0066	0.0 – 0.0100	No

Blank 1 PrepWS xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17054.22

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	mg/kg dry wt	0.010 ± 0.032	0.0 – 0.0100	Yes #4
2-Methylnaphthalene	mg/kg dry wt	0.017 ± 0.032	0.0 – 0.0100	Yes #4
Acenaphthylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Acenaphthene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No
Anthracene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No
Benzo[a]anthracene	mg/kg dry wt	< 0.010 ± 0.0062	0.0 – 0.0100	No
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[e]pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[k]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Chrysene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluorene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Naphthalene	mg/kg dry wt	< 0.05 ± 0.032	0.0 – 0.050	No
Perylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Phenanthrene	mg/kg dry wt	0.0101 ± 0.0068	0.0 – 0.0100	Yes #4
Pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No

Blank 1 PrepWS xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17054.23

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	mg/kg dry wt	0.012 ± 0.032	0.0 – 0.0100	Yes #4
2-Methylnaphthalene	mg/kg dry wt	0.019 ± 0.032	0.0 – 0.0100	Yes #4
Acenaphthylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Acenaphthene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No
Anthracene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No
Benzo[a]anthracene	mg/kg dry wt	< 0.010 ± 0.0062	0.0 – 0.0100	No
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[e]pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[k]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Chrysene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluorene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Naphthalene	mg/kg dry wt	< 0.05 ± 0.032	0.0 – 0.050	No
Perylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Phenanthrene	mg/kg dry wt	< 0.010 ± 0.0067	0.0 – 0.0100	No
Pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12231.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12231.48

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Blank 1 - WS: Hg by Cold Vapour / Atomic Fluorescence (HgBrF): 3604.9

		Results	Control Limits	Outside Limit (Yes/No)
Dissolved Mercury	g/m ³	< 0.00008 ± 0.000053	-0.000075 – 0.000075	No

Blank 2 - WS: Hg by Cold Vapour / Atomic Fluorescence (HgBrF): 3604.10

		Results	Control Limits	Outside Limit (Yes/No)
Dissolved Mercury	g/m ³	< 0.00008 ± 0.000053	-0.000075 – 0.000075	No

ARBlank PrepWS DissPrep 1 - WS: Environmental Waters by ICP-MS (EW): 22213.21

		Results	Control Limits	Outside Limit (Yes/No)
Dissolved Arsenic	g/m ³	< 0.0010 ± 0.00067	-0.00100 – 0.00100	No
Dissolved Cadmium	g/m ³	< 0.00005 ± 0.000033	-0.000050 – 0.000050	No
Dissolved Chromium	g/m ³	< 0.0005 ± 0.00034	-0.00050 – 0.00050	No
Dissolved Copper	g/m ³	< 0.0005 ± 0.00034	-0.00050 – 0.00050	No
Dissolved Lead	g/m ³	< 0.00010 ± 0.000067	-0.000100 – 0.000100	No
Dissolved Nickel	g/m ³	< 0.0005 ± 0.00034	-0.00050 – 0.00050	No
Dissolved Zinc	g/m ³	< 0.0010 ± 0.00067	-0.00100 – 0.00100	No

ARBlank PrepWS DissPrep 2 - WS: Environmental Waters by ICP-MS (EW): 22213.22

		Results	Control Limits	Outside Limit (Yes/No)
Dissolved Arsenic	g/m ³	< 0.0010 ± 0.00067	-0.00100 – 0.00100	No
Dissolved Cadmium	g/m ³	< 0.00005 ± 0.000033	-0.000050 – 0.000050	No
Dissolved Chromium	g/m ³	< 0.0005 ± 0.00034	-0.00050 – 0.00050	No
Dissolved Copper	g/m ³	< 0.0005 ± 0.00034	-0.00050 – 0.00050	No
Dissolved Lead	g/m ³	< 0.00010 ± 0.000067	-0.000100 – 0.000100	No
Dissolved Nickel	g/m ³	< 0.0005 ± 0.00034	-0.00050 – 0.00050	No
Dissolved Zinc	g/m ³	< 0.0010 ± 0.00067	-0.00100 – 0.00100	No

2x Dilution ARBlank PrepWS DissPrep - WS: Environmental Waters by ICP-MS (EW): 22213.23

		Results	Control Limits	Outside Limit (Yes/No)
Dissolved Arsenic	g/m ³	< 0.002 ± 0.00067	-0.0020 – 0.0020	No
Dissolved Cadmium	g/m ³	< 0.00010 ± 0.000033	-0.000100 – 0.000100	No
Dissolved Chromium	g/m ³	< 0.0010 ± 0.00034	-0.00100 – 0.00100	No
Dissolved Copper	g/m ³	< 0.0010 ± 0.00034	-0.00100 – 0.00100	No
Dissolved Lead	g/m ³	< 0.0002 ± 0.000067	-0.00020 – 0.00020	No
Dissolved Nickel	g/m ³	< 0.0010 ± 0.00034	-0.00100 – 0.00100	No
Dissolved Zinc	g/m ³	< 0.002 ± 0.00067	-0.0020 – 0.0020	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12237.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12237.69

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12237.69

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

50x Manual Dilution Digest Blank PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12237.76

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Blank 1 PrepWS TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22845.13

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.0011 ± 0.00074	-0.00105 – 0.00105	No
Total Cadmium	g/m ³	< 0.00006 ± 0.000036	-0.000052 – 0.000052	No
Total Chromium	g/m ³	< 0.0006 ± 0.00036	-0.00052 – 0.00052	No
Total Copper	g/m ³	< 0.0006 ± 0.00035	-0.00052 – 0.00052	No
Total Lead	g/m ³	< 0.00011 ± 0.000074	-0.000105 – 0.000105	No
Total Nickel	g/m ³	< 0.0006 ± 0.00035	-0.00052 – 0.00052	No
Total Zinc	g/m ³	< 0.0011 ± 0.00073	-0.00105 – 0.00105	No

20x Dilution PrepWS TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22845.14

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.021 ± 0.00074	-0.021 – 0.021	No
Total Cadmium	g/m ³	< 0.0011 ± 0.000036	-0.00105 – 0.00105	No
Total Chromium	g/m ³	< 0.011 ± 0.00036	-0.0105 – 0.0105	No
Total Copper	g/m ³	< 0.011 ± 0.00037	-0.0105 – 0.0105	No
Total Lead	g/m ³	< 0.0021 ± 0.000074	-0.0021 – 0.0021	No
Total Nickel	g/m ³	< 0.011 ± 0.00035	-0.0105 – 0.0105	No
Total Zinc	g/m ³	< 0.021 ± 0.00080	-0.021 – 0.021	No

Blank 2 PrepWS TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22845.15

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.0011 ± 0.00074	-0.00105 – 0.00105	No
Total Cadmium	g/m ³	< 0.00006 ± 0.000036	-0.000052 – 0.000052	No
Total Chromium	g/m ³	< 0.0006 ± 0.00036	-0.00052 – 0.00052	No
Total Copper	g/m ³	< 0.0006 ± 0.00035	-0.00052 – 0.00052	No
Total Lead	g/m ³	< 0.00011 ± 0.000074	-0.000105 – 0.000105	No
Total Nickel	g/m ³	< 0.0006 ± 0.00035	-0.00052 – 0.00052	No
Total Zinc	g/m ³	< 0.0011 ± 0.00073	-0.00105 – 0.00105	No

Blank 3 PrepWS TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22845.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.0011 ± 0.00074	-0.00105 – 0.00105	No
Total Cadmium	g/m ³	< 0.00006 ± 0.000036	-0.000052 – 0.000052	No
Total Chromium	g/m ³	< 0.0006 ± 0.00036	-0.00052 – 0.00052	No

Blank 3 PrepWS TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22845.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Copper	g/m ³	0.00056 ± 0.00036	-0.00052 – 0.00052	Yes
Total Lead	g/m ³	< 0.00011 ± 0.000074	-0.000105 – 0.000105	No
Total Nickel	g/m ³	< 0.0006 ± 0.00035	-0.00052 – 0.00052	No
Total Zinc	g/m ³	< 0.0011 ± 0.00073	-0.00105 – 0.00105	No

10x Prep Dilution, 2x Inst Diln TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22845.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.021 ± 0.00074	-0.021 – 0.021	No
Total Cadmium	g/m ³	< 0.0011 ± 0.000036	-0.00105 – 0.00105	No
Total Chromium	g/m ³	< 0.011 ± 0.00041	-0.0105 – 0.0105	No
Total Copper	g/m ³	< 0.011 ± 0.00036	-0.0105 – 0.0105	No
Total Lead	g/m ³	< 0.0021 ± 0.000075	-0.0021 – 0.0021	No
Total Nickel	g/m ³	< 0.011 ± 0.00036	-0.0105 – 0.0105	No
Total Zinc	g/m ³	< 0.021 ± 0.00073	-0.021 – 0.021	No

Blank 1 PrepWS TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22848.13

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.0011 ± 0.00074	-0.00105 – 0.00105	No
Total Cadmium	g/m ³	< 0.00006 ± 0.000036	-0.000052 – 0.000052	No
Total Chromium	g/m ³	< 0.0006 ± 0.00036	-0.00052 – 0.00052	No
Total Copper	g/m ³	< 0.0006 ± 0.00035	-0.00052 – 0.00052	No
Total Lead	g/m ³	< 0.00011 ± 0.000074	-0.000105 – 0.000105	No
Total Nickel	g/m ³	< 0.0006 ± 0.00035	-0.00052 – 0.00052	No
Total Zinc	g/m ³	< 0.0011 ± 0.00073	-0.00105 – 0.00105	No

2x Dilution PrepWS TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22848.14

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.003 ± 0.00074	-0.0021 – 0.0021	No
Total Cadmium	g/m ³	< 0.00011 ± 0.000036	-0.000105 – 0.000105	No
Total Lead	g/m ³	< 0.0003 ± 0.000074	-0.00021 – 0.00021	No
Total Nickel	g/m ³	< 0.0011 ± 0.00036	-0.00105 – 0.00105	No
Total Zinc	g/m ³	< 0.003 ± 0.00073	-0.0021 – 0.0021	No

Blank 2 PrepWS TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22848.15

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.0011 ± 0.00074	-0.00105 – 0.00105	No
Total Cadmium	g/m ³	< 0.00006 ± 0.000036	-0.000052 – 0.000052	No
Total Chromium	g/m ³	< 0.0006 ± 0.00036	-0.00052 – 0.00052	No
Total Copper	g/m ³	< 0.0006 ± 0.00035	-0.00052 – 0.00052	No
Total Lead	g/m ³	< 0.00011 ± 0.000074	-0.000105 – 0.000105	No
Total Nickel	g/m ³	< 0.0006 ± 0.00035	-0.00052 – 0.00052	No
Total Zinc	g/m ³	< 0.0011 ± 0.00073	-0.00105 – 0.00105	No

5x Dilution PrepWS TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22848.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.006 ± 0.00074	-0.0052 – 0.0052	No
Total Cadmium	g/m ³	< 0.0003 ± 0.000036	-0.00026 – 0.00026	No
Total Chromium	g/m ³	< 0.003 ± 0.00036	-0.0026 – 0.0026	No
Total Copper	g/m ³	< 0.003 ± 0.00035	-0.0026 – 0.0026	No
Total Lead	g/m ³	< 0.0006 ± 0.000074	-0.00052 – 0.00052	No

5x Dilution PrepWS TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22848.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Nickel	g/m ³	< 0.003 ± 0.00035	-0.0026 – 0.0026	No
Total Zinc	g/m ³	< 0.006 ± 0.00073	-0.0052 – 0.0052	No

Blank 3 PrepWS TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22848.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.0011 ± 0.00074	-0.00105 – 0.00105	No
Total Cadmium	g/m ³	< 0.00006 ± 0.000036	-0.000052 – 0.000052	No
Total Chromium	g/m ³	< 0.0006 ± 0.00036	-0.00052 – 0.00052	No
Total Copper	g/m ³	< 0.0006 ± 0.00035	-0.00052 – 0.00052	No
Total Lead	g/m ³	< 0.00011 ± 0.000074	-0.000105 – 0.000105	No
Total Nickel	g/m ³	< 0.0006 ± 0.00035	-0.00052 – 0.00052	No
Total Zinc	g/m ³	< 0.0011 ± 0.00073	-0.00105 – 0.00105	No

20x Dilution PrepWS TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22848.18

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.021 ± 0.00074	-0.021 – 0.021	No
Total Cadmium	g/m ³	< 0.0011 ± 0.000036	-0.00105 – 0.00105	No
Total Chromium	g/m ³	< 0.011 ± 0.00037	-0.0105 – 0.0105	No
Total Copper	g/m ³	< 0.011 ± 0.00044	-0.0105 – 0.0105	No
Total Lead	g/m ³	< 0.0021 ± 0.000076	-0.0021 – 0.0021	No
Total Nickel	g/m ³	< 0.011 ± 0.00035	-0.0105 – 0.0105	No
Total Zinc	g/m ³	< 0.021 ± 0.00074	-0.021 – 0.021	No

10x Prep Dilution, 2x Inst Diln TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22848.19

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.021 ± 0.00074	-0.021 – 0.021	No
Total Cadmium	g/m ³	< 0.0011 ± 0.000036	-0.00105 – 0.00105	No
Total Chromium	g/m ³	< 0.011 ± 0.00036	-0.0105 – 0.0105	No
Total Copper	g/m ³	< 0.011 ± 0.00039	-0.0105 – 0.0105	No
Total Nickel	g/m ³	< 0.011 ± 0.00035	-0.0105 – 0.0105	No
Total Zinc	g/m ³	0.0242 ± 0.0021	-0.021 – 0.021	Yes

10x Dilution Digest Blank PrepWS TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22848.20

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.011 ± 0.00074	-0.0105 – 0.0105	No
Total Cadmium	g/m ³	< 0.0006 ± 0.000036	-0.00052 – 0.00052	No
Total Chromium	g/m ³	< 0.006 ± 0.00036	-0.0052 – 0.0052	No
Total Copper	g/m ³	< 0.006 ± 0.00036	-0.0052 – 0.0052	No
Total Nickel	g/m ³	< 0.006 ± 0.00035	-0.0052 – 0.0052	No
Total Zinc	g/m ³	0.0174 ± 0.0016	-0.0105 – 0.0105	Yes

10x Vol. Dilution Digest Blank PrepWS TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22848.21

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.011 ± 0.00074	-0.0105 – 0.0105	No
Total Cadmium	g/m ³	< 0.0006 ± 0.000036	-0.00052 – 0.00052	No
Total Chromium	g/m ³	< 0.006 ± 0.00036	-0.0052 – 0.0052	No
Total Copper	g/m ³	< 0.006 ± 0.00037	-0.0052 – 0.0052	No
Total Lead	g/m ³	< 0.0011 ± 0.000074	-0.00105 – 0.00105	No
Total Nickel	g/m ³	< 0.006 ± 0.00035	-0.0052 – 0.0052	No
Total Zinc	g/m ³	< 0.011 ± 0.00073	-0.0105 – 0.0105	No

Blank 1 PrepWS TDigHCl - WS: Env. Waters with HCl Matrix: 2.15

		Results	Control Limits	Outside Limit (Yes/No)
Total Mercury	g/m ³	< 0.00011 ± 0.000046	-0.000106 – 0.000106	No

Blank 2 PrepWS TDigHCl - WS: Env. Waters with HCl Matrix: 2.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Mercury	g/m ³	< 0.00011 ± 0.000046	-0.000106 – 0.000106	No

20x Dilution PrepWS TDigHCl - WS: Env. Waters with HCl Matrix: 2.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Mercury	g/m ³	< 0.002 ± 0.000046	-0.0021 – 0.0021	No

20x Dilution PrepWS TDigHCl - WS: Env. Waters with HCl Matrix: 2.18

		Results	Control Limits	Outside Limit (Yes/No)
Total Mercury	g/m ³	< 0.002 ± 0.000051	-0.0021 – 0.0021	No

20x Fluid 1 Blank (glass) PrepWS TCLP PrepWS TDigHCl - WS: Env. Waters with HCl Matrix: 2.19

		Results	Control Limits	Outside Limit (Yes/No)
Total Mercury	g/m ³	< 0.002 ± 0.000046	-0.0021 – 0.0021	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12247.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12247.34

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

50x Manual Dilution Digest Blank PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12247.74

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Blank 1 PrepWS xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17076.1

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	mg/kg dry wt	< 0.010 ± 0.032	0.0 – 0.0100	No
2-Methylnaphthalene	mg/kg dry wt	< 0.015 ± 0.032	0.0 – 0.0100	Yes #1
Acenaphthylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Acenaphthene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No
Anthracene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No
Benzo[a]anthracene	mg/kg dry wt	< 0.010 ± 0.0062	0.0 – 0.0100	No
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[e]pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[k]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Chrysene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluorene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Naphthalene	mg/kg dry wt	< 0.05 ± 0.032	0.0 – 0.050	No
Perylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Phenanthrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No

Blank PrepWS xwTPH - WS: Total Petroleum Hydrocarbons Water Analysis: 8989.2

		Results	Control Limits	Outside Limit (Yes/No)
C7 - C9	g/m ³	< 0.10 ± 0.061	0.0 – 0.075	No
C10 - C11	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C12 - C14	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C15 - C20	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C21 - C25	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C26 - C29	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C30 - C36	g/m ³	< 0.10	0.0 – 0.100	No

Blank 2 PrepWS xwTPH - WS: Total Petroleum Hydrocarbons Water Analysis: 8989.27

		Results	Control Limits	Outside Limit (Yes/No)
C7 - C9	g/m ³	< 0.10 ± 0.061	0.0 – 0.075	No
C10 - C11	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C12 - C14	g/m ³	< 0.10 ± 0.061	0.0 – 0.100	No
C15 - C20	g/m ³	< 0.10 ± 0.064	0.0 – 0.100	No
C21 - C25	g/m ³	< 0.10 ± 0.062	0.0 – 0.100	No
C26 - C29	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C30 - C36	g/m ³	< 0.10	0.0 – 0.100	No

Blank PrepWS xwTPH - WS: Total Petroleum Hydrocarbons Water Analysis: 8993.2

		Results	Control Limits	Outside Limit (Yes/No)
C7 - C9	g/m ³	< 0.10 ± 0.060	0.0 – 0.075	No
C10 - C11	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C12 - C14	g/m ³	< 0.10 ± 0.061	0.0 – 0.100	No
C15 - C20	g/m ³	< 0.10 ± 0.063	0.0 – 0.100	No

Blank PrepWS xwTPH - WS: Total Petroleum Hydrocarbons Water Analysis: 8993.2

		Results	Control Limits	Outside Limit (Yes/No)
C21 - C25	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C26 - C29	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C30 - C36	g/m ³	< 0.10	0.0 – 0.100	No

Blank 2 PrepWS xwTPH - WS: Total Petroleum Hydrocarbons Water Analysis: 8993.17

		Results	Control Limits	Outside Limit (Yes/No)
C7 - C9	g/m ³	< 0.10 ± 0.061	0.0 – 0.075	No
C10 - C11	g/m ³	< 0.10 ± 0.063	0.0 – 0.100	No
C12 - C14	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C15 - C20	g/m ³	< 0.10 ± 0.062	0.0 – 0.100	No
C21 - C25	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C26 - C29	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C30 - C36	g/m ³	< 0.10	0.0 – 0.100	No

Screen Blank - Organochlorine Pesticides Water Analysis: 3075.1

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	g/m ³	< 0.00010 ± 0.000050	0.0 – 0.0000167	No
alpha-BHC	g/m ³	< 0.0002 ± 0.000096	0.0 – 0.0000167	No
beta-BHC	g/m ³	< 0.0002 ± 0.00013	0.0 – 0.0000167	No
delta-BHC	g/m ³	< 0.0002 ± 0.00011	0.0 – 0.0000167	No
gamma-BHC (Lindane)	g/m ³	< 0.0002 ± 0.00011	0.0 – 0.0000167	No
cis-Chlordane	g/m ³	< 0.00010 ± 0.000050	0.0 – 0.0000167	No
trans-Chlordane	g/m ³	< 0.00010 ± 0.000051	0.0 – 0.0000167	No
2,4'-DDD	g/m ³	< 0.0002 ± 0.00010	0.0 – 0.0000167	No
4,4'-DDD	g/m ³	< 0.0002 ± 0.000093	0.0 – 0.0000167	No
2,4'-DDE	g/m ³	< 0.0002 ± 0.00011	0.0 – 0.0000167	No
4,4'-DDE	g/m ³	< 0.0002 ± 0.00011	0.0 – 0.0000167	No
2,4'-DDT	g/m ³	< 0.0002 ± 0.00010	0.0 – 0.0000167	No
4,4'-DDT	g/m ³	< 0.0002 ± 0.000099	0.0 – 0.0000167	No
Dieldrin	g/m ³	< 0.00010 ± 0.000054	0.0 – 0.0000167	No
Endosulfan I	g/m ³	< 0.0002 ± 0.000098	0.0 – 0.0000167	No
Endosulfan II	g/m ³	< 0.0002 ± 0.000094	0.0 – 0.0000167	No
Endosulfan sulphate	g/m ³	< 0.0002 ± 0.00011	0.0 – 0.0000167	No
Endrin	g/m ³	< 0.00010 ± 0.000057	0.0 – 0.0000167	No
Endrin aldehyde	g/m ³	< 0.00010 ± 0.000056	0.0 – 0.0000167	No
Endrin ketone	g/m ³	< 0.0002 ± 0.00011	0.0 – 0.0000167	No
Heptachlor	g/m ³	< 0.00010 ± 0.000052	0.0 – 0.0000167	No
Heptachlor epoxide	g/m ³	< 0.00010 ± 0.000054	0.0 – 0.0000167	No
Hexachlorobenzene	g/m ³	< 0.0008 ± 0.00035	0.0 – 0.0000167	No
Methoxychlor	g/m ³	< 0.00010 ± 0.000053	0.0 – 0.0000167	No

Blk - WS: ES - Nitrogen/Carbon by Combustion: 7010.5

		Results	Control Limits	Outside Limit (Yes/No)
Total Organic Carbon	g/100g dry wt	< 0.05 ± 0.040	-0.050 – 0.050	No

Blank PrepWS xwTPH - WS: Total Petroleum Hydrocarbons Water Analysis: 8995.9

		Results	Control Limits	Outside Limit (Yes/No)
C7 - C9	g/m ³	< 0.10 ± 0.061	0.0 – 0.075	No
C10 - C11	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No

Blank PrepWS xwTPH - WS: Total Petroleum Hydrocarbons Water Analysis: 8995.9

		Results	Control Limits	Outside Limit (Yes/No)
C12 - C14	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C15 - C20	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C21 - C25	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C26 - C29	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C30 - C36	g/m ³	< 0.10	0.0 – 0.100	No

Blank 2 PrepWS xwTPH - WS: Total Petroleum Hydrocarbons Water Analysis: 8995.12

		Results	Control Limits	Outside Limit (Yes/No)
C7 - C9	g/m ³	< 0.10 ± 0.061	0.0 – 0.075	No
C10 - C11	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C12 - C14	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C15 - C20	g/m ³	< 0.10 ± 0.061	0.0 – 0.100	No
C21 - C25	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C26 - C29	g/m ³	< 0.10 ± 0.060	0.0 – 0.100	No
C30 - C36	g/m ³	< 0.10	0.0 – 0.100	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12462.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12462.31

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12464.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12464.38

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12469.34

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Blank 1 PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9054.1

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
alpha-BHC	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
beta-BHC	mg/kg dry wt	< 0.010 ± 0.0028	0.0 – 0.0100	No
delta-BHC	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010 ± 0.0031	0.0 – 0.0100	No
cis-Chlordane	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
trans-Chlordane	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
2,4'-DDD	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
4,4'-DDD	mg/kg dry wt	< 0.010 ± 0.0024	0.0 – 0.0100	No
2,4'-DDE	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
4,4'-DDE	mg/kg dry wt	< 0.010 ± 0.0023	0.0 – 0.0100	No
2,4'-DDT	mg/kg dry wt	< 0.010 ± 0.0021	0.0 – 0.0100	No
4,4'-DDT	mg/kg dry wt	< 0.010 ± 0.0017	0.0 – 0.0100	No
Dieldrin	mg/kg dry wt	< 0.010 ± 0.0026	0.0 – 0.0100	No
Endosulfan I	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
Endosulfan II	mg/kg dry wt	< 0.010 ± 0.0026	0.0 – 0.0100	No
Endosulfan sulphate	mg/kg dry wt	< 0.010 ± 0.0013	0.0 – 0.0100	No
Endrin	mg/kg dry wt	< 0.010 ± 0.00048	0.0 – 0.0100	No
Endrin aldehyde	mg/kg dry wt	< 0.010 ± 0.0019	0.0 – 0.0100	No
Endrin ketone	mg/kg dry wt	< 0.010 ± 0.0024	0.0 – 0.0100	No
Heptachlor	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
Heptachlor epoxide	mg/kg dry wt	< 0.010 ± 0.0031	0.0 – 0.0100	No
Hexachlorobenzene	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
Methoxychlor	mg/kg dry wt	< 0.010 ± 0.00048	0.0 – 0.0100	No

QC Spike QCs

LCS TPH PrepWS xsSHOC - Total Petroleum Hydrocarbon Soil Analysis: 14936.3

		Results	Control Limits	Outside Limit (Yes/No)
Total hydrocarbons (C7 - C36)	%	88 ± 43	74 – 108	No

LCS OC/PAH xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17046.2

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	%	111 ± 28	78 – 122	No
2-Methylnaphthalene	%	111 ± 28	72 – 117	No
Acenaphthylene	%	113 ± 11	75 – 118	No
Acenaphthene	%	117 ± 34	84 – 119	No
Anthracene	%	105 ± 32	79 – 121	No
Benzo[a]anthracene	%	115 ± 30	81 – 123	No
Benzo[a]pyrene (BAP)	%	119.0 ± 9.1	76 – 123	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	%	116 ± 24	80 – 121	No
Benzo[e]pyrene	%	102.0 ± 7.8	78 – 110	No
Benzo[g,h,i]perylene	%	117 ± 21	80 – 124	No
Benzo[k]fluoranthene	%	117 ± 15	79 – 121	No
Chrysene	%	113 ± 17	83 – 121	No
Dibenzo[a,h]anthracene	%	119 ± 16	78 – 124	No
Fluoranthene	%	110 ± 12	81 – 122	No
Fluorene	%	118 ± 14	86 – 122	No
Indeno(1,2,3-c,d)pyrene	%	118 ± 11	83 – 123	No
Naphthalene	%	112 ± 28	84 – 118	No
Perylene	%	99.0 ± 7.6	76 – 107	No
Phenanthrene	%	115 ± 17	84 – 120	No
Pyrene	%	113 ± 15	79 – 123	No

LCS OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 8936.2

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	%	96 ± 29	80 – 121	No
alpha-BHC	%	89 ± 27	76 – 121	No
beta-BHC	%	91 ± 35	75 – 113	No
delta-BHC	%	98 ± 34	74 – 114	No
gamma-BHC (Lindane)	%	92 ± 26	78 – 116	No
cis-Chlordane	%	96 ± 31	78 – 118	No
trans-Chlordane	%	89 ± 27	76 – 121	No
2,4'-DDD	%	86 ± 31	75 – 114	No
4,4'-DDD	%	101 ± 49	75 – 120	No
2,4'-DDE	%	105 ± 34	73 – 118	No
4,4'-DDE	%	89 ± 45	73 – 116	No
2,4'-DDT	%	89 ± 47	70 – 124	No
4,4'-DDT	%	89 ± 52	65 – 120	No
Dieldrin	%	95 ± 42	84 – 124	No
Endosulfan I	%	99 ± 36	81 – 120	No
Endosulfan II	%	96 ± 43	72 – 117	No
Endosulfan sulphate	%	99 ± 62	76 – 120	No
Endrin	%	112 ± 74	78 – 124	No
Endrin aldehyde	%	101 ± 57	84 – 127	No

LCS OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 8936.2

		Results	Control Limits	Outside Limit (Yes/No)
Endrin ketone	%	90 ± 44	69 – 115	No
Heptachlor	%	96 ± 33	74 – 120	No
Heptachlor epoxide	%	98 ± 28	79 – 119	No
Hexachlorobenzene	%	92 ± 32	77 – 116	No
Methoxychlor	%	104 ± 69	70 – 125	No

LCS TPH PrepWS xsSHOC - Total Petroleum Hydrocarbon Soil Analysis: 14940.3

		Results	Control Limits	Outside Limit (Yes/No)
Total hydrocarbons (C7 - C36)	%	97 ± 44	74 – 108	No

LCS OC/PAH xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17047.3

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	%	111 ± 28	78 – 122	No
2-Methylnaphthalene	%	111 ± 28	72 – 117	No
Acenaphthylene	%	113 ± 11	75 – 118	No
Acenaphthene	%	117 ± 34	84 – 119	No
Anthracene	%	105 ± 32	79 – 121	No
Benzo[a]anthracene	%	115 ± 30	81 – 123	No
Benzo[a]pyrene (BAP)	%	119.0 ± 9.1	76 – 123	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	%	116 ± 24	80 – 121	No
Benzo[e]pyrene	%	102.0 ± 7.8	78 – 110	No
Benzo[g,h,i]perylene	%	117 ± 21	80 – 124	No
Benzo[k]fluoranthene	%	117 ± 15	79 – 121	No
Chrysene	%	113 ± 17	83 – 121	No
Dibenzo[a,h]anthracene	%	119 ± 16	78 – 124	No
Fluoranthene	%	110 ± 12	81 – 122	No
Fluorene	%	118 ± 14	86 – 122	No
Indeno(1,2,3-c,d)pyrene	%	118 ± 11	83 – 123	No
Naphthalene	%	112 ± 28	84 – 118	No
Perylene	%	99.0 ± 7.6	76 – 107	No
Phenanthrene	%	115 ± 17	84 – 120	No
Pyrene	%	113 ± 15	79 – 123	No

LCS PAH xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17050.2

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	%	112 ± 28	78 – 122	No
2-Methylnaphthalene	%	111 ± 28	72 – 117	No
Acenaphthylene	%	116 ± 11	75 – 118	No
Acenaphthene	%	121 ± 35	84 – 119	Yes #5
Anthracene	%	107 ± 33	79 – 121	No
Benzo[a]anthracene	%	116 ± 31	81 – 123	No
Benzo[a]pyrene (BAP)	%	123.0 ± 9.4	76 – 123	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	%	121 ± 25	80 – 121	No
Benzo[e]pyrene	%	107.0 ± 8.2	78 – 110	No
Benzo[g,h,i]perylene	%	116 ± 20	80 – 124	No
Benzo[k]fluoranthene	%	121 ± 16	79 – 121	No
Chrysene	%	114 ± 17	83 – 121	No
Dibenzo[a,h]anthracene	%	117 ± 15	78 – 124	No

LCS PAH xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17050.2

		Results	Control Limits	Outside Limit (Yes/No)
Fluoranthene	%	108 ± 11	81 – 122	No
Fluorene	%	119 ± 15	86 – 122	No
Indeno(1,2,3-c,d)pyrene	%	118 ± 11	83 – 123	No
Naphthalene	%	111 ± 28	84 – 118	No
Perylene	%	102.0 ± 7.8	76 – 107	No
Phenanthrene	%	116 ± 17	84 – 120	No
Pyrene	%	115 ± 15	79 – 123	No

LCS OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 8940.2

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	%	110 ± 34	80 – 121	No
alpha-BHC	%	110 ± 34	76 – 121	No
beta-BHC	%	109 ± 42	75 – 113	No
delta-BHC	%	104 ± 36	74 – 114	No
gamma-BHC (Lindane)	%	108 ± 31	78 – 116	No
cis-Chlordane	%	109 ± 35	78 – 118	No
trans-Chlordane	%	102 ± 31	76 – 121	No
2,4'-DDD	%	97 ± 35	75 – 114	No
4,4'-DDD	%	110 ± 53	75 – 120	No
2,4'-DDE	%	119 ± 39	73 – 118	Yes #6
4,4'-DDE	%	95 ± 48	73 – 116	No
2,4'-DDT	%	100 ± 53	70 – 124	No
4,4'-DDT	%	97 ± 57	65 – 120	No
Dieldrin	%	107 ± 48	84 – 124	No
Endosulfan I	%	113 ± 41	81 – 120	No
Endosulfan II	%	102 ± 45	72 – 117	No
Endosulfan sulphate	%	110 ± 69	76 – 120	No
Endrin	%	117 ± 78	78 – 124	No
Endrin aldehyde	%	117 ± 66	84 – 127	No
Endrin ketone	%	98 ± 48	69 – 115	No
Heptachlor	%	108 ± 37	74 – 120	No
Heptachlor epoxide	%	111 ± 32	79 – 119	No
Hexachlorobenzene	%	110 ± 38	77 – 116	No
Methoxychlor	%	102 ± 68	70 – 125	No

LCS TPH PrepWS xsSHOC - Total Petroleum Hydrocarbon Soil Analysis: 14942.3

		Results	Control Limits	Outside Limit (Yes/No)
Total hydrocarbons (C7 - C36)	%	87 ± 43	74 – 108	No

LCS TPH PrepWS xsSHOC - Total Petroleum Hydrocarbon Soil Analysis: 14943.3

		Results	Control Limits	Outside Limit (Yes/No)
Total hydrocarbons (C7 - C36)	%	89 ± 43	74 – 108	No

LCS TPH PrepWS xsSHOC - Total Petroleum Hydrocarbon Soil Analysis: 14944.7

		Results	Control Limits	Outside Limit (Yes/No)
Total hydrocarbons (C7 - C36)	%	92 ± 43	74 – 108	No

LCS OC/PAH xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17052.2

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	%	100 ± 25	78 – 122	No

LCS OC/PAH xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17052.2

		Results	Control Limits	Outside Limit (Yes/No)
2-Methylnaphthalene	%	98 ± 24	72 – 117	No
Acenaphthylene	%	107.0 ± 9.7	75 – 118	No
Acenaphthene	%	108 ± 31	84 – 119	No
Anthracene	%	94 ± 29	79 – 121	No
Benzo[a]anthracene	%	100 ± 27	81 – 123	No
Benzo[a]pyrene (BAP)	%	110.0 ± 8.4	76 – 123	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	%	108 ± 23	80 – 121	No
Benzo[e]pyrene	%	96.0 ± 7.3	78 – 110	No
Benzo[g,h,i]perylene	%	103 ± 18	80 – 124	No
Benzo[k]fluoranthene	%	112 ± 15	79 – 121	No
Chrysene	%	108 ± 16	83 – 121	No
Dibenzo[a,h]anthracene	%	105 ± 14	78 – 124	No
Fluoranthene	%	102 ± 11	81 – 122	No
Fluorene	%	108 ± 13	86 – 122	No
Indeno(1,2,3-c,d)pyrene	%	103.0 ± 9.5	83 – 123	No
Naphthalene	%	103 ± 26	84 – 118	No
Perylene	%	94.0 ± 7.2	76 – 107	No
Phenanthrene	%	104 ± 15	84 – 120	No
Pyrene	%	107 ± 14	79 – 123	No

LCS OC/PAH xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17053.2

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	%	103 ± 26	78 – 122	No
2-Methylnaphthalene	%	104 ± 26	72 – 117	No
Acenaphthylene	%	104.0 ± 9.4	75 – 118	No
Acenaphthene	%	109 ± 31	84 – 119	No
Anthracene	%	96 ± 29	79 – 121	No
Benzo[a]anthracene	%	111 ± 29	81 – 123	No
Benzo[a]pyrene (BAP)	%	109.0 ± 8.3	76 – 123	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	%	108 ± 23	80 – 121	No
Benzo[e]pyrene	%	97.0 ± 7.4	78 – 110	No
Benzo[g,h,i]perylene	%	109 ± 19	80 – 124	No
Benzo[k]fluoranthene	%	109 ± 14	79 – 121	No
Chrysene	%	108 ± 16	83 – 121	No
Dibenzo[a,h]anthracene	%	109 ± 14	78 – 124	No
Fluoranthene	%	101 ± 11	81 – 122	No
Fluorene	%	108 ± 13	86 – 122	No
Indeno(1,2,3-c,d)pyrene	%	110 ± 11	83 – 123	No
Naphthalene	%	107 ± 27	84 – 118	No
Perylene	%	94.0 ± 7.2	76 – 107	No
Phenanthrene	%	107 ± 15	84 – 120	No
Pyrene	%	112 ± 15	79 – 123	No

LCS OC/PAH xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17054.3

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	%	100 ± 25	78 – 122	No
2-Methylnaphthalene	%	101 ± 25	72 – 117	No

LCS OC/PAH xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17054.3

		Results	Control Limits	Outside Limit (Yes/No)
Acenaphthylene	%	104.0 ± 9.4	75 – 118	No
Acenaphthene	%	108 ± 31	84 – 119	No
Anthracene	%	95 ± 29	79 – 121	No
Benzo[a]anthracene	%	101 ± 27	81 – 123	No
Benzo[a]pyrene (BAP)	%	109.0 ± 8.3	76 – 123	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	%	106 ± 22	80 – 121	No
Benzo[e]pyrene	%	96.0 ± 7.3	78 – 110	No
Benzo[g,h,i]perylene	%	101 ± 18	80 – 124	No
Benzo[k]fluoranthene	%	109 ± 14	79 – 121	No
Chrysene	%	103 ± 16	83 – 121	No
Dibenzo[a,h]anthracene	%	104 ± 14	78 – 124	No
Fluoranthene	%	93.0 ± 9.4	81 – 122	No
Fluorene	%	107 ± 13	86 – 122	No
Indeno(1,2,3-c,d)pyrene	%	103.0 ± 9.5	83 – 123	No
Naphthalene	%	99 ± 25	84 – 118	No
Perylene	%	91.0 ± 7.0	76 – 107	No
Phenanthrene	%	104 ± 15	84 – 120	No
Pyrene	%	100 ± 13	79 – 123	No

Blank Spike - WS: Hg by Cold Vapour / Atomic Fluorescence (HgBrF): 3604.58

		Results	Control Limits	Outside Limit (Yes/No)
Dissolved Mercury	%	111 ± 14	85 – 115	No

LCS PAH PrepWS xwIIPAHsc - Polycyclic Aromatic Hydrocarbon Water Analysis: 5806.2

		Results	Control Limits	Outside Limit (Yes/No)
Acenaphthene	%	121 ± 61	70 – 130	No
Acenaphthylene	%	106 ± 58	70 – 130	No
Anthracene	%	108 ± 39	70 – 130	No
Benzo[a]anthracene	%	120 ± 39	70 – 130	No
Benzo[a]pyrene (BAP)	%	133 ± 64	70 – 130	Yes #7
Benzo[b]fluoranthene + Benzo[j]fluoranthene	%	132 ± 64	70 – 130	Yes #7
Benzo[g,h,i]perylene	%	119 ± 62	70 – 130	No
Benzo[k]fluoranthene	%	142 ± 63	70 – 130	Yes #7
Chrysene	%	129 ± 47	70 – 130	No
Dibenzo[a,h]anthracene	%	123 ± 64	70 – 130	No
Fluoranthene	%	114 ± 30	70 – 130	No
Fluorene	%	115 ± 51	70 – 130	No
Indeno(1,2,3-c,d)pyrene	%	115 ± 60	70 – 130	No
Naphthalene	%	119 ± 79	70 – 130	No
Phenanthrene	%	125 ± 38	70 – 130	No
Pyrene	%	127 ± 51	70 – 130	No

LCS OC/PAH xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17076.2

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	%	106 ± 26	78 – 122	No
2-Methylnaphthalene	%	105 ± 26	72 – 117	No
Acenaphthylene	%	110 ± 10	75 – 118	No
Acenaphthene	%	116 ± 33	84 – 119	No

LCS OC/PAH xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17076.2

		Results	Control Limits	Outside Limit (Yes/No)
Anthracene	%	100 ± 31	79 – 121	No
Benzo[a]anthracene	%	110 ± 29	81 – 123	No
Benzo[a]pyrene (BAP)	%	113.0 ± 8.6	76 – 123	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	%	110 ± 23	80 – 121	No
Benzo[e]pyrene	%	99.0 ± 7.6	78 – 110	No
Benzo[g,h,i]perylene	%	107 ± 19	80 – 124	No
Benzo[k]fluoranthene	%	112 ± 15	79 – 121	No
Chrysene	%	108 ± 16	83 – 121	No
Dibenzo[a,h]anthracene	%	110 ± 15	78 – 124	No
Fluoranthene	%	99 ± 10	81 – 122	No
Fluorene	%	114 ± 14	86 – 122	No
Indeno(1,2,3-c,d)pyrene	%	111 ± 11	83 – 123	No
Naphthalene	%	106 ± 26	84 – 118	No
Perylene	%	95.0 ± 7.3	76 – 107	No
Phenanthrene	%	109 ± 16	84 – 120	No
Pyrene	%	109 ± 14	79 – 123	No

LCS PrepWS xwTPH - WS: Total Petroleum Hydrocarbons Water Analysis: 8989.3

		Results	Control Limits	Outside Limit (Yes/No)
Total hydrocarbons (C7 - C36)	%	106 ± 32	80 – 137	No

LCS PrepWS xwTPH - WS: Total Petroleum Hydrocarbons Water Analysis: 8993.3

		Results	Control Limits	Outside Limit (Yes/No)
Total hydrocarbons (C7 - C36)	%	110 ± 34	80 – 137	No

Screen LCS OCP tumbler - Organochlorine Pesticides Water Analysis: 3075.2

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	%	85 ± 39	65 – 113	No
alpha-BHC	%	89 ± 42	66 – 122	No
delta-BHC	%	105 ± 41	63 – 108	No
gamma-BHC (Lindane)	%	93 ± 39	71 – 116	No
cis-Chlordane	%	88 ± 40	62 – 117	No
trans-Chlordane	%	85 ± 37	67 – 120	No
2,4'-DDD	%	94 ± 42	70 – 114	No
4,4'-DDD	%	106 ± 52	78 – 123	No
2,4'-DDE	%	80 ± 32	69 – 115	No
4,4'-DDE	%	91 ± 38	73 – 117	No
2,4'-DDT	%	99 ± 45	61 – 109	No
4,4'-DDT	%	105 ± 48	67 – 120	No
Dieldrin	%	98 ± 40	70 – 130	No
Endosulfan I	%	84 ± 39	70 – 130	No
Endosulfan II	%	91 ± 44	64 – 117	No
Endosulfan sulphate	%	112 ± 48	76 – 124	No
Endrin	%	103 ± 37	70 – 130	No
Endrin aldehyde	%	114 ± 43	70 – 130	No
Endrin ketone	%	106 ± 44	54 – 123	No
Heptachlor	%	92 ± 40	60 – 116	No
Heptachlor epoxide	%	96 ± 39	68 – 119	No

Screen LCS OCP tumbler - Organochlorine Pesticides Water Analysis: 3075.2

		Results	Control Limits	Outside Limit (Yes/No)
Hexachlorobenzene	%	85 ± 43	52 – 114	No
Methoxychlor	%	118 ± 48	71 – 129	No

LCS PrepWS xwTPH - WS: Total Petroleum Hydrocarbons Water Analysis: 8995.10

		Results	Control Limits	Outside Limit (Yes/No)
Total hydrocarbons (C7 - C36)	%	111 ± 34	80 – 137	No

LCS OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9054.2

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	%	89 ± 27	80 – 121	No
alpha-BHC	%	87 ± 27	76 – 121	No
beta-BHC	%	82 ± 32	75 – 113	No
delta-BHC	%	84 ± 29	74 – 114	No
gamma-BHC (Lindane)	%	88 ± 25	78 – 116	No
cis-Chlordane	%	87 ± 28	78 – 118	No
trans-Chlordane	%	80 ± 25	76 – 121	No
2,4'-DDD	%	79 ± 29	75 – 114	No
4,4'-DDD	%	89 ± 43	75 – 120	No
2,4'-DDE	%	98 ± 32	73 – 118	No
4,4'-DDE	%	73 ± 37	73 – 116	No
2,4'-DDT	%	88 ± 46	70 – 124	No
4,4'-DDT	%	86 ± 50	65 – 120	No
Dieldrin	%	87 ± 39	84 – 124	No
Endosulfan I	%	91 ± 33	81 – 120	No
Endosulfan II	%	89 ± 40	72 – 117	No
Endosulfan sulphate	%	85 ± 53	76 – 120	No
Endrin	%	93 ± 62	78 – 124	No
Endrin aldehyde	%	96 ± 54	84 – 127	No
Endrin ketone	%	77 ± 37	69 – 115	No
Heptachlor	%	84 ± 29	74 – 120	No
Heptachlor epoxide	%	90 ± 26	79 – 119	No
Hexachlorobenzene	%	84 ± 29	77 – 116	No
Methoxychlor	%	90 ± 60	70 – 125	No

Sample Spike QCs

Matrix Spike TPH PrepWS xsSHOC - Total Petroleum Hydrocarbon Soil Analysis: 14936.38

		Results	Control Limits	Outside Limit (Yes/No)
Total hydrocarbons (C7 - C36)	%	98 ± 44	71 – 104	No

Spike OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 8936.13

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	%	101 ± 31	83 – 122	No
alpha-BHC	%	95 ± 29	80 – 122	No
beta-BHC	%	103 ± 40	79 – 114	No
delta-BHC	%	102 ± 35	76 – 118	No
gamma-BHC (Lindane)	%	98 ± 28	80 – 117	No
cis-Chlordane	%	102 ± 33	80 – 120	No
trans-Chlordane	%	95 ± 29	79 – 121	No
2,4'-DDD	%	91 ± 33	74 – 120	No

Spike OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 8936.13

		Results	Control Limits	Outside Limit (Yes/No)
4,4'-DDD	%	106 ± 51	75 – 125	No
2,4'-DDE	%	112 ± 36	74 – 119	No
4,4'-DDE	%	94 ± 48	76 – 120	No
2,4'-DDT	%	92 ± 48	72 – 126	No
4,4'-DDT	%	88 ± 52	63 – 123	No
Dieldrin	%	101 ± 45	86 – 126	No
Endosulfan I	%	104 ± 38	83 – 120	No
Endosulfan II	%	99 ± 44	72 – 119	No
Endosulfan sulphate	%	100 ± 63	78 – 124	No
Endrin	%	122 ± 81	82 – 126	No
Endrin aldehyde	%	102 ± 58	84 – 131	No
Endrin ketone	%	92 ± 45	70 – 119	No
Heptachlor	%	98 ± 34	79 – 123	No
Heptachlor epoxide	%	103 ± 29	81 – 119	No
Hexachlorobenzene	%	97 ± 33	77 – 119	No
Methoxychlor	%	106 ± 70	71 – 133	No

Matrix Spike TPH PrepWS xsSHOC - Total Petroleum Hydrocarbon Soil Analysis: 14940.7

		Results	Control Limits	Outside Limit (Yes/No)
Total hydrocarbons (C7 - C36)	%	88 ± 43	71 – 104	No

Spike PAH xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17050.8

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	%	113 ± 28	77 – 126	No
2-Methylnaphthalene	%	112 ± 28	71 – 121	No
Acenaphthylene	%	118 ± 11	75 – 120	No
Acenaphthene	%	124 ± 36	84 – 121	Yes #8
Anthracene	%	108 ± 33	80 – 122	No
Benzo[a]anthracene	%	119 ± 31	81 – 126	No
Benzo[a]pyrene (BAP)	%	125.0 ± 9.6	77 – 125	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	%	121 ± 25	79 – 125	No
Benzo[e]pyrene	%	108.0 ± 8.3	77 – 115	No
Benzo[g,h,i]perylene	%	120 ± 21	77 – 129	No
Benzo[k]fluoranthene	%	122 ± 16	81 – 123	No
Chrysene	%	118 ± 18	83 – 125	No
Dibenzo[a,h]anthracene	%	122 ± 16	78 – 128	No
Fluoranthene	%	108 ± 11	78 – 127	No
Fluorene	%	121 ± 15	86 – 125	No
Indeno(1,2,3-c,d)pyrene	%	123 ± 12	80 – 129	No
Naphthalene	%	112 ± 28	84 – 120	No
Perylene	%	105.0 ± 8.0	78 – 110	No
Phenanthrene	%	119 ± 17	82 – 123	No
Pyrene	%	119 ± 16	76 – 128	No

Spike OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 8940.23

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	%	112 ± 34	83 – 122	No
alpha-BHC	%	112 ± 34	80 – 122	No

Spike OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 8940.23				
		Results	Control Limits	Outside Limit (Yes/No)
beta-BHC	%	108 ± 42	79 – 114	No
delta-BHC	%	101 ± 35	76 – 118	No
gamma-BHC (Lindane)	%	109 ± 31	80 – 117	No
cis-Chlordane	%	109 ± 35	80 – 120	No
trans-Chlordane	%	102 ± 31	79 – 121	No
2,4'-DDD	%	97 ± 35	74 – 120	No
4,4'-DDD	%	113 ± 55	75 – 125	No
2,4'-DDE	%	118 ± 38	74 – 119	No
4,4'-DDE	%	93 ± 47	76 – 120	No
2,4'-DDT	%	95 ± 50	72 – 126	No
4,4'-DDT	%	95 ± 56	63 – 123	No
Dieldrin	%	106 ± 47	86 – 126	No
Endosulfan I	%	113 ± 41	83 – 120	No
Endosulfan II	%	100 ± 45	72 – 119	No
Endosulfan sulphate	%	112 ± 70	78 – 124	No
Endrin	%	116 ± 77	82 – 126	No
Endrin aldehyde	%	117 ± 66	84 – 131	No
Endrin ketone	%	106 ± 51	70 – 119	No
Heptachlor	%	119 ± 41	79 – 123	No
Heptachlor epoxide	%	113 ± 32	81 – 119	No
Hexachlorobenzene	%	110 ± 38	77 – 119	No
Methoxychlor	%	116 ± 77	71 – 133	No

Matrix Spike TPH PrepWS xsSHOC - Total Petroleum Hydrocarbon Soil Analysis: 14942.19				
		Results	Control Limits	Outside Limit (Yes/No)
Total hydrocarbons (C7 - C36)	%	84 ± 43	71 – 104	No

Matrix Spike TPH PrepWS xsSHOC - Total Petroleum Hydrocarbon Soil Analysis: 14943.24				
		Results	Control Limits	Outside Limit (Yes/No)
Total hydrocarbons (C7 - C36)	%	86 ± 43	71 – 104	No

Matrix Spike TPH PrepWS xsSHOC - Total Petroleum Hydrocarbon Soil Analysis: 14944.13				
		Results	Control Limits	Outside Limit (Yes/No)
Total hydrocarbons (C7 - C36)	%	94 ± 44	71 – 104	No

Spike PAH xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17053.41				
		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	%	105 ± 26	77 – 126	No
2-Methylnaphthalene	%	107 ± 27	71 – 121	No
Acenaphthylene	%	106.0 ± 9.6	75 – 120	No
Acenaphthene	%	113 ± 33	84 – 121	No
Anthracene	%	100 ± 31	80 – 122	No
Benzo[a]anthracene	%	115 ± 30	81 – 126	No
Benzo[a]pyrene (BAP)	%	112.0 ± 8.6	77 – 125	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	%	113 ± 24	79 – 125	No
Benzo[e]pyrene	%	100.0 ± 7.7	77 – 115	No
Benzo[g,h,i]perylene	%	117 ± 21	77 – 129	No
Benzo[k]fluoranthene	%	110 ± 14	81 – 123	No
Chrysene	%	112 ± 17	83 – 125	No

Spike PAH xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17053.41

		Results	Control Limits	Outside Limit (Yes/No)
Dibenzo[a,h]anthracene	%	115 ± 15	78 – 128	No
Fluoranthene	%	105 ± 11	78 – 127	No
Fluorene	%	111 ± 14	86 – 125	No
Indeno(1,2,3-c,d)pyrene	%	117 ± 11	80 – 129	No
Naphthalene	%	111 ± 28	84 – 120	No
Perylene	%	97.0 ± 7.4	78 – 110	No
Phenanthrene	%	112 ± 16	82 – 123	No
Pyrene	%	120 ± 16	76 – 128	No

Spike PAH xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17054.20

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	%	109 ± 27	77 – 126	No
2-Methylnaphthalene	%	108 ± 27	71 – 121	No
Acenaphthylene	%	113 ± 11	75 – 120	No
Acenaphthene	%	117 ± 34	84 – 121	No
Anthracene	%	103 ± 32	80 – 122	No
Benzo[a]anthracene	%	112 ± 30	81 – 126	No
Benzo[a]pyrene (BAP)	%	117.0 ± 8.9	77 – 125	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	%	114 ± 24	79 – 125	No
Benzo[e]pyrene	%	101.0 ± 7.7	77 – 115	No
Benzo[g,h,i]perylene	%	114 ± 20	77 – 129	No
Benzo[k]fluoranthene	%	115 ± 15	81 – 123	No
Chrysene	%	110 ± 17	83 – 125	No
Dibenzo[a,h]anthracene	%	113 ± 15	78 – 128	No
Fluoranthene	%	101 ± 11	78 – 127	No
Fluorene	%	115 ± 14	86 – 125	No
Indeno(1,2,3-c,d)pyrene	%	115 ± 11	80 – 129	No
Naphthalene	%	108 ± 27	84 – 120	No
Perylene	%	98.0 ± 7.5	78 – 110	No
Phenanthrene	%	111 ± 16	82 – 123	No
Pyrene	%	110 ± 15	76 – 128	No

Spike - WS: Hg by Cold Vapour / Atomic Fluorescence (HgBrF): 3604.24

		Results	Control Limits	Outside Limit (Yes/No)
Dissolved Mercury	%	110 ± 14	80 – 120	No

Spike PrepWS TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22845.46

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	%	104.0 ± 6.3	80 – 120	No
Total Cadmium	%	101.0 ± 8.1	80 – 120	No
Total Chromium	%	103.0 ± 8.3	80 – 120	No
Total Copper	%	99 ± 10	80 – 120	No
Total Lead	%	101.0 ± 6.1	80 – 120	No
Total Nickel	%	98 ± 12	80 – 120	No
Total Zinc	%	104.0 ± 8.4	80 – 120	No

Spike PrepWS TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22848.70

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	%	98.0 ± 5.9	80 – 120	No
Total Cadmium	%	104.0 ± 8.4	80 – 120	No
Total Chromium	%	98.0 ± 7.9	80 – 120	No
Total Copper	%	12.0 ± 1.3	80 – 120	Yes
Total Lead	%	95.0 ± 5.8	80 – 120	No
Total Nickel	%	99 ± 12	80 – 120	No
Total Zinc	%	99.0 ± 8.0	80 – 120	No

Sample Spike PAH PrepWS xwIIPAHsc - Polycyclic Aromatic Hydrocarbon Water Analysis: 5806.18

		Results	Control Limits	Outside Limit (Yes/No)
Acenaphthene	%	107 ± 54	70 – 130	No
Acenaphthylene	%	90 ± 49	70 – 130	No
Anthracene	%	99 ± 36	70 – 130	No
Benzo[a]anthracene	%	110 ± 36	70 – 130	No
Benzo[a]pyrene (BAP)	%	125 ± 61	70 – 130	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	%	123 ± 60	70 – 130	No
Benzo[g,h,i]perylene	%	107 ± 56	70 – 130	No
Benzo[k]fluoranthene	%	136 ± 60	70 – 130	Yes #9
Chrysene	%	117 ± 43	70 – 130	No
Dibenzo[a,h]anthracene	%	112 ± 59	70 – 130	No
Fluoranthene	%	99 ± 26	70 – 130	No
Fluorene	%	102 ± 45	70 – 130	No
Indeno(1,2,3-c,d)pyrene	%	104 ± 55	70 – 130	No
Naphthalene	%	105 ± 70	70 – 130	No
Phenanthrene	%	114 ± 35	70 – 130	No
Pyrene	%	123 ± 50	70 – 130	No

sample spike PrepWS xwTPH - WS: Total Petroleum Hydrocarbons Water Analysis: 8989.25

		Results	Control Limits	Outside Limit (Yes/No)
Total hydrocarbons (C7 - C36)	%	115 ± 35	83 – 140	No

sample spike PrepWS xwTPH - WS: Total Petroleum Hydrocarbons Water Analysis: 8993.16

		Results	Control Limits	Outside Limit (Yes/No)
Total hydrocarbons (C7 - C36)	%	104 ± 32	83 – 140	No

Spike OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9054.37

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	%	90 ± 28	83 – 122	No
alpha-BHC	%	93 ± 28	80 – 122	No
beta-BHC	%	83 ± 32	79 – 114	No
delta-BHC	%	87 ± 30	76 – 118	No
gamma-BHC (Lindane)	%	88 ± 25	80 – 117	No
cis-Chlordane	%	90 ± 29	80 – 120	No
trans-Chlordane	%	84 ± 26	79 – 121	No
2,4'-DDD	%	83 ± 30	74 – 120	No
4,4'-DDD	%	90 ± 44	75 – 125	No
2,4'-DDE	%	101 ± 33	74 – 119	No
4,4'-DDE	%	94 ± 48	76 – 120	No
2,4'-DDT	%	88 ± 46	72 – 126	No

Spike OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9054.37

		Results	Control Limits	Outside Limit (Yes/No)
4,4'-DDT	%	82 ± 48	63 – 123	No
Dieldrin	%	89 ± 40	86 – 126	No
Endosulfan I	%	93 ± 34	83 – 120	No
Endosulfan II	%	87 ± 39	72 – 119	No
Endosulfan sulphate	%	92 ± 58	78 – 124	No
Endrin	%	97 ± 65	82 – 126	No
Endrin aldehyde	%	95 ± 54	84 – 131	No
Endrin ketone	%	83 ± 40	70 – 119	No
Heptachlor	%	86 ± 30	79 – 123	No
Heptachlor epoxide	%	91 ± 26	81 – 119	No
Hexachlorobenzene	%	85 ± 29	77 – 119	No
Methoxychlor	%	91 ± 61	71 – 133	No

Reference Material QCs

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12199.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.7 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.82 ± 0.14	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	24.7 ± 4.1	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.5 ± 2.2	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.8 ± 4.8	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.300 ± 0.081	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.6 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	189 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12199.50

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.0 ± 2.0	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.77 ± 0.13	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.4 ± 4.2	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.6 ± 2.2	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.3 ± 4.7	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.317 ± 0.082	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.5 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	190 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12200.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.5 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.89 ± 0.14	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	27.5 ± 4.5	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	14.2 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	34.1 ± 5.2	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.310 ± 0.082	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.7 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	211 ± 16	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12200.37

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.3 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.91 ± 0.15	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.5 ± 4.4	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.8 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	34.2 ± 5.2	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.347 ± 0.085	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.3 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	210 ± 15	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12200.81

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.4 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.78 ± 0.13	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.1 ± 4.2	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.0 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	30.8 ± 4.7	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.331 ± 0.084	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.1 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	191 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12201.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.0 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.80 ± 0.13	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.4 ± 4.2	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.9 ± 2.2	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.2 ± 4.7	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.348 ± 0.085	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.5 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	188 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12201.44

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.7 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.84 ± 0.14	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.0 ± 4.3	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.1 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.0 ± 4.8	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.318 ± 0.082	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.9 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	197 ± 15	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12202.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.6 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.90 ± 0.15	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	27.1 ± 4.4	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	14.3 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	34.9 ± 5.3	28 – 38	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12202.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Mercury	mg/kg dry wt	0.343 ± 0.085	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	15.0 ± 2.4	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	206 ± 15	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12202.40

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.9 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.84 ± 0.14	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.5 ± 4.2	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.3 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.1 ± 4.9	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.313 ± 0.082	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.1 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	195 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12202.76

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.8 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.81 ± 0.13	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.7 ± 4.2	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.0 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.7 ± 4.9	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.288 ± 0.079	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.6 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	190 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12203.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.0 ± 2.1	9.1 – 12.7	No
Total Recoverable Arsenic	mg/kg dry wt	11.0 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.81 ± 0.13	0.70 – 0.98	No
Total Recoverable Cadmium	mg/kg dry wt	0.81 ± 0.13	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.3 ± 4.2	21 – 30	No
Total Recoverable Chromium	mg/kg dry wt	25.3 ± 4.2	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.2 ± 2.3	11.0 – 15.3	No
Total Recoverable Copper	mg/kg dry wt	13.2 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	33.0 ± 5.0	28 – 38	No
Total Recoverable Lead	mg/kg dry wt	33.0 ± 5.0	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.362 ± 0.087	0.24 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	0.362 ± 0.087	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.6 ± 2.2	11.7 – 16.3	No
Total Recoverable Nickel	mg/kg dry wt	13.6 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	191 ± 14	166 – 230	No
Total Recoverable Zinc	mg/kg dry wt	191 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12203.49

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.7 ± 2.1	9.1 – 12.7	No
Total Recoverable Arsenic	mg/kg dry wt	10.7 ± 2.1	9.1 – 12.7	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12203.49

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Cadmium	mg/kg dry wt	0.79 ± 0.13	0.70 – 0.98	No
Total Recoverable Cadmium	mg/kg dry wt	0.79 ± 0.13	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	24.4 ± 4.0	21 – 30	No
Total Recoverable Chromium	mg/kg dry wt	24.4 ± 4.0	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.8 ± 2.2	11.0 – 15.3	No
Total Recoverable Copper	mg/kg dry wt	12.8 ± 2.2	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.4 ± 4.9	28 – 38	No
Total Recoverable Lead	mg/kg dry wt	32.4 ± 4.9	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.327 ± 0.083	0.24 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	0.327 ± 0.083	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.1 ± 2.2	11.7 – 16.3	No
Total Recoverable Nickel	mg/kg dry wt	13.1 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	189 ± 14	166 – 230	No
Total Recoverable Zinc	mg/kg dry wt	189 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12203.75

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	9.7 ± 2.0	9.1 – 12.7	No
Total Recoverable Arsenic	mg/kg dry wt	9.7 ± 2.0	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.76 ± 0.13	0.70 – 0.98	No
Total Recoverable Cadmium	mg/kg dry wt	0.76 ± 0.13	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	23.5 ± 3.9	21 – 30	No
Total Recoverable Chromium	mg/kg dry wt	23.5 ± 3.9	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.7 ± 2.2	11.0 – 15.3	No
Total Recoverable Copper	mg/kg dry wt	12.7 ± 2.2	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	30.2 ± 4.6	28 – 38	No
Total Recoverable Lead	mg/kg dry wt	30.2 ± 4.6	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.319 ± 0.082	0.24 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	0.319 ± 0.082	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	12.9 ± 2.2	11.7 – 16.3	No
Total Recoverable Nickel	mg/kg dry wt	12.9 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	181 ± 13	166 – 230	No
Total Recoverable Zinc	mg/kg dry wt	181 ± 13	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12204.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.0 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.79 ± 0.13	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	24.8 ± 4.1	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.7 ± 2.2	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	30.4 ± 4.6	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.308 ± 0.081	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.1 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	188 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12204.52

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.7 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.76 ± 0.13	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.3 ± 4.2	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.5 ± 2.2	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.8 ± 4.8	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.339 ± 0.084	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.7 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	187 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12205.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.8 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.86 ± 0.14	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.2 ± 4.2	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.5 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	33.1 ± 5.0	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.338 ± 0.084	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.8 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	203 ± 15	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12205.50

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.0 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.88 ± 0.14	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.5 ± 4.2	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.9 ± 2.2	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.2 ± 4.9	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.322 ± 0.083	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.5 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	195 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12206.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	12.3 ± 2.3	9.1 – 12.7	No
Total Recoverable Arsenic	mg/kg dry wt	12.3 ± 2.3	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.91 ± 0.15	0.70 – 0.98	No
Total Recoverable Cadmium	mg/kg dry wt	0.91 ± 0.15	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	27.2 ± 4.5	21 – 30	No
Total Recoverable Chromium	mg/kg dry wt	27.2 ± 4.5	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	14.0 ± 2.4	11.0 – 15.3	No
Total Recoverable Copper	mg/kg dry wt	14.0 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	35.1 ± 5.3	28 – 38	No
Total Recoverable Lead	mg/kg dry wt	35.1 ± 5.3	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.400 ± 0.091	0.24 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	0.400 ± 0.091	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.4 ± 2.3	11.7 – 16.3	No
Total Recoverable Nickel	mg/kg dry wt	14.4 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	207 ± 15	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12206.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Zinc	mg/kg dry wt	207 ± 15	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12206.50

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.6 ± 2.2	9.1 – 12.7	No
Total Recoverable Arsenic	mg/kg dry wt	11.6 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.84 ± 0.14	0.70 – 0.98	No
Total Recoverable Cadmium	mg/kg dry wt	0.84 ± 0.14	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.2 ± 4.2	21 – 30	No
Total Recoverable Chromium	mg/kg dry wt	25.2 ± 4.2	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.1 ± 2.3	11.0 – 15.3	No
Total Recoverable Copper	mg/kg dry wt	13.1 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.5 ± 4.9	28 – 38	No
Total Recoverable Lead	mg/kg dry wt	32.5 ± 4.9	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.351 ± 0.086	0.24 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	0.351 ± 0.086	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.3 ± 2.2	11.7 – 16.3	No
Total Recoverable Nickel	mg/kg dry wt	13.3 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	189 ± 14	166 – 230	No
Total Recoverable Zinc	mg/kg dry wt	189 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12206.76

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.2 ± 2.2	9.1 – 12.7	No
Total Recoverable Arsenic	mg/kg dry wt	11.2 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.76 ± 0.13	0.70 – 0.98	No
Total Recoverable Cadmium	mg/kg dry wt	0.76 ± 0.13	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	24.9 ± 4.1	21 – 30	No
Total Recoverable Chromium	mg/kg dry wt	24.9 ± 4.1	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.1 ± 2.3	11.0 – 15.3	No
Total Recoverable Copper	mg/kg dry wt	13.1 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.8 ± 5.0	28 – 38	No
Total Recoverable Lead	mg/kg dry wt	32.8 ± 5.0	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.346 ± 0.085	0.24 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	0.346 ± 0.085	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.6 ± 2.2	11.7 – 16.3	No
Total Recoverable Nickel	mg/kg dry wt	13.6 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	188 ± 14	166 – 230	No
Total Recoverable Zinc	mg/kg dry wt	188 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12208.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.8 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.87 ± 0.14	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.4 ± 4.2	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.2 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.8 ± 5.0	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.334 ± 0.084	0.24 – 0.40	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12208.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Nickel	mg/kg dry wt	14.0 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	200 ± 15	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12208.49

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.2 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.82 ± 0.13	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	24.7 ± 4.1	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.1 ± 2.2	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	29.9 ± 4.5	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.308 ± 0.081	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.2 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	186 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12209.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.3 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.91 ± 0.15	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	27.6 ± 4.5	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	14.0 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	34.6 ± 5.2	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.324 ± 0.083	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	15.2 ± 2.4	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	208 ± 15	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12209.52

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.2 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.88 ± 0.14	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.9 ± 4.4	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.6 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	35.7 ± 5.4	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.440 ± 0.095	0.24 – 0.40	Yes #10
Total Recoverable Nickel	mg/kg dry wt	14.0 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	200 ± 15	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12209.76

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.1 ± 2.0	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.77 ± 0.13	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	24.8 ± 4.1	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.4 ± 2.2	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	30.4 ± 4.6	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.302 ± 0.081	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.7 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	187 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12210.64

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Zinc	mg/kg dry wt	188 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12210.70

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Zinc	mg/kg dry wt	182 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12231.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.7 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.86 ± 0.14	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.9 ± 4.3	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.1 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.8 ± 5.0	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.352 ± 0.086	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.7 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	197 ± 15	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12231.60

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.4 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.80 ± 0.13	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	24.9 ± 4.1	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.5 ± 2.2	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.7 ± 4.8	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.312 ± 0.082	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.3 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	188 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12237.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.7 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.82 ± 0.14	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.1 ± 4.2	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.0 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.1 ± 4.9	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.337 ± 0.084	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.8 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	197 ± 15	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12237.38

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.4 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.82 ± 0.14	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.4 ± 4.2	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.1 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.0 ± 4.8	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.345 ± 0.085	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.6 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	194 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12237.77

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	9.6 ± 2.0	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.77 ± 0.13	0.70 – 0.98	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12237.77

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Chromium	mg/kg dry wt	23.2 ± 3.9	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.1 ± 2.1	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	29.9 ± 4.5	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.326 ± 0.083	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	12.6 ± 2.1	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	179 ± 13	166 – 230	No

1% 50ppb TRDig and TDig ME QC PrepWS TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22845.19

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	0.0508 ± 0.0032	0.045 – 0.055	No
Total Cadmium	g/m ³	0.0485 ± 0.0039	0.045 – 0.055	No
Total Chromium	g/m ³	0.0498 ± 0.0040	0.045 – 0.055	No
Total Copper	g/m ³	0.0501 ± 0.0051	0.045 – 0.055	No
Total Lead	g/m ³	0.0496 ± 0.0030	0.045 – 0.055	No
Total Nickel	g/m ³	0.0497 ± 0.0060	0.045 – 0.055	No
Total Zinc	g/m ³	0.498 ± 0.040	0.45 – 0.55	No

1% 50ppb TRDig and TDig ME QC PrepWS TDig - WS: Env. Waters Totals by ICP-MS (EWT): 22848.23

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	0.0505 ± 0.0032	0.045 – 0.055	No
Total Cadmium	g/m ³	0.0495 ± 0.0040	0.045 – 0.055	No
Total Chromium	g/m ³	0.0489 ± 0.0040	0.045 – 0.055	No
Total Copper	g/m ³	0.0486 ± 0.0049	0.045 – 0.055	No
Total Lead	g/m ³	0.0497 ± 0.0030	0.045 – 0.055	No
Total Nickel	g/m ³	0.0485 ± 0.0059	0.045 – 0.055	No
Total Zinc	g/m ³	0.490 ± 0.040	0.45 – 0.55	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12247.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.3 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.90 ± 0.14	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.5 ± 4.4	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	14.0 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	34.4 ± 5.2	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.359 ± 0.086	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.6 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	206 ± 15	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12247.51

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.2 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.90 ± 0.14	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.7 ± 4.4	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.9 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	34.0 ± 5.1	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.356 ± 0.086	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.1 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	206 ± 15	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12247.75

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.0 ± 2.0	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.78 ± 0.13	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	23.9 ± 4.0	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.3 ± 2.2	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	30.8 ± 4.7	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.324 ± 0.083	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.1 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	188 ± 14	166 – 230	No

QC Soil A7 (Acid Treated) - WS: ES - Nitrogen/Carbon by Combustion: 7010.2

		Results	Control Limits	Outside Limit (Yes/No)
Total Organic Carbon	g/100g dry wt	2.67 ± 0.22	2.2 – 2.9	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12462.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.9 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.85 ± 0.14	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.1 ± 4.3	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.1 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	33.8 ± 5.1	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.338 ± 0.084	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.1 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	197 ± 15	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12462.69

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.0 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.84 ± 0.14	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.6 ± 4.4	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.4 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	33.5 ± 5.1	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.326 ± 0.083	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.0 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	198 ± 15	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12464.17

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.8 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.84 ± 0.14	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	24.3 ± 4.0	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.6 ± 2.2	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.2 ± 4.9	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.320 ± 0.082	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.7 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	193 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12464.30

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.0 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.83 ± 0.14	0.70 – 0.98	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12464.30				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Chromium	mg/kg dry wt	24.7 ± 4.1	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.9 ± 2.2	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.7 ± 4.9	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.342 ± 0.085	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.7 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	195 ± 14	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12469.35				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.3 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.84 ± 0.14	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	24.4 ± 4.1	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.8 ± 2.2	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.0 ± 4.7	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.311 ± 0.082	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.6 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	189 ± 14	166 – 230	No

Replicates

WS: Env. Waters with HCl Matrix: 3.52

		Replicate 1	Replicate 2	Pass/Fail
Total Mercury	g/m ³	< 0.00011 ± 0.000074	< 0.00010 ± 0.000070	Pass

WS: Hg by Cold Vapour / Atomic Fluorescence (HgBrF): 3604.23

		Replicate 1	Replicate 2	Pass/Fail
Dissolved Mercury	g/m ³	< 0.00008 ± 0.000054	< 0.00008 ± 0.000054	Pass

Analyst's Comments

Amended Report: This quality assurance report replaces report '3900458-QCPv2' issued on 25-Jun-2025 at 8:28 am. Reason for amendment: Testing added.

#1 Elevated blank levels were observed for this analyte. The reporting limit has been increased due to consistent background levels.

#2 Contamination has affected the Blank dilution only. Therefore it has been excluded from sample correction.

#3 False alert. Result is less than detection limit.

#4 It is noted that this in-house Blank check was not used for sample correction as it was not applicable.

#5 The Laboratory Control Sample (LCS) spike recovery for this analyte was above the acceptable recovery range of the method. The corresponding sample result was accepted as it appears that the current spike standard is reading back higher than the calibration standard (as it is from a separate source).

#6 It was noted that the Laboratory Control Spike (LCS) recovery was elevated and above the acceptable recovery range. The corresponding sample results were accepted because the sample spike recovery was within the expected range.

#7 The Laboratory Control Spike (LCS) recovery for this analyte was elevated and above the acceptable recovery range of the method. The in-house spike control had a similar outcome, therefore the corrected recovery is 101%.

#8 The sample spike recovery was elevated and above the acceptable recovery range. The corresponding sample results were accepted as there were no positives detected in the sample.

#9 The sample spike recovery for this analyte was elevated and above the acceptable recovery range of the method. The in-house spike control had a similar outcome, therefore the corrected recovery is 97%.

#10 The recovery for this analyte was outside the acceptable recovery range of the method. The corresponding sample result was accepted because the related recovery in the other QC material analysed was within the expected range.

Certificate of Analysis

Page 1 of 2

Client: Engeo Limited	Lab No: 3904053	A2Pv1
Contact: Aaron Graham	Date Received: 30-May-2025	
C/- Engeo Limited	Date Reported: 16-Jun-2025	
PO Box 305136	Quote No: 82742	
Triton Plaza	Order No:	
Auckland 0757	Client Reference: 19630.000.001	
	Submitted By: Lucas Brydon	

Sample Type: Building Material

Sample Name	Lab Number	Sample Category*	Sample Weight on receipt (g)	Asbestos Presence / Absence	Description of Asbestos in Non Homogeneous Samples
B2-1	3904053.1	Other #1	49.03	Asbestos NOT detected.	N/A

Glossary of Terms

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

For further details, please contact the Asbestos Team.

Analyst's Comments

#1 Butynol

Appendix No.1 - Chain of Custody

Summary of Methods

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

Sample Type: Building Material

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



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.

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

Testing was completed on 16-Jun-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.



Kelsey Rohloff BSc
Laboratory Technician - Asbestos

ENGE0 Ltd

Client Ref: 19630.000.001

Submitted by Lucas Brydon and Caillin Robinson. Primary Contact Aaron Graham
lbrydon@engeo.co.nz, crobinson@engeo.co.nz, agraham@engeo.co.nz

Received by: Steffi Varghese



3 13904 0537

13.1

Sent on 29/05/2025

No.	SampleName	SampleDate	SampleType	SampleTests
69	A1 - 1 0-0.1	27-May-25	Jar	Cold Hold
70	A1 - 1 0.3-0.4	27-May-25	J	Cold Hold
71	A1 - 2 0-0.1	27-May-25	J	Cold Hold
72	A1 - 2 0.3-0.4	27-May-25	J	Cold Hold
73	A1 - 3 0-0.1	27-May-25	J	Cold Hold
74	A1 - 3 0.3-0.4	27-May-25	J	Cold Hold
75	A1 - 4 0-0.05	27-May-25	J	Cold Hold
76	A1 - 4 0.3-0.4	27-May-25	J	Cold Hold
77	A1 - 5 0-0.1	27-May-25	J	Cold Hold
78	A1 - 5 0.3-0.4	27-May-25	J	Cold Hold
79	A1 - 6 0-0.1	27-May-25	J	Cold Hold
80	A1 - 6 0.3-0.4	27-May-25	J	Cold Hold
81	A1 - 7 0-0.1	27-May-25	J	Cold Hold
82	A1 - 7 0.3-0.4	27-May-25	J	Cold Hold
83	A1 - 8 0-0.1	27-May-25	J	Cold Hold
84	A1 - 8 0.3-0.4	27-May-25	J	Cold Hold
85	A1 - 9 0-0.1	27-May-25	J	Cold Hold
86	A1 - 9 0.3-0.4	27-May-25	J	Cold Hold
87	A1 - 10 0-0.1	27-May-25	J	Cold Hold
88	A1 - 10 0.3-0.4	27-May-25	J	Cold Hold
89	A1 - 11 0-0.1	27-May-25	J	Cold Hold
90	A1 - 11 0.3-0.4	27-May-25	J	Cold Hold
91	A2 - 1 0-0.1	27-May-25	J	Cold Hold
92	A2 - 1 0.3-0.4	27-May-25	J	Cold Hold
93	A2 - 2 0-0.1	27-May-25	J	Cold Hold
94	A2 - 2 0.3-0.4	27-May-25	J	Cold Hold
95	A2 - 3 0-0.1	27-May-25	J	Cold Hold
96	A2 - 3 0.3-0.4	27-May-25	J	Cold Hold
97	A2 - 4 0-0.1	27-May-25	J	Cold Hold
98	A2 - 4 0.3-0.4	27-May-25	J	Cold Hold
99	A2 - 5 0-0.1	27-May-25	J	Cold Hold
100	A2 - 5 0.3-0.4	27-May-25	J	Cold Hold
101	B1 - 1 0-0.1	29-May-25	J	Cold Hold
102	B1 - 1 0.3-0.4	29-May-25	J	Cold Hold
103	B1 - 2 0-0.1	29-May-25	J	Cold Hold
104	B1 - 2 0.3-0.4	29-May-25	J	Cold Hold
105	B1 - 3 0-0.1	29-May-25	J	Cold Hold
106	B1 - 3 0.3-0.4	29-May-25	J	Cold Hold
107	B1 - 4 0-0.1	29-May-25	J	Cold Hold
108	B1 - 4 0.3-0.4	29-May-25	J	Cold Hold
109	B1 - 5 0-0.1	29-May-25	J	Cold Hold
110	B1 - 5 0.3-0.4	29-May-25	J	Cold Hold
111	B1 - 6 0-0.1	29-May-25	J	Cold Hold
112	B1 - 6 0.3-0.4	29-May-25	J	Cold Hold
113	B1 - 7 0-0.1	29-May-25	J	Cold Hold
114	B1 - 7 0.3-0.4	29-May-25	J	Cold Hold
115	B1 - 8 0-0.1	29-May-25	J	Cold Hold
116	B1 - 8 0.3-0.4	29-May-25	J	Cold Hold
117	B2 - 1 0-0.1	29-May-25	Tub + Jar	Cold Hold
118	B2 - 1 0.3-0.4	29-May-25	T + J	Cold Hold
119	B2 - 2 0-0.1	29-May-25	J	Cold Hold
120	B2 - 2 0.3-0.4	29-May-25	J	Cold Hold
121	B2 - 3 0-0.1	29-May-25	J	Cold Hold
122	B2 - 3 0.3-0.4	29-May-25	J	Cold Hold
123	B2 - 4 0-0.1	29-May-25	J	Cold Hold
124	B2 - 4 0.3-0.4	29-May-25	J	Cold Hold
125	B2 - 5 0-0.1	29-May-25	J	Cold Hold
126	B2 - 5 0.3-0.4	29-May-25	J	Cold Hold
127	B2 - 1 0-0.1	29-May-25	J	Cold Hold
128	B2 - 1 0.3-0.4	29-May-25	J	Cold Hold

ENGE0 Ltd

Client Ref: 19630.000.001

Submitted by Lucas Brydon and Caitlin Robinson. Primary Contact Aaron Graham
 lbrydon@engeo.co.nz, crobinson@engeo.co.nz, agraham@engeo.co.nz

Sent on 29/05/2025

No.	SampleName	SampleDate	SampleType	SampleTests
129	B2 - 2 0-0.1	29-May-25	J	Cold Hold
130	B2 - 2 0.3-0.4	29-May-25	J	Cold Hold
131	B2 - 3 0-0.1	29-May-25	J	Cold Hold
132	B2 - 3 0.3-0.4	29-May-25	J	Cold Hold
133	B2 - 4 0-0.1	29-May-25	J	Cold Hold
134	B2 - 4 0.3-0.4	29-May-25	J	Cold Hold
135	B2 - 5 0-0.1	29-May-25	J	Cold Hold
136	B2 - 5 0.3-0.4	29-May-25	J	Cold Hold
137	B2 - 6 0-0.1	29-May-25	J	Cold Hold
138	B2 - 6 0.3-0.4	29-May-25	J	Cold Hold
139	B2 - 7 0-0.1	29-May-25	J	Cold Hold
140	B2 - 7 0.3-0.4	29-May-25	J	Cold Hold
141	B2 - 8 0-0.1	29-May-25	J	Cold Hold
142	B2 - 8 0.3-0.4	29-May-25	J	Cold Hold
143	B2 - 9 0-0.1	29-May-25	J	Cold Hold
144	B2 - 9 0.3-0.4	29-May-25	J	Cold Hold
145	B2 - 10 0-0.1	29-May-25	J	Cold Hold
146	B2 - 10 0.3-0.4	29-May-25	J	Cold Hold
147	B2 - 11 0-0.1	29-May-25	J	Cold Hold
148	B2 - 11 0.3-0.4	29-May-25	J	Cold Hold
149	B2 - 12 0-0.1	29-May-25	J	Cold Hold
150	B2 - 12 0.3-0.4	29-May-25	J	Cold Hold
151	B2 - 13 0-0.1	29-May-25	J	Cold Hold
152	B2 - 13 0.3-0.4	29-May-25	J	Cold Hold
153	B2 - 14 0-0.1	29-May-25	J	Cold Hold
154	B2 - 14 0.3-0.4	29-May-25	J	Cold Hold
155	B2 - 15 0-0.1	29-May-25	J	Cold Hold
156	B2 - 15 0.3-0.4	29-May-25	J	Cold Hold
157	B2 - 16 0-0.1	29-May-25	J	Cold Hold
158	B2 - 16 0.3-0.4	29-May-25	J	Cold Hold
159	B2 - 17 0-0.1	29-May-25	J	Cold Hold
160	B2 - 17 0.3-0.4	29-May-25	J	Cold Hold
161	B2 - 18 0-0.1	29-May-25	J	Cold Hold
162	B2 - 18 0.3-0.4	29-May-25	J	Cold Hold
163	B2 - 19 0-0.1	29-May-25	J	Cold Hold
164	B2 - 19 0.3-0.4	29-May-25	J	Cold Hold
165	B2 - 20 0-0.1	29-May-25	J	Cold Hold
166	B2 - 20 0.3-0.4	29-May-25	J	Cold Hold
167	B3 - 21 0-0.1	29-May-25	J	Cold Hold
168	B3 - 21 0.3-0.4	29-May-25	J	Cold Hold
169	B3 - 20 0-0.1	29-May-25	J	Cold Hold
170	B3 - 20 0.3-0.4	29-May-25	J	Cold Hold
171	B3 - 19 0-0.1	29-May-25	J	Cold Hold
172	B3 - 19 0.3-0.4	29-May-25	J	Cold Hold
173	B3 - 18 0-0.1	29-May-25	J	Cold Hold
174	B3 - 18 0.3-0.4	29-May-25	J	Cold Hold
175	B3 - 17 0-0.1	29-May-25	J	Cold Hold
176	B3 - 17 0.3-0.4	29-May-25	J	Cold Hold

Certificate of Analysis

Page 1 of 4

Client: Engeo Limited	Lab No: 3900787	A2Pv2
Contact: Aaron Graham	Date Received: 27-May-2025	
C/- Engeo Limited	Date Reported: 19-Jun-2025	(Amended)
PO Box 305136	Quote No: 82742	
Triton Plaza	Order No:	
Auckland 0757	Client Reference: 19630.000.001	
	Submitted By: Lucas Brydon	

Sample Type: Soil

Sample Name:	A3-1.1 26-May-2025	A3-2.1 26-May-2025	A3-3.1 26-May-2025	A3-4 0-0.1 26-May-2025	A3-6 0-0.1 26-May-2025
Lab Number:	3900787.1	3900787.3	3900787.5	3900787.7	3900787.11
Asbestos Presence / Absence	Asbestos NOT detected.	Chrysotile (White Asbestos) detected.	Asbestos NOT detected.	Asbestos NOT detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.
Description of Asbestos Form	-	Loose fibres	-	-	ACM debris and 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 517.2	640.4	483.9	679.6	600.4
Dry Weight	g 381.0	492.2	283.0	595.6	415.7
Moisture*	% 26	23	42	12	31
Sample Fraction >10mm	g dry wt < 0.1	< 0.1	< 0.1	1.6	14.4
Sample Fraction <10mm to >2mm	g dry wt 6.7	11.4	36.8	33.2	120.6
Sample Fraction <2mm	g dry wt 373.8	479.9	245.2	559.8	279.6
<2mm Subsample Weight	g dry wt 53.8	53.7	52.6	51.4	52.3
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 < 0.00001	0.00036	< 0.00001	< 0.00001	0.00518

Sample Name:	A3-7 0-0.1 26-May-2025	A3-7 0.3-0.4 26-May-2025	A3-9 0-0.1 26-May-2025	A3-10 0-0.1 26-May-2025	A3-11 0-0.1 26-May-2025
Lab Number:	3900787.13	3900787.14	3900787.15	3900787.16	3900787.17
Asbestos Presence / Absence	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form	Fibre cement	ACM debris and Loose fibres	-	-	-
Asbestos in ACM as % of Total Sample*	% w/w 0.167	< 0.001	< 0.001	< 0.001	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w < 0.001	0.003	< 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



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:	A3-7 0-0.1 26-May-2025	A3-7 0.3-0.4 26-May-2025	A3-9 0-0.1 26-May-2025	A3-10 0-0.1 26-May-2025	A3-11 0-0.1 26-May-2025	
Lab Number:	3900787.13	3900787.14	3900787.15	3900787.16	3900787.17	
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	0.003	< 0.001	< 0.001	< 0.001
As Received Weight	g	628.8	572.7	655.7	642.7	552.8
Dry Weight	g	386.3	379.4	515.2	500.8	473.8
Moisture*	%	39	34	21	22	14
Sample Fraction >10mm	g dry wt	10.2	36.1	5.9	4.4	6.2
Sample Fraction <10mm to >2mm	g dry wt	18.2	14.2	15.8	31.4	40.5
Sample Fraction <2mm	g dry wt	355.7	328.4	492.8	464.4	426.1
<2mm Subsample Weight	g dry wt	54.2	51.9	56.1	53.0	51.5
Weight of Asbestos in ACM (Non-Friable)	g dry wt	0.6441	< 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	0.01274	< 0.00001	< 0.00001	< 0.00001

Sample Name:	A3-12 0-0.1 26-May-2025	A3-13 0-0.1 26-May-2025	A3-22 0-0.1 26-May-2025	A3-23 0-0.1 26-May-2025	A3-24 0-0.1 26-May-2025	
Lab Number:	3900787.18	3900787.20	3900787.26	3900787.27	3900787.28	
Asbestos Presence / Absence	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	Asbestos NOT detected.	
Description of Asbestos Form	-	-	-	-	-	
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	< 0.001	
As Received Weight	g	579.3	520.7	739.3	811.7	555.9
Dry Weight	g	479.6	385.4	674.1	679.2	419.3
Moisture*	%	17	26	9	16	25
Sample Fraction >10mm	g dry wt	< 0.1	< 0.1	417.5	37.8	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	4.4	20.4	188.2	88.6	19.8
Sample Fraction <2mm	g dry wt	474.6	364.3	67.7	551.9	398.8
<2mm Subsample Weight	g dry wt	55.6	53.7	54.1	53.2	55.6
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	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Sample Name:	B2-1_0-0.1 29-May-2025	A3-TP1 3 30-May-2025	
Lab Number:	3900787.36	3900787.42	
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	639.8	818.0
Dry Weight	g	503.8	687.3
Moisture*	%	21	16
Sample Fraction >10mm	g dry wt	1.2	37.6

Sample Type: Soil			
	Sample Name:	B2-1_0-0.1 29-May-2025	A3-TP1 3 30-May-2025
	Lab Number:	3900787.36	3900787.42
Sample Fraction <10mm to >2mm	g dry wt	4.5	64.8
Sample Fraction <2mm	g dry wt	497.3	584.6
<2mm Subsample Weight	g dry wt	56.7	56.0
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	< 0.00001	< 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
<p>Amended Report: This certificate of analysis replaces report '3900787-A2Pv1' issued on 10-Jun-2025 at 4:13 pm. Reason for amendment: Additional testing added as per clients request.</p> <p>Appendix No.1 - Chain of Custody</p>

Summary of Methods

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

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1, 3, 5, 7, 11, 13-18, 20, 26-28, 36, 42
Dry Weight	Sample dried at 100 to 105°C, measurement on balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g	1, 3, 5, 7, 11, 13-18, 20, 26-28, 36, 42
Moisture*	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1, 3, 5, 7, 11, 13-18, 20, 26-28, 36, 42
Sample Fraction >10mm	Sample dried at 100 to 105°C, 10mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1, 3, 5, 7, 11, 13-18, 20, 26-28, 36, 42
Sample Fraction <10mm to >2mm	Sample dried at 100 to 105°C, 10mm and 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1, 3, 5, 7, 11, 13-18, 20, 26-28, 36, 42
Sample Fraction <2mm	Sample dried at 100 to 105°C, 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch.	0.1 g dry wt	1, 3, 5, 7, 11, 13-18, 20, 26-28, 36, 42

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1, 3, 5, 7, 11, 13-18, 20, 26-28, 36, 42
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1, 3, 5, 7, 11, 13-18, 20, 26-28, 36, 42
Weight of Asbestos in ACM (Non-Friable)	Measurement on analytical balance, from the >10mm Fraction. Weight of asbestos based on assessment of ACM form. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1, 3, 5, 7, 11, 13-18, 20, 26-28, 36, 42
Asbestos in ACM as % of Total Sample*	Calculated from weight of asbestos in ACM and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3, 5, 7, 11, 13-18, 20, 26-28, 36, 42
Weight of Asbestos as Fibrous Asbestos (Friable)	Measurement on analytical balance, from the >10mm Fraction. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1, 3, 5, 7, 11, 13-18, 20, 26-28, 36, 42
Asbestos as Fibrous Asbestos as % of Total Sample*	Calculated from weight of fibrous asbestos and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3, 5, 7, 11, 13-18, 20, 26-28, 36, 42
Weight of Asbestos as Asbestos Fines (Friable)*	Measurement on analytical balance, from the <10mm Fractions. Analysed at Hill Laboratories - Asbestos; Unit 1, 17 Print Place, Middleton, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1, 3, 5, 7, 11, 13-18, 20, 26-28, 36, 42
Asbestos as Asbestos Fines as % of Total Sample*	Calculated from weight of asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3, 5, 7, 11, 13-18, 20, 26-28, 36, 42
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	Calculated from weight of fibrous asbestos plus asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1, 3, 5, 7, 11, 13-18, 20, 26-28, 36, 42

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

Testing was completed between 10-Jun-2025 and 19-Jun-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

390 0787

Received by: Isabel Mallett



11-0

ENGE0 Ltd

Client Ref: 19630.000.001

Submitted by Lucas Brydon and Caitlin Robinson. Primary Contact Aaron Graham
lbrydon@engeo.co.nz, crobenson@engeo.co.nz, agraham@engeo.co.nz

Sent on 27/05/2025

No.	SampleName	SampleDate	SampleType	SampleTests
1	A3 - 1.1	26-May-25	Tub + Jar	Cold Hold
2	A3 - 1.2	26-May-25	T + J	Cold Hold
3	A3 - 2.1	26-May-25	T + J	Cold Hold
4	A3 - 2.2	26-May-25	T + J	Cold Hold
5	A3 - 3.1	26-May-25	T + J	Cold Hold
6	A3 - 3.2	26-May-25	T + J	Cold Hold
7	A3 - 4 0-0.1	26-May-25	T + J	Cold Hold
8	A3 - 4 0.3-0.4	26-May-25	T + J	Cold Hold
9	A3 - 5 0-0.1	26-May-25	T + J	Cold Hold
10	A3 - 5 0.3-0.4	26-May-25	T + J	Cold Hold
11	A3 - 6 0-0.1	26-May-25	T + J	Cold Hold
12	A3 - 6 0.3-0.4	26-May-25	T + J	Cold Hold
13	A3 - 7 0-0.1	26-May-25	T + J	Cold Hold
14	A3 - 7 0.3-0.4	26-May-25	T + J	Cold Hold
15	A3 - 8 0-0.1	26-May-25	J	Cold Hold
16	A3 - 8 0.3-0.4	26-May-25	J	Cold Hold
17	A3 - 9 0-0.1	26-May-25	T + J	Cold Hold
18	A3 - 9 0.3-0.4	26-May-25	J	Cold Hold
19	A3 - 10 0-0.1	26-May-25	T + J	Cold Hold
20	A3 - 10 0.3-0.4	26-May-25	J	Cold Hold
21	A3 - 11 0-0.1	26-May-25	T + J	Cold Hold
22	A3 - 11 0.3-0.4	26-May-25	J	Cold Hold
23	A3 - 12 0-0.1	26-May-25	T + J	Cold Hold
24	A3 - 12 0.3-0.4	26-May-25	T + J	Cold Hold
25	A3 - 13 0-0.1	26-May-25	T + J	Cold Hold
26	A3 - 13 0.3-0.4	26-May-25	T + J	Cold Hold
27	A3 - 14 0-0.1	26-May-25	J	Cold Hold
28	A3 - 14 0.3-0.4	26-May-25	J	Cold Hold
29	A3 - 15 0-0.1	26-May-25	T + J	Cold Hold
30	A3 - 15 0.3-0.4	26-May-25	J	Cold Hold
31	A3 - 16 0-0.1	26-May-25	T + J	Cold Hold
32	A3 - 16 0.3-0.4	26-May-25	J	Cold Hold
33	A3 - 17 0-0.1	26-May-25	T + J	Cold Hold
34	A3 - 17 0.3-0.4	26-May-25	T + J	Cold Hold
35	A3 - 18 0-0.1	26-May-25	J	Cold Hold
36	A3 - 18 0.3-0.4	26-May-25	J	Cold Hold
37	A3 - 19 0-0.1	26-May-25	J	Cold Hold
38	A3 - 19 0.3-0.4	26-May-25	J	Cold Hold
39	A3 - 20 0-0.1	26-May-25	J	Cold Hold
40	A3 - 20 0.3-0.4	26-May-25	J	Cold Hold
41	A3 - 21 0-0.1	26-May-25	J	Cold Hold
42	A3 - 22 0-0.1	26-May-25	T + J	Cold Hold
43	A3 - 22 0.3-0.4	26-May-25	J	Cold Hold
44	A3 - 23 0-0.1	26-May-25	T + J	Cold Hold
45	A3 - 23 0.3-0.4	26-May-25	J	Cold Hold
46	A3 - 24 0-0.1	26-May-25	T + J	Cold Hold
47	A3 - 24 0.3-0.4	26-May-25	J	Cold Hold
48	A3 - 25 0-0.1	26-May-25	J	Cold Hold
49	A3 - 26 0-0.1	26-May-25	T + J	Cold Hold
50	A3 - 27 0-0.1	26-May-25	T + J	Cold Hold
51	A3 - 27 0.3-0.4	26-May-25	T + J	Cold Hold
52	A3 - 28 0-0.1	26-May-25	T + J	Cold Hold
53	A3 - 28 0.3-0.4	26-May-25	T + J	Cold Hold
54	A3 - 29 0-0.1	26-May-25	T + J	Cold Hold
55	A3 - 30 0-0.1	26-May-25	T + J	Cold Hold
56	A3 - 31 0-0.1	26-May-25	J	Cold Hold
57	A3 - 31 0.3-0.4	26-May-25	J	Cold Hold
58	A3 - 32 0-0.1	26-May-25	J	Cold Hold
59	A3 - 32 0.3-0.4	26-May-25	J	Cold Hold
60	A3 - 33 0-0.1	26-May-25	J	Cold Hold
61	A3 - 33 0.3-0.4	26-May-25	J	Cold Hold
62	A3 - 34 0-0.1	26-May-25	J	Cold Hold
63	A3 - 35 0-0.1	26-May-25	J	Cold Hold
64	A3 - 35 0.3-0.4	26-May-25	J	Cold Hold
65	A3 - 36 0-0.1	26-May-25	T + J	Cold Hold
66	A3 - 36 0.3-0.4	26-May-25	T + J	Cold Hold
67	A3 - 37 0-0.1	26-May-25	J	Cold Hold
68	A3 - 37 0.3-0.4	26-May-25	J	Cold Hold

390 0787

Received by: Isabel Mallett



4130007970

ENGE0 Ltd

Client Ref: 19630.000.001

Submitted by Lucas Brydon and Caitlin Robinson. Primary Contact Aaron Graham
lbrydon@engeo.co.nz, crobinson@engeo.co.nz, agraham@engeo.co.nz

No.	SampleName	SampleDate	SampleType	SampleTests
1	A3 - 1.1	26-May-25	Tub + Jar	Heavy Metals (HM8), Asbestos (semi-quantitative)
2	A3 - 1.2	26-May-25	T + J	Cold Hold
3	A3 - 2.1	26-May-25	T + J	Heavy Metals (HM8), Asbestos (semi-quantitative)
4	A3 - 2.2	26-May-25	T + J	Cold Hold
5	A3 - 3.1	26-May-25	T + J	Heavy Metals (HM8), PAHs, Asbestos (semi-quantitative)
6	A3 - 3.2	26-May-25	T + J	Cold Hold
7	A3 - 4 0-0.1	26-May-25	T + J	Heavy Metals (HM8), PAHs, Asbestos (semi-quantitative)
8	A3 - 4 0.3-0.4	26-May-25	T + J	Cold Hold
9	A3 - 5 0-0.1	26-May-25	T + J	Heavy Metals (HM8), Total Petroleum Hydrocarbons
10	A3 - 5 0.3-0.4	26-May-25	T + J	Cold Hold
11	A3 - 6 0-0.1	26-May-25	T + J	Heavy Metals (HM8), Asbestos (semi-quantitative)
12	A3 - 6 0.3-0.4	26-May-25	T + J	Cold Hold
13	A3 - 7 0-0.1	26-May-25	T + J	Heavy Metals (HM8), Asbestos (semi-quantitative)
14	A3 - 7 0.3-0.4	26-May-25	T + J	Heavy Metals (HM8), Asbestos (semi-quantitative)
15	A3 - 8 0-0.1	26-May-25	Jar	Heavy Metals (HM8), Total Petroleum Hydrocarbons
16	A3 - 8 0.3-0.4	26-May-25	J	Cold Hold
17	A3 - 9 0-0.1	26-May-25	T + J	Heavy Metals (HM8), Asbestos (semi-quantitative)
18	A3 - 9 0.3-0.4	26-May-25	J	Cold Hold
19	A3 - 10 0-0.1	26-May-25	T + J	Heavy Metals (HM8), Asbestos (semi-quantitative)
20	A3 - 10 0.3-0.4	26-May-25	J	Cold Hold
21	A3 - 11 0-0.1	26-May-25	T + J	Heavy Metals (HM8), Asbestos (semi-quantitative)
22	A3 - 11 0.3-0.4	26-May-25	J	Cold Hold
23	A3 - 12 0-0.1	26-May-25	T + J	Heavy Metals (HM8), Asbestos (semi-quantitative)
24	A3 - 12 0.3-0.4	26-May-25	T + J	Cold Hold
25	A3 - 13 0-0.1	26-May-25	T + J	Heavy Metals (HM8), Asbestos (semi-quantitative)
26	A3 - 13 0.3-0.4	26-May-25	T + J	Cold Hold
27	A3 - 14 0-0.1	26-May-25	J	Heavy Metals (HM8)
28	A3 - 14 0.3-0.4	26-May-25	J	Cold Hold

ENGEO Ltd

Client Ref: 19630.000.001

Submitted by Lucas Brydon and Caitlin Robinson. Primary Contact Aaron Graham
lbrydon@engeo.co.nz, crobinsn@engeo.co.nz, agraham@engeo.co.nz

No.	SampleName	SampleDate	SampleType	SampleTests
29	A3 - 15 0-0.1	26-May-25	T + J	Heavy Metals (HM8)
30	A3 - 15 0.3-0.4	26-May-25	J	Cold Hold
31	A3 - 16 0-0.1	26-May-25	T + J	Heavy Metals (HM8)
32	A3 - 16 0.3-0.4	26-May-25	J	Cold Hold
33	A3 - 17 0-0.1	26-May-25	T + J	Cold Hold
34	A3 - 17 0.3-0.4	26-May-25	T + J	Cold Hold
35	A3 - 18 0-0.1	26-May-25	J	Heavy Metals (HM8), PAHs, Total Petroleum Hydrocarbons
36	A3 - 18 0.3-0.4	26-May-25	J	Heavy Metals (HM8), PAHs, Total Petroleum Hydrocarbons
37	A3 - 19 0-0.1	26-May-25	J	Heavy Metals (HM8), PAHs, Total Petroleum Hydrocarbons
38	A3 - 19 0.3-0.4	26-May-25	J	Heavy Metals (HM8), PAHs, Total Petroleum Hydrocarbons
39	A3 - 20 0-0.1	26-May-25	J	Heavy Metals (HM8), PAHs, Total Petroleum Hydrocarbons
40	A3 - 20 0.3-0.4	26-May-25	J	Heavy Metals (HM8), PAHs, Total Petroleum Hydrocarbons
41	A3 - 21 0-0.1	26-May-25	J	Heavy Metals (HM8), PAHs, Total Petroleum Hydrocarbons
42	A3 - 22 0-0.1	26-May-25	T + J	Heavy Metals (HM8), Asbestos (semi-quantitative)
43	A3 - 22 0.3-0.4	26-May-25	J	Cold Hold
44	A3 - 23 0-0.1	26-May-25	T + J	Heavy Metals (HM8), Asbestos (semi-quantitative)
45	A3 - 23 0.3-0.4	26-May-25	J	Cold Hold
46	A3 - 24 0-0.1	26-May-25	T + J	Heavy Metals (HM8), Asbestos (semi-quantitative)
47	A3 - 24 0.3-0.4	26-May-25	J	Cold Hold
48	A3 - 25 0-0.1	26-May-25	J	Heavy Metals (HM8)
49	A3 - 26 0-0.1	26-May-25	T + J	Heavy Metals (HM8)
50	A3 - 27 0-0.1	26-May-25	T + J	Heavy Metals (HM8)
51	A3 - 27 0.3-0.4	26-May-25	T + J	Cold Hold
52	A3 - 28 0-0.1	26-May-25	T + J	Heavy Metals (HM8)
53	A3 - 28 0.3-0.4	26-May-25	T + J	Cold Hold
54	A3 - 29 0-0.1	26-May-25	T + J	Heavy Metals (HM8)
55	A3 - 30 0-0.1	26-May-25	T + J	Heavy Metals (HM8), PAHs, OCPs, Total Petroleum Hydrocarbons
56	A3 - 31 0-0.1	26-May-25	J	Heavy Metals (HM8)

ENGE0 Ltd

Client Ref: 19630.000.001

Submitted by Lucas Brydon and Caitlin Robinson. Primary Contact Aaron Graham
 lbrydon@engeo.co.nz, crobinson@engeo.co.nz, agraham@engeo.co.nz

No.	SampleName	SampleDate	SampleType	SampleTests
57	A3 - 31 0.3-0.4	26-May-25	J	Cold Hold
58	A3 - 32 0-0.1	26-May-25	J	Heavy Metals (HM8)
59	A3 - 32 0.3-0.4	26-May-25	J	Cold Hold
60	A3 - 33 0-0.1	26-May-25	J	Heavy Metals (HM8)
61	A3 - 33 0.3-0.4	26-May-25	J	Cold Hold
62	A3 - 34 0-0.1	26-May-25	J	Heavy Metals (HM8)
63	A3 - 35 0-0.1	26-May-25	J	Heavy Metals (HM8)
64	A3 - 35 0.3-0.4	26-May-25	J	Cold Hold
65	A3 - 36 0-0.1	26-May-25	T + J	Heavy Metals (HM8)
66	A3 - 36 0.3-0.4	26-May-25	T + J	Heavy Metals (HM6), PAHs
67	A3 - 37 0-0.1	26-May-25	J	Heavy Metals (HM8)
68	A3 - 37 0.3-0.4	26-May-25	J	Cold Hold
69	A1 - 1 0-0.1	27-May-25	Jar	Cold Hold
70	A1 - 1 0.3-0.4	27-May-25	J	Cold Hold
71	A1 - 2 0-0.1	27-May-25	J	Cold Hold
72	A1 - 2 0.3-0.4	27-May-25	J	Cold Hold
73	A1 - 3 0-0.1	27-May-25	J	Cold Hold
74	A1 - 3 0.3-0.4	27-May-25	J	Cold Hold
75	A1 - 4 0-0.05	27-May-25	J	Cold Hold
76	A1 - 4 0.3-0.4	27-May-25	J	Cold Hold
77	A1 - 5 0-0.1	27-May-25	J	Cold Hold
78	A1 - 5 0.3-0.4	27-May-25	J	Cold Hold
79	A1 - 5 0-0.1	27-May-25	J	Heavy Metals (HM8)
80	A1 - 6 0.3-0.4	27-May-25	J	Cold Hold
81	A1 - 7 0-0.1	27-May-25	J	Heavy Metals (HM8)
82	A1 - 7 0.3-0.4	27-May-25	J	Cold Hold
83	A1 - 8 0-0.1	27-May-25	J	Heavy Metals (HM8)
84	A1 - 8 0.3-0.4	27-May-25	J	Cold Hold

ENGE0 Ltd

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Submitted by Lucas Brydon and Caitlin Robinson. Primary Contact Aaron Graham
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No.	SampleName	SampleDate	SampleType	SampleTests
85	A1 - 9 0-0.1	27-May-25	J	Heavy Metals (HM8)
86	A1 - 9 0.3-0.4	27-May-25	J	Cold Hold
87	A1 - 10 0-0.1	27-May-25	J	Heavy Metals (HM8)
88	A1 - 10 0.3-0.4	27-May-25	J	Cold Hold
89	A1 - 11 0-0.1	27-May-25	J	Heavy Metals (HM8)
90	A1 - 11 0.3-0.4	27-May-25	J	Cold Hold
91	A2 - 1 0-0.1	27-May-25	J	Heavy Metals (HM8)
92	A2 - 1 0.3-0.4	27-May-25	J	Cold Hold
93	A2 - 2 0-0.1	27-May-25	J	Heavy Metals (HM8)
94	A2 - 2 0.3-0.4	27-May-25	J	Cold Hold
95	A2 - 3 0-0.1	27-May-25	J	Heavy Metals (HM8)
96	A2 - 3 0.3-0.4	27-May-25	J	Cold Hold
97	A2 - 4 0-0.1	27-May-25	J	Heavy Metals (HM8)
98	A2 - 4 0.3-0.4	27-May-25	J	Cold Hold
99	A2 - 5 0-0.1	27-May-25	J	Heavy Metals (HM8)
100	A2 - 5 0.3-0.4	27-May-25	J	Cold Hold
101	B1 - 1 0-0.1	29-May-25	J	Cold Hold
102	B1 - 1 0.3-0.4	29-May-25	J	Cold Hold
103	B1 - 2 0-0.1	29-May-25	J	Cold Hold
104	B1 - 2 0.3-0.4	29-May-25	J	Cold Hold
105	B1 - 3 0-0.1	29-May-25	J	Cold Hold
106	B1 - 3 0.3-0.4	29-May-25	J	Cold Hold
107	B1 - 4 0-0.1	29-May-25	J	Cold Hold
108	B1 - 4 0.3-0.4	29-May-25	J	Cold Hold
109	B1 - 5 0-0.1	29-May-25	J	Cold Hold
110	B1 - 5 0.3-0.4	29-May-25	J	Cold Hold
111	B1 - 6 0-0.1	29-May-25	J	Cold Hold
112	B1 - 6 0.3-0.4	29-May-25	J	Cold Hold

ENGE0 Ltd

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No.	SampleName	SampleDate	SampleType	SampleTests
113	B1 - 7 0-0.1	29-May-25	J	Heavy Metals (HM8)
114	B1 - 7 0.3-0.4	29-May-25	J	Cold Hold
115	B1 - 8 0-0.1	29-May-25	J	Heavy Metals (HM8)
116	B1 - 8 0.3-0.4	29-May-25	J	Cold Hold
117	B2 - 1 0-0.1	29-May-25	Tub + Jar	Heavy Metals (HM8), PAHs, Asbestos (semi-quantitative)
118	B2 - 1 0.3-0.4	29-May-25	T + J	Heavy Metals (HM8)
119	B2 - 2 0-0.1	29-May-25	J	Heavy Metals (HM8)
120	B2 - 2 0.3-0.4	29-May-25	J	Heavy Metals (HM8)
121	B2 - 3 0-0.1	29-May-25	J	Heavy Metals (HM8)
122	B2 - 3 0.3-0.4	29-May-25	J	Heavy Metals (HM8)
123	B2 - 4 0-0.1	29-May-25	J	Cold Hold
124	B2 - 4 0.3-0.4	29-May-25	J	Cold Hold
125	B2 - 5 0-0.1	29-May-25	J	Cold Hold
126	B2 - 5 0.3-0.4	29-May-25	J	Cold Hold
127	B2 - 6 0-0.1	29-May-25	J	Cold Hold
128	B2 - 6 0.3-0.4	29-May-25	J	Cold Hold
129	B2 - 7 0-0.1	29-May-25	J	Heavy Metals (HM8)
130	B2 - 7 0.3-0.4	29-May-25	J	Cold Hold
131	B2 - 8 0-0.1	29-May-25	J	Cold Hold
132	B2 - 8 0.3-0.4	29-May-25	J	Cold Hold
133	B2 - 9 0-0.1	29-May-25	J	Cold Hold
134	B2 - 9 0.3-0.4	29-May-25	J	Cold Hold
135	B2 - 10 0-0.1	29-May-25	J	Cold Hold
136	B2 - 10 0.3-0.4	29-May-25	J	Cold Hold
137	B2 - 11 0-0.1	29-May-25	J	Cold Hold
138	B2 - 11 0.3-0.4	29-May-25	J	Cold Hold
139	B2 - 12 0-0.1	29-May-25	J	Cold Hold
140	B2 - 12 0.3-0.4	29-May-25	J	Cold Hold

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No.	SampleName	SampleDate	SampleType	SampleTests
141	B2 - 13 0-0.1	29-May-25	J	Cold Hold
142	B2 - 13 0.3-0.4	29-May-25	J	Cold Hold
143	B2 - 14 0-0.1	29-May-25	J	Cold Hold
144	B2 - 14 0.3-0.4	29-May-25	J	Cold Hold
145	B2 - 15 0-0.1	29-May-25	J	Cold Hold
146	B2 - 15 0.3-0.4	29-May-25	J	Cold Hold
147	B2 - 16 0-0.1	29-May-25	J	Cold Hold
148	B2 - 16 0.3-0.4	29-May-25	J	Cold Hold
149	B2 - 17 0-0.1	29-May-25	J	Heavy Metals (HM8)
150	B2 - 17 0.3-0.4	29-May-25	J	Cold Hold
151	B2 - 18 0-0.1	29-May-25	J	Heavy Metals (HM8)
152	B2 - 18 0.3-0.4	29-May-25	J	Cold Hold
153	B2 - 19 0-0.1	29-May-25	J	Heavy Metals (HM8)
154	B2 - 19 0.3-0.4	29-May-25	J	Cold Hold
155	B2 - 20 0-0.1	29-May-25	J	Heavy Metals (HM8)
156	B2 - 20 0.3-0.4	29-May-25	J	Cold Hold
157	B3 - 21 0-0.1	29-May-25	J	Heavy Metals (HM8)
158	B3 - 21 0.3-0.4	29-May-25	J	Cold Hold
159	B3 - 20 0-0.1	29-May-25	J	Heavy Metals (HM8)
160	B3 - 20 0.3-0.4	29-May-25	J	Cold Hold
161	B3 - 19 0-0.1	29-May-25	J	Heavy Metals (HM8)
162	B3 - 19 0.3-0.4	29-May-25	J	Cold Hold
163	B3 - 18 0-0.1	29-May-25	J	Heavy Metals (HM8)
164	B3 - 18 0.3-0.4	29-May-25	J	Cold Hold
165	B3 - 17 0-0.1	29-May-25	J	Heavy Metals (HM8)
166	B3 - 17 0.3-0.4	29-May-25	J	Cold Hold
167	B3 - 1 0-0.1	30-May-25	Jar	Cold Hold
168	B3 - 1 0.3-0.4	30-May-25	J	Cold Hold

ENGE0 Ltd

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Submitted by Lucas Brydon and Caitlin Robinson. Primary Contact Aaron Graham
 lbrydon@engeo.co.nz, crobinson@engeo.co.nz, agraham@engeo.co.nz

No.	SampleName	SampleDate	SampleType	SampleTests
169	B3 - 2 0-0.1	30-May-25	J	Cold Hold
170	B3 - 2 0.3-0.4	30-May-25	J	Cold Hold
171	B3 - 3 0-0.1	30-May-25	J	Cold Hold
172	B3 - 3 0.3-0.4	30-May-25	J	Cold Hold
173	B3 - 4 0-0.1	30-May-25	J	Cold Hold
174	B3 - 4 0.3-0.4	30-May-25	J	Cold Hold
175	B3 - 5 0-0.1	30-May-25	J	Cold Hold
176	B3 - 5 0.3-0.4	30-May-25	J	Cold Hold
177	B3 - 6 0-0.1	30-May-25	J	Cold Hold
178	B3 - 6 0.3-0.4	30-May-25	J	Cold Hold
179	B3 - 7 0-0.1	30-May-25	J	Cold Hold
180	B3 - 7 0.3-0.4	30-May-25	J	Cold Hold
181	B3 - 8 0-0.1	30-May-25	J	Cold Hold
182	B3 - 8 0.3-0.4	30-May-25	J	Cold Hold
183	B3 - 9 0-0.1	30-May-25	J	Cold Hold
184	B3 - 9 0.3-0.4	30-May-25	J	Cold Hold
185	B3 - 10 0-0.1	30-May-25	J	Cold Hold
186	B3 - 10 0.3-0.4	30-May-25	J	Cold Hold
187	B3 - 11 0-0.1	30-May-25	J	Cold Hold
188	B3 - 11 0.3-0.4	30-May-25	J	Cold Hold
189	B3 - 12 0-0.1	30-May-25	J	Cold Hold
190	B3 - 12 0.3-0.4	30-May-25	J	Cold Hold
191	B3 - 13 0-0.1	30-May-25	J	Cold Hold
192	B3 - 13 0.3-0.4	30-May-25	J	Cold Hold
193	B3 - 14 0-0.1	30-May-25	J	Cold Hold
194	B3 - 14 0.3-0.4	30-May-25	J	Cold Hold
195	B3 - 15 0-0.1	30-May-25	J	Cold Hold
196	B3 - 15 0.3-0.4	30-May-25	J	Cold Hold

ENGE0 Ltd

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No.	SampleName	SampleDate	SampleType	SampleTests
197	B3 - 16 0-0.1	30-May-25	J	Heavy Metals (HM8)
198	B3 - 16 0.3-0.4	30-May-25	J	Cold Hold
199	A3 - 38 0-0.1	30-May-25	J	Heavy Metals (HM8)
200	A3 - 38 0.3-0.4	30-May-25	J	Cold Hold
201	A3 - 39 0-0.1	30-May-25	J	Heavy Metals (HM8)
202	A3 - 39 0.3-0.4	30-May-25	J	Cold Hold
203	A3 - 40 0-0.1	30-May-25	Tub + Jar	Heavy Metals (HM8), OCPs, Asbestos (presence/absence)
204	A3 - 40 0.3-0.4	30-May-25	J	Cold Hold
205	A3 - 41 0-0.1	30-May-25	T + J	Heavy Metals (HM8), OCPs, Asbestos (presence/absence)
206	A3 - 41 0.3-0.4	30-May-25	T + J	Cold Hold
207	A3 - 42 0-0.1	30-May-25	J	Heavy Metals (HM8), OCPs, Asbestos (presence/absence)
208	A3 - 42 0.3-0.4	30-May-25	J	Cold Hold
209	A3 - 43 0-0.1	30-May-25	T + J	Heavy Metals (HM8), OCPs, Asbestos (presence/absence)
210	A3 - 43 0.3-0.4	30-May-25	J	Cold Hold
211	A3 - 44 0-0.1	30-May-25	J	Heavy Metals (HM8), OCPs, Asbestos (presence/absence)
212	A3 - 44 0.3-0.4	30-May-25	J	Heavy Metals (HM8), OCPs
213	A3 - 45 0-0.1	30-May-25	J	Heavy Metals (HM8), OCPs
214	A3 - 45 0.3-0.4	30-May-25	J	Heavy Metals (HM8), OCPs
215	A3 - 46 0-0.1	30-May-25	J	Heavy Metals (HM8), OCPs
216	A3 - 46 0.3-0.4	30-May-25	J	Cold Hold
217	A3 - 47 0-0.1	30-May-25	J	Heavy Metals (HM8), OCPs
218	A3 - 47 0.3-0.4	30-May-25	J	Cold Hold
219	DS-1	30-May-25	Sediment Samples	Heavy Metals (HM8), PAHs, OCPs, Total Petroleum Hydrocarbons
220	DS-2	30-May-25	Sediment Samples	Heavy Metals (HM8), PAHs, OCPs, Total Petroleum Hydrocarbons
221	DS-3	30-May-25	Sediment Samples	Heavy Metals (HM8), PAHs, OCPs, Total Petroleum Hydrocarbons
222	DS-4	30-May-25	Sediment Samples	Heavy Metals (HM8), PAHs, OCPs, Total Petroleum Hydrocarbons
223	DS-5	30-May-25	Sediment Samples	Heavy Metals (HM8), PAHs, OCPs, Total Petroleum Hydrocarbons
224	DS-6	30-May-25	Sediment Samples	Heavy Metals (HM8), PAHs, OCPs, Total Petroleum Hydrocarbons

Certificate of Analysis

Page 1 of 2

Client: Engeo Limited	Lab No: 3900788	A2Pv1
Contact: Aaron Graham	Date Received: 27-May-2025	
C/- Engeo Limited	Date Reported: 16-Jun-2025	
PO Box 305136	Quote No: 82742	
Triton Plaza	Order No:	
Auckland 0757	Client Reference: 19630.000.001	
	Submitted By: Caitlin Robinson	

Sample Type: Building Material

Sample Name	Lab Number	Sample Category*	Sample Weight on receipt (g)	Asbestos Presence / Absence	Description of Asbestos in Non Homogeneous Samples
A3-07_PACM	3900788.1	Fibre Cement	18.91	Amosite (Brown Asbestos) detected. Chrysotile (White Asbestos) detected.	N/A

Glossary of Terms

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

Analyst's Comments

Appendix No.1 - Chain of Custody

Summary of Methods

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

Sample Type: Building Material

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



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.

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

Testing was completed on 16-Jun-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.



Kelsey Rohloff BSc
Laboratory Technician - Asbestos

ENGEO Ltd

Client Ref: 19630.000.001

390 0788Submitted by Lucas Brydon and Caitlin Robinson. Primary Contact Aaron Graham
lbrydon@engeo.co.nz, crobison@engeo.co.nz, agraham@engeo.co.nz

Received by: Isabel Mallett

Sent on 27/05/2025



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No.	SampleName	SampleDate	SampleType	SampleTests
1	A3 - 1.1	26-May-25	Tub + Jar	Cold Hold
2	A3 - 1.2	26-May-25	T + J	Cold Hold
3	A3 - 2.1	26-May-25	T + J	Cold Hold
4	A3 - 2.2	26-May-25	T + J	Cold Hold
5	A3 - 3.1	26-May-25	T + J	Cold Hold
6	A3 - 3.2	26-May-25	T + J	Cold Hold
7	A3 - 4 0-0.1	26-May-25	T + J	Cold Hold
8	A3 - 4 0.3-0.4	26-May-25	T + J	Cold Hold
9	A3 - 5 0-0.1	26-May-25	T + J	Cold Hold
10	A3 - 5 0.3-0.4	26-May-25	T + J	Cold Hold
11	A3 - 6 0-0.1	26-May-25	T + J	Cold Hold
12	A3 - 6 0.3-0.4	26-May-25	T + J	Cold Hold
13	A3 - 7 0-0.1	26-May-25	T + J	Cold Hold
14	A3 - 7 0.3-0.4	26-May-25	T + J	Cold Hold
15	A3 - 8 0-0.1	26-May-25	J	Cold Hold
16	A3 - 8 0.3-0.4	26-May-25	J	Cold Hold
17	A3 - 9 0-0.1	26-May-25	T + J	Cold Hold
18	A3 - 9 0.3-0.4	26-May-25	J	Cold Hold
19	A3 - 10 0-0.1	26-May-25	T + J	Cold Hold
20	A3 - 10 0.3-0.4	26-May-25	J	Cold Hold
21	A3 - 11 0-0.1	26-May-25	T + J	Cold Hold
22	A3 - 11 0.3-0.4	26-May-25	J	Cold Hold
23	A3 - 12 0-0.1	26-May-25	T + J	Cold Hold
24	A3 - 12 0.3-0.4	26-May-25	T + J	Cold Hold
25	A3 - 13 0-0.1	26-May-25	T + J	Cold Hold
26	A3 - 13 0.3-0.4	26-May-25	T + J	Cold Hold
27	A3 - 14 0-0.1	26-May-25	J	Cold Hold
28	A3 - 14 0.3-0.4	26-May-25	J	Cold Hold
29	A3 - 15 0-0.1	26-May-25	T + J	Cold Hold
30	A3 - 15 0.3-0.4	26-May-25	J	Cold Hold
31	A3 - 16 0-0.1	26-May-25	T + J	Cold Hold
32	A3 - 16 0.3-0.4	26-May-25	J	Cold Hold
33	A3 - 17 0-0.1	26-May-25	T + J	Cold Hold
34	A3 - 17 0.3-0.4	26-May-25	T + J	Cold Hold
35	A3 - 18 0-0.1	26-May-25	J	Cold Hold
36	A3 - 18 0.3-0.4	26-May-25	J	Cold Hold
37	A3 - 19 0-0.1	26-May-25	J	Cold Hold
38	A3 - 19 0.3-0.4	26-May-25	J	Cold Hold
39	A3 - 20 0-0.1	26-May-25	J	Cold Hold
40	A3 - 20 0.3-0.4	26-May-25	J	Cold Hold
41	A3 - 21 0-0.1	26-May-25	J	Cold Hold
42	A3 - 22 0-0.1	26-May-25	T + J	Cold Hold
43	A3 - 22 0.3-0.4	26-May-25	J	Cold Hold
44	A3 - 23 0-0.1	26-May-25	T + J	Cold Hold
45	A3 - 23 0.3-0.4	26-May-25	J	Cold Hold
46	A3 - 24 0-0.1	26-May-25	T + J	Cold Hold
47	A3 - 24 0.3-0.4	26-May-25	J	Cold Hold
48	A3 - 25 0-0.1	26-May-25	J	Cold Hold
49	A3 - 26 0-0.1	26-May-25	T + J	Cold Hold
50	A3 - 27 0-0.1	26-May-25	T + J	Cold Hold
51	A3 - 27 0.3-0.4	26-May-25	T + J	Cold Hold
52	A3 - 28 0-0.1	26-May-25	T + J	Cold Hold
53	A3 - 28 0.3-0.4	26-May-25	T + J	Cold Hold
54	A3 - 29 0-0.1	26-May-25	T + J	Cold Hold
55	A3 - 30 0-0.1	26-May-25	T + J	Cold Hold
56	A3 - 31 0-0.1	26-May-25	J	Cold Hold
57	A3 - 31 0.3-0.4	26-May-25	J	Cold Hold
58	A3 - 32 0-0.1	26-May-25	J	Cold Hold
59	A3 - 32 0.3-0.4	26-May-25	J	Cold Hold
60	A3 - 33 0-0.1	26-May-25	J	Cold Hold
61	A3 - 33 0.3-0.4	26-May-25	J	Cold Hold
62	A3 - 34 0-0.1	26-May-25	J	Cold Hold
63	A3 - 35 0-0.1	26-May-25	J	Cold Hold
64	A3 - 35 0.3-0.4	26-May-25	J	Cold Hold
65	A3 - 36 0-0.1	26-May-25	T + J	Cold Hold
66	A3 - 36 0.3-0.4	26-May-25	T + J	Cold Hold
67	A3 - 37 0-0.1	26-May-25	J	Cold Hold
68	A3 - 37 0.3-0.4	26-May-25	J	Cold Hold

Certificate of Analysis

Page 1 of 4

Client:	Engeo Limited	Lab No:	3967877	SPV1
Contact:	Aaron Graham C/- Engeo Limited PO Box 305136 Triton Plaza Auckland 0757	Date Received:	22-Aug-2025	
		Date Reported:	01-Sep-2025	
		Quote No:	82742	
		Order No:		
		Client Reference:	19630 - 21/08/2025	
		Submitted By:	Tess Brown	

Sample Type: Soil				
Sample Name:	C1-60 0-0.1 21-Aug-2025	BRDupe 1A 21-Aug-2025	BRDupe 1B 21-Aug-2025	
Lab Number:	3967877.1	3967877.3	3967877.4	
Individual Tests				
Dry Matter	g/100g as rcvd	86	-	-
Heavy Metals with Mercury, Screen Level				
Total Recoverable Arsenic	mg/kg dry wt	2	2	3
Total Recoverable Cadmium	mg/kg dry wt	0.23	0.22	0.15
Total Recoverable Chromium	mg/kg dry wt	6	7	6
Total Recoverable Copper	mg/kg dry wt	15	14	8
Total Recoverable Lead	mg/kg dry wt	8.0	7.5	8.7
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	4	4	2
Total Recoverable Zinc	mg/kg dry wt	51	52	39
Organochlorine Pesticides Screening in Soil				
Aldrin	mg/kg dry wt	< 0.012	-	-
alpha-BHC	mg/kg dry wt	< 0.012	-	-
beta-BHC	mg/kg dry wt	< 0.012	-	-
delta-BHC	mg/kg dry wt	< 0.012	-	-
gamma-BHC (Lindane)	mg/kg dry wt	< 0.012	-	-
cis-Chlordane	mg/kg dry wt	< 0.012	-	-
trans-Chlordane	mg/kg dry wt	< 0.012	-	-
2,4'-DDD	mg/kg dry wt	< 0.012	-	-
4,4'-DDD	mg/kg dry wt	< 0.012	-	-
2,4'-DDE	mg/kg dry wt	< 0.012	-	-
4,4'-DDE	mg/kg dry wt	< 0.012	-	-
2,4'-DDT	mg/kg dry wt	< 0.012	-	-
4,4'-DDT	mg/kg dry wt	< 0.012	-	-
Total DDT Isomers	mg/kg dry wt	< 0.07	-	-
Dieldrin	mg/kg dry wt	< 0.012	-	-
Endosulfan I	mg/kg dry wt	< 0.012	-	-
Endosulfan II	mg/kg dry wt	< 0.012	-	-
Endosulfan sulphate	mg/kg dry wt	< 0.012	-	-
Endrin	mg/kg dry wt	< 0.012	-	-
Endrin aldehyde	mg/kg dry wt	< 0.012	-	-
Endrin ketone	mg/kg dry wt	< 0.012	-	-
Heptachlor	mg/kg dry wt	< 0.012	-	-
Heptachlor epoxide	mg/kg dry wt	< 0.012	-	-
Hexachlorobenzene	mg/kg dry wt	< 0.012	-	-
Methoxychlor	mg/kg dry wt	< 0.012	-	-

Sample Type: Soil				
Sample Name:	C1-60 0-0.1 21-Aug-2025	BRDupe 1A 21-Aug-2025	BRDupe 1B 21-Aug-2025	
Lab Number:	3967877.1	3967877.3	3967877.4	
Organonitro&phosphorus Pesticides Screen in Soil by GCMS				
Acetochlor	mg/kg dry wt	< 0.07	-	-
Alachlor	mg/kg dry wt	< 0.05	-	-
Atrazine	mg/kg dry wt	< 0.07	-	-
Atrazine-desethyl	mg/kg dry wt	< 0.07	-	-
Atrazine-desisopropyl	mg/kg dry wt	< 0.13	-	-
Azaconazole	mg/kg dry wt	< 0.04	-	-
Azinphos-methyl	mg/kg dry wt	< 0.13	-	-
Benalaxyl	mg/kg dry wt	< 0.04	-	-
Bitertanol	mg/kg dry wt	< 0.13	-	-
Bromacil	mg/kg dry wt	< 0.07	-	-
Bromopropylate	mg/kg dry wt	< 0.07	-	-
Butachlor	mg/kg dry wt	< 0.07	-	-
Captan	mg/kg dry wt	< 0.13	-	-
Carbaryl	mg/kg dry wt	< 0.07	-	-
Carbofuran	mg/kg dry wt	< 0.07	-	-
Chlorfluazuron	mg/kg dry wt	< 0.07	-	-
Chlorothalonil	mg/kg dry wt	< 0.07	-	-
Chlorpyrifos	mg/kg dry wt	< 0.07	-	-
Chlorpyrifos-methyl	mg/kg dry wt	< 0.07	-	-
Chlortoluron	mg/kg dry wt	< 0.13	-	-
Cyanazine	mg/kg dry wt	< 0.07	-	-
Cyfluthrin	mg/kg dry wt	< 0.08	-	-
Cyhalothrin	mg/kg dry wt	< 0.07	-	-
Cypermethrin	mg/kg dry wt	0.91 #1	-	-
Deltamethrin (including Tralomethrin)	mg/kg dry wt	< 0.07	-	-
Diazinon	mg/kg dry wt	< 0.04	-	-
Dichlofluanid	mg/kg dry wt	< 0.07	-	-
Dichloran	mg/kg dry wt	< 0.2	-	-
Dichlorvos	mg/kg dry wt	< 0.09	-	-
Difenoconazole	mg/kg dry wt	< 0.09	-	-
Dimethoate	mg/kg dry wt	< 0.13	-	-
Diphenylamine	mg/kg dry wt	< 0.13	-	-
Diuron	mg/kg dry wt	< 0.07	-	-
Fenpropimorph	mg/kg dry wt	< 0.07	-	-
Fluazifop-butyl	mg/kg dry wt	< 0.07	-	-
Fluometuron	mg/kg dry wt	< 0.07	-	-
Flusilazole	mg/kg dry wt	< 0.07	-	-
Fluvalinate	mg/kg dry wt	< 0.05	-	-
Furalaxyl	mg/kg dry wt	< 0.04	-	-
Haloxyfop-methyl	mg/kg dry wt	< 0.07	-	-
Hexaconazole	mg/kg dry wt	< 0.07	-	-
Hexazinone	mg/kg dry wt	< 0.04	-	-
IPBC (3-Iodo-2-propynyl-n-butylcarbamate)	mg/kg dry wt	< 0.4	-	-
Kresoxim-methyl	mg/kg dry wt	< 0.04	-	-
Linuron	mg/kg dry wt	< 0.13	-	-
Malathion	mg/kg dry wt	< 0.07	-	-
Metalaxyl	mg/kg dry wt	< 0.07	-	-
Methamidophos	mg/kg dry wt	< 0.4	-	-
Metolachlor	mg/kg dry wt	< 0.05	-	-
Metribuzin	mg/kg dry wt	< 0.07	-	-
Molinate	mg/kg dry wt	< 0.13	-	-
Myclobutanil	mg/kg dry wt	< 0.07	-	-
Naled	mg/kg dry wt	< 0.4	-	-
Norflurazon	mg/kg dry wt	< 0.13	-	-

Sample Type: Soil				
Sample Name:	C1-60 0-0.1 21-Aug-2025	BRDupe 1A 21-Aug-2025	BRDupe 1B 21-Aug-2025	
Lab Number:	3967877.1	3967877.3	3967877.4	
Organonitro&phosphorus Pesticides Screen in Soil by GCMS				
Oxadiazon	mg/kg dry wt	< 0.07	-	-
Oxyfluorfen	mg/kg dry wt	< 0.04	-	-
Pacllobutrazol	mg/kg dry wt	< 0.07	-	-
Parathion-ethyl	mg/kg dry wt	< 0.07	-	-
Parathion-methyl	mg/kg dry wt	< 0.07	-	-
Pendimethalin	mg/kg dry wt	< 0.07	-	-
Permethrin	mg/kg dry wt	< 0.03	-	-
Pirimicarb	mg/kg dry wt	< 0.07	-	-
Pirimiphos-methyl	mg/kg dry wt	< 0.07	-	-
Prochloraz	mg/kg dry wt	< 0.4	-	-
Procymidone	mg/kg dry wt	< 0.07	-	-
Prometryn	mg/kg dry wt	< 0.04	-	-
Propachlor	mg/kg dry wt	< 0.07	-	-
Propanil	mg/kg dry wt	< 0.2	-	-
Propazine	mg/kg dry wt	< 0.04	-	-
Propiconazole	mg/kg dry wt	< 0.05	-	-
Pyriproxyfen	mg/kg dry wt	< 0.07	-	-
Quizalofop-ethyl	mg/kg dry wt	< 0.07	-	-
Simazine	mg/kg dry wt	< 0.07	-	-
Simetryn	mg/kg dry wt	< 0.07	-	-
Sulfentrazone	mg/kg dry wt	< 0.4	-	-
TCMTB [2-(thiocyanomethylthio) benzothiazole, Busan]	mg/kg dry wt	< 0.4	-	-
Tebuconazole	mg/kg dry wt	< 0.07	-	-
Terbacil	mg/kg dry wt	< 0.07	-	-
Terbumeton	mg/kg dry wt	< 0.07	-	-
Terbutylazine	mg/kg dry wt	< 0.04	-	-
Terbutylazine-desethyl	mg/kg dry wt	< 0.07	-	-
Terbutryn	mg/kg dry wt	< 0.07	-	-
Thiabendazole	mg/kg dry wt	< 0.4	-	-
Thiobencarb	mg/kg dry wt	< 0.07	-	-
Tolyfluanid	mg/kg dry wt	< 0.04	-	-
Triazophos	mg/kg dry wt	< 0.07	-	-
Trifluralin	mg/kg dry wt	< 0.07	-	-
Vinclozolin	mg/kg dry wt	< 0.07	-	-

Analyst's Comments

#1 It is noted that only 2 isomers of Cypermethrin are present in the sample which indicates alpha-Cypermethrin.

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, 3-4
Heavy Metals with Mercury, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.10 - 4 mg/kg dry wt	1, 3-4
Organochlorine/nitro&phosphorus Pest.s Screen in Soils, GCMS	Sonication extraction, GC-ECD and GC-MS analysis. In-house based on US EPA 8081 and US EPA 8270.	0.010 - 0.2 mg/kg dry wt	1

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Dry Matter	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	1

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

Testing was completed between 28-Aug-2025 and 01-Sep-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.

Kim Harrison MSc
Client Services Manager - Environmental

Quality Assurance Report

Page 1 of 10

Client:	Engeo Limited	Lab No:	3967877	QCPv1
Contact:	Aaron Graham C/- Engeo Limited PO Box 305136 Triton Plaza Auckland 0757	Date Received:	22-Aug-2025	
		Date Reported:	01-Sep-2025	
		Quote No:	82742	
		Order No:		
		Client Reference:	19630 - 21/08/2025	
		Submitted By:	Tess Brown	

Sample Specific QCs

Organochlorine Pesticides Screening in Soil

	3967877.1	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene %	94	40 – 120	No

Organonitro&phosphorus Pesticides Screen in Soil by GCMS

	3967877.1	Control Limits	Outside Limit (Yes/No)
Triphenylphosphate %	94	40 – 120	No

Blank QCs

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12613.13

	Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12613.49

	Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

50x Manual Dilution Digest Blank PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12613.71

	Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No

50x Manual Dilution Digest Blank PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12613.71

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12614.13

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12614.27

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Blank 1 - Multiresidue Soil Analysis Worksheet: 3982.1

		Results	Control Limits	Outside Limit (Yes/No)
Acetochlor	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Alachlor	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0031	No
Atrazine	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Atrazine-desethyl	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0062	No
Atrazine-desisopropyl	mg/kg dry wt	< 0.09 ± 0.044	0.0 – 0.0123	No
Azaconazole	mg/kg dry wt	< 0.03 ± 0.0098	0.0 – 0.0031	No
Azinphos-methyl	mg/kg dry wt	< 0.09 ± 0.042	0.0 – 0.0123	No
Benalaxyl	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Bitertanol	mg/kg dry wt	< 0.09 ± 0.022	0.0 – 0.0123	No
Bromacil	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Bromopropylate	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0062	No
Butachlor	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Captan	mg/kg dry wt	< 0.09 ± 0.051	0.0 – 0.0123	No
Carbaryl	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0062	No
Carbofuran	mg/kg dry wt	< 0.05 ± 0.011	0.0 – 0.0062	No
Chlorfluazuron	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0062	No
Chlorothalonil	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0062	No
Chlorpyrifos	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Chlorpyrifos-methyl	mg/kg dry wt	< 0.05 ± 0.027	0.0 – 0.0062	No
Chlortoluron	mg/kg dry wt	< 0.09 ± 0.041	0.0 – 0.0123	No
Cyanazine	mg/kg dry wt	< 0.05 ± 0.025	0.0 – 0.0062	No

Blank 1 - Multiresidue Soil Analysis Worksheet: 3982.1

		Results	Control Limits	Outside Limit (Yes/No)
Cyfluthrin	mg/kg dry wt	< 0.06 ± 0.031	0.0 – 0.0076	No
Cyhalothrin	mg/kg dry wt	< 0.05 ± 0.021	0.0 – 0.0062	No
Cypermethrin	mg/kg dry wt	< 0.11 ± 0.047	0.0 – 0.0151	No
Deltamethrin (including Tralomethrin)	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0062	No
Diazinon	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Dichlofluanid	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Dichloran	mg/kg dry wt	< 0.2 ± 0.019	0.0 – 0.0154	No
Dichlorvos	mg/kg dry wt	< 0.09 ± 0.0085	0.0 – 0.0062	No
Difenoconazole	mg/kg dry wt	< 0.09 ± 0.0085	0.0 – 0.0087	No
Dimethoate	mg/kg dry wt	< 0.09 ± 0.042	0.0 – 0.0123	No
Diphenylamine	mg/kg dry wt	< 0.09 ± 0.049	0.0 – 0.0123	No
Diuron	mg/kg dry wt	< 0.05 ± 0.021	0.0 – 0.0062	No
Fenpropimorph	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0062	No
Fluazifop-butyl	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Fluometuron	mg/kg dry wt	< 0.05 ± 0.031	0.0 – 0.0062	No
Flusilazole	mg/kg dry wt	< 0.05 ± 0.022	0.0 – 0.0062	No
Fluvalinate	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0044	No
Furalaxyl	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Haloxypop-methyl	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0062	No
Hexaconazole	mg/kg dry wt	< 0.05 ± 0.016	0.0 – 0.0062	No
Hexazinone	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
IPBC (3-Iodo-2-propynyl-n-butylcarbamate)	mg/kg dry wt	< 0.3 ± 0.12	0.0 – 0.031	No
Kresoxim-methyl	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Linuron	mg/kg dry wt	< 0.09 ± 0.027	0.0 – 0.0062	No
Malathion	mg/kg dry wt	< 0.05 ± 0.027	0.0 – 0.0062	No
Metalaxyl	mg/kg dry wt	< 0.05 ± 0.031	0.0 – 0.0062	No
Methamidophos	mg/kg dry wt	< 0.3 ± 0.019	0.0 – 0.031	No
Metolachlor	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0031	No
Metribuzin	mg/kg dry wt	< 0.05 ± 0.026	0.0 – 0.0062	No
Molinate	mg/kg dry wt	< 0.09 ± 0.049	0.0 – 0.0123	No
Myclobutanil	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Naled	mg/kg dry wt	< 0.3 ± 0.019	0.0 – 0.031	No
Norflurazon	mg/kg dry wt	< 0.09 ± 0.052	0.0 – 0.0123	No
Oxadiazon	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0062	No
Oxyfluorfen	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Paclobutrazol	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Parathion-ethyl	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0062	No
Parathion-methyl	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Pendimethalin	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0062	No
Permethrin	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.00175	No
Pirimicarb	mg/kg dry wt	< 0.05 ± 0.021	0.0 – 0.0062	No
Pirimiphos-methyl	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Prochloraz	mg/kg dry wt	< 0.3 ± 0.019	0.0 – 0.031	No
Procymidone	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No

Blank 1 - Multiresidue Soil Analysis Worksheet: 3982.1

		Results	Control Limits	Outside Limit (Yes/No)
Prometryn	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Propachlor	mg/kg dry wt	< 0.05 ± 0.032	0.0 – 0.0062	No
Propanil	mg/kg dry wt	< 0.2 ± 0.12	0.0 – 0.0123	No
Propazine	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Propiconazole	mg/kg dry wt	< 0.05 ± 0.027	0.0 – 0.0044	No
Pyriproxyfen	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Quizalofop-ethyl	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0062	No
Simazine	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Simetryn	mg/kg dry wt	< 0.05 ± 0.025	0.0 – 0.0062	No
Sulfentrazone	mg/kg dry wt	< 0.3 ± 0.019	0.0 – 0.031	No
TCMTB [2-(thiocyanomethylthio)benzothiazole, Busan]	mg/kg dry wt	< 0.3 ± 0.046	0.0 – 0.0123	No
Tebuconazole	mg/kg dry wt	< 0.05 ± 0.020	0.0 – 0.0062	No
Terbacil	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Terbumeton	mg/kg dry wt	< 0.05 ± 0.027	0.0 – 0.0062	No
Terbuthylazine	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Terbuthylazine-desethyl	mg/kg dry wt	< 0.05 ± 0.031	0.0 – 0.0062	No
Terbutryn	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Thiabendazole	mg/kg dry wt	< 0.3 ± 0.019	0.0 – 0.031	No
Thiobencarb	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Tolyfluanid	mg/kg dry wt	< 0.03 ± 0.0093	0.0 – 0.0031	No
Triazophos	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Trifluralin	mg/kg dry wt	< 0.05 ± 0.032	0.0 – 0.0062	No
Vinclozolin	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No

Blank 1 - Multiresidue Soil Analysis Worksheet: 3982.7

		Results	Control Limits	Outside Limit (Yes/No)
Acetochlor	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Alachlor	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0031	No
Atrazine	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Atrazine-desethyl	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0062	No
Atrazine-desisopropyl	mg/kg dry wt	< 0.09 ± 0.044	0.0 – 0.0123	No
Azaconazole	mg/kg dry wt	< 0.03 ± 0.0098	0.0 – 0.0031	No
Azinphos-methyl	mg/kg dry wt	< 0.09 ± 0.042	0.0 – 0.0123	No
Benalaxyl	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Bitertanol	mg/kg dry wt	< 0.09 ± 0.022	0.0 – 0.0123	No
Bromacil	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Bromopropylate	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0062	No
Butachlor	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Captan	mg/kg dry wt	< 0.09 ± 0.051	0.0 – 0.0123	No
Carbaryl	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0062	No
Carbofuran	mg/kg dry wt	< 0.05 ± 0.011	0.0 – 0.0062	No
Chlorfluazuron	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0062	No
Chlorothalonil	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0062	No
Chlorpyrifos	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Chlorpyrifos-methyl	mg/kg dry wt	< 0.05 ± 0.027	0.0 – 0.0062	No

Blank 1 - Multiresidue Soil Analysis Worksheet: 3982.7

		Results	Control Limits	Outside Limit (Yes/No)
Chlortoluron	mg/kg dry wt	< 0.09 ± 0.041	0.0 – 0.0123	No
Cyanazine	mg/kg dry wt	< 0.05 ± 0.025	0.0 – 0.0062	No
Cyfluthrin	mg/kg dry wt	< 0.06 ± 0.031	0.0 – 0.0076	No
Cyhalothrin	mg/kg dry wt	< 0.05 ± 0.021	0.0 – 0.0062	No
Cypermethrin	mg/kg dry wt	< 0.12 ± 0.047	0.0 – 0.0151	No
Deltamethrin (including Tralomethrin)	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0062	No
Diazinon	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Dichlofluanid	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Dichloran	mg/kg dry wt	< 0.2 ± 0.019	0.0 – 0.0154	No
Dichlorvos	mg/kg dry wt	< 0.09 ± 0.0085	0.0 – 0.0062	No
Difenoconazole	mg/kg dry wt	< 0.09 ± 0.0085	0.0 – 0.0087	No
Dimethoate	mg/kg dry wt	< 0.09 ± 0.042	0.0 – 0.0123	No
Diphenylamine	mg/kg dry wt	< 0.09 ± 0.049	0.0 – 0.0123	No
Diuron	mg/kg dry wt	< 0.05 ± 0.021	0.0 – 0.0062	No
Fenpropimorph	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0062	No
Fluazifop-butyl	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Fluometuron	mg/kg dry wt	< 0.05 ± 0.031	0.0 – 0.0062	No
Flusilazole	mg/kg dry wt	< 0.05 ± 0.022	0.0 – 0.0062	No
Fluvalinate	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0044	No
Furalaxyl	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Haloxfop-methyl	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0062	No
Hexaconazole	mg/kg dry wt	< 0.05 ± 0.016	0.0 – 0.0062	No
Hexazinone	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
IPBC (3-Iodo-2-propynyl-n-butylcarbamate)	mg/kg dry wt	< 0.3 ± 0.12	0.0 – 0.031	No
Kresoxim-methyl	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Linuron	mg/kg dry wt	< 0.09 ± 0.027	0.0 – 0.0062	No
Malathion	mg/kg dry wt	< 0.05 ± 0.027	0.0 – 0.0062	No
Metalaxyl	mg/kg dry wt	< 0.05 ± 0.031	0.0 – 0.0062	No
Methamidophos	mg/kg dry wt	< 0.3 ± 0.019	0.0 – 0.031	No
Metolachlor	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0031	No
Metribuzin	mg/kg dry wt	< 0.05 ± 0.026	0.0 – 0.0062	No
Molinate	mg/kg dry wt	< 0.09 ± 0.049	0.0 – 0.0123	No
Myclobutanil	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Naled	mg/kg dry wt	< 0.3 ± 0.019	0.0 – 0.031	No
Norflurazon	mg/kg dry wt	< 0.09 ± 0.052	0.0 – 0.0123	No
Oxadiazon	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0062	No
Oxyfluorfen	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Paclobutrazol	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Parathion-ethyl	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0062	No
Parathion-methyl	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Pendimethalin	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0062	No
Permethrin	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.00175	No
Pirimicarb	mg/kg dry wt	< 0.05 ± 0.021	0.0 – 0.0062	No
Pirimiphos-methyl	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No

Blank 1 - Multiresidue Soil Analysis Worksheet: 3982.7

		Results	Control Limits	Outside Limit (Yes/No)
Prochloraz	mg/kg dry wt	< 0.3 ± 0.019	0.0 – 0.031	No
Procymidone	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Prometryn	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Propachlor	mg/kg dry wt	< 0.05 ± 0.032	0.0 – 0.0062	No
Propanil	mg/kg dry wt	< 0.2 ± 0.12	0.0 – 0.0123	No
Propazine	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Propiconazole	mg/kg dry wt	< 0.05 ± 0.027	0.0 – 0.0044	No
Pyriproxyfen	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Quizalofop-ethyl	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0062	No
Simazine	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Simetryn	mg/kg dry wt	< 0.05 ± 0.025	0.0 – 0.0062	No
Sulfentrazone	mg/kg dry wt	< 0.3 ± 0.019	0.0 – 0.031	No
TCMTB [2-(thiocyanomethylthio) benzothiazole, Busan]	mg/kg dry wt	< 0.3 ± 0.046	0.0 – 0.0123	No
Tebuconazole	mg/kg dry wt	< 0.05 ± 0.020	0.0 – 0.0062	No
Terbacil	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Terbumeton	mg/kg dry wt	< 0.05 ± 0.027	0.0 – 0.0062	No
Terbuthylazine	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Terbuthylazine-desethyl	mg/kg dry wt	< 0.05 ± 0.031	0.0 – 0.0062	No
Terbutryn	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Thiabendazole	mg/kg dry wt	< 0.3 ± 0.019	0.0 – 0.031	No
Thiobencarb	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Tolyfluanid	mg/kg dry wt	< 0.03 ± 0.0093	0.0 – 0.0031	No
Triazophos	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Trifluralin	mg/kg dry wt	< 0.05 ± 0.032	0.0 – 0.0062	No
Vinclozolin	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No

Blank 1 PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9119.1

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
alpha-BHC	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
beta-BHC	mg/kg dry wt	< 0.010 ± 0.0028	0.0 – 0.0100	No
delta-BHC	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010 ± 0.0031	0.0 – 0.0100	No
cis-Chlordane	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
trans-Chlordane	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
2,4'-DDD	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
4,4'-DDD	mg/kg dry wt	< 0.010 ± 0.0024	0.0 – 0.0100	No
2,4'-DDE	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
4,4'-DDE	mg/kg dry wt	< 0.010 ± 0.0023	0.0 – 0.0100	No
2,4'-DDT	mg/kg dry wt	< 0.010 ± 0.0021	0.0 – 0.0100	No
4,4'-DDT	mg/kg dry wt	< 0.010 ± 0.0017	0.0 – 0.0100	No
Dieldrin	mg/kg dry wt	< 0.010 ± 0.0026	0.0 – 0.0100	No
Endosulfan I	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
Endosulfan II	mg/kg dry wt	< 0.010 ± 0.0026	0.0 – 0.0100	No
Endosulfan sulphate	mg/kg dry wt	< 0.010 ± 0.0013	0.0 – 0.0100	No

Blank 1 PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9119.1

		Results	Control Limits	Outside Limit (Yes/No)
Endrin	mg/kg dry wt	< 0.010 ± 0.00048	0.0 – 0.0100	No
Endrin aldehyde	mg/kg dry wt	< 0.010 ± 0.0019	0.0 – 0.0100	No
Endrin ketone	mg/kg dry wt	< 0.010 ± 0.0024	0.0 – 0.0100	No
Heptachlor	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
Heptachlor epoxide	mg/kg dry wt	< 0.010 ± 0.0031	0.0 – 0.0100	No
Hexachlorobenzene	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
Methoxychlor	mg/kg dry wt	< 0.010 ± 0.00048	0.0 – 0.0100	No

QC Spike QCs

Screen LCS Mix5+ - Multiresidue Soil Analysis Worksheet: 3982.2

		Results	Control Limits	Outside Limit (Yes/No)
Acetochlor	%	70 ± 24	45 – 133	No
Cyanazine	%	66 ± 30	44 – 106	No
Dichlorvos	%	43 ± 29	16.0 – 95	No
Fluvalinate	%	47 ± 32	43 – 95	No
Furalaxyl	%	89 ± 32	51 – 122	No
Hexaconazole	%	54 ± 33	38 – 92	No
IPBC (3-Iodo-2-propynyl-n-butylcarbamate)	%	27.0 ± 9.6	27 – 87	No
Pyriproxyfen	%	83 ± 33	52 – 103	No
TCMTB [2-(thiocyanomethylthio) benzothiazole, Busan]	%	14.0 ± 6.1	21 – 92	Yes #1
Thiobencarb	%	106 ± 40	50 – 120	No

LCS OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9119.2

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	%	101 ± 31	80 – 121	No
alpha-BHC	%	97 ± 30	76 – 121	No
beta-BHC	%	96 ± 37	75 – 113	No
delta-BHC	%	98 ± 34	74 – 114	No
gamma-BHC (Lindane)	%	97 ± 28	78 – 116	No
cis-Chlordane	%	98 ± 32	78 – 118	No
trans-Chlordane	%	87 ± 27	76 – 121	No
2,4'-DDD	%	100 ± 37	75 – 114	No
4,4'-DDD	%	107 ± 52	75 – 120	No
2,4'-DDE	%	119 ± 39	73 – 118	Yes #2
4,4'-DDE	%	90 ± 46	73 – 116	No
2,4'-DDT	%	106 ± 56	70 – 124	No
4,4'-DDT	%	97 ± 57	65 – 120	No
Dieldrin	%	103 ± 46	84 – 124	No
Endosulfan I	%	109 ± 40	81 – 120	No
Endosulfan II	%	104 ± 46	72 – 117	No
Endosulfan sulphate	%	108 ± 67	76 – 120	No
Endrin	%	112 ± 74	78 – 124	No
Endrin aldehyde	%	107 ± 60	84 – 127	No
Endrin ketone	%	96 ± 47	69 – 115	No
Heptachlor	%	98 ± 34	74 – 120	No
Heptachlor epoxide	%	99 ± 28	79 – 119	No

LCS OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9119.2

		Results	Control Limits	Outside Limit (Yes/No)
Hexachlorobenzene	%	94 ± 32	77 – 116	No
Methoxychlor	%	103 ± 68	70 – 125	No

Sample Spike QCs

Screen Sample Spike Mix5+ - Multiresidue Soil Analysis Worksheet: 3982.9

		Results	Control Limits	Outside Limit (Yes/No)
Acetochlor	%	74 ± 25	48 – 114	No
Cyanazine	%	81 ± 37	48 – 121	No
Dichlorvos	%	63 ± 42	10.0 – 169	No
Fluvalinate	%	73 ± 49	39 – 151	No
Furalaxyl	%	94 ± 34	52 – 128	No
Hexaconazole	%	69 ± 41	43 – 117	No
IPBC (3-Iodo-2-propynyl-n-butylcarbamate)	%	33 ± 12	28 – 105	No
Pyriproxyfen	%	92 ± 36	58 – 114	No
TCMTB [2-(thiocyanomethylthio) benzothiazole, Busan]	%	18.0 ± 7.8	15.0 – 117	No
Thiobencarb	%	105 ± 39	60 – 119	No

Spike OC PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9119.14

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	%	102 ± 31	83 – 122	No
alpha-BHC	%	99 ± 30	80 – 122	No
beta-BHC	%	79 ± 31	79 – 114	No
delta-BHC	%	95 ± 33	76 – 118	No
gamma-BHC (Lindane)	%	100 ± 29	80 – 117	No
cis-Chlordane	%	96 ± 31	80 – 120	No
trans-Chlordane	%	83 ± 25	79 – 121	No
2,4'-DDD	%	100 ± 37	74 – 120	No
4,4'-DDD	%	101 ± 49	75 – 125	No
2,4'-DDE	%	115 ± 37	74 – 119	No
4,4'-DDE	%	95 ± 48	76 – 120	No
2,4'-DDT	%	95 ± 50	72 – 126	No
4,4'-DDT	%	90 ± 53	63 – 123	No
Dieldrin	%	99 ± 44	86 – 126	No
Endosulfan I	%	102 ± 37	83 – 120	No
Endosulfan II	%	94 ± 42	72 – 119	No
Endosulfan sulphate	%	99 ± 62	78 – 124	No
Endrin	%	106 ± 70	82 – 126	No
Endrin aldehyde	%	99 ± 56	84 – 131	No
Endrin ketone	%	91 ± 44	70 – 119	No
Heptachlor	%	118 ± 41	79 – 123	No
Heptachlor epoxide	%	100 ± 29	81 – 119	No
Hexachlorobenzene	%	97 ± 33	77 – 119	No
Methoxychlor	%	101 ± 67	71 – 133	No

Reference Material QCs

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12613.14

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.7 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.83 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.0 ± 3.7	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.0 ± 2.5	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	33.3 ± 6.3	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.343 ± 0.079	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.0 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	193 ± 29	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12613.61

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.1 ± 2.0	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.78 ± 0.15	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	24.6 ± 3.5	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.4 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	30.1 ± 5.7	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.286 ± 0.075	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.1 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	183 ± 27	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12613.72

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.6 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.76 ± 0.15	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	24.9 ± 3.5	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.5 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	30.4 ± 5.7	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.300 ± 0.076	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.7 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	182 ± 27	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12614.14

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.3 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.83 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	27.0 ± 3.8	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.6 ± 2.5	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	34.3 ± 6.4	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.326 ± 0.078	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.1 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	198 ± 30	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12614.50

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.9 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.82 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.8 ± 3.8	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	15.6 ± 2.8	11.0 – 15.3	Yes #3

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12614.50

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Lead	mg/kg dry wt	33.4 ± 6.3	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.339 ± 0.079	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.1 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	194 ± 29	166 – 230	No

Analyst's Comments

#1 The Laboratory Control Spike (LCS) recovery for this analyte was below the acceptable recovery range of the method. The corresponding sample result was accepted because the sample spike recovery was within the expected range.

#2 The Laboratory Control Sample (LCS) spike recovery was elevated and above the acceptable recovery range. The corresponding sample results were accepted as there were no positives detected in the sample.

#3 The recovery for this analyte was outside the acceptable recovery range of the method. The corresponding sample result was accepted because the related recovery in the other QC material analysed was within the expected range.

Certificate of Analysis

Page 1 of 19

Client:	Engeo Limited	Lab No:	3960753	SPV2
Contact:	Aaron Graham C/- Engeo Limited PO Box 305136 Triton Plaza Auckland 0757	Date Received:	14-Aug-2025	
		Date Reported:	09-Sep-2025	(Amended)
		Quote No:	82742	
		Order No:		
		Client Reference:	19630	
		Submitted By:	Caitlin Robinson	

Sample Type: Soil						
Sample Name:		C1-1_0-0.1 11-Aug-2025	C1-10_0-0.1 11-Aug-2025	C1-11_0-0.1 11-Aug-2025	C1-20_0-0.1 12-Aug-2025	C1-21_0-0.1 12-Aug-2025
Lab Number:		3960753.1	3960753.19	3960753.21	3960753.39	3960753.41
Individual Tests						
Dry Matter	g/100g as rcvd	60	-	-	61	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	6	6	5	5	< 2
Total Recoverable Cadmium	mg/kg dry wt	0.18	0.14	0.14	0.18	0.23
Total Recoverable Chromium	mg/kg dry wt	4	4	4	3	3
Total Recoverable Copper	mg/kg dry wt	6	5	5	4	2
Total Recoverable Lead	mg/kg dry wt	7.3	5.0	8.5	5.6	3.1
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	3	< 2	< 2	< 2	< 2
Total Recoverable Zinc	mg/kg dry wt	22	22	26	19	11
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.017	-	-	< 0.017	-
alpha-BHC	mg/kg dry wt	< 0.017	-	-	< 0.017	-
beta-BHC	mg/kg dry wt	< 0.017	-	-	< 0.017	-
delta-BHC	mg/kg dry wt	< 0.017	-	-	< 0.017	-
gamma-BHC (Lindane)	mg/kg dry wt	< 0.017	-	-	< 0.017	-
cis-Chlordane	mg/kg dry wt	< 0.017	-	-	< 0.017	-
trans-Chlordane	mg/kg dry wt	< 0.017	-	-	< 0.017	-
2,4'-DDD	mg/kg dry wt	< 0.017	-	-	< 0.017	-
4,4'-DDD	mg/kg dry wt	< 0.017	-	-	< 0.017	-
2,4'-DDE	mg/kg dry wt	< 0.017	-	-	< 0.017	-
4,4'-DDE	mg/kg dry wt	< 0.017	-	-	< 0.017	-
2,4'-DDT	mg/kg dry wt	< 0.017	-	-	< 0.017	-
4,4'-DDT	mg/kg dry wt	< 0.017	-	-	< 0.017	-
Total DDT Isomers	mg/kg dry wt	< 0.10	-	-	< 0.10	-
Dieldrin	mg/kg dry wt	< 0.017	-	-	< 0.017	-
Endosulfan I	mg/kg dry wt	< 0.017	-	-	< 0.017	-
Endosulfan II	mg/kg dry wt	< 0.017	-	-	< 0.017	-
Endosulfan sulphate	mg/kg dry wt	< 0.017	-	-	< 0.017	-
Endrin	mg/kg dry wt	< 0.017	-	-	< 0.017	-
Endrin aldehyde	mg/kg dry wt	< 0.017	-	-	< 0.017	-
Endrin ketone	mg/kg dry wt	< 0.017	-	-	< 0.017	-
Heptachlor	mg/kg dry wt	< 0.017	-	-	< 0.017	-
Heptachlor epoxide	mg/kg dry wt	< 0.017	-	-	< 0.017	-
Hexachlorobenzene	mg/kg dry wt	< 0.017	-	-	< 0.017	-
Methoxychlor	mg/kg dry wt	< 0.017	-	-	< 0.017	-

Sample Type: Soil						
Sample Name:	C1-1_0-0.1 11-Aug-2025	C1-10_0-0.1 11-Aug-2025	C1-11_0-0.1 11-Aug-2025	C1-20_0-0.1 12-Aug-2025	C1-21_0-0.1 12-Aug-2025	
Lab Number:	3960753.1	3960753.19	3960753.21	3960753.39	3960753.41	
Organonitro&phosphorus Pesticides Screen in Soil by GCMS						
Acetochlor	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Alachlor	mg/kg dry wt	< 0.05	-	-	< 0.05	-
Atrazine	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Atrazine-desethyl	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Atrazine-desisopropyl	mg/kg dry wt	< 0.18	-	-	< 0.18	-
Azaconazole	mg/kg dry wt	< 0.05	-	-	< 0.05	-
Azinphos-methyl	mg/kg dry wt	< 0.18	-	-	< 0.18	-
Benalaxyl	mg/kg dry wt	< 0.05	-	-	< 0.05	-
Bitertanol	mg/kg dry wt	< 0.18	-	-	< 0.18	-
Bromacil	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Bromopropylate	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Butachlor	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Captan	mg/kg dry wt	< 0.18	-	-	< 0.18	-
Carbaryl	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Carbofuran	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Chlorfluazuron	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Chlorothalonil	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Chlorpyrifos	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Chlorpyrifos-methyl	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Chlortoluron	mg/kg dry wt	< 0.18	-	-	< 0.18	-
Cyanazine	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Cyfluthrin	mg/kg dry wt	< 0.12	-	-	< 0.11	-
Cyhalothrin	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Cypermethrin	mg/kg dry wt	< 0.3	-	-	< 0.3	-
Deltamethrin (including Tralomethrin)	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Diazinon	mg/kg dry wt	< 0.05	-	-	< 0.05	-
Dichlofluanid	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Dichloran	mg/kg dry wt	< 0.3	-	-	< 0.3	-
Dichlorvos	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Difenoconazole	mg/kg dry wt	< 0.13	-	-	< 0.13	-
Dimethoate	mg/kg dry wt	< 0.18	-	-	< 0.18	-
Diphenylamine	mg/kg dry wt	< 0.18	-	-	< 0.18	-
Diuron	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Fenpropimorph	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Fluazifop-butyl	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Fluometuron	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Flusilazole	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Fluvalinate	mg/kg dry wt	< 0.07	-	-	< 0.07	-
Furalaxyl	mg/kg dry wt	< 0.05	-	-	< 0.05	-
Haloxifop-methyl	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Hexaconazole	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Hexazinone	mg/kg dry wt	< 0.05	-	-	< 0.05	-
IPBC (3-Iodo-2-propynyl-n-butylcarbamate)	mg/kg dry wt	< 0.5	-	-	< 0.5	-
Kresoxim-methyl	mg/kg dry wt	< 0.05	-	-	< 0.05	-
Linuron	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Malathion	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Metalaxyl	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Methamidophos	mg/kg dry wt	< 0.5	-	-	< 0.5	-
Metolachlor	mg/kg dry wt	< 0.05	-	-	< 0.05	-
Metribuzin	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Molinate	mg/kg dry wt	< 0.18	-	-	< 0.18	-
Myclobutanil	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Naled	mg/kg dry wt	< 0.5	-	-	< 0.5	-

Sample Type: Soil						
Sample Name:	C1-1_0-0.1 11-Aug-2025	C1-10_0-0.1 11-Aug-2025	C1-11_0-0.1 11-Aug-2025	C1-20_0-0.1 12-Aug-2025	C1-21_0-0.1 12-Aug-2025	
Lab Number:	3960753.1	3960753.19	3960753.21	3960753.39	3960753.41	
Organonitro&phosphorus Pesticides Screen in Soil by GCMS						
Norflurazon	mg/kg dry wt	< 0.18	-	-	< 0.18	-
Oxadiazon	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Oxyfluorfen	mg/kg dry wt	< 0.05	-	-	< 0.05	-
Paclobutrazol	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Parathion-ethyl	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Parathion-methyl	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Pendimethalin	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Permethrin	mg/kg dry wt	< 0.03	-	-	< 0.03	-
Pirimicarb	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Pirimiphos-methyl	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Prochloraz	mg/kg dry wt	< 0.5	-	-	< 0.5	-
Procymidone	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Prometryn	mg/kg dry wt	< 0.05	-	-	< 0.05	-
Propachlor	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Propanil	mg/kg dry wt	< 0.2	-	-	< 0.2	-
Propazine	mg/kg dry wt	< 0.05	-	-	< 0.05	-
Propiconazole	mg/kg dry wt	< 0.07	-	-	< 0.07	-
Pyriproxyfen	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Quizalofop-ethyl	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Simazine	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Simetryn	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Sulfentrazone	mg/kg dry wt	< 0.5	-	-	< 0.5	-
TCMTB [2-(thiocyanomethylthio) benzothiazole, Busan]	mg/kg dry wt	< 0.18	-	-	< 0.18	-
Tebuconazole	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Terbacil	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Terbutometon	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Terbuthylazine	mg/kg dry wt	< 0.05	-	-	< 0.05	-
Terbuthylazine-desethyl	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Terbutryn	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Thiabendazole	mg/kg dry wt	< 0.5	-	-	< 0.5	-
Thiobencarb	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Tolyfluanid	mg/kg dry wt	< 0.05	-	-	< 0.05	-
Triazophos	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Trifluralin	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Vinclozolin	mg/kg dry wt	< 0.09	-	-	< 0.09	-
Sample Name:	C1-22_0-0.1 12-Aug-2025	C1-23_0-0.1 12-Aug-2025	C1-24_0-0.1 12-Aug-2025	C1-25_0-0.1 12-Aug-2025	C1-26_0-0.1 12-Aug-2025	
Lab Number:	3960753.43	3960753.45	3960753.47	3960753.49	3960753.51	
Individual Tests						
Dry Matter	g/100g as rcvd	-	62	-	61	57
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	2	3	< 4	2	16
Total Recoverable Cadmium	mg/kg dry wt	0.21	0.31	0.2	0.25	0.34
Total Recoverable Chromium	mg/kg dry wt	4	4	5	4	17
Total Recoverable Copper	mg/kg dry wt	4	4	4	4	45
Total Recoverable Lead	mg/kg dry wt	3.3	3.1	2.5	3.2	22
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.2	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	2	2	< 4	< 2	3
Total Recoverable Zinc	mg/kg dry wt	16	14	17	15	144
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
alpha-BHC	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
beta-BHC	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
delta-BHC	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017

Sample Type: Soil

Sample Name:		C1-22_0-0.1	C1-23_0-0.1	C1-24_0-0.1	C1-25_0-0.1	C1-26_0-0.1
		12-Aug-2025	12-Aug-2025	12-Aug-2025	12-Aug-2025	12-Aug-2025
Lab Number:		3960753.43	3960753.45	3960753.47	3960753.49	3960753.51
Organochlorine Pesticides Screening in Soil						
gamma-BHC (Lindane)	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
cis-Chlordane	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
trans-Chlordane	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
2,4'-DDD	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
4,4'-DDD	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
2,4'-DDE	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
4,4'-DDE	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
2,4'-DDT	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
4,4'-DDT	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
Total DDT Isomers	mg/kg dry wt	-	< 0.10	-	< 0.10	< 0.11
Dieldrin	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
Endosulfan I	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
Endosulfan II	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
Endosulfan sulphate	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
Endrin	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
Endrin aldehyde	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
Endrin ketone	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
Heptachlor	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
Heptachlor epoxide	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
Hexachlorobenzene	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
Methoxychlor	mg/kg dry wt	-	< 0.016	-	< 0.017	< 0.017
Organonitro&phosphorus Pesticides Screen in Soil by GCMS						
Acetochlor	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Alachlor	mg/kg dry wt	-	< 0.05	-	< 0.05	-
Atrazine	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Atrazine-desethyl	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Atrazine-desisopropyl	mg/kg dry wt	-	< 0.18	-	< 0.18	-
Azaconazole	mg/kg dry wt	-	< 0.05	-	< 0.05	-
Azinphos-methyl	mg/kg dry wt	-	< 0.18	-	< 0.18	-
Benalaxyl	mg/kg dry wt	-	< 0.05	-	< 0.05	-
Bitertanol	mg/kg dry wt	-	< 0.18	-	< 0.18	-
Bromacil	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Bromopropylate	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Butachlor	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Captan	mg/kg dry wt	-	< 0.18	-	< 0.18	-
Carbaryl	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Carbofuran	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Chlorfluazuron	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Chlorothalonil	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Chlorpyrifos	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Chlorpyrifos-methyl	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Chlortoluron	mg/kg dry wt	-	< 0.18	-	< 0.18	-
Cyanazine	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Cyfluthrin	mg/kg dry wt	-	< 0.11	-	< 0.11	-
Cyhalothrin	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Cypermethrin	mg/kg dry wt	-	< 0.3	-	< 0.3	-
Deltamethrin (including Tralomethrin)	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Diazinon	mg/kg dry wt	-	< 0.05	-	< 0.05	-
Dichlofluanid	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Dichloran	mg/kg dry wt	-	< 0.3	-	< 0.3	-
Dichlorvos	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Difenoconazole	mg/kg dry wt	-	< 0.13	-	< 0.13	-
Dimethoate	mg/kg dry wt	-	< 0.18	-	< 0.18	-
Diphenylamine	mg/kg dry wt	-	< 0.18	-	< 0.18	-

Sample Type: Soil						
Sample Name:	C1-22_0-0.1 12-Aug-2025	C1-23_0-0.1 12-Aug-2025	C1-24_0-0.1 12-Aug-2025	C1-25_0-0.1 12-Aug-2025	C1-26_0-0.1 12-Aug-2025	
Lab Number:	3960753.43	3960753.45	3960753.47	3960753.49	3960753.51	
Organonitro&phosphorus Pesticides Screen in Soil by GCMS						
Diuron	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Fenpropimorph	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Fluazifop-butyl	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Fluometuron	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Flusilazole	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Fluvalinate	mg/kg dry wt	-	< 0.07	-	< 0.07	-
Furalaxyl	mg/kg dry wt	-	< 0.05	-	< 0.05	-
Haloxifop-methyl	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Hexaconazole	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Hexazinone	mg/kg dry wt	-	< 0.05	-	< 0.05	-
IPBC (3-Iodo-2-propynyl-n-butylcarbamate)	mg/kg dry wt	-	< 0.5	-	< 0.5	-
Kresoxim-methyl	mg/kg dry wt	-	< 0.05	-	< 0.05	-
Linuron	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Malathion	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Metalaxyl	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Methamidophos	mg/kg dry wt	-	< 0.5	-	< 0.5	-
Metolachlor	mg/kg dry wt	-	< 0.05	-	< 0.05	-
Metribuzin	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Molinate	mg/kg dry wt	-	< 0.18	-	< 0.18	-
Myclobutanil	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Naled	mg/kg dry wt	-	< 0.5	-	< 0.5	-
Norflurazon	mg/kg dry wt	-	< 0.18	-	< 0.18	-
Oxadiazon	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Oxyfluorfen	mg/kg dry wt	-	< 0.05	-	< 0.05	-
Paclobutrazol	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Parathion-ethyl	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Parathion-methyl	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Pendimethalin	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Permethrin	mg/kg dry wt	-	< 0.03	-	< 0.03	-
Pirimicarb	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Pirimiphos-methyl	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Prochloraz	mg/kg dry wt	-	< 0.5	-	< 0.5	-
Procymidone	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Prometryn	mg/kg dry wt	-	< 0.05	-	< 0.05	-
Propachlor	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Propanil	mg/kg dry wt	-	< 0.2	-	< 0.2	-
Propazine	mg/kg dry wt	-	< 0.05	-	< 0.05	-
Propiconazole	mg/kg dry wt	-	< 0.07	-	< 0.07	-
Pyriproxyfen	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Quizalofop-ethyl	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Simazine	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Simetryn	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Sulfentrazone	mg/kg dry wt	-	< 0.5	-	< 0.5	-
TCMTB [2-(thiocyanomethylthio)benzothiazole, Busan]	mg/kg dry wt	-	< 0.18	-	< 0.18	-
Tebuconazole	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Terbacil	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Terbutometon	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Terbutylazine	mg/kg dry wt	-	< 0.05	-	< 0.05	-
Terbutylazine-desethyl	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Terbutryn	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Thiabendazole	mg/kg dry wt	-	< 0.5	-	< 0.5	-
Thiobencarb	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Tolyfluanid	mg/kg dry wt	-	< 0.05	-	< 0.05	-

Sample Type: Soil						
Sample Name:	C1-22_0-0.1 12-Aug-2025	C1-23_0-0.1 12-Aug-2025	C1-24_0-0.1 12-Aug-2025	C1-25_0-0.1 12-Aug-2025	C1-26_0-0.1 12-Aug-2025	
Lab Number:	3960753.43	3960753.45	3960753.47	3960753.49	3960753.51	
Organonitro&phosphorus Pesticides Screen in Soil by GCMS						
Triazophos	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Trifluralin	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Vinclozolin	mg/kg dry wt	-	< 0.09	-	< 0.09	-
Sample Name:	C1-27_0-0.1 12-Aug-2025	C1-28_0-0.1 12-Aug-2025	C1-29_0-0.1 12-Aug-2025	C1-30_0-0.1 12-Aug-2025	C1-31_0-0.1 12-Aug-2025	
Lab Number:	3960753.52	3960753.54	3960753.55	3960753.57	3960753.59	
Individual Tests						
Dry Matter	g/100g as rcvd	69	60	-	79	-
SPLP Sample Weight	g	-	-	50	-	-
SPLP Extractant Type*		-	-	De-ionised Water, pH 5.8 +/- 0.4	-	-
SPLP Final pH	pH Units	-	-	8.2	-	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	16	6	7	6	< 2
Total Recoverable Cadmium	mg/kg dry wt	0.18	0.41	0.25	0.30	< 0.10
Total Recoverable Chromium	mg/kg dry wt	10	9	6	11	< 2
Total Recoverable Copper	mg/kg dry wt	13	16	12	16	4
Total Recoverable Lead	mg/kg dry wt	7.0	11.7	9.0	17.6	4.4
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	< 2	3	< 2	5	< 2
Total Recoverable Zinc	mg/kg dry wt	58	172	700	240	48
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.015	< 0.016	-	-	-
alpha-BHC	mg/kg dry wt	< 0.015	< 0.016	-	-	-
beta-BHC	mg/kg dry wt	< 0.015	< 0.016	-	-	-
delta-BHC	mg/kg dry wt	< 0.015	< 0.016	-	-	-
gamma-BHC (Lindane)	mg/kg dry wt	< 0.015	< 0.016	-	-	-
cis-Chlordane	mg/kg dry wt	< 0.015	< 0.016	-	-	-
trans-Chlordane	mg/kg dry wt	< 0.015	< 0.016	-	-	-
2,4'-DDD	mg/kg dry wt	< 0.015	< 0.016	-	-	-
4,4'-DDD	mg/kg dry wt	< 0.015	< 0.016	-	-	-
2,4'-DDE	mg/kg dry wt	< 0.015	< 0.016	-	-	-
4,4'-DDE	mg/kg dry wt	< 0.015	< 0.016	-	-	-
2,4'-DDT	mg/kg dry wt	< 0.015	< 0.016	-	-	-
4,4'-DDT	mg/kg dry wt	< 0.015	< 0.016	-	-	-
Total DDT Isomers	mg/kg dry wt	< 0.09	< 0.10	-	-	-
Dieldrin	mg/kg dry wt	< 0.015	< 0.016	-	-	-
Endosulfan I	mg/kg dry wt	< 0.015	< 0.016	-	-	-
Endosulfan II	mg/kg dry wt	< 0.015	< 0.016	-	-	-
Endosulfan sulphate	mg/kg dry wt	< 0.015	< 0.016	-	-	-
Endrin	mg/kg dry wt	< 0.015	< 0.016	-	-	-
Endrin aldehyde	mg/kg dry wt	< 0.015	< 0.016	-	-	-
Endrin ketone	mg/kg dry wt	< 0.015	< 0.016	-	-	-
Heptachlor	mg/kg dry wt	< 0.015	< 0.016	-	-	-
Heptachlor epoxide	mg/kg dry wt	< 0.015	< 0.016	-	-	-
Hexachlorobenzene	mg/kg dry wt	< 0.015	< 0.016	-	-	-
Methoxychlor	mg/kg dry wt	< 0.015	< 0.016	-	-	-
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	-	-	-	< 0.3	-
1-Methylnaphthalene	mg/kg dry wt	-	-	-	< 0.013	-
2-Methylnaphthalene	mg/kg dry wt	-	-	-	< 0.013	-
Acenaphthylene	mg/kg dry wt	-	-	-	< 0.013	-
Acenaphthene	mg/kg dry wt	-	-	-	< 0.013	-
Anthracene	mg/kg dry wt	-	-	-	< 0.013	-
Benzo[a]anthracene	mg/kg dry wt	-	-	-	< 0.013	-

Sample Type: Soil						
Sample Name:	C1-27_0-0.1 12-Aug-2025	C1-28_0-0.1 12-Aug-2025	C1-29_0-0.1 12-Aug-2025	C1-30_0-0.1 12-Aug-2025	C1-31_0-0.1 12-Aug-2025	
Lab Number:	3960753.52	3960753.54	3960753.55	3960753.57	3960753.59	
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	-	-	< 0.013	-
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	-	-	< 0.030	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	-	-	< 0.030	-
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	-	-	-	< 0.013	-
Benzo[e]pyrene	mg/kg dry wt	-	-	-	< 0.013	-
Benzo[g,h,i]perylene	mg/kg dry wt	-	-	-	< 0.013	-
Benzo[k]fluoranthene	mg/kg dry wt	-	-	-	< 0.013	-
Chrysene	mg/kg dry wt	-	-	-	< 0.013	-
Dibenzo[a,h]anthracene	mg/kg dry wt	-	-	-	< 0.013	-
Fluoranthene	mg/kg dry wt	-	-	-	< 0.013	-
Fluorene	mg/kg dry wt	-	-	-	< 0.013	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	-	-	-	< 0.013	-
Naphthalene	mg/kg dry wt	-	-	-	< 0.07	-
Perylene	mg/kg dry wt	-	-	-	< 0.013	-
Phenanthrene	mg/kg dry wt	-	-	-	< 0.013	-
Pyrene	mg/kg dry wt	-	-	-	< 0.013	-
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	-	-	-	< 20	-
C10 - C14	mg/kg dry wt	-	-	-	< 20	-
C15 - C36	mg/kg dry wt	-	-	-	47	-
Total hydrocarbons (C7 - C36)	mg/kg dry wt	-	-	-	< 80	-
Sample Name:	C1-32_0-0.1 12-Aug-2025	C1-TP1 E 07-Aug-2025	C1-TP1 W 07-Aug-2025	C1-TP2 W 07-Aug-2025	C1-TP3 0-0.1 07-Aug-2025	
Lab Number:	3960753.61	3960753.63	3960753.64	3960753.65	3960753.66	
Individual Tests						
Dry Matter	g/100g as rcvd	-	71	80	51	56
SPLP Sample Weight	g	-	50	-	-	-
SPLP Extractant Type*		-	De-ionised Water, pH 5.8 +/- 0.4	-	-	-
SPLP Final pH	pH Units	-	9.1	-	-	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	23	23	8	80	49
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.24	0.21	0.39	0.38
Total Recoverable Chromium	mg/kg dry wt	18	17	9	28	28
Total Recoverable Copper	mg/kg dry wt	22	22	14	90	53
Total Recoverable Lead	mg/kg dry wt	12.3	9.2	11.4	6.6	13.3
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	< 2	3	4	2	2
Total Recoverable Zinc	mg/kg dry wt	42	980	76	390	280
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	-	< 0.014	-	< 0.019	-
alpha-BHC	mg/kg dry wt	-	< 0.014	-	< 0.019	-
beta-BHC	mg/kg dry wt	-	< 0.014	-	< 0.019	-
delta-BHC	mg/kg dry wt	-	< 0.014	-	< 0.019	-
gamma-BHC (Lindane)	mg/kg dry wt	-	< 0.014	-	< 0.019	-
cis-Chlordane	mg/kg dry wt	-	< 0.014	-	< 0.019	-
trans-Chlordane	mg/kg dry wt	-	< 0.014	-	< 0.019	-
2,4'-DDD	mg/kg dry wt	-	< 0.014	-	< 0.019	-
4,4'-DDD	mg/kg dry wt	-	< 0.014	-	< 0.019	-
2,4'-DDE	mg/kg dry wt	-	< 0.014	-	< 0.019	-
4,4'-DDE	mg/kg dry wt	-	< 0.014	-	< 0.019	-
2,4'-DDT	mg/kg dry wt	-	< 0.014	-	< 0.019	-
4,4'-DDT	mg/kg dry wt	-	< 0.014	-	< 0.019	-

Sample Type: Soil						
Sample Name:	C1-32_0-0.1 12-Aug-2025	C1-TP1 E 07-Aug-2025	C1-TP1 W 07-Aug-2025	C1-TP2 W 07-Aug-2025	C1-TP3 0-0.1 07-Aug-2025	
Lab Number:	3960753.61	3960753.63	3960753.64	3960753.65	3960753.66	
Organochlorine Pesticides Screening in Soil						
Total DDT Isomers	mg/kg dry wt	-	< 0.09	-	< 0.12	-
Dieldrin	mg/kg dry wt	-	< 0.014	-	< 0.019	-
Endosulfan I	mg/kg dry wt	-	< 0.014	-	< 0.019	-
Endosulfan II	mg/kg dry wt	-	< 0.014	-	< 0.019	-
Endosulfan sulphate	mg/kg dry wt	-	< 0.014	-	< 0.019	-
Endrin	mg/kg dry wt	-	< 0.014	-	< 0.019	-
Endrin aldehyde	mg/kg dry wt	-	< 0.014	-	< 0.019	-
Endrin ketone	mg/kg dry wt	-	< 0.014	-	< 0.019	-
Heptachlor	mg/kg dry wt	-	< 0.014	-	< 0.019	-
Heptachlor epoxide	mg/kg dry wt	-	< 0.014	-	< 0.019	-
Hexachlorobenzene	mg/kg dry wt	-	< 0.014	-	< 0.019	-
Methoxychlor	mg/kg dry wt	-	< 0.014	-	< 0.019	-
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	-	< 0.4	< 0.3	< 0.5	< 0.5
1-Methylnaphthalene	mg/kg dry wt	-	< 0.014	< 0.012	< 0.019	< 0.018
2-Methylnaphthalene	mg/kg dry wt	-	< 0.014	< 0.012	< 0.019	< 0.018
Acenaphthylene	mg/kg dry wt	-	< 0.014	< 0.012	< 0.019	< 0.018
Acenaphthene	mg/kg dry wt	-	< 0.014	< 0.012	< 0.019	< 0.018
Anthracene	mg/kg dry wt	-	< 0.014	< 0.012	< 0.019	< 0.018
Benzo[a]anthracene	mg/kg dry wt	-	0.023	< 0.012	< 0.019	< 0.018
Benzo[a]pyrene (BAP)	mg/kg dry wt	-	0.031	< 0.012	< 0.019	< 0.018
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	-	0.045	< 0.029	< 0.046	< 0.042
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	-	0.045	< 0.029	< 0.045	< 0.042
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	-	0.031	< 0.012	< 0.019	< 0.018
Benzo[e]pyrene	mg/kg dry wt	-	0.018	< 0.012	< 0.019	< 0.018
Benzo[g,h,i]perylene	mg/kg dry wt	-	0.018	< 0.012	< 0.019	< 0.018
Benzo[k]fluoranthene	mg/kg dry wt	-	< 0.014	< 0.012	< 0.019	< 0.018
Chrysene	mg/kg dry wt	-	0.019	< 0.012	< 0.019	< 0.018
Dibenzo[a,h]anthracene	mg/kg dry wt	-	< 0.014	< 0.012	< 0.019	< 0.018
Fluoranthene	mg/kg dry wt	-	0.039	< 0.012	< 0.019	< 0.018
Fluorene	mg/kg dry wt	-	< 0.014	< 0.012	< 0.019	< 0.018
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	-	0.018	< 0.012	< 0.019	< 0.018
Naphthalene	mg/kg dry wt	-	< 0.07	< 0.06	< 0.10	< 0.09
Perylene	mg/kg dry wt	-	0.014	< 0.012	< 0.019	< 0.018
Phenanthrene	mg/kg dry wt	-	0.014	< 0.012	< 0.019	< 0.018
Pyrene	mg/kg dry wt	-	0.041	< 0.012	< 0.019	< 0.018
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	-	< 20	< 20	< 30	< 30
C10 - C14	mg/kg dry wt	-	< 20	< 20	< 30	< 30
C15 - C36	mg/kg dry wt	-	79	60	69	< 50
Total hydrocarbons (C7 - C36)	mg/kg dry wt	-	82	< 80	< 100	< 90
Sample Name:	C1-TP3 0.1-0.15 07-Aug-2025	C1-TP3 SP 07-Aug-2025	C1-TP4 0-0.1 07-Aug-2025	C1-TP5 DP 07-Aug-2025	C1-TP6 0-0.1 07-Aug-2025	
Lab Number:	3960753.67	3960753.68	3960753.69	3960753.71	3960753.72	
Individual Tests						
Dry Matter	g/100g as rcvd	61	65	-	90	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	30	11	4	< 2	5
Total Recoverable Cadmium	mg/kg dry wt	0.34	0.18	0.10	< 0.10	0.10
Total Recoverable Chromium	mg/kg dry wt	10	6	6	6	7
Total Recoverable Copper	mg/kg dry wt	33	16	13	9	11
Total Recoverable Lead	mg/kg dry wt	6.5	6.0	5.0	3.8	8.1

Sample Type: Soil						
Sample Name:	C1-TP3 0.1-0.15 07-Aug-2025	C1-TP3 SP 07-Aug-2025	C1-TP4 0-0.1 07-Aug-2025	C1-TP5 DP 07-Aug-2025	C1-TP6 0-0.1 07-Aug-2025	
Lab Number:	3960753.67	3960753.68	3960753.69	3960753.71	3960753.72	
Heavy Metals with Mercury, Screen Level						
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	0.28	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	3	< 2	3	3	< 2
Total Recoverable Zinc	mg/kg dry wt	183	79	87	37	54
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.017	-	-	-	-
alpha-BHC	mg/kg dry wt	< 0.017	-	-	-	-
beta-BHC	mg/kg dry wt	< 0.017	-	-	-	-
delta-BHC	mg/kg dry wt	< 0.017	-	-	-	-
gamma-BHC (Lindane)	mg/kg dry wt	< 0.017	-	-	-	-
cis-Chlordane	mg/kg dry wt	< 0.017	-	-	-	-
trans-Chlordane	mg/kg dry wt	< 0.017	-	-	-	-
2,4'-DDD	mg/kg dry wt	< 0.017	-	-	-	-
4,4'-DDD	mg/kg dry wt	< 0.017	-	-	-	-
2,4'-DDE	mg/kg dry wt	< 0.017	-	-	-	-
4,4'-DDE	mg/kg dry wt	< 0.017	-	-	-	-
2,4'-DDT	mg/kg dry wt	< 0.017	-	-	-	-
4,4'-DDT	mg/kg dry wt	< 0.017	-	-	-	-
Total DDT Isomers	mg/kg dry wt	< 0.10	-	-	-	-
Dieldrin	mg/kg dry wt	< 0.017	-	-	-	-
Endosulfan I	mg/kg dry wt	< 0.017	-	-	-	-
Endosulfan II	mg/kg dry wt	< 0.017	-	-	-	-
Endosulfan sulphate	mg/kg dry wt	< 0.017	-	-	-	-
Endrin	mg/kg dry wt	< 0.017	-	-	-	-
Endrin aldehyde	mg/kg dry wt	< 0.017	-	-	-	-
Endrin ketone	mg/kg dry wt	< 0.017	-	-	-	-
Heptachlor	mg/kg dry wt	< 0.017	-	-	-	-
Heptachlor epoxide	mg/kg dry wt	< 0.017	-	-	-	-
Hexachlorobenzene	mg/kg dry wt	< 0.017	-	-	-	-
Methoxychlor	mg/kg dry wt	< 0.017	-	-	-	-
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	< 0.4	< 0.4	-	< 0.3	-
1-Methylnaphthalene	mg/kg dry wt	< 0.017	< 0.016	-	< 0.011	-
2-Methylnaphthalene	mg/kg dry wt	< 0.017	< 0.016	-	< 0.011	-
Acenaphthylene	mg/kg dry wt	< 0.017	< 0.016	-	< 0.011	-
Acenaphthene	mg/kg dry wt	< 0.017	< 0.016	-	< 0.011	-
Anthracene	mg/kg dry wt	< 0.017	< 0.016	-	< 0.011	-
Benzo[a]anthracene	mg/kg dry wt	< 0.017	< 0.016	-	< 0.011	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.017	< 0.016	-	< 0.011	-
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	< 0.040	< 0.037	-	< 0.026	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	< 0.039	< 0.037	-	< 0.026	-
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	< 0.017	< 0.016	-	< 0.011	-
Benzo[e]pyrene	mg/kg dry wt	< 0.017	< 0.016	-	< 0.011	-
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.017	< 0.016	-	0.014	-
Benzo[k]fluoranthene	mg/kg dry wt	< 0.017	< 0.016	-	< 0.011	-
Chrysene	mg/kg dry wt	< 0.017	< 0.016	-	< 0.011	-
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.017	< 0.016	-	< 0.011	-
Fluoranthene	mg/kg dry wt	< 0.017	< 0.016	-	< 0.011	-
Fluorene	mg/kg dry wt	< 0.017	< 0.016	-	< 0.011	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.017	< 0.016	-	< 0.011	-
Naphthalene	mg/kg dry wt	< 0.09	< 0.08	-	< 0.06	-
Perylene	mg/kg dry wt	0.021	< 0.016	-	< 0.011	-
Phenanthrene	mg/kg dry wt	< 0.017	< 0.016	-	< 0.011	-
Pyrene	mg/kg dry wt	< 0.017	< 0.016	-	< 0.011	-

Sample Type: Soil						
Sample Name:	C1-TP3 0.1-0.15 07-Aug-2025	C1-TP3 SP 07-Aug-2025	C1-TP4 0-0.1 07-Aug-2025	C1-TP5 DP 07-Aug-2025	C1-TP6 0-0.1 07-Aug-2025	
Lab Number:	3960753.67	3960753.68	3960753.69	3960753.71	3960753.72	
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 30	< 30	-	< 20	-
C10 - C14	mg/kg dry wt	< 20	< 20	-	< 20	-
C15 - C36	mg/kg dry wt	65	104	-	127	-
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 90	109	-	131	-
Sample Name:	C1-TP6 0.1-0.5 07-Aug-2025	C1-TP7 SP 07-Aug-2025	C1-TP8 0-0.1 07-Aug-2025	C1-TP9 0-0.2 07-Aug-2025	C1-TP10 0-0.1 07-Aug-2025	
Lab Number:	3960753.73	3960753.74	3960753.75	3960753.76	3960753.78	
Individual Tests						
Dry Matter	g/100g as rcvd	69	64	-	-	59
SPLP Sample Weight	g	-	50	-	-	-
SPLP Extractant Type*		-	De-ionised Water, pH 5.8 +/- 0.4	-	-	-
SPLP Final pH	pH Units	-	8.9	-	-	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	37	560	8	3	21
Total Recoverable Cadmium	mg/kg dry wt	0.45	2.8	0.21	< 0.10	0.47
Total Recoverable Chromium	mg/kg dry wt	17	210	5	6	14
Total Recoverable Copper	mg/kg dry wt	27	510	8	12	32
Total Recoverable Lead	mg/kg dry wt	13.4	111	11.3	4.7	155
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	0.33	< 0.10
Total Recoverable Nickel	mg/kg dry wt	2	16	< 2	3	3
Total Recoverable Zinc	mg/kg dry wt	156	1,980	51	62	183
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	< 0.4	< 0.4	-	-	< 0.4
1-Methylnaphthalene	mg/kg dry wt	< 0.015	< 0.016	-	-	< 0.017
2-Methylnaphthalene	mg/kg dry wt	< 0.015	< 0.016	-	-	< 0.017
Acenaphthylene	mg/kg dry wt	< 0.015	< 0.016	-	-	< 0.017
Acenaphthene	mg/kg dry wt	< 0.015	< 0.016	-	-	< 0.017
Anthracene	mg/kg dry wt	< 0.015	< 0.016	-	-	< 0.017
Benzo[a]anthracene	mg/kg dry wt	< 0.015	< 0.016	-	-	< 0.017
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.015	< 0.016	-	-	< 0.017
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	< 0.035	< 0.038	-	-	< 0.040
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	< 0.035	< 0.038	-	-	< 0.039
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.015	< 0.016	-	-	< 0.017
Benzo[e]pyrene	mg/kg dry wt	< 0.015	< 0.016	-	-	< 0.017
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.015	< 0.016	-	-	< 0.017
Benzo[k]fluoranthene	mg/kg dry wt	< 0.015	< 0.016	-	-	< 0.017
Chrysene	mg/kg dry wt	< 0.015	< 0.016	-	-	< 0.017
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.015	< 0.016	-	-	< 0.017
Fluoranthene	mg/kg dry wt	< 0.015	< 0.016	-	-	< 0.017
Fluorene	mg/kg dry wt	< 0.015	< 0.016	-	-	< 0.017
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.015	< 0.016	-	-	< 0.017
Naphthalene	mg/kg dry wt	< 0.08	< 0.08	-	-	< 0.09
Perylene	mg/kg dry wt	< 0.015	< 0.016	-	-	< 0.017
Phenanthrene	mg/kg dry wt	< 0.015	< 0.016	-	-	< 0.017
Pyrene	mg/kg dry wt	< 0.015	< 0.016	-	-	< 0.017
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 30	< 30	-	-	< 30
C10 - C14	mg/kg dry wt	< 20	< 20	-	-	< 20
C15 - C36	mg/kg dry wt	< 40	80	-	-	260
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 90	87	-	-	270

Sample Type: Soil						
Sample Name:		C1-33 0-0.1 13-Aug-2025	C1-34 0-0.1 13-Aug-2025	C1-35 0-0.1 13-Aug-2025	C1-36 0-0.1 13-Aug-2025	C1-37 0-0.1 13-Aug-2025
Lab Number:		3960753.83	3960753.85	3960753.87	3960753.89	3960753.91
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	8	11	8	5	4
Total Recoverable Cadmium	mg/kg dry wt	0.20	0.15	0.11	0.12	< 0.10
Total Recoverable Chromium	mg/kg dry wt	6	10	7	5	4
Total Recoverable Copper	mg/kg dry wt	24	11	8	9	3
Total Recoverable Lead	mg/kg dry wt	6.6	7.7	5.6	5.0	5.9
Total Recoverable Mercury	mg/kg dry wt	< 0.10	0.11	< 0.10	< 0.10	0.14
Total Recoverable Nickel	mg/kg dry wt	< 2	< 2	< 2	3	< 2
Total Recoverable Zinc	mg/kg dry wt	88	126	65	104	27
Sample Name:		C1-40 0-0.1 13-Aug-2025	C1-41 0-0.1 13-Aug-2025	C1-42 0-0.1 13-Aug-2025	C1-43 0-0.1 13-Aug-2025	C1-45 0-0.1 13-Aug-2025
Lab Number:		3960753.93	3960753.95	3960753.97	3960753.99	3960753.101
Individual Tests						
SPLP Sample Weight	g	-	-	-	-	50
SPLP Extractant Type*		-	-	-	-	De-ionised Water, pH 5.8 +/- 0.4
SPLP Final pH	pH Units	-	-	-	-	8.1
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	7	4	7	16	14
Total Recoverable Cadmium	mg/kg dry wt	0.13	< 0.10	0.12	0.31	0.76
Total Recoverable Chromium	mg/kg dry wt	5	5	4	17	10
Total Recoverable Copper	mg/kg dry wt	10	10	7	23	25
Total Recoverable Lead	mg/kg dry wt	6.0	31	6.3	12.6	45
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	0.13	< 0.10
Total Recoverable Nickel	mg/kg dry wt	< 2	3	< 2	6	4
Total Recoverable Zinc	mg/kg dry wt	34	210	41	220	670
Sample Name:		C1-47 0-0.1 13-Aug-2025	C1-48 0-0.1 13-Aug-2025	C1-49 0-0.1 13-Aug-2025	C1-50 0-0.1 13-Aug-2025	C1-51 0-0.1 13-Aug-2025
Lab Number:		3960753.103	3960753.105	3960753.106	3960753.108	3960753.110
Individual Tests						
SPLP Sample Weight	g	-	50	-	-	-
SPLP Extractant Type*		-	De-ionised Water, pH 5.8 +/- 0.4	-	-	-
SPLP Final pH	pH Units	-	7.9	-	-	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	8	6	11	5	7
Total Recoverable Cadmium	mg/kg dry wt	0.30	0.28	0.27	0.17	0.25
Total Recoverable Chromium	mg/kg dry wt	5	13	12	3	4
Total Recoverable Copper	mg/kg dry wt	8	21	49	6	6
Total Recoverable Lead	mg/kg dry wt	7.7	38	23	5.3	6.1
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	< 2	4	3	< 2	< 2
Total Recoverable Zinc	mg/kg dry wt	117	810	119	49	47
Sample Name:		C1-52 0-0.1 13-Aug-2025	C1-53 0-0.1 13-Aug-2025	C1-54 0-0.1 13-Aug-2025	C1-55 0-0.1 13-Aug-2025	C1-56 0-0.1 13-Aug-2025
Lab Number:		3960753.112	3960753.114	3960753.116	3960753.118	3960753.120
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	10	3	9	6	6
Total Recoverable Cadmium	mg/kg dry wt	0.29	0.11	0.35	0.18	0.20
Total Recoverable Chromium	mg/kg dry wt	7	< 2	5	4	4
Total Recoverable Copper	mg/kg dry wt	12	3	10	5	6
Total Recoverable Lead	mg/kg dry wt	23	3.8	8.7	7.4	6.1
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	< 2	< 2	3	< 2	< 2
Total Recoverable Zinc	mg/kg dry wt	166	18	123	49	44

Sample Type: Soil

Sample Name:	C1-57 0-0.1 13-Aug-2025	C1-58 0-0.1 13-Aug-2025	C1-59 0-0.1 13-Aug-2025	TE 0-0.1 13-Aug-2025	C1-46 0-0.1 13-Aug-2025
Lab Number:	3960753.122	3960753.124	3960753.126	3960753.128	3960753.134

Individual Tests						
Dry Matter	g/100g as rcvd	-	-	-	60	-
SPLP Sample Weight	g	-	-	-	-	50
SPLP Extractant Type*		-	-	-	-	De-ionised Water, pH 5.8 +/- 0.4
SPLP Final pH	pH Units	-	-	-	-	9.7

Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	8	5	4	< 4	35
Total Recoverable Cadmium	mg/kg dry wt	0.19	0.15	0.11	0.3	0.63
Total Recoverable Chromium	mg/kg dry wt	5	4	3	5	13
Total Recoverable Copper	mg/kg dry wt	7	5	5	6	27
Total Recoverable Lead	mg/kg dry wt	7.5	8.0	5.0	3.9	46
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.2	< 0.10
Total Recoverable Nickel	mg/kg dry wt	< 2	< 2	< 2	< 4	3
Total Recoverable Zinc	mg/kg dry wt	82	49	60	42	2,900

Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	-	-	-	< 0.017	-
alpha-BHC	mg/kg dry wt	-	-	-	< 0.017	-
beta-BHC	mg/kg dry wt	-	-	-	< 0.017	-
delta-BHC	mg/kg dry wt	-	-	-	< 0.017	-
gamma-BHC (Lindane)	mg/kg dry wt	-	-	-	< 0.017	-
cis-Chlordane	mg/kg dry wt	-	-	-	< 0.017	-
trans-Chlordane	mg/kg dry wt	-	-	-	< 0.017	-
2,4'-DDD	mg/kg dry wt	-	-	-	< 0.017	-
4,4'-DDD	mg/kg dry wt	-	-	-	< 0.017	-
2,4'-DDE	mg/kg dry wt	-	-	-	< 0.017	-
4,4'-DDE	mg/kg dry wt	-	-	-	< 0.017	-
2,4'-DDT	mg/kg dry wt	-	-	-	< 0.017	-
4,4'-DDT	mg/kg dry wt	-	-	-	< 0.017	-
Total DDT Isomers	mg/kg dry wt	-	-	-	< 0.10	-
Dieldrin	mg/kg dry wt	-	-	-	< 0.017	-
Endosulfan I	mg/kg dry wt	-	-	-	< 0.017	-
Endosulfan II	mg/kg dry wt	-	-	-	< 0.017	-
Endosulfan sulphate	mg/kg dry wt	-	-	-	< 0.017	-
Endrin	mg/kg dry wt	-	-	-	< 0.017	-
Endrin aldehyde	mg/kg dry wt	-	-	-	< 0.017	-
Endrin ketone	mg/kg dry wt	-	-	-	< 0.017	-
Heptachlor	mg/kg dry wt	-	-	-	< 0.017	-
Heptachlor epoxide	mg/kg dry wt	-	-	-	< 0.017	-
Hexachlorobenzene	mg/kg dry wt	-	-	-	< 0.017	-
Methoxychlor	mg/kg dry wt	-	-	-	< 0.017	-

Sample Name:	Composite of C1-2_0-0.1, C1-3_0-0.1, C1-4_0-0.1 & C1-5_0-0.1	Composite of C1-6_0-0.1, C1-7_0-0.1, C1-8_0-0.1 & C1-9_0-0.1	Composite of C1-12_0-0.1, C1-13_0-0.1, C1-14_0-0.1 & C1-15_0-0.1	Composite of C1-16_0-0.1, C1-17_0-0.1, C1-18_0-0.1 & C1-19_0-0.1
Lab Number:	3960753.136	3960753.137	3960753.138	3960753.139

Individual Tests					
Dry Matter	g/100g as rcvd	62	62	64	63
Heavy Metals with Mercury, Screen Level					
Total Recoverable Arsenic	mg/kg dry wt	7	8	9	15
Total Recoverable Cadmium	mg/kg dry wt	0.15	0.17	0.24	0.30
Total Recoverable Chromium	mg/kg dry wt	3	4	4	6
Total Recoverable Copper	mg/kg dry wt	10	10	28	31
Total Recoverable Lead	mg/kg dry wt	5.2	5.8	7.2	7.1
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10

Sample Type: Soil

Sample Name:	Composite of C1-2_0-0.1, C1-3_0-0.1, C1-4_0-0.1 & C1-5_0-0.1	Composite of C1-6_0-0.1, C1-7_0-0.1, C1-8_0-0.1 & C1-9_0-0.1	Composite of C1-12_0-0.1, C1-13_0-0.1, C1-14_0-0.1 & C1-15_0-0.1	Composite of C1-16_0-0.1, C1-17_0-0.1, C1-18_0-0.1 & C1-19_0-0.1	
Lab Number:	3960753.136	3960753.137	3960753.138	3960753.139	
Heavy Metals with Mercury, Screen Level					
Total Recoverable Nickel	mg/kg dry wt	4	< 2	< 2	3
Total Recoverable Zinc	mg/kg dry wt	25	26	41	54
Organochlorine Pesticides Screening in Soil					
Aldrin	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
alpha-BHC	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
beta-BHC	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
delta-BHC	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
gamma-BHC (Lindane)	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
cis-Chlordane	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
trans-Chlordane	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
2,4'-DDD	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
4,4'-DDD	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
2,4'-DDE	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
4,4'-DDE	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
2,4'-DDT	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
4,4'-DDT	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
Total DDT Isomers	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10
Dieldrin	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
Endosulfan I	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
Endosulfan II	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
Endosulfan sulphate	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
Endrin	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
Endrin aldehyde	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
Endrin ketone	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
Heptachlor	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
Heptachlor epoxide	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
Hexachlorobenzene	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016
Methoxychlor	mg/kg dry wt	< 0.016	< 0.016	< 0.016	< 0.016

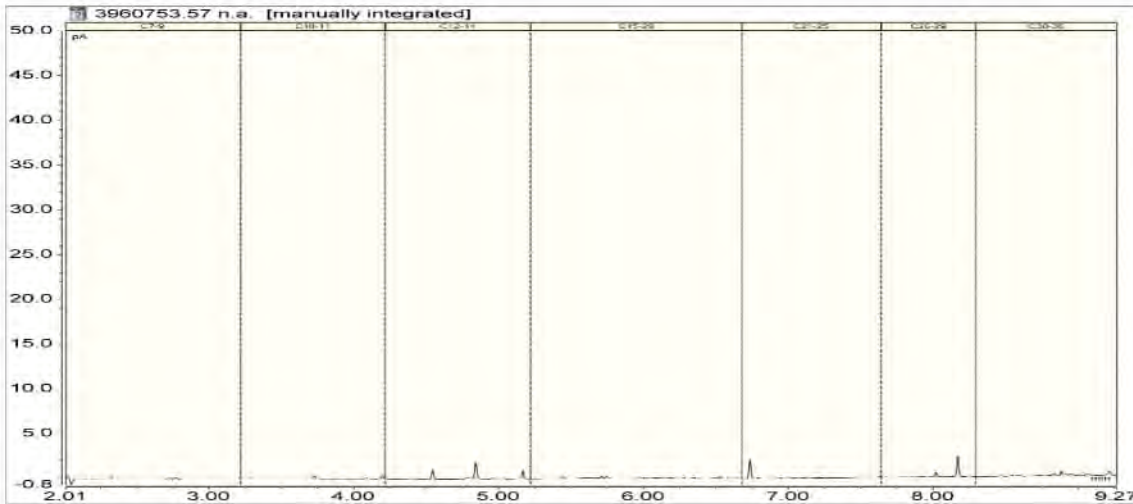
Sample Type: Aqueous

Sample Name:	C1-29_0-0.1 [SPLP Extract]	C1-TP1 E [SPLP Extract]	C1-TP7 SP [SPLP Extract]	C1-45 0-0.1 [SPLP Extract]	C1-48 0-0.1 [SPLP Extract]	
Lab Number:	3960753.140	3960753.141	3960753.142	3960753.143	3960753.144	
Individual Tests						
Total Arsenic	g/m ³	-	-	0.187	-	-
Total Copper	g/m ³	-	-	0.053	-	-
Total Zinc	g/m ³	0.030	0.101	0.165	0.024	0.048
Sample Name:	C1-46 0-0.1 [SPLP Extract]					
Lab Number:	3960753.145					
Individual Tests						
Total Zinc	g/m ³	0.040				

3960753.57

C1-30_0-0.1 12-Aug-2025

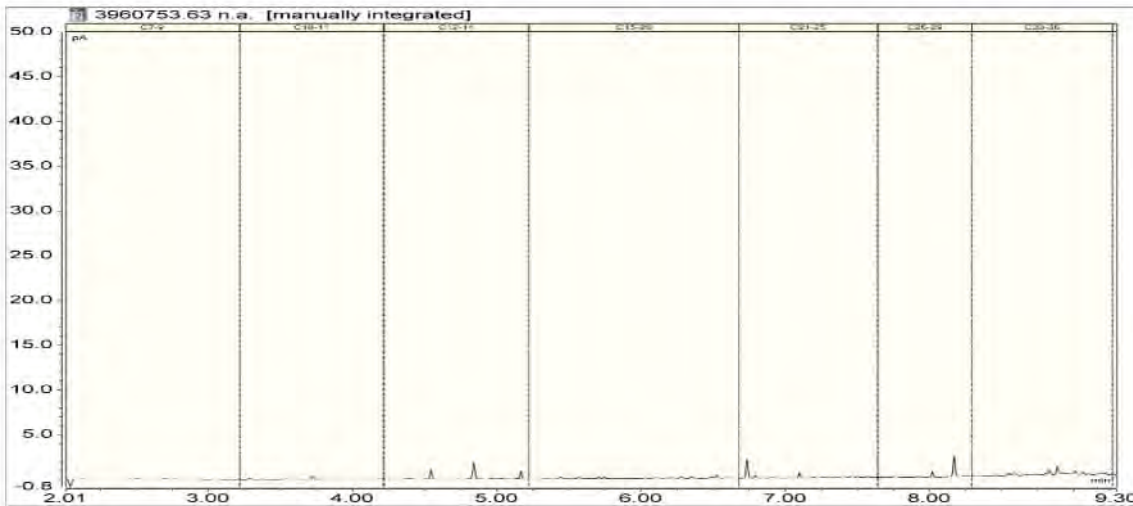
Client Chromatogram for TPH by FID



3960753.63

C1-TP1 E 07-Aug-2025

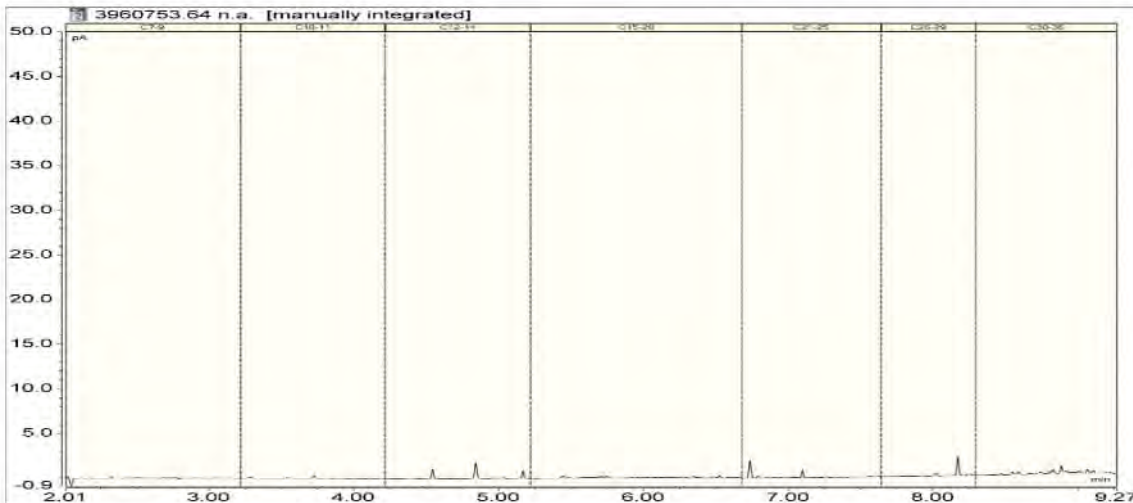
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3960753.64

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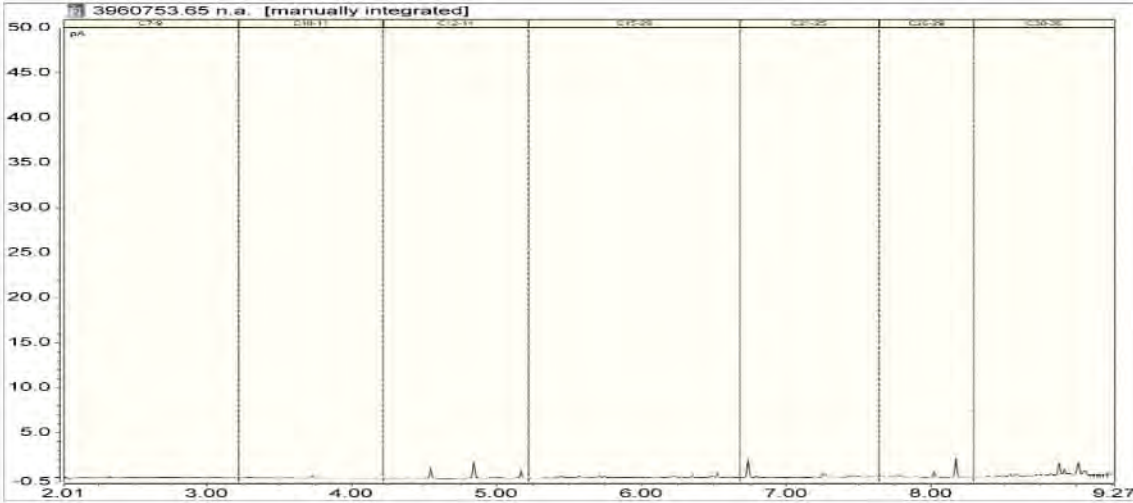
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3960753.65

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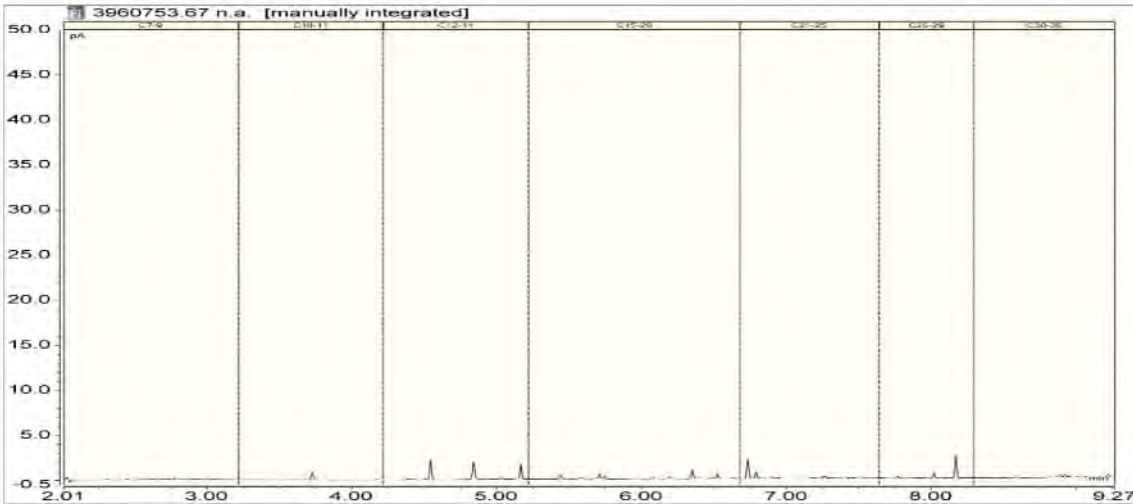
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3960753.67

C1-TP3 0.1-0.15 07-Aug-2025

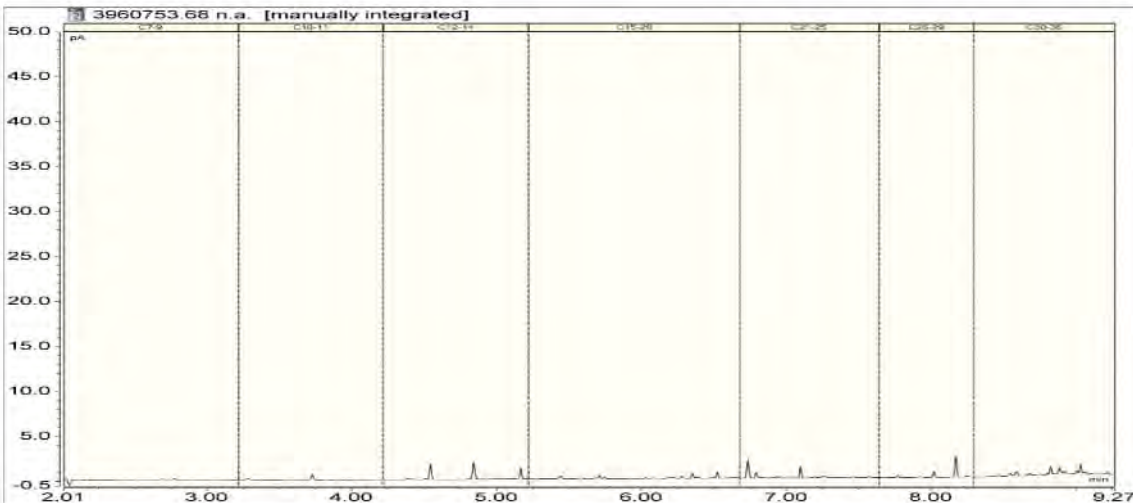
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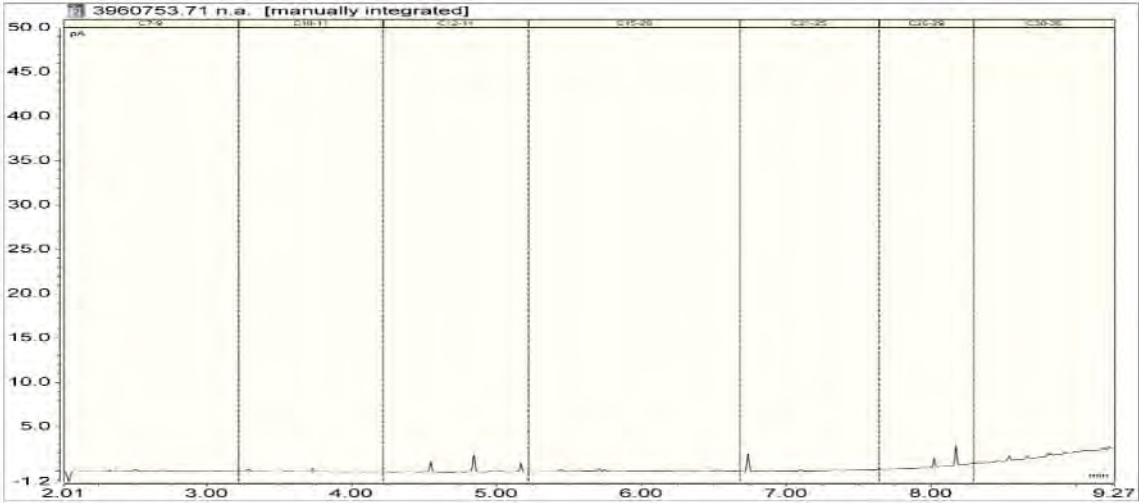
3960753.68

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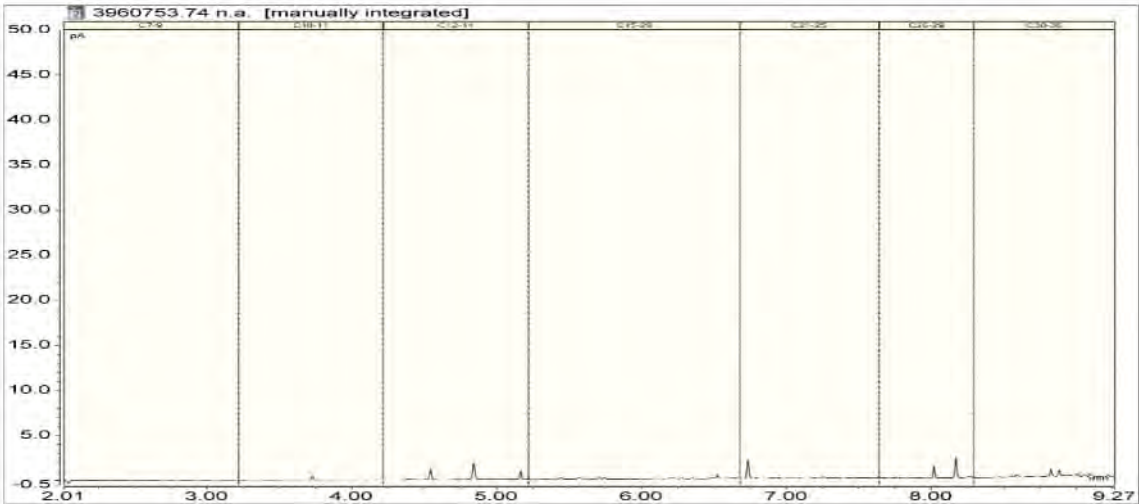
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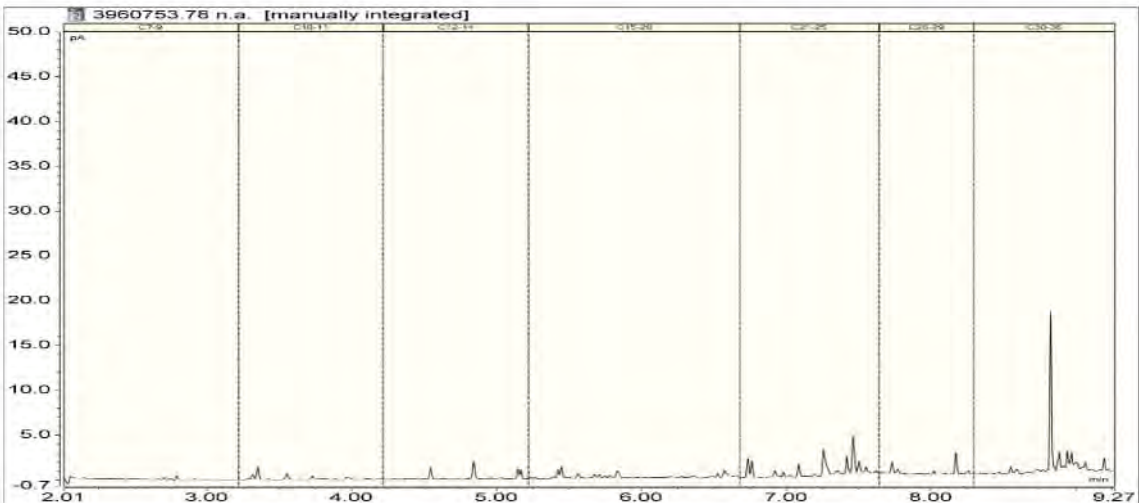
3960753.71
C1-TP5 DP 07-Aug-2025
Client Chromatogram for TPH by FID



3960753.74
C1-TP7 SP 07-Aug-2025
Client Chromatogram for TPH by FID



3960753.78
C1-TP10 0-0.1 07-Aug-2025
Client Chromatogram for TPH by FID



Analyst's Comments

Amended Report: This certificate of analysis replaces report '3960753-SPv1' issued on 29-Aug-2025 at 5:14 pm.
Reason for amendment: SPLP metals added.

Appendix No.1 - Chain of Custody

Summary of Methods

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

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	1, 19, 21, 39, 41, 43, 45, 47, 49, 51-52, 54-55, 57, 59, 61, 63-69, 71-76, 78, 83, 85, 87, 89, 91, 93, 95, 97, 99, 101, 103, 105-106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 134, 136-139
Total of Reported PAHs in Soil	Sonication extraction, GC-MS/MS analysis. In-house based on US EPA 8270.	0.03 mg/kg dry wt	57, 63-68, 71, 73-74, 78
Dry Matter	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	1, 39, 45, 49, 51-52, 54, 57, 63-68, 71, 73-74, 78, 128, 136-139
Composite Environmental Solid Samples*	Individual sample fractions mixed together to form a composite fraction.	-	3, 5, 7, 9, 11, 13, 15, 17, 23, 25, 27, 29, 31, 33, 35, 37
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	BaP Potency Equivalence calculated from; Benzo(a)anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(j)fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Benzo(a)pyrene x 1.0 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Fluoranthene x 0.01 + Indeno(1,2,3-c,d)pyrene x 0.1. Ministry for the Environment. 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health. Wellington: Ministry for the Environment.	0.024 mg/kg dry wt	57, 63-68, 71, 73-74, 78
Benzo[a]pyrene Toxic Equivalence (TEF)*	Benzo[a]pyrene Toxic Equivalence (TEF) calculated from; Benzo[a]pyrene x 1.0 + Benzo(a)anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Indeno(1,2,3-c,d)pyrene x 0.1. Guidelines for assessing and managing contaminated gasworks sites in New Zealand (GMG) (MfE, 1997).	0.024 mg/kg dry wt	57, 63-68, 71, 73-74, 78
TPH Oil Industry Profile + PAHscreen	Sonication extraction, GC-FID and GC-MS/MS analysis. Tested on as received sample. In-house based on US EPA 8015 and US EPA 8270.	0.010 - 70 mg/kg dry wt	57, 63-68, 71, 73-74, 78

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Heavy Metals with Mercury, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.10 - 4 mg/kg dry wt	1, 19, 21, 39, 41, 43, 45, 47, 49, 51-52, 54-55, 57, 59, 61, 63-69, 71-76, 78, 83, 85, 87, 89, 91, 93, 95, 97, 99, 101, 103, 105-106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 134, 136-139
Organochlorine/nitro&phosphorus Pests Screen in Soils, GCMS	Sonication extraction, GC-ECD and GC-MS analysis. In-house based on US EPA 8081 and US EPA 8270.	0.010 - 0.2 mg/kg dry wt	1, 39, 45, 49
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	51-52, 54, 63, 65, 67, 128, 136-139
SPLP Profile*	Extraction at 30 +/- 2 rpm for 18 +/- 2 hours, (Ratio 1g sample : 20g extraction fluid). US EPA 1312.	-	55, 63, 74, 101, 105, 134
Total Petroleum Hydrocarbons in Soil			
Client Chromatogram for TPH by FID	Small peaks associated with QC compounds may be visible in chromatograms with low TPH concentrations. QC peaks are as follows: one peak in the C12 - 14 band, the C21 - 25 band and the C30 - 36 band. All QC peaks are corrected for in the reported TPH concentrations.	-	57, 63-65, 67-68, 71, 74, 78
C7 - C9	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg dry wt	57, 63-68, 71, 73-74, 78
C10 - C14	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg dry wt	57, 63-68, 71, 73-74, 78
C15 - C36	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	40 mg/kg dry wt	57, 63-68, 71, 73-74, 78
Total hydrocarbons (C7 - C36)	Calculation: Sum of carbon bands from C7 to C36. In-house based on US EPA 8015.	70 mg/kg dry wt	57, 63-68, 71, 73-74, 78
SPLP Profile			
SPLP Sample Weight	Gravimetric. US EPA 1312.	0.1 g	55, 63, 74, 101, 105, 134
SPLP Extractant Type*	US EPA 1312 (Modified for New Zealand conditions to use De-ionised Water unless otherwise specified).	-	55, 63, 74, 101, 105, 134
SPLP Final pH	pH meter. US EPA 1312.	0.1 pH Units	55, 63, 74, 101, 105, 134
Sample Type: Aqueous			
Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
Total Digestion of Extracted Samples*	Nitric acid digestion. APHA 3030 E (modified) : Online Edition.	-	140-145
Total Arsenic	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.0011 g/m ³	142
Total Copper	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.00053 g/m ³	142
Total Zinc	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.0011 g/m ³	140-145

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

Testing was completed between 22-Aug-2025 and 09-Sep-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

Box 2 of 3



ANALYSIS REQUEST

Job No: Date Recv: 14-Aug-25 08:51

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

396 0753

Received by: David Manson

Quote No

Primary Contact Aaron Graham

Submitted By

Client Name ENGEO

Address 1/314 Maunganui Road

Bay of Plenty Postcode 3116

Phone Mobile

Email

Charge To ENGEO

Client Reference 19630 - 11-12/08/2025

Order No

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

- Email Primary Contact Email Submitter Email Client
 Email Other
 Other

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



3 13960 753 1

CHAIN OF CUSTODY RECORD

Sent to Hill Labs

Date & Time: 13/08/2025

Name: Caitlin Robinson

Tick if you require COC to be emailed back

Signature: *Caitlin Robinson*

Received at Hill Labs

Date & Time:

Name:

(Refer to Lab created Job No above)

Signature:

Condition

- Room Temp Chilled Frozen

Temp:

6.2

ADDITIONAL INFORMATION / KNOWN HAZARDS

See attached sample list.

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

Requested Reporting Date:

No.	Sample Name	Sample Date	Sample Time	Sample Type	Tests Required (if not as per Quote)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

Continued on next page

Sample Name	Date	Type	Analysis
C1-1 0-0.1	11/08/2025	Soil -Jar	Cold hold
C1-1 0.3-0.4	11/08/2025	Soil -Jar	Cold hold
C1-2 0-0.1	11/08/2025	Soil -Jar	Cold hold
C1-2 0.3-0.4	11/08/2025	Soil -Jar	Cold hold
C1-3 0-0.1	11/08/2025	Soil -Jar	Cold hold
C1-3 0.3-0.4	11/08/2025	Soil -Jar	Cold hold
C1-4 0-0.1	11/08/2025	Soil -Jar	Cold hold
C1-4 0.3-0.4	11/08/2025	Soil -Jar	Cold hold
C1-5 0-0.1	11/08/2025	Soil -Jar	Cold hold
C1-5 0.3-0.4	11/08/2025	Soil -Jar	Cold hold
C1-6 0-0.1	11/08/2025	Soil -Jar	Cold hold
C1-6 0.3-0.4	11/08/2025	Soil -Jar	Cold hold
C1-7 0-0.1	11/08/2025	Soil -Jar	Cold hold
C1-7 0.3-0.4	11/08/2025	Soil -Jar	Cold hold
C1-8 0-0.1	11/08/2025	Soil -Jar	Cold hold
C1-8 0.3-0.4	11/08/2025	Soil -Jar	Cold hold
C1-9 0-0.1	11/08/2025	Soil -Jar	Cold hold
C1-9 0.3-0.4	11/08/2025	Soil -Jar	Cold hold
C1-10 0-0.1	12/08/2025	Soil - Jar	Cold hold
C1-10 0.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-11 0-0.1	12/08/2025	Soil - Jar	Cold hold
C1-11 0.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-12 0-0.1	12/08/2025	Soil - Jar	Cold hold
C1-12 0.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-13 0-0.1	12/08/2025	Soil - Jar	Cold hold
C1-13 0.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-14 0-0.1	12/08/2025	Soil - Jar	Cold hold
C1-14 0.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-15 0-0.1	12/08/2025	Soil - Jar	Cold hold
C1-15 0.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-16 0-0.1	12/08/2025	Soil - Jar	Cold hold
C1-16 0.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-17 0-0.1	12/08/2025	Soil - Jar	Cold hold
C1-17 0.3-0.4	12/08/2025	Soil - Jar	Cold hold

C1-180-0.1	12/08/2025	Soil - Jar	Cold hold
C1-180.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-190-0.1	12/08/2025	Soil - Jar	Cold hold
C1-190.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-200-0.1	12/08/2025	Soil - Jar	Cold hold
C1-200.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-210-0.1	12/08/2025	Soil - Jar	Cold hold
C1-210.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-220-0.1	12/08/2025	Soil - Jar	Cold hold
C1-220.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-230-0.1	12/08/2025	Soil - Jar	Cold hold
C1-230.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-240-0.1	12/08/2025	Soil - Jar	Cold hold
C1-240.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-250-0.1	12/08/2025	Soil - Jar	Cold hold
C1-250.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-260-0.1	12/08/2025	Soil - Jar	Cold hold
C1-260.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-270-0.1	12/08/2025	Soil - Jar	Cold hold
C1-270.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-280-0.1	12/08/2025	Soil - Jar	Cold hold
C1-280.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-290-0.1	12/08/2025	Soil - Jar	Cold hold
C1-290.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-300-0.1	12/08/2025	Soil - Jar	Cold hold
C1-300.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-310-0.1	12/08/2025	Soil - Jar	Cold hold
C1-310.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-320-0.1	12/08/2025	Soil - Jar	Cold hold
C1-320.3-0.4	12/08/2025	Soil - Jar	Cold hold

Sample Name	Date	Type	Proposed Analysis
C1-TP1 E	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q, OCP and TPH/PAH
C1-TP1 W	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q and TPH/PAH
C1-TP2 W	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q, OCP and TPH/PAH
C1-TP2 W BULK	7/08/2025	Bulk Material	Asbestos P/A
C1-TP3 0-0.1	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q and TPH/PAH
C1-TP3 0.1-0.15	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q, OCP and TPH/PAH
C1-TP3 0.1-0.15	7/08/2025	Bulk Material	Asbestos P/A
C1-TP3 SP	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q and TPH/PAH
C1-TP4 0-0.1	7/08/2025	Soil - Jar	HM8
C1-TP4 0.1-0.4	7/08/2025	Soil - Jar	Cold hold
C1-TP5 SP	7/08/2025	Soil - Jar	HM8 and TPH/PAH
C1-TP6 0-0.1	7/08/2025	Soil - Jar	HM8
C1-TP6 0.1-0.5	7/08/2025	Soil - Jar	HM8, Asbestos S/Q and TPH/PAH
C1-TP7 SP	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q and TPH/PAH
C1-TP8 0-0.1	7/08/2025	Soil - Jar	HM8
C1-TP9 0-0.2	7/08/2025	Soil - Jar	HM8
C1-TP9 0.2-0.8	7/08/2025	Soil - Jar	Cold hold
C1-TP10 0-0.1	7/08/2025	Soil - Jar	HM8, Asbestos S/Q and TPH/PAH
TB-TP11 0-0.1	7/08/2025	Soil - Jar	Cold hold
TB-TP11 0.1-0.2	7/08/2025	Soil - Jar	Cold hold
TB-TP11 0.5-0.6	7/08/2025	Soil - Jar	Cold hold
TB-TP11 0.9-0.1	7/08/2025	Soil - Jar	Cold hold
C1-1 0-0.1	11/08/2025	Soil - Jar	HM8, OCP and ONOP
C1-1 0.3-0.4	11/08/2025	Soil - Jar	Cold hold
C1-2 0-0.1	11/08/2025	Soil - Jar	Composite of C1-2, C1-3, C1-4 and C1-5 0-0.1 - HM8 and OCP. Cold hold 0.3-0.4 samples.
C1-2 0.3-0.4	11/08/2025	Soil - Jar	
C1-3 0-0.1	11/08/2025	Soil - Jar	
C1-3 0.3-0.4	11/08/2025	Soil - Jar	
C1-4 0-0.1	11/08/2025	Soil - Jar	
C1-4 0.3-0.4	11/08/2025	Soil - Jar	
C1-5 0-0.1	11/08/2025	Soil - Jar	
C1-5 0.3-0.4	11/08/2025	Soil - Jar	
C1-6 0-0.1	11/08/2025	Soil - Jar	Composite of C1-6, C1-7, C1-8 and C1-9 0-0.1 - HM8 and OCP. Cold hold 0.3-0.4 samples.
C1-6 0.3-0.4	11/08/2025	Soil - Jar	
C1-7 0-0.1	11/08/2025	Soil - Jar	
C1-7 0.3-0.4	11/08/2025	Soil - Jar	
C1-8 0-0.1	11/08/2025	Soil - Jar	
C1-8 0.3-0.4	11/08/2025	Soil - Jar	
C1-9 0-0.1	11/08/2025	Soil - Jar	Composite of C1-12, C1-13, C1-14 and C1-15 0-0.1 - HM8 and OCP. Cold hold 0.3-0.4 samples.
C1-9 0.3-0.4	11/08/2025	Soil - Jar	
C1-10 0-0.1	12/08/2025	Soil - Jar	HM8
C1-10 0.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-11 0-0.1	12/08/2025	Soil - Jar	HM8
C1-11 0.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-12 0-0.1	12/08/2025	Soil - Jar	Composite of C1-12, C1-13, C1-14 and C1-15 0-0.1 - HM8 and OCP. Cold hold 0.3-0.4 samples.
C1-12 0.3-0.4	12/08/2025	Soil - Jar	
C1-13 0-0.1	12/08/2025	Soil - Jar	
C1-13 0.3-0.4	12/08/2025	Soil - Jar	
C1-14 0-0.1	12/08/2025	Soil - Jar	
C1-14 0.3-0.4	12/08/2025	Soil - Jar	
C1-15 0-0.1	12/08/2025	Soil - Jar	
C1-15 0.3-0.4	12/08/2025	Soil - Jar	

C1-160-0.1	12/08/2025	Soil - Jar	Composite of C1-16, C1-17, C1-18 and C1-19 0-0.1 - HM8 and OCP, Cold hold 0.3-0.4 samples.
C1-160.3-0.4	12/08/2025	Soil - Jar	
C1-170-0.1	12/08/2025	Soil - Jar	
C1-170.3-0.4	12/08/2025	Soil - Jar	
C1-180-0.1	12/08/2025	Soil - Jar	
C1-180.3-0.4	12/08/2025	Soil - Jar	
C1-190-0.1	12/08/2025	Soil - Jar	
C1-190.3-0.4	12/08/2025	Soil - Jar	
C1-200-0.1	12/08/2025	Soil - Jar	HM8, OCP and ONOP
C1-200.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-210-0.1	12/08/2025	Soil - Jar	HM8
C1-210.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-220-0.1	12/08/2025	Soil - Jar	HM8
C1-220.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-230-0.1	12/08/2025	Soil - Jar	HM8, OCP and ONOP
C1-230.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-240-0.1	12/08/2025	Soil - Jar	HM8
C1-240.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-250-0.1	12/08/2025	Soil - Jar	HM8, OCP and ONOP
C1-250.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-260-0.1	12/08/2025	Soil - Jar	HM8 and OCP
C1-270-0.1	12/08/2025	Soil - Jar	HM8 and OCP
C1-270.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-280-0.1	12/08/2025	Soil - Jar	HM8 and OCP
C1-290-0.1	12/08/2025	Soil - Jar	HM8
C1-290.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-300-0.1	12/08/2025	Soil - Jar	HM8 and TPH/PAH
C1-300.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-310-0.1	12/08/2025	Soil - Jar	HM8
C1-310.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-320-0.1	12/08/2025	Soil - Jar	HM8
C1-320.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-330-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-330.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-340-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-340.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-350-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-350.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-360-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-360.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-370-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-370.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-400-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-400.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-410-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-410.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-41 Bulk	13/08/2025	Asbestos Bulk	Asbestos P/A
C1-420-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-420.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-430-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-430.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-450-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8
C1-450.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-460-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8
C1-460.3-0.4	13/08/2025	Soil - Jar	Cold hold

C1-47 0-0.1	13/08/2025	Soil - Jar	HM8
C1-47 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-48 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-49 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-49 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-50 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-50 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-51 0-0.1	13/08/2025	Soil - Jar	HM8
C1-51 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-52 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-52 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-53 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8
C1-53 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-54 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-54 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-55 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-55 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-56 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-56 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-57 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-57 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-58 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-58 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-59 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-59 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
TE 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and OCP
TE 0.4-0.5	13/08/2025	Soil - Jar	Cold hold

Quality Assurance Report

Page 1 of 25

Client:	Engeo Limited	Lab No:	3960753	QCPv2
Contact:	Aaron Graham C/- Engeo Limited PO Box 305136 Triton Plaza Auckland 0757	Date Received:	14-Aug-2025	
		Date Reported:	09-Sep-2025	(Amended)
		Quote No:	82742	
		Order No:		
		Client Reference:	19630	
		Submitted By:	Caitlin Robinson	

Sample Specific QCs

Organochlorine Pesticides Screening in Soil

	3960753.1	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene %	86	40 – 120	No

Organonitro&phosphorus Pesticides Screen in Soil by GCMS

	3960753.1	Control Limits	Outside Limit (Yes/No)
Triphenylphosphate %	99	40 – 120	No

Organochlorine Pesticides Screening in Soil

	3960753.39	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene %	85	40 – 120	No

Organonitro&phosphorus Pesticides Screen in Soil by GCMS

	3960753.39	Control Limits	Outside Limit (Yes/No)
Triphenylphosphate %	102	40 – 120	No

Organochlorine Pesticides Screening in Soil

	3960753.45	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene %	90	40 – 120	No

Organonitro&phosphorus Pesticides Screen in Soil by GCMS

	3960753.45	Control Limits	Outside Limit (Yes/No)
Triphenylphosphate %	97	40 – 120	No

Organochlorine Pesticides Screening in Soil

	3960753.49	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene %	84	40 – 120	No

Organonitro&phosphorus Pesticides Screen in Soil by GCMS

	3960753.49	Control Limits	Outside Limit (Yes/No)
Triphenylphosphate %	101	40 – 120	No

Organochlorine Pesticides Screening in Soil

	3960753.51	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene %	85	40 – 120	No

Organochlorine Pesticides Screening in Soil

	3960753.52	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene %	87	40 – 120	No

Organochlorine Pesticides Screening in Soil

	3960753.54	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene %	84	40 – 120	No

Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3960753.57	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	103	65 – 130	No
Benzo[a]pyrene-d12	%	109	70 – 140	No
Fluoranthene-d10	%	111	66 – 130	No

Organochlorine Pesticides Screening in Soil				
		3960753.63	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	90	40 – 120	No

Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3960753.63	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	100	65 – 130	No
Benzo[a]pyrene-d12	%	103	70 – 140	No
Fluoranthene-d10	%	104	66 – 130	No

Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3960753.64	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	97	65 – 130	No
Benzo[a]pyrene-d12	%	103	70 – 140	No
Fluoranthene-d10	%	101	66 – 130	No

Organochlorine Pesticides Screening in Soil				
		3960753.65	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	82	40 – 120	No

Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3960753.65	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	101	65 – 130	No
Benzo[a]pyrene-d12	%	104	70 – 140	No
Fluoranthene-d10	%	105	66 – 130	No

Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3960753.66	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	98	65 – 130	No
Benzo[a]pyrene-d12	%	102	70 – 140	No
Fluoranthene-d10	%	101	66 – 130	No

Organochlorine Pesticides Screening in Soil				
		3960753.67	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	87	40 – 120	No

Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3960753.67	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	102	65 – 130	No
Benzo[a]pyrene-d12	%	101	70 – 140	No
Fluoranthene-d10	%	104	66 – 130	No

Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3960753.68	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	102	65 – 130	No
Benzo[a]pyrene-d12	%	100	70 – 140	No
Fluoranthene-d10	%	105	66 – 130	No

Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3960753.71	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	101	65 – 130	No
Benzo[a]pyrene-d12	%	104	70 – 140	No

Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3960753.71	Control Limits	Outside Limit (Yes/No)
Fluoranthene-d10	%	106	66 – 130	No
Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3960753.73	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	101	65 – 130	No
Benzo[a]pyrene-d12	%	106	70 – 140	No
Fluoranthene-d10	%	105	66 – 130	No
Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3960753.74	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	99	65 – 130	No
Benzo[a]pyrene-d12	%	101	70 – 140	No
Fluoranthene-d10	%	104	66 – 130	No
Polycyclic Aromatic Hydrocarbons Screening in Soil				
		3960753.78	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	100	65 – 130	No
Benzo[a]pyrene-d12	%	107	70 – 140	No
Fluoranthene-d10	%	106	66 – 130	No
Organochlorine Pesticides Screening in Soil				
		3960753.128	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	89	40 – 120	No
Organochlorine Pesticides Screening in Soil				
		3960753.136	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	98	40 – 120	No
Organochlorine Pesticides Screening in Soil				
		3960753.137	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	87	40 – 120	No
Organochlorine Pesticides Screening in Soil				
		3960753.138	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	88	40 – 120	No
Organochlorine Pesticides Screening in Soil				
		3960753.139	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	99	40 – 120	No
Blank QCs				
Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12574.13				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No
Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12574.46				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12574.46

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

50x Manual Dilution Digest Blank PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12574.71

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12575.13

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12575.35

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

50x Manual Dilution Digest Blank PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12575.58

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No

50x Manual Dilution Digest Blank PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12575.58

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12579.13

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12579.39

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

50x Manual Dilution Digest Blank PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12579.70

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12580.13

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12580.42

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12580.42

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12582.13

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12582.26

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

50x Manual Dilution Digest Blank PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12582.70

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12583.13

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12583.13

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12583.37

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12584.13

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12584.40

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12585.13

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12585.30

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12585.30

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Blank 1 - Multiresidue Soil Analysis Worksheet: 3978.1

		Results	Control Limits	Outside Limit (Yes/No)
Acetochlor	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Alachlor	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0031	No
Atrazine	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Atrazine-desethyl	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0062	No
Atrazine-desisopropyl	mg/kg dry wt	< 0.10 ± 0.044	0.0 – 0.0123	No
Azaconazole	mg/kg dry wt	< 0.03 ± 0.0098	0.0 – 0.0031	No
Azinphos-methyl	mg/kg dry wt	< 0.10 ± 0.042	0.0 – 0.0123	No
Benalaxyl	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Bitertanol	mg/kg dry wt	< 0.10 ± 0.022	0.0 – 0.0123	No
Bromacil	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Bromopropylate	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0062	No
Butachlor	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Captan	mg/kg dry wt	< 0.10 ± 0.051	0.0 – 0.0123	No
Carbaryl	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0062	No
Carbofuran	mg/kg dry wt	< 0.05 ± 0.011	0.0 – 0.0062	No
Chlorfluazuron	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0062	No
Chlorothalonil	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0062	No
Chlorpyrifos	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Chlorpyrifos-methyl	mg/kg dry wt	< 0.05 ± 0.027	0.0 – 0.0062	No
Chlortoluron	mg/kg dry wt	< 0.10 ± 0.041	0.0 – 0.0123	No
Cyanazine	mg/kg dry wt	< 0.05 ± 0.025	0.0 – 0.0062	No
Cyfluthrin	mg/kg dry wt	< 0.06 ± 0.031	0.0 – 0.0076	No
Cyhalothrin	mg/kg dry wt	< 0.05 ± 0.021	0.0 – 0.0062	No
Cypermethrin	mg/kg dry wt	< 0.12 ± 0.047	0.0 – 0.0151	No
Deltamethrin (including Tralomethrin)	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0062	No
Diazinon	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Dichlofluanid	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Dichloran	mg/kg dry wt	< 0.2 ± 0.019	0.0 – 0.0154	No
Dichlorvos	mg/kg dry wt	< 0.09 ± 0.0085	0.0 – 0.0062	No
Difenoconazole	mg/kg dry wt	< 0.09 ± 0.0085	0.0 – 0.0087	No
Dimethoate	mg/kg dry wt	< 0.10 ± 0.042	0.0 – 0.0123	No
Diphenylamine	mg/kg dry wt	< 0.10 ± 0.049	0.0 – 0.0123	No
Diuron	mg/kg dry wt	< 0.05 ± 0.021	0.0 – 0.0062	No
Fenpropimorph	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0062	No
Fluazifop-butyl	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Fluometuron	mg/kg dry wt	< 0.05 ± 0.031	0.0 – 0.0062	No

Blank 1 - Multiresidue Soil Analysis Worksheet: 3978.1

		Results	Control Limits	Outside Limit (Yes/No)
Flusilazole	mg/kg dry wt	< 0.05 ± 0.022	0.0 – 0.0062	No
Fluvalinate	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0044	No
Furalaxyl	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Haloxfop-methyl	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0062	No
Hexaconazole	mg/kg dry wt	< 0.05 ± 0.016	0.0 – 0.0062	No
Hexazinone	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
IPBC (3-Iodo-2-propynyl-n-butylcarbamate)	mg/kg dry wt	< 0.3 ± 0.12	0.0 – 0.031	No
Kresoxim-methyl	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Linuron	mg/kg dry wt	< 0.05 ± 0.027	0.0 – 0.0062	No
Malathion	mg/kg dry wt	< 0.05 ± 0.027	0.0 – 0.0062	No
Metalaxyl	mg/kg dry wt	< 0.05 ± 0.031	0.0 – 0.0062	No
Methamidophos	mg/kg dry wt	< 0.3 ± 0.019	0.0 – 0.031	No
Metolachlor	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0031	No
Metribuzin	mg/kg dry wt	< 0.05 ± 0.026	0.0 – 0.0062	No
Molinate	mg/kg dry wt	< 0.10 ± 0.049	0.0 – 0.0123	No
Myclobutanil	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Naled	mg/kg dry wt	< 0.3 ± 0.019	0.0 – 0.031	No
Norflurazon	mg/kg dry wt	< 0.10 ± 0.052	0.0 – 0.0123	No
Oxadiazon	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0062	No
Oxyfluorfen	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Paclobutrazol	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Parathion-ethyl	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0062	No
Parathion-methyl	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Pendimethalin	mg/kg dry wt	< 0.05 ± 0.030	0.0 – 0.0062	No
Permethrin	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.00175	No
Pirimicarb	mg/kg dry wt	< 0.05 ± 0.021	0.0 – 0.0062	No
Pirimiphos-methyl	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Prochloraz	mg/kg dry wt	< 0.3 ± 0.019	0.0 – 0.031	No
Procymidone	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Prometryn	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Propachlor	mg/kg dry wt	< 0.05 ± 0.032	0.0 – 0.0062	No
Propanil	mg/kg dry wt	< 0.2 ± 0.12	0.0 – 0.0123	No
Propazine	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No
Propiconazole	mg/kg dry wt	< 0.05 ± 0.027	0.0 – 0.0044	No
Pyriproxyfen	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Quizalofop-ethyl	mg/kg dry wt	< 0.05 ± 0.0048	0.0 – 0.0062	No
Simazine	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Simetryn	mg/kg dry wt	< 0.05 ± 0.025	0.0 – 0.0062	No
Sulfentrazone	mg/kg dry wt	< 0.3 ± 0.019	0.0 – 0.031	No
TCMTB [2-(thiocyanomethylthio)benzothiazole, Busan]	mg/kg dry wt	< 0.10 ± 0.046	0.0 – 0.0123	No
Tebuconazole	mg/kg dry wt	< 0.05 ± 0.020	0.0 – 0.0062	No
Terbacil	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Terbumeton	mg/kg dry wt	< 0.05 ± 0.027	0.0 – 0.0062	No
Terbutylazine	mg/kg dry wt	< 0.03 ± 0.012	0.0 – 0.0031	No

Blank 1 - Multiresidue Soil Analysis Worksheet: 3978.1

		Results	Control Limits	Outside Limit (Yes/No)
Terbutylazine-desethyl	mg/kg dry wt	< 0.05 ± 0.031	0.0 – 0.0062	No
Terbutryn	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No
Thiabendazole	mg/kg dry wt	< 0.3 ± 0.019	0.0 – 0.031	No
Thiobencarb	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Tolyfluanid	mg/kg dry wt	< 0.03 ± 0.0093	0.0 – 0.0031	No
Triazophos	mg/kg dry wt	< 0.05 ± 0.028	0.0 – 0.0062	No
Trifluralin	mg/kg dry wt	< 0.05 ± 0.032	0.0 – 0.0062	No
Vinclozolin	mg/kg dry wt	< 0.05 ± 0.029	0.0 – 0.0062	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12586.13

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12586.28

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12588.13

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12588.29

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12588.29

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

50x Manual Dilution Digest Blank PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12588.65

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12589.13

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12589.43

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Blank 1 PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9103.1

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
alpha-BHC	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
beta-BHC	mg/kg dry wt	< 0.010 ± 0.0028	0.0 – 0.0100	No
delta-BHC	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010 ± 0.0031	0.0 – 0.0100	No
cis-Chlordane	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
trans-Chlordane	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
2,4'-DDD	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
4,4'-DDD	mg/kg dry wt	< 0.010 ± 0.0024	0.0 – 0.0100	No
2,4'-DDE	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
4,4'-DDE	mg/kg dry wt	< 0.010 ± 0.0023	0.0 – 0.0100	No
2,4'-DDT	mg/kg dry wt	< 0.010 ± 0.0021	0.0 – 0.0100	No
4,4'-DDT	mg/kg dry wt	< 0.010 ± 0.0017	0.0 – 0.0100	No

Blank 1 PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9103.1

		Results	Control Limits	Outside Limit (Yes/No)
Dieldrin	mg/kg dry wt	< 0.010 ± 0.0026	0.0 – 0.0100	No
Endosulfan I	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
Endosulfan II	mg/kg dry wt	< 0.010 ± 0.0026	0.0 – 0.0100	No
Endosulfan sulphate	mg/kg dry wt	< 0.010 ± 0.0013	0.0 – 0.0100	No
Endrin	mg/kg dry wt	< 0.010 ± 0.00048	0.0 – 0.0100	No
Endrin aldehyde	mg/kg dry wt	< 0.010 ± 0.0019	0.0 – 0.0100	No
Endrin ketone	mg/kg dry wt	< 0.010 ± 0.0024	0.0 – 0.0100	No
Heptachlor	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
Heptachlor epoxide	mg/kg dry wt	< 0.010 ± 0.0031	0.0 – 0.0100	No
Hexachlorobenzene	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
Methoxychlor	mg/kg dry wt	< 0.010 ± 0.00048	0.0 – 0.0100	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12590.13

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12590.43

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12599.69

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Blank 1 PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9108.1

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
alpha-BHC	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
beta-BHC	mg/kg dry wt	< 0.010 ± 0.0028	0.0 – 0.0100	No
delta-BHC	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010 ± 0.0031	0.0 – 0.0100	No
cis-Chlordane	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
trans-Chlordane	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
2,4'-DDD	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No

Blank 1 PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9108.1

		Results	Control Limits	Outside Limit (Yes/No)
4,4'-DDD	mg/kg dry wt	< 0.010 ± 0.0024	0.0 – 0.0100	No
2,4'-DDE	mg/kg dry wt	< 0.010 ± 0.0030	0.0 – 0.0100	No
4,4'-DDE	mg/kg dry wt	< 0.010 ± 0.0023	0.0 – 0.0100	No
2,4'-DDT	mg/kg dry wt	< 0.010 ± 0.0021	0.0 – 0.0100	No
4,4'-DDT	mg/kg dry wt	< 0.010 ± 0.0017	0.0 – 0.0100	No
Dieldrin	mg/kg dry wt	< 0.010 ± 0.0026	0.0 – 0.0100	No
Endosulfan I	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
Endosulfan II	mg/kg dry wt	< 0.010 ± 0.0026	0.0 – 0.0100	No
Endosulfan sulphate	mg/kg dry wt	< 0.010 ± 0.0013	0.0 – 0.0100	No
Endrin	mg/kg dry wt	< 0.010 ± 0.00048	0.0 – 0.0100	No
Endrin aldehyde	mg/kg dry wt	< 0.010 ± 0.0033	0.0 – 0.0100	No
Endrin ketone	mg/kg dry wt	< 0.010 ± 0.0024	0.0 – 0.0100	No
Heptachlor	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
Heptachlor epoxide	mg/kg dry wt	< 0.010 ± 0.0031	0.0 – 0.0100	No
Hexachlorobenzene	mg/kg dry wt	< 0.010 ± 0.0029	0.0 – 0.0100	No
Methoxychlor	mg/kg dry wt	< 0.010 ± 0.00048	0.0 – 0.0100	No

Blank 1 PrepWS xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17317.1

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	mg/kg dry wt	< 0.010 ± 0.032	0.0 – 0.0100	No
2-Methylnaphthalene	mg/kg dry wt	0.011 ± 0.032	0.0 – 0.0100	Yes #1
Acenaphthylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Acenaphthene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No
Anthracene	mg/kg dry wt	< 0.010 ± 0.0060	0.0 – 0.0100	No
Benzo[a]anthracene	mg/kg dry wt	< 0.010 ± 0.0063	0.0 – 0.0100	No
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[e]pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.010 ± 0.0064	0.0 – 0.0100	No
Benzo[k]fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Chrysene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluoranthene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Fluorene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Naphthalene	mg/kg dry wt	< 0.05 ± 0.031	0.0 – 0.050	No
Perylene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No
Phenanthrene	mg/kg dry wt	< 0.010 ± 0.0067	0.0 – 0.0100	No
Pyrene	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No

Fluid 3 Blank (plastic) - WS: SPLP - Synthetic Precipitation Leaching Procedure: 1940.19

		Results	Control Limits	Outside Limit (Yes/No)
SPLP Sample Weight	g	1,000	Undefined	N/A #2
SPLP Final pH	pH Units	6.0 ± 0.1	Undefined	N/A #2

20x Dilution Fluid 1 Blank (plastic) PrepWS TCLP PrepWS ExtnDig - WS: Env. Waters Totals by ICP-MS (EWT): 23261.13

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.021 ± 0.00074	-0.021 – 0.021	No
Total Copper	g/m ³	< 0.011 ± 0.00035	-0.0105 – 0.0105	No
Total Zinc	g/m ³	< 0.021 ± 0.00078	-0.053 – 0.053	No

Fluid 3 Blank (plastic) PrepWS SPLP PrepWS ExtnDig - WS: Env. Waters Totals by ICP-MS (EWT): 23261.14

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.0011 ± 0.00074	-0.00105 – 0.00105	No
Total Copper	g/m ³	< 0.0006 ± 0.00035	-0.00052 – 0.00052	No
Total Zinc	g/m ³	< 0.0011 ± 0.00074	-0.00105 – 0.00105	No

Fluid 3 Blank (plastic) PrepWS SPLP PrepWS ExtnDig - WS: Env. Waters Totals by ICP-MS (EWT): 23261.15

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.0011 ± 0.00074	-0.00105 – 0.00105	No
Total Copper	g/m ³	< 0.0006 ± 0.00036	-0.00052 – 0.00052	No
Total Zinc	g/m ³	< 0.0011 ± 0.00073	-0.00105 – 0.00105	No

5% HNO3 blank 2xdiln - WS: Env. Waters Totals by ICP-MS (EWT): 23261.54

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.002 ± 0.00074	-0.0020 – 0.0020	No
Total Copper	g/m ³	< 0.0010 ± 0.00035	-0.00100 – 0.00100	No
Total Zinc	g/m ³	< 0.002 ± 0.00073	-0.0020 – 0.0020	No

5% HNO3 blank 2xdiln - WS: Env. Waters Totals by ICP-MS (EWT): 23261.55

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.002 ± 0.00074	-0.0020 – 0.0020	No
Total Copper	g/m ³	< 0.0010 ± 0.00035	-0.00100 – 0.00100	No
Total Zinc	g/m ³	< 0.002 ± 0.00073	-0.0020 – 0.0020	No

QC Spike QCs

Screen LCS Mix5+ - Multiresidue Soil Analysis Worksheet: 3978.2

		Results	Control Limits	Outside Limit (Yes/No)
Acetochlor	%	88 ± 30	45 – 133	No
Cyanazine	%	90 ± 41	44 – 106	No
Dichlorvos	%	78 ± 52	16.0 – 95	No
Fluvalinate	%	84 ± 56	43 – 95	No
Furalaxyl	%	87 ± 31	51 – 122	No
Hexaconazole	%	75 ± 45	38 – 92	No
IPBC (3-Iodo-2-propynyl-n-butylcarbamate)	%	64 ± 23	27 – 87	No
Pyriproxyfen	%	84 ± 33	52 – 103	No
TCMTB [2-(thiocyanomethylthio) benzothiazole, Busan]	%	26 ± 12	21 – 92	No
Thiobencarb	%	101 ± 38	50 – 120	No

LCS OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9103.2

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	%	95 ± 29	80 – 121	No
alpha-BHC	%	95 ± 29	76 – 121	No
beta-BHC	%	87 ± 34	75 – 113	No
delta-BHC	%	89 ± 31	74 – 114	No
gamma-BHC (Lindane)	%	91 ± 26	78 – 116	No
cis-Chlordane	%	91 ± 30	78 – 118	No
trans-Chlordane	%	80 ± 25	76 – 121	No

LCS OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9103.2

		Results	Control Limits	Outside Limit (Yes/No)
2,4'-DDD	%	93 ± 34	75 – 114	No
4,4'-DDD	%	99 ± 48	75 – 120	No
2,4'-DDE	%	112 ± 36	73 – 118	No
4,4'-DDE	%	81 ± 41	73 – 116	No
2,4'-DDT	%	99 ± 52	70 – 124	No
4,4'-DDT	%	88 ± 52	65 – 120	No
Dieldrin	%	95 ± 42	84 – 124	No
Endosulfan I	%	101 ± 37	81 – 120	No
Endosulfan II	%	92 ± 41	72 – 117	No
Endosulfan sulphate	%	96 ± 60	76 – 120	No
Endrin	%	99 ± 66	78 – 124	No
Endrin aldehyde	%	103 ± 58	84 – 127	No
Endrin ketone	%	87 ± 42	69 – 115	No
Heptachlor	%	93 ± 32	74 – 120	No
Heptachlor epoxide	%	97 ± 28	79 – 119	No
Hexachlorobenzene	%	88 ± 30	77 – 116	No
Methoxychlor	%	94 ± 63	70 – 125	No

LCS TPH PrepWS xsSHOC - Total Petroleum Hydrocarbon Soil Analysis: 15167.3

		Results	Control Limits	Outside Limit (Yes/No)
Total hydrocarbons (C7 - C36)	%	88 ± 43	74 – 108	No

LCS OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9108.2

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	%	91 ± 28	80 – 121	No
alpha-BHC	%	87 ± 27	76 – 121	No
beta-BHC	%	86 ± 33	75 – 113	No
delta-BHC	%	90 ± 31	74 – 114	No
gamma-BHC (Lindane)	%	86 ± 25	78 – 116	No
cis-Chlordane	%	86 ± 28	78 – 118	No
trans-Chlordane	%	75 ± 23	76 – 121	Yes #3
2,4'-DDD	%	88 ± 32	75 – 114	No
4,4'-DDD	%	94 ± 46	75 – 120	No
2,4'-DDE	%	101 ± 33	73 – 118	No
4,4'-DDE	%	85 ± 43	73 – 116	No
2,4'-DDT	%	93 ± 49	70 – 124	No
4,4'-DDT	%	84 ± 49	65 – 120	No
Dieldrin	%	88 ± 39	84 – 124	No
Endosulfan I	%	91 ± 33	81 – 120	No
Endosulfan II	%	86 ± 38	72 – 117	No
Endosulfan sulphate	%	89 ± 56	76 – 120	No
Endrin	%	93 ± 62	78 – 124	No
Endrin aldehyde	%	93 ± 53	84 – 127	No
Endrin ketone	%	81 ± 39	69 – 115	No
Heptachlor	%	90 ± 31	74 – 120	No
Heptachlor epoxide	%	92 ± 26	79 – 119	No
Hexachlorobenzene	%	85 ± 29	77 – 116	No

LCS OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9108.2

		Results	Control Limits	Outside Limit (Yes/No)
Methoxychlor	%	89 ± 59	70 – 125	No

LCS OC/PAH xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17317.2

		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	%	100 ± 25	78 – 122	No
2-Methylnaphthalene	%	97 ± 24	72 – 117	No
Acenaphthylene	%	102.0 ± 9.2	75 – 118	No
Acenaphthene	%	106 ± 31	84 – 119	No
Anthracene	%	96 ± 29	79 – 121	No
Benzo[a]anthracene	%	103 ± 27	81 – 123	No
Benzo[a]pyrene (BAP)	%	107.0 ± 8.2	76 – 123	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	%	102 ± 21	80 – 121	No
Benzo[e]pyrene	%	97.0 ± 7.4	78 – 110	No
Benzo[g,h,i]perylene	%	101 ± 18	80 – 124	No
Benzo[k]fluoranthene	%	105 ± 14	79 – 121	No
Chrysene	%	99 ± 15	83 – 121	No
Dibenzo[a,h]anthracene	%	104 ± 14	78 – 124	No
Fluoranthene	%	102 ± 11	81 – 122	No
Fluorene	%	105 ± 13	86 – 122	No
Indeno(1,2,3-c,d)pyrene	%	100.0 ± 9.3	83 – 123	No
Naphthalene	%	105 ± 26	84 – 118	No
Perylene	%	80.0 ± 6.1	60 – 107	No
Phenanthrene	%	103 ± 15	84 – 120	No
Pyrene	%	104 ± 14	79 – 123	No

Sample Spike QCs

Screen Sample Spike Mix5+ - Multiresidue Soil Analysis Worksheet: 3978.10

		Results	Control Limits	Outside Limit (Yes/No)
Acetochlor	%	85 ± 29	48 – 114	No
Cyanazine	%	82 ± 38	48 – 121	No
Dichlorvos	%	63 ± 42	10.0 – 169	No
Fluvalinate	%	74 ± 49	39 – 151	No
Furalaxyl	%	73 ± 26	52 – 128	No
Hexaconazole	%	75 ± 45	43 – 117	No
IPBC (3-Iodo-2-propynyl-n-butylcarbamate)	%	51 ± 19	28 – 105	No
Pyriproxyfen	%	78 ± 31	58 – 114	No
TCMTB [2-(thiocyanomethylthio) benzothiazole, Busan]	%	20.0 ± 8.7	15.0 – 117	No
Thiobencarb	%	89 ± 33	60 – 119	No

Spike OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9103.32

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	%	99 ± 30	83 – 122	No
alpha-BHC	%	98 ± 30	80 – 122	No
beta-BHC	%	90 ± 35	79 – 114	No
delta-BHC	%	91 ± 31	76 – 118	No
gamma-BHC (Lindane)	%	94 ± 27	80 – 117	No
cis-Chlordane	%	95 ± 31	80 – 120	No

Spike OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9103.32

		Results	Control Limits	Outside Limit (Yes/No)
trans-Chlordane	%	85 ± 26	79 – 121	No
2,4'-DDD	%	98 ± 36	74 – 120	No
4,4'-DDD	%	105 ± 51	75 – 125	No
2,4'-DDE	%	113 ± 37	74 – 119	No
4,4'-DDE	%	84 ± 43	76 – 120	No
2,4'-DDT	%	101 ± 53	72 – 126	No
4,4'-DDT	%	93 ± 54	63 – 123	No
Dieldrin	%	97 ± 43	86 – 126	No
Endosulfan I	%	102 ± 37	83 – 120	No
Endosulfan II	%	95 ± 42	72 – 119	No
Endosulfan sulphate	%	104 ± 65	78 – 124	No
Endrin	%	104 ± 69	82 – 126	No
Endrin aldehyde	%	107 ± 60	84 – 131	No
Endrin ketone	%	96 ± 47	70 – 119	No
Heptachlor	%	94 ± 32	79 – 123	No
Heptachlor epoxide	%	98 ± 28	81 – 119	No
Hexachlorobenzene	%	90 ± 31	77 – 119	No
Methoxychlor	%	105 ± 70	71 – 133	No

Matrix Spike TPH PrepWS xsSHOC - Total Petroleum Hydrocarbon Soil Analysis: 15167.22

		Results	Control Limits	Outside Limit (Yes/No)
Total hydrocarbons (C7 - C36)	%	74 ± 42	71 – 104	No

Spike OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9108.32

		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	%	71 ± 22	83 – 122	Yes #4
alpha-BHC	%	68 ± 21	80 – 122	Yes #4
beta-BHC	%	68 ± 26	79 – 114	Yes #4
delta-BHC	%	70 ± 24	76 – 118	Yes #4
gamma-BHC (Lindane)	%	67 ± 19	80 – 117	Yes #4
cis-Chlordane	%	67 ± 22	80 – 120	Yes #4
trans-Chlordane	%	59 ± 18	79 – 121	Yes #4
2,4'-DDD	%	71 ± 26	74 – 120	Yes #4
4,4'-DDD	%	75 ± 37	75 – 125	No
2,4'-DDE	%	82 ± 27	74 – 119	No
4,4'-DDE	%	67 ± 34	76 – 120	Yes #4
2,4'-DDT	%	70 ± 37	72 – 126	Yes #4
4,4'-DDT	%	60 ± 35	63 – 123	Yes #4
Dieldrin	%	71 ± 32	86 – 126	Yes #4
Endosulfan I	%	73 ± 27	83 – 120	Yes #4
Endosulfan II	%	69 ± 31	72 – 119	Yes #4
Endosulfan sulphate	%	71 ± 45	78 – 124	Yes #4
Endrin	%	77 ± 51	82 – 126	Yes #4
Endrin aldehyde	%	75 ± 43	84 – 131	Yes #4
Endrin ketone	%	67 ± 33	70 – 119	Yes #4
Heptachlor	%	72 ± 25	79 – 123	Yes #4
Heptachlor epoxide	%	73 ± 21	81 – 119	Yes #4

Spike OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9108.32				
		Results	Control Limits	Outside Limit (Yes/No)
Hexachlorobenzene	%	66 ± 23	77 – 119	Yes #4
Methoxychlor	%	77 ± 51	71 – 133	No

TCLP Spike PrepWS ExtndDig - WS: Env. Waters Totals by ICP-MS (EWT): 23261.22				
		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	%	105.0 ± 6.4	80 – 120	No
Total Copper	%	100 ± 11	80 – 120	No
Total Zinc	%	102.0 ± 8.2	80 – 120	No

Reference Material QCs

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12574.14				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.1 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.88 ± 0.17	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	28.1 ± 3.9	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.9 ± 2.6	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	33.7 ± 6.3	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.357 ± 0.080	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.9 ± 2.4	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	210 ± 31	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12574.66				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.4 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.81 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.8 ± 3.8	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.6 ± 2.5	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.6 ± 6.0	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.323 ± 0.078	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.1 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	198 ± 30	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12574.72				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	9.9 ± 2.0	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.77 ± 0.15	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	24.4 ± 3.5	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.6 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	29.6 ± 5.6	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.214 ± 0.071	0.24 – 0.40	Yes #5
Total Recoverable Nickel	mg/kg dry wt	13.1 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	180 ± 27	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12575.14				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.5 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.91 ± 0.17	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	28.2 ± 3.9	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	14.1 ± 2.6	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	33.7 ± 6.3	28 – 38	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12575.14

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Mercury	mg/kg dry wt	0.344 ± 0.079	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.6 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	205 ± 31	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12575.42

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.8 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.84 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.2 ± 3.7	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.0 ± 2.5	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	33.0 ± 6.2	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.303 ± 0.077	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.5 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	199 ± 30	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12575.59

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.6 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.81 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.2 ± 3.6	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.7 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.1 ± 5.8	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.278 ± 0.075	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.6 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	189 ± 28	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12579.14

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.5 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.81 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	27.0 ± 3.8	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.4 ± 2.5	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.8 ± 6.2	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.336 ± 0.079	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.1 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	193 ± 29	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12579.57

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.5 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.84 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	27.1 ± 3.8	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.0 ± 2.5	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.7 ± 6.0	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.313 ± 0.077	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.2 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	194 ± 29	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12579.71

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.1 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.82 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.6 ± 3.7	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.3 ± 2.5	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.2 ± 6.1	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.333 ± 0.079	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.0 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	193 ± 29	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12580.14

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.2 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.82 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.3 ± 3.6	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.1 ± 2.5	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.0 ± 5.8	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.326 ± 0.078	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.9 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	192 ± 29	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12580.30

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.3 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.82 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.0 ± 3.7	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.9 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.9 ± 6.0	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.317 ± 0.077	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.1 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	194 ± 29	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12582.14

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.5 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.81 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.8 ± 3.6	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.8 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.3 ± 5.9	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.337 ± 0.079	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.8 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	188 ± 28	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12582.62

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.9 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.83 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.5 ± 3.7	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.0 ± 2.5	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.8 ± 6.0	28 – 38	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12582.62

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Mercury	mg/kg dry wt	0.308 ± 0.077	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.1 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	193 ± 29	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12582.71

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.0 ± 2.0	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.78 ± 0.15	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	24.7 ± 3.5	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.1 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	30.4 ± 5.7	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.288 ± 0.076	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.0 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	179 ± 27	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12583.14

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.3 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.79 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.6 ± 3.6	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.8 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	30.6 ± 5.8	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.312 ± 0.077	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.7 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	188 ± 28	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12583.48

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.6 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.78 ± 0.15	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.1 ± 3.7	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.5 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.2 ± 5.9	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.291 ± 0.076	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.5 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	189 ± 28	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12584.14

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.9 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.80 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.6 ± 3.8	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.9 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.2 ± 6.1	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.308 ± 0.077	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.0 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	190 ± 28	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12584.26

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.7 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.85 ± 0.17	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.9 ± 3.8	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.0 ± 2.5	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.8 ± 6.2	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.311 ± 0.077	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.2 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	192 ± 29	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12585.14

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.3 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.82 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.9 ± 3.8	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.5 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.8 ± 6.0	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.308 ± 0.077	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.7 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	187 ± 28	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12585.42

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.6 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.84 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	27.7 ± 3.9	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.0 ± 2.5	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	33.5 ± 6.3	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.336 ± 0.079	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.2 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	194 ± 29	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12586.14

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.7 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.84 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.8 ± 3.8	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.5 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.4 ± 6.1	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.323 ± 0.078	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.2 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	193 ± 29	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12586.48

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.7 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.87 ± 0.17	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	27.7 ± 3.9	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.9 ± 2.6	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	34.0 ± 6.4	28 – 38	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12586.48				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Mercury	mg/kg dry wt	0.362 ± 0.081	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.7 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	202 ± 30	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12588.14				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.5 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.89 ± 0.17	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	27.6 ± 3.9	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	14.4 ± 2.6	11.0 – 15.3	No
Total Recoverable Mercury	mg/kg dry wt	0.334 ± 0.079	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	15.2 ± 2.4	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	214 ± 32	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12588.39				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.7 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.88 ± 0.17	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	27.9 ± 3.9	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	14.0 ± 2.6	11.0 – 15.3	No
Total Recoverable Mercury	mg/kg dry wt	0.333 ± 0.079	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.9 ± 2.4	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	211 ± 32	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12588.66				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.8 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.77 ± 0.15	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	27.0 ± 3.8	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.5 ± 2.5	11.0 – 15.3	No
Total Recoverable Mercury	mg/kg dry wt	0.261 ± 0.074	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.2 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	200 ± 30	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12589.14				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.1 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.83 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.3 ± 3.7	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.5 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.5 ± 5.9	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.277 ± 0.075	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.7 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	188 ± 28	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12589.24				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.5 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.81 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	27.2 ± 3.8	21 – 30	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12589.24

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Copper	mg/kg dry wt	12.6 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.5 ± 5.9	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.337 ± 0.079	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.8 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	191 ± 29	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12590.14

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.6 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.87 ± 0.17	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	27.8 ± 3.9	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	14.1 ± 2.6	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	35.8 ± 6.7	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.269 ± 0.074	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.8 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	204 ± 30	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12590.59

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.0 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.84 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.8 ± 3.8	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.2 ± 2.5	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	33.2 ± 6.2	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.327 ± 0.078	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.2 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	196 ± 29	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12599.70

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Lead	mg/kg dry wt	30.8 ± 5.8	28 – 38	No
Total Recoverable Zinc	mg/kg dry wt	193 ± 29	166 – 230	No

1% 50ppb TRDig and TDig ME QC PrepWS ExtnDig - WS: Env. Waters Totals by ICP-MS (EWT): 23261.16

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	0.0542 ± 0.0034	0.045 – 0.055	No
Total Copper	g/m ³	0.0507 ± 0.0051	0.045 – 0.055	No
Total Zinc	g/m ³	0.517 ± 0.042	0.45 – 0.55	No

Analyst's Comments

Amended Report: This quality assurance report replaces report '3960753-QCPv1' issued on 29-Aug-2025 at 5:14 pm.
Reason for amendment: SPLP metals added.

#1 Elevated blank levels were observed for this analyte. The sample results have been corrected with blank subtraction due to consistent background levels.

#2 Control limits have not been established for this analyte.

#3 The Laboratory Control Sample (LCS) spike recovery for this analyte was below the acceptable recovery range of the method. The corresponding sample result was accepted as it appears that the current spike standard is reading back lower than the calibration standard (as it is from a separate source).

#4 The sample spike recovery for this analyte was below the acceptable recovery range of the method. The corresponding sample result was accepted because the Laboratory Control Sample (LCS) spike recovery was within the expected ranges. This indicates that the low sample spike recovery was due to the matrix of the sample that was spiked.

#5 The recovery for this analyte was outside the acceptable recovery range of the method. The corresponding sample result was accepted because the related recovery in the other QC material analysed was within the expected range.

Certificate of Analysis

Page 1 of 3

Client: Engeo Limited	Lab No: 3976198 SPV2
Contact: Aaron Graham	Date Received: 03-Sep-2025
C/- Engeo Limited	Date Reported: 15-Sep-2025 (Amended)
PO Box 305136	Quote No: 82742
Triton Plaza	Order No:
Auckland 0757	Client Reference: 19630-119125
	Submitted By: Caitlin Robinson

Sample Type: Soil						
Sample Name:	A2-6_0-0.1 01-Sep-2025	A2-6_0.3-0.4 01-Sep-2025	A3-48_0-0.1 01-Sep-2025	A3-49_0-0.1 01-Sep-2025	A3-50_0-0.1 01-Sep-2025	
Lab Number:	3976198.1	3976198.2	3976198.3	3976198.4	3976198.5	

Individual Tests						
SPLP Sample Weight	g	-	-	50	50	50
SPLP Extractant Type*		-	-	De-ionised Water, pH 5.8 +/- 0.4	De-ionised Water, pH 5.8 +/- 0.4	De-ionised Water, pH 5.8 +/- 0.4
SPLP Final pH	pH Units	-	-	7.2	7.9	8.4
pH*	pH Units	6.2	5.4	-	-	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	2	2	20	4	91
Total Recoverable Cadmium	mg/kg dry wt	0.16	< 0.10	5.8	0.51	0.24
Total Recoverable Chromium	mg/kg dry wt	4	5	63	7	93
Total Recoverable Copper	mg/kg dry wt	7	2	57	15	138
Total Recoverable Lead	mg/kg dry wt	4.7	11.4	1,000	21	10.7
Total Recoverable Mercury	mg/kg dry wt	< 0.10	0.13	< 0.10	< 0.10	0.12
Total Recoverable Nickel	mg/kg dry wt	3	2	5	3	5
Total Recoverable Zinc	mg/kg dry wt	92	15	2,200	2,100	550

Sample Name:	A3-51_0-0.1 01-Sep-2025	A3-52_0-0.1 01-Sep-2025	B1-9_0-0.1 01-Sep-2025	B1-9_0.3-0.4 01-Sep-2025	B3-22_0-0.1 01-Sep-2025	
Lab Number:	3976198.6	3976198.7	3976198.8	3976198.9	3976198.10	

Individual Tests						
SPLP Sample Weight	g	50	-	-	-	-
SPLP Extractant Type*		De-ionised Water, pH 5.8 +/- 0.4	-	-	-	-
SPLP Final pH	pH Units	9.5	-	-	-	-
pH*	pH Units	-	-	6.4	6.2	6.3
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	3	5	2	< 2	< 2
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	0.37	0.21	0.42
Total Recoverable Chromium	mg/kg dry wt	4	4	5	3	5
Total Recoverable Copper	mg/kg dry wt	5	5	8	3	6
Total Recoverable Lead	mg/kg dry wt	147	7.9	2.5	2.1	2.8
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	< 2	< 2	4	< 2	5
Total Recoverable Zinc	mg/kg dry wt	680	71	45	19	60



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:	B3-22_0.3-0.4 01-Sep-2025	C1-61_0-0.1 01-Sep-2025	C1-61_0.3-0.4 01-Sep-2025	Dup 2a 01-Sep-2025	Dup 2b 01-Sep-2025
Lab Number:	3976198.11	3976198.12	3976198.13	3976198.14	3976198.15

Individual Tests						
pH*	pH Units	6.5	6.1	5.9	-	-
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	2	4	< 4	4	< 4
Total Recoverable Cadmium	mg/kg dry wt	0.30	0.26	< 0.2	0.24	< 0.2
Total Recoverable Chromium	mg/kg dry wt	2	4	< 4	4	6
Total Recoverable Copper	mg/kg dry wt	4	8	7	8	10
Total Recoverable Lead	mg/kg dry wt	2.8	5.4	4.4	5.4	6.2
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	0.2	< 0.10	< 0.2
Total Recoverable Nickel	mg/kg dry wt	< 2	2	< 4	< 2	< 4
Total Recoverable Zinc	mg/kg dry wt	16	37	8	37	8

Sample Name:	Dup 3a 01-Sep-2025	Dup 3b 01-Sep-2025	Dup 4a 01-Sep-2025	Dup 4b 01-Sep-2025	Dup 5 01-Sep-2025
Lab Number:	3976198.16	3976198.17	3976198.18	3976198.19	3976198.20

Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	< 2	< 2	2	< 4	23
Total Recoverable Cadmium	mg/kg dry wt	0.50	0.24	0.37	< 0.2	4.5
Total Recoverable Chromium	mg/kg dry wt	6	3	5	< 4	62
Total Recoverable Copper	mg/kg dry wt	5	3	8	< 4	58
Total Recoverable Lead	mg/kg dry wt	2.3	2.3	2.5	3.9	1,050
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.2	< 0.10
Total Recoverable Nickel	mg/kg dry wt	4	< 2	5	< 4	6
Total Recoverable Zinc	mg/kg dry wt	43	12	50	< 8	1,910

Sample Name:	Dup 6 01-Sep-2025	Dup 7a 01-Sep-2025	Dup 7b 01-Sep-2025	Dup 8 01-Sep-2025	Dup 9 01-Sep-2025
Lab Number:	3976198.21	3976198.22	3976198.23	3976198.24	3976198.25

Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	3	3	3	105	3
Total Recoverable Cadmium	mg/kg dry wt	0.20	0.17	< 0.10	0.23	0.10
Total Recoverable Chromium	mg/kg dry wt	7	4	5	119	6
Total Recoverable Copper	mg/kg dry wt	13	6	3	220	7
Total Recoverable Lead	mg/kg dry wt	16.5	5.2	8.9	9.8	220
Total Recoverable Mercury	mg/kg dry wt	< 0.10	< 0.10	0.13	0.10	< 0.10
Total Recoverable Nickel	mg/kg dry wt	2	3	2	4	3
Total Recoverable Zinc	mg/kg dry wt	1,800	64	26	620	840

Sample Name:	Dup 10 01-Sep-2025				
Lab Number:	3976198.26				

Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	4				
Total Recoverable Cadmium	mg/kg dry wt	< 0.10				
Total Recoverable Chromium	mg/kg dry wt	4				
Total Recoverable Copper	mg/kg dry wt	5				
Total Recoverable Lead	mg/kg dry wt	7.2				
Total Recoverable Mercury	mg/kg dry wt	< 0.10				
Total Recoverable Nickel	mg/kg dry wt	< 2				
Total Recoverable Zinc	mg/kg dry wt	62				

Sample Type: Aqueous

Sample Name:	A3-48_0-0.1 [SPLP Extract]	A3-49_0-0.1 [SPLP Extract]	A3-50_0-0.1 [SPLP Extract]	A3-51_0-0.1 [SPLP Extract]
Lab Number:	3976198.27	3976198.28	3976198.29	3976198.30

Individual Tests					
Total Arsenic	g/m ³	-	-	0.198	-
Total Copper	g/m ³	-	-	0.029	-
Total Lead	g/m ³	0.0163	-	-	-
Total Zinc	g/m ³	0.086	0.097	0.027	0.028

Analyst's Comments

Amended Report: This certificate of analysis replaces report '3976198-SPv1' issued on 08-Sep-2025 at 1:43 pm.
Reason for amendment: Additional testing added, as per client.

Summary of Methods

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

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	1-26
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%.	-	1-2, 8-13
Soil Prep Dry & Sieve for Agriculture	Air dried at 35°C and sieved, <2mm fraction.	-	1-2, 8-13
pH*	1:2 (v/v) soil : water slurry followed by potentiometric determination of pH. In-house.	0.1 pH Units	1-2, 8-13
Heavy Metals with Mercury, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.10 - 4 mg/kg dry wt	1-26
SPLP Profile*	Extraction at 30 +/- 2 rpm for 18 +/- 2 hours, (Ratio 1g sample : 20g extraction fluid). US EPA 1312.	-	3-6
SPLP Profile			
SPLP Sample Weight	Gravimetric. US EPA 1312.	0.1 g	3-6
SPLP Extractant Type*	US EPA 1312 (Modified for New Zealand conditions to use De-ionised Water unless otherwise specified).	-	3-6
SPLP Final pH	pH meter. US EPA 1312.	0.1 pH Units	3-6

Sample Type: Aqueous			
Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
Total Digestion of Extracted Samples*	Nitric acid digestion. APHA 3030 E (modified) : Online Edition.	-	27-30
Total Arsenic	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.0011 g/m ³	29
Total Copper	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.00053 g/m ³	29
Total Lead	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.00011 g/m ³	27
Total Zinc	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B : Online Edition.	0.0011 g/m ³	27-30

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

Testing was completed between 03-Sep-2025 and 15-Sep-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.



Martin Cowell - BSc
Client Services Manager - Environmental

Quality Assurance Report

Page 1 of 7

Client:	Engeo Limited	Lab No:	3976198	QCPv2
Contact:	Aaron Graham C/- Engeo Limited PO Box 305136 Triton Plaza Auckland 0757	Date Received:	03-Sep-2025	
		Date Reported:	15-Sep-2025	(Amended)
		Quote No:	82742	
		Order No:		
		Client Reference:	19630-119125	
		Submitted By:	Caitlin Robinson	

Blank QCs

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12642.13

	Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12642.30

	Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

50x Manual Dilution Digest Blank PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12642.69

	Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12644.13

	Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12644.13

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12644.29

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

50x Manual Dilution Digest Blank PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12644.72

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12645.13

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12645.42

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

50x Manual Dilution Digest Blank PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12645.72

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12646.13

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12646.55

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

50x Manual Dilution Digest Blank PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12646.59

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg dry wt	< 0.10 ± 0.065	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg dry wt	< 0.4 ± 0.26	-0.40 – 0.40	No
Total Recoverable Mercury	mg/kg dry wt	< 0.10 ± 0.066	-0.100 – 0.100	No
Total Recoverable Nickel	mg/kg dry wt	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg dry wt	< 4 ± 2.7	-4.0 – 4.0	No

Fluid 3 Blank (plastic) - WS: SPLP - Synthetic Precipitation Leaching Procedure: 1943.15

		Results	Control Limits	Outside Limit (Yes/No)
SPLP Sample Weight	g	1,000	Undefined	N/A #1
SPLP Final pH	pH Units	5.8 ± 0.1	Undefined	N/A #1

Fluid 3 Blank (plastic) PrepWS SPLP PrepWS ExtnDig - WS: Env. Waters Totals by ICP-MS (EWT): 23298.25

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.0011 ± 0.00074	-0.00105 – 0.00105	No

Fluid 3 Blank (plastic) PrepWS SPLP PrepWS ExtnDig - WS: Env. Waters Totals by ICP-MS (EWT): 23298.25

		Results	Control Limits	Outside Limit (Yes/No)
Total Copper	g/m ³	< 0.0006 ± 0.00035	-0.00052 – 0.00052	No
Total Lead	g/m ³	< 0.00011 ± 0.000074	-0.000105 – 0.000105	No
Total Zinc	g/m ³	< 0.0011 ± 0.00074	-0.00105 – 0.00105	No

Fluid 3 Blank (plastic) PrepWS SPLP PrepWS ExtnDig - WS: Env. Waters Totals by ICP-MS (EWT): 23298.26

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.0011 ± 0.00074	-0.00105 – 0.00105	No
Total Copper	g/m ³	< 0.0006 ± 0.00035	-0.00052 – 0.00052	No
Total Lead	g/m ³	< 0.00011 ± 0.000074	-0.000105 – 0.000105	No
Total Zinc	g/m ³	< 0.0011 ± 0.00074	-0.00105 – 0.00105	No

Fluid 3 Blank (glass) PrepWS SPLP PrepWS ExtnDig - WS: Env. Waters Totals by ICP-MS (EWT): 23298.27

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.0011 ± 0.00074	-0.00105 – 0.00105	No
Total Copper	g/m ³	< 0.0006 ± 0.00035	-0.00052 – 0.00052	No
Total Lead	g/m ³	< 0.00011 ± 0.000074	-0.000105 – 0.000105	No
Total Zinc	g/m ³	< 0.0011 ± 0.00073	-0.00105 – 0.00105	No

20x Dilution Fluid 1 Blank (plastic) PrepWS TCLP PrepWS ExtnDig - WS: Env. Waters Totals by ICP-MS (EWT): 23298.28

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.021 ± 0.00074	-0.021 – 0.021	No
Total Copper	g/m ³	< 0.011 ± 0.00035	-0.0105 – 0.0105	No
Total Lead	g/m ³	< 0.0021 ± 0.000088	-0.0021 – 0.0021	No
Total Zinc	g/m ³	< 0.021 ± 0.00074	-0.053 – 0.053	No

20x Dilution Fluid 1 Blank (plastic) PrepWS TCLP PrepWS ExtnDig - WS: Env. Waters Totals by ICP-MS (EWT): 23298.29

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.021 ± 0.00074	-0.021 – 0.021	No
Total Copper	g/m ³	< 0.011 ± 0.00035	-0.0105 – 0.0105	No
Total Lead	g/m ³	< 0.0021 ± 0.000091	-0.0021 – 0.0021	No
Total Zinc	g/m ³	< 0.021 ± 0.00077	-0.053 – 0.053	No

20x Dilution Fluid 1 Blank (glass) PrepWS TCLP PrepWS ExtnDig - WS: Env. Waters Totals by ICP-MS (EWT): 23298.30

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.021 ± 0.00074	-0.021 – 0.021	No
Total Copper	g/m ³	< 0.011 ± 0.00036	-0.0105 – 0.0105	No
Total Lead	g/m ³	< 0.0021 ± 0.000083	-0.0021 – 0.0021	No
Total Zinc	g/m ³	< 0.021 ± 0.00074	-0.053 – 0.053	No

20x Dilution Fluid 1 Blank (plastic) PrepWS TCLP PrepWS ExtnDig - WS: Env. Waters Totals by ICP-MS (EWT): 23298.31

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	< 0.021 ± 0.00074	-0.021 – 0.021	No
Total Copper	g/m ³	< 0.011 ± 0.00036	-0.0105 – 0.0105	No
Total Lead	g/m ³	0.00237 ± 0.00017	-0.0021 – 0.0021	Yes
Total Zinc	g/m ³	< 0.021 ± 0.00080	-0.053 – 0.053	No

Sample Spike QCs

SPLP Spike PrepWS ExtnDig - WS: Env. Waters Totals by ICP-MS (EWT): 23298.57

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	%	106.0 ± 6.4	80 – 120	No
Total Copper	%	96.0 ± 9.7	80 – 120	No
Total Lead	%	93.0 ± 5.6	80 – 120	No

SPLP Spike PrepWS ExtnDig - WS: Env. Waters Totals by ICP-MS (EWT): 23298.57

	Results	Control Limits	Outside Limit (Yes/No)
Total Zinc %	Unknown	80 – 120	Yes #2

Reference Material QCs

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12642.14

	Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic mg/kg dry wt	11.0 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium mg/kg dry wt	0.84 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium mg/kg dry wt	26.6 ± 3.7	21 – 30	No
Total Recoverable Copper mg/kg dry wt	13.6 ± 2.5	11.0 – 15.3	No
Total Recoverable Lead mg/kg dry wt	34.3 ± 6.5	28 – 38	No
Total Recoverable Mercury mg/kg dry wt	0.296 ± 0.076	0.24 – 0.40	No
Total Recoverable Nickel mg/kg dry wt	14.5 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc mg/kg dry wt	201 ± 30	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12642.42

	Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic mg/kg dry wt	11.1 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium mg/kg dry wt	0.88 ± 0.17	0.70 – 0.98	No
Total Recoverable Chromium mg/kg dry wt	26.8 ± 3.8	21 – 30	No
Total Recoverable Copper mg/kg dry wt	13.4 ± 2.5	11.0 – 15.3	No
Total Recoverable Lead mg/kg dry wt	34.8 ± 6.5	28 – 38	No
Total Recoverable Mercury mg/kg dry wt	0.313 ± 0.077	0.24 – 0.40	No
Total Recoverable Nickel mg/kg dry wt	14.1 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc mg/kg dry wt	199 ± 30	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12642.70

	Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic mg/kg dry wt	10.6 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium mg/kg dry wt	0.78 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium mg/kg dry wt	24.9 ± 3.5	21 – 30	No
Total Recoverable Copper mg/kg dry wt	13.0 ± 2.5	11.0 – 15.3	No
Total Recoverable Lead mg/kg dry wt	31.5 ± 5.9	28 – 38	No
Total Recoverable Mercury mg/kg dry wt	0.255 ± 0.074	0.24 – 0.40	No
Total Recoverable Nickel mg/kg dry wt	13.6 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc mg/kg dry wt	187 ± 28	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12644.14

	Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic mg/kg dry wt	11.0 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium mg/kg dry wt	0.84 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium mg/kg dry wt	27.0 ± 3.8	21 – 30	No
Total Recoverable Copper mg/kg dry wt	13.9 ± 2.6	11.0 – 15.3	No
Total Recoverable Lead mg/kg dry wt	33.8 ± 6.4	28 – 38	No
Total Recoverable Mercury mg/kg dry wt	0.344 ± 0.079	0.24 – 0.40	No
Total Recoverable Nickel mg/kg dry wt	14.4 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc mg/kg dry wt	202 ± 30	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12644.46

	Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic mg/kg dry wt	11.0 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium mg/kg dry wt	0.84 ± 0.16	0.70 – 0.98	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12644.46				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Chromium	mg/kg dry wt	26.5 ± 3.7	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.1 ± 2.5	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	33.3 ± 6.3	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.314 ± 0.077	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.2 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	198 ± 30	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12644.73				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	9.9 ± 2.0	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.81 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	24.3 ± 3.5	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.2 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	30.5 ± 5.7	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.266 ± 0.074	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.2 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	184 ± 28	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12645.14				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.3 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.85 ± 0.17	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.8 ± 3.8	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.6 ± 2.5	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	34.3 ± 6.5	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.245 ± 0.073	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.3 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	198 ± 30	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12645.58				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.1 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.88 ± 0.17	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.9 ± 3.7	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.6 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.5 ± 6.1	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.315 ± 0.077	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.7 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	187 ± 28	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12645.73				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.0 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.81 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	24.9 ± 3.5	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.5 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.0 ± 6.0	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.281 ± 0.075	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.1 ± 2.2	11.7 – 16.3	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12645.73

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Zinc	mg/kg dry wt	183 ± 27	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12646.14

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.5 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.84 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	27.5 ± 3.9	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.7 ± 2.5	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	33.6 ± 6.3	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.359 ± 0.080	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.7 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	200 ± 30	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12646.39

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.1 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.83 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.7 ± 3.8	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.2 ± 2.5	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	33.1 ± 6.2	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.325 ± 0.078	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	14.7 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	195 ± 29	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12646.60

		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.5 ± 2.1	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.78 ± 0.15	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.2 ± 3.6	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.2 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.2 ± 5.9	28 – 38	No
Total Recoverable Mercury	mg/kg dry wt	0.301 ± 0.076	0.24 – 0.40	No
Total Recoverable Nickel	mg/kg dry wt	13.8 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	180 ± 27	166 – 230	No

1% 50ppb TRDig and TDig ME QC PrepWS ExtnDig - WS: Env. Waters Totals by ICP-MS (EWT): 23298.32

		Results	Control Limits	Outside Limit (Yes/No)
Total Arsenic	g/m ³	0.0511 ± 0.0032	0.045 – 0.055	No
Total Copper	g/m ³	0.0503 ± 0.0051	0.045 – 0.055	No
Total Lead	g/m ³	0.0507 ± 0.0031	0.045 – 0.055	No
Total Zinc	g/m ³	0.509 ± 0.041	0.45 – 0.55	No

Analyst's Comments

Amended Report: This quality assurance report replaces report '3976198-QCPv1' issued on 08-Sep-2025 at 1:44 pm.
Reason for amendment: Additional testing added, as per client.

#1 Control limits have not been established for this analyte.

#2 The sample spike recovery was outside the acceptable recovery range for this analyte due to elevated incurred target analytes in the sample.

Certificate of Analysis

Page 1 of 5

Client: Engeo Limited	Lab No: 3957626	A2Pv1
Contact: Aaron Graham	Date Received: 08-Aug-2025	
C/- Engeo Limited	Date Reported: 26-Aug-2025	
PO Box 305136	Quote No: 82742	
Triton Plaza	Order No:	
Auckland 0757	Client Reference: 19630	
	Submitted By: Caitlin Robinson	

Sample Type: Soil

Sample Name:	C1-TP1 E 07-Aug-2025	C1-TP1 W 07-Aug-2025	C1-TP2 W 07-Aug-2025	C1-TP3 0-0.1 07-Aug-2025	C1-TP3 0.1-0.15 07-Aug-2025
Lab Number:	3957626.1	3957626.2	3957626.3	3957626.4	3957626.5
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 580.4	g 694.6	g 377.4	g 402.6	g 449.6
Dry Weight	g 451.3	g 581.9	g 214.2	g 239.5	g 269.9
Moisture*	% 22	% 16	% 43	% 40	% 40
Sample Fraction >10mm	g dry wt 119.8	g dry wt 125.4	g dry wt 10.8	g dry wt 1.8	g dry wt 1.8
Sample Fraction <10mm to >2mm	g dry wt 113.8	g dry wt 222.1	g dry wt 46.0	g dry wt 15.7	g dry wt 13.7
Sample Fraction <2mm	g dry wt 217.0	g dry wt 233.7	g dry wt 157.0	g dry wt 221.4	g dry wt 253.0
<2mm Subsample Weight	g dry wt 54.6	g dry wt 54.5	g dry wt 56.7	g dry wt 55.4	g dry wt 51.5
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:	C1-TP3 SP 07-Aug-2025	C1-TP7 SP 07-Aug-2025	C1-33 0-0.1 13-Aug-2025	C1-34 0-0.1 13-Aug-2025	C1-35 0-0.1 13-Aug-2025
Lab Number:	3957626.6	3957626.7	3957626.8	3957626.9	3957626.10
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 452.1	g 479.0	g 333.3	g 499.2	g 513.3
Dry Weight	g 303.0	g 330.8	g 211.1	g 329.3	g 365.2
Moisture*	% 33	% 31	% 37	% 34	% 29



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:		C1-TP3 SP 07-Aug-2025	C1-TP7 SP 07-Aug-2025	C1-33 0-0.1 13-Aug-2025	C1-34 0-0.1 13-Aug-2025	C1-35 0-0.1 13-Aug-2025
Lab Number:		3957626.6	3957626.7	3957626.8	3957626.9	3957626.10
Sample Fraction >10mm	g dry wt	3.4	94.5	1.2	< 0.1	4.8
Sample Fraction <10mm to >2mm	g dry wt	14.3	53.5	26.6	10.0	76.6
Sample Fraction <2mm	g dry wt	284.2	181.8	182.6	318.2	283.2
<2mm Subsample Weight	g dry wt	54.6	52.5	58.2	51.4	52.0
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:		C1-36 0-0.1 13-Aug-2025	C1-37 0-0.1 13-Aug-2025	C1-40 0-0.1 13-Aug-2025	C1-41 0-0.1 13-Aug-2025	C1-42 0-0.1 13-Aug-2025
Lab Number:		3957626.11	3957626.12	3957626.13	3957626.14	3957626.15
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	521.6	619.6	681.5	701.0	427.6
Dry Weight	g	319.0	452.6	437.3	429.9	285.9
Moisture*	%	39	27	36	39	33
Sample Fraction >10mm	g dry wt	13.7	2.8	< 0.1	2.2	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	20.8	2.4	8.7	5.7	2.8
Sample Fraction <2mm	g dry wt	283.1	446.5	426.6	419.4	282.2
<2mm Subsample Weight	g dry wt	57.8	54.8	53.6	53.4	55.0
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:		C1-43 0-0.1 13-Aug-2025	C1-45 0-0.1 13-Aug-2025	C1-48 0-0.1 13-Aug-2025	C1-49 0-0.1 13-Aug-2025	C1-50 0-0.1 13-Aug-2025
Lab Number:		3957626.16	3957626.17	3957626.18	3957626.19	3957626.20
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	466.8	506.7	775.7	684.6	630.9
Dry Weight	g	307.3	277.8	632.6	486.3	390.2
Moisture*	%	34	45	18	29	38
Sample Fraction >10mm	g dry wt	< 0.1	< 0.1	106.5	< 0.1	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	24.8	21.2	226.9	55.0	0.4
Sample Fraction <2mm	g dry wt	281.0	255.1	297.7	429.5	388.2
<2mm Subsample Weight	g dry wt	53.6	59.4	55.8	55.3	54.2

Sample Type: Soil

Sample Name:	C1-43 0-0.1 13-Aug-2025	C1-45 0-0.1 13-Aug-2025	C1-48 0-0.1 13-Aug-2025	C1-49 0-0.1 13-Aug-2025	C1-50 0-0.1 13-Aug-2025
Lab Number:	3957626.16	3957626.17	3957626.18	3957626.19	3957626.20
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:	C1-52 0-0.1 13-Aug-2025	C1-54 0-0.1 13-Aug-2025	C1-55 0-0.1 13-Aug-2025	C1-56 0-0.1 13-Aug-2025	C1-57 0-0.1 13-Aug-2025
Lab Number:	3957626.21	3957626.22	3957626.23	3957626.24	3957626.25
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
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	469.2	495.2	466.0	477.7
Dry Weight	g	341.5	337.9	312.9	311.1
Moisture*	%	27	32	33	35
Sample Fraction >10mm	g dry wt	25.0	2.8	8.7	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	43.0	8.7	20.6	6.5
Sample Fraction <2mm	g dry wt	272.8	325.2	282.6	303.1
<2mm Subsample Weight	g dry wt	50.2	52.6	50.8	52.6
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:	C1-58 0-0.1 13-Aug-2025	C1-59 0-0.1 13-Aug-2025
Lab Number:	3957626.26	3957626.27
Asbestos Presence / Absence	Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form	-	-
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001
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	603.6
Dry Weight	g	414.2
Moisture*	%	31
Sample Fraction >10mm	g dry wt	< 0.1
Sample Fraction <10mm to >2mm	g dry wt	4.9
Sample Fraction <2mm	g dry wt	408.0
<2mm Subsample Weight	g dry wt	51.6
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.

Analyst's Comments
Appendix No.1 - Chain of Custody

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

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

Testing was completed on 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.

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

BOX 2 OF 2



ANALYSIS REQUEST

Quote No _____

Primary Contact **Aaron Graham**

Submitted By _____

Client Name **ENGEO**

Address **1/314 Maunganui Road**

Bay of Plenty _____ Postcode **3116**

Phone _____ Mobile _____

Email _____

Charge To **ENGEO**

Client Reference **19630 - 07/08/2025**

Order No _____

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

- Email Primary Contact
- Email Submitter
- Email Client
- Email Other
- Other

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

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Office use only
(Job No)

CHAIN OF CUSTODY RECORD

Sent to Hill Labs Date & Time: **08/08/2025**
Name: **Caitlin Robinson**

Tick if you require CDC to be emailed back
Signature: _____

Received at Hill Labs Date & Time: _____
(Refer to Lab created Job No above) Name: _____

Signature: _____

Condition Temp:
 Room Temp Chilled Frozen

ADDITIONAL INFORMATION / KNOWN HAZARDS

Refer to sheet attached for sample list.

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

Requested Reporting Date: _____

No.	Sample Name	Sample Date	Sample Time	Sample Type	Tests Required (if not as per Quote)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

Continued on next page

Sample Name	Date	Type	Analysis
C1-TP1 E	7/08/2025	Soil - Asbestos	Cold hold
C1-TP1 E	7/08/2025	Soil - Jar	Cold hold
C1-TP1 W	7/08/2025	Soil - Asbestos	Cold hold
C1-TP1 W	7/08/2025	Soil - Jar	Cold hold
C1-TP2 W	7/08/2025	Soil - Jar	Cold hold
C1-TP2 W	7/08/2025	Soil - Asbestos	Cold hold
C1-TP2 W BULK	7/08/2025	Bulk Material	Cold hold
C1-TP3 0-0.1	7/08/2025	Soil - Asbestos	Cold hold
C1-TP3 0-0.1	7/08/2025	Soil - Jar	Cold hold
C1-TP3 0.1-0.15	7/08/2025	Soil - Jar	Cold hold
C1-TP3 0.1-0.15	7/08/2025	Soil - Asbestos	Cold hold
C1-TP3 0.1-0.15	7/08/2025	Bulk Material	Cold hold
C1-TP3 SP	7/08/2025	Soil - Asbestos	Cold hold
C1-TP3 SP	7/08/2025	Soil - Jar	Cold hold
C1-TP4 0-0.1	7/08/2025	Soil - Jar	Cold hold
C1-TP4 0.1-0.4	7/08/2025	Soil - Jar	Cold hold
C1-TP5 DP	7/08/2025	Soil - Jar	Cold hold
C1-TP6 0-0.1	7/08/2025	Soil - Jar	Cold hold
C1-TP6 0.1-0.5	7/08/2025	Soil - Jar	Cold hold
C1-TP7 SP	7/08/2025	Soil - Jar	Cold hold
C1-TP7 SP	7/08/2025	Soil - Asbestos	Cold hold
C1-TP8 0-0.1	7/08/2025	Soil - Jar	Cold hold
C1-TP9 0-0.2	7/08/2025	Soil - Jar	Cold hold
C1-TP9 0.2-0.8	7/08/2025	Soil - Jar	Cold hold
C1-TP10 0-0.1	7/08/2025	Soil - Jar	Cold hold
TB-TP11 0-0.1	7/08/2025	Soil - Jar	Cold hold
TB-TP11 0.1-0.2	7/08/2025	Soil - Jar	Cold hold
TB-TP11 0.5-0.6	7/08/2025	Soil - Jar	Cold hold
TB-TP11 0.9-0.1	7/08/2025	Soil - Jar	Cold hold

Sample Name	Date	Type	Proposed Analysis
C1-TP1 E	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q, OCP and TPH/PAH
C1-TP1 W	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q and TPH/PAH
C1-TP2 W	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q, OCP and TPH/PAH
C1-TP2 W BULK	7/08/2025	Bulk Material	Asbestos P/A
C1-TP3 0-0.1	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q and TPH/PAH
C1-TP3 0.1-0.15	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q, OCP and TPH/PAH
C1-TP3 0.1-0.15	7/08/2025	Bulk Material	Asbestos P/A
C1-TP3 SP	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q and TPH/PAH
C1-TP4 0-0.1	7/08/2025	Soil - Jar	HM8
C1-TP4 0.1-0.4	7/08/2025	Soil - Jar	Cold hold
C1-TP5 SP	7/08/2025	Soil - Jar	HM8 and TPH/PAH
C1-TP6 0-0.1	7/08/2025	Soil - Jar	HM8
C1-TP6 0.1-0.5	7/08/2025	Soil - Jar	HM8, Asbestos S/Q and TPH/PAH
C1-TP7 SP	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q and TPH/PAH
C1-TP8 0-0.1	7/08/2025	Soil - Jar	HM8
C1-TP9 0-0.2	7/08/2025	Soil - Jar	HM8
C1-TP9 0.2-0.8	7/08/2025	Soil - Jar	Cold hold
C1-TP10 0-0.1	7/08/2025	Soil - Jar	HM8, Asbestos S/Q and TPH/PAH
TB-TP11 0-0.1	7/08/2025	Soil - Jar	Cold hold
TB-TP11 0.1-0.2	7/08/2025	Soil - Jar	Cold hold
TB-TP11 0.5-0.6	7/08/2025	Soil - Jar	Cold hold
TB-TP11 0.9-0.1	7/08/2025	Soil - Jar	Cold hold
C1-1 0-0.1	11/08/2025	Soil - Jar	HM8, OCP and ONOP
C1-1 0.3-0.4	11/08/2025	Soil - Jar	Cold hold
C1-2 0-0.1	11/08/2025	Soil - Jar	Composite of C1-2, C1-3, C1-4 and C1-5 0-0.1 - HM8 and OCP. Cold hold 0.3-0.4 samples.
C1-2 0.3-0.4	11/08/2025	Soil - Jar	
C1-3 0-0.1	11/08/2025	Soil - Jar	
C1-3 0.3-0.4	11/08/2025	Soil - Jar	
C1-4 0-0.1	11/08/2025	Soil - Jar	
C1-4 0.3-0.4	11/08/2025	Soil - Jar	
C1-5 0-0.1	11/08/2025	Soil - Jar	
C1-5 0.3-0.4	11/08/2025	Soil - Jar	
C1-6 0-0.1	11/08/2025	Soil - Jar	Composite of C1-6, C1-7, C1-8 and C1-9 0-0.1 - HM8 and OCP. Cold hold 0.3-0.4 samples.
C1-6 0.3-0.4	11/08/2025	Soil - Jar	
C1-7 0-0.1	11/08/2025	Soil - Jar	
C1-7 0.3-0.4	11/08/2025	Soil - Jar	
C1-8 0-0.1	11/08/2025	Soil - Jar	
C1-8 0.3-0.4	11/08/2025	Soil - Jar	
C1-9 0-0.1	11/08/2025	Soil - Jar	Composite of C1-12, C1-13, C1-14 and C1-15 0-0.1 - HM8 and OCP. Cold hold 0.3-0.4 samples.
C1-9 0.3-0.4	11/08/2025	Soil - Jar	
C1-10 0-0.1	12/08/2025	Soil - Jar	HM8
C1-10 0.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-11 0-0.1	12/08/2025	Soil - Jar	HM8
C1-11 0.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-12 0-0.1	12/08/2025	Soil - Jar	Composite of C1-12, C1-13, C1-14 and C1-15 0-0.1 - HM8 and OCP. Cold hold 0.3-0.4 samples.
C1-12 0.3-0.4	12/08/2025	Soil - Jar	
C1-13 0-0.1	12/08/2025	Soil - Jar	
C1-13 0.3-0.4	12/08/2025	Soil - Jar	
C1-14 0-0.1	12/08/2025	Soil - Jar	
C1-14 0.3-0.4	12/08/2025	Soil - Jar	
C1-15 0-0.1	12/08/2025	Soil - Jar	
C1-15 0.3-0.4	12/08/2025	Soil - Jar	

C1-160-0.1	12/08/2025	Soil - Jar	Composite of C1-16, C1-17, C1-18 and C1-19 0-0.1 - HM8 and OCP, Cold hold 0.3-0.4 samples.
C1-160.3-0.4	12/08/2025	Soil - Jar	
C1-170-0.1	12/08/2025	Soil - Jar	
C1-170.3-0.4	12/08/2025	Soil - Jar	
C1-180-0.1	12/08/2025	Soil - Jar	
C1-180.3-0.4	12/08/2025	Soil - Jar	
C1-190-0.1	12/08/2025	Soil - Jar	
C1-190.3-0.4	12/08/2025	Soil - Jar	
C1-200-0.1	12/08/2025	Soil - Jar	HM8, OCP and ONOP
C1-200.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-210-0.1	12/08/2025	Soil - Jar	HM8
C1-210.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-220-0.1	12/08/2025	Soil - Jar	HM8
C1-220.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-230-0.1	12/08/2025	Soil - Jar	HM8, OCP and ONOP
C1-230.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-240-0.1	12/08/2025	Soil - Jar	HM8
C1-240.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-250-0.1	12/08/2025	Soil - Jar	HM8, OCP and ONOP
C1-250.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-260-0.1	12/08/2025	Soil - Jar	HM8 and OCP
C1-270-0.1	12/08/2025	Soil - Jar	HM8 and OCP
C1-270.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-280-0.1	12/08/2025	Soil - Jar	HM8 and OCP
C1-290-0.1	12/08/2025	Soil - Jar	HM8
C1-290.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-300-0.1	12/08/2025	Soil - Jar	HM8 and TPH/PAH
C1-300.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-310-0.1	12/08/2025	Soil - Jar	HM8
C1-310.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-320-0.1	12/08/2025	Soil - Jar	HM8
C1-320.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-330-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-330.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-340-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-340.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-350-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-350.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-360-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-360.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-370-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-370.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-400-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-400.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-410-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-410.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-41 Bulk	13/08/2025	Asbestos Bulk	Asbestos P/A
C1-420-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-420.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-430-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-430.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-450-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8
C1-450.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-460-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8
C1-460.3-0.4	13/08/2025	Soil - Jar	Cold hold

C1-47 0-0.1	13/08/2025	Soil - Jar	HM8
C1-47 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-48 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-49 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-49 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-50 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-50 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-51 0-0.1	13/08/2025	Soil - Jar	HM8
C1-51 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-52 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-52 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-53 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8
C1-53 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-54 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-54 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-55 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-55 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-56 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-56 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-57 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-57 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-58 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-58 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-59 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-59 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
TE 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and OCP
TE 0.4-0.5	13/08/2025	Soil - Jar	Cold hold

Certificate of Analysis

Page 1 of 2

Client: Engeo Limited	Lab No: 3957627	A2Pv1
Contact: Aaron Graham	Date Received: 08-Aug-2025	
C/- Engeo Limited	Date Reported: 26-Aug-2025	
PO Box 305136	Quote No: 82742	
Triton Plaza	Order No:	
Auckland 0757	Client Reference: 19630	
	Submitted By: Caitlin Robinson	

Sample Type: Building Material

Sample Name	Lab Number	Sample Category*	Sample Weight on receipt (g)	Asbestos Presence / Absence	Description of Asbestos in Non Homogeneous Samples
C1-TP2 W BULK	3957627.1	Fibre Cement	30.43	Asbestos NOT detected. Organic fibres detected.	N/A
C1-TP3 0.1-0.15	3957627.2	Other #1	68.08	Asbestos NOT detected.	N/A
C1-41 Bulk	3957627.3	Fibre Cement	23.60	Asbestos NOT detected. Organic fibres detected.	N/A

Glossary of Terms

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

Analyst's Comments

#1 Rock

Appendix No.1 - Chain of Custody

Summary of Methods

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

Sample Type: Building Material

Test	Method Description	Default Detection Limit	Sample No
Asbestos in Bulk Material			
Sample Category*	Assessment of sample type. Analysed at Hill Laboratories - Asbestos; 204 Thorndon Quay, Wellington.	-	1-3
Sample Weight on receipt	Sample weight (approximate). Analysed at Hill Laboratories - Asbestos; 204 Thorndon Quay, Wellington.	0.01 g	1-3
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; 204 Thorndon Quay, Wellington. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1-3
Description of Asbestos in Non Homogeneous Samples	Form, dimensions and/or weight of asbestos fibres present. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	-	1-3



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.

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

Testing was completed between 25-Aug-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.

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



Zandra Fenton BSc
Team Leader - Asbestos

BOX 2 OF 2



ANALYSIS REQUEST

Quote No _____

Primary Contact **Aaron Graham**

Submitted By _____

Client Name **ENGEO**

Address **1/314 Maunganui Road**

Bay of Plenty _____ Postcode **3116**

Phone _____ Mobile _____

Email _____

Charge To **ENGEO**

Client Reference **19630 - 07/08/2025**

Order No _____

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

- Email Primary Contact
- Email Submitter
- Email Client
- Email Other
- Other

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

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

Office use only
(Job No)

CHAIN OF CUSTODY RECORD

Sent to Hill Labs Date & Time: **08/08/2025**
Name: **Caitlin Robinson**

Tick if you require CDC to be emailed back
Signature: _____

Received at Hill Labs Date & Time: _____
(Refer to Lab created Job No above) Name: _____

Signature: _____

Condition Temp:
 Room Temp Chilled Frozen

ADDITIONAL INFORMATION / KNOWN HAZARDS

Refer to sheet attached for sample list.

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

Requested Reporting Date: _____

No.	Sample Name	Sample Date	Sample Time	Sample Type	Tests Required (if not as per Quote)
1					
2					
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8					
9					
10					
11					
12					

Continued on next page

Sample Name	Date	Type	Analysis
C1-TP1 E	7/08/2025	Soil - Asbestos	Cold hold
C1-TP1 E	7/08/2025	Soil - Jar	Cold hold
C1-TP1 W	7/08/2025	Soil - Asbestos	Cold hold
C1-TP1 W	7/08/2025	Soil - Jar	Cold hold
C1-TP2 W	7/08/2025	Soil - Jar	Cold hold
C1-TP2 W	7/08/2025	Soil - Asbestos	Cold hold
C1-TP2 W BULK	7/08/2025	Bulk Material	Cold hold
C1-TP3 0-0.1	7/08/2025	Soil - Asbestos	Cold hold
C1-TP3 0-0.1	7/08/2025	Soil - Jar	Cold hold
C1-TP3 0.1-0.15	7/08/2025	Soil - Jar	Cold hold
C1-TP3 0.1-0.15	7/08/2025	Soil - Asbestos	Cold hold
C1-TP3 0.1-0.15	7/08/2025	Bulk Material	Cold hold
C1-TP3 SP	7/08/2025	Soil - Asbestos	Cold hold
C1-TP3 SP	7/08/2025	Soil - Jar	Cold hold
C1-TP4 0-0.1	7/08/2025	Soil - Jar	Cold hold
C1-TP4 0.1-0.4	7/08/2025	Soil - Jar	Cold hold
C1-TP5 DP	7/08/2025	Soil - Jar	Cold hold
C1-TP6 0-0.1	7/08/2025	Soil - Jar	Cold hold
C1-TP6 0.1-0.5	7/08/2025	Soil - Jar	Cold hold
C1-TP7 SP	7/08/2025	Soil - Jar	Cold hold
C1-TP7 SP	7/08/2025	Soil - Asbestos	Cold hold
C1-TP8 0-0.1	7/08/2025	Soil - Jar	Cold hold
C1-TP9 0-0.2	7/08/2025	Soil - Jar	Cold hold
C1-TP9 0.2-0.8	7/08/2025	Soil - Jar	Cold hold
C1-TP10 0-0.1	7/08/2025	Soil - Jar	Cold hold
TB-TP11 0-0.1	7/08/2025	Soil - Jar	Cold hold
TB-TP11 0.1-0.2	7/08/2025	Soil - Jar	Cold hold
TB-TP11 0.5-0.6	7/08/2025	Soil - Jar	Cold hold
TB-TP11 0.9-0.1	7/08/2025	Soil - Jar	Cold hold

Sample Name	Date	Type	Proposed Analysis
C1-TP1 E	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q, OCP and TPH/PAH
C1-TP1 W	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q and TPH/PAH
C1-TP2 W	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q, OCP and TPH/PAH
C1-TP2 W BULK	7/08/2025	Bulk Material	Asbestos P/A
C1-TP3 0-0.1	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q and TPH/PAH
C1-TP3 0.1-0.15	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q, OCP and TPH/PAH
C1-TP3 0.1-0.15	7/08/2025	Bulk Material	Asbestos P/A
C1-TP3 SP	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q and TPH/PAH
C1-TP4 0-0.1	7/08/2025	Soil - Jar	HM8
C1-TP4 0.1-0.4	7/08/2025	Soil - Jar	Cold hold
C1-TP5 SP	7/08/2025	Soil - Jar	HM8 and TPH/PAH
C1-TP6 0-0.1	7/08/2025	Soil - Jar	HM8
C1-TP6 0.1-0.5	7/08/2025	Soil - Jar	HM8, Asbestos S/Q and TPH/PAH
C1-TP7 SP	7/08/2025	Soil - Jar and Asbestos	HM8, Asbestos S/Q and TPH/PAH
C1-TP8 0-0.1	7/08/2025	Soil - Jar	HM8
C1-TP9 0-0.2	7/08/2025	Soil - Jar	HM8
C1-TP9 0.2-0.8	7/08/2025	Soil - Jar	Cold hold
C1-TP10 0-0.1	7/08/2025	Soil - Jar	HM8, Asbestos S/Q and TPH/PAH
TB-TP11 0-0.1	7/08/2025	Soil - Jar	Cold hold
TB-TP11 0.1-0.2	7/08/2025	Soil - Jar	Cold hold
TB-TP11 0.5-0.6	7/08/2025	Soil - Jar	Cold hold
TB-TP11 0.9-0.1	7/08/2025	Soil - Jar	Cold hold
C1-1 0-0.1	11/08/2025	Soil - Jar	HM8, OCP and ONOP
C1-1 0.3-0.4	11/08/2025	Soil - Jar	Cold hold
C1-2 0-0.1	11/08/2025	Soil - Jar	Composite of C1-2, C1-3, C1-4 and C1-5 0-0.1 - HM8 and OCP. Cold hold 0.3-0.4 samples.
C1-2 0.3-0.4	11/08/2025	Soil - Jar	
C1-3 0-0.1	11/08/2025	Soil - Jar	
C1-3 0.3-0.4	11/08/2025	Soil - Jar	
C1-4 0-0.1	11/08/2025	Soil - Jar	
C1-4 0.3-0.4	11/08/2025	Soil - Jar	
C1-5 0-0.1	11/08/2025	Soil - Jar	
C1-5 0.3-0.4	11/08/2025	Soil - Jar	
C1-6 0-0.1	11/08/2025	Soil - Jar	Composite of C1-6, C1-7, C1-8 and C1-9 0-0.1 - HM8 and OCP. Cold hold 0.3-0.4 samples.
C1-6 0.3-0.4	11/08/2025	Soil - Jar	
C1-7 0-0.1	11/08/2025	Soil - Jar	
C1-7 0.3-0.4	11/08/2025	Soil - Jar	
C1-8 0-0.1	11/08/2025	Soil - Jar	
C1-8 0.3-0.4	11/08/2025	Soil - Jar	
C1-9 0-0.1	11/08/2025	Soil - Jar	Composite of C1-12, C1-13, C1-14 and C1-15 0-0.1 - HM8 and OCP. Cold hold 0.3-0.4 samples.
C1-9 0.3-0.4	11/08/2025	Soil - Jar	
C1-10 0-0.1	12/08/2025	Soil - Jar	HM8
C1-10 0.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-11 0-0.1	12/08/2025	Soil - Jar	HM8
C1-11 0.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-12 0-0.1	12/08/2025	Soil - Jar	Composite of C1-12, C1-13, C1-14 and C1-15 0-0.1 - HM8 and OCP. Cold hold 0.3-0.4 samples.
C1-12 0.3-0.4	12/08/2025	Soil - Jar	
C1-13 0-0.1	12/08/2025	Soil - Jar	
C1-13 0.3-0.4	12/08/2025	Soil - Jar	
C1-14 0-0.1	12/08/2025	Soil - Jar	
C1-14 0.3-0.4	12/08/2025	Soil - Jar	
C1-15 0-0.1	12/08/2025	Soil - Jar	
C1-15 0.3-0.4	12/08/2025	Soil - Jar	

C1-160-0.1	12/08/2025	Soil - Jar	Composite of C1-16, C1-17, C1-18 and C1-19 0-0.1 - HM8 and OCP, Cold hold 0.3-0.4 samples.
C1-160.3-0.4	12/08/2025	Soil - Jar	
C1-170-0.1	12/08/2025	Soil - Jar	
C1-170.3-0.4	12/08/2025	Soil - Jar	
C1-180-0.1	12/08/2025	Soil - Jar	
C1-180.3-0.4	12/08/2025	Soil - Jar	
C1-190-0.1	12/08/2025	Soil - Jar	
C1-190.3-0.4	12/08/2025	Soil - Jar	
C1-200-0.1	12/08/2025	Soil - Jar	HM8, OCP and ONOP
C1-200.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-210-0.1	12/08/2025	Soil - Jar	HM8
C1-210.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-220-0.1	12/08/2025	Soil - Jar	HM8
C1-220.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-230-0.1	12/08/2025	Soil - Jar	HM8, OCP and ONOP
C1-230.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-240-0.1	12/08/2025	Soil - Jar	HM8
C1-240.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-250-0.1	12/08/2025	Soil - Jar	HM8, OCP and ONOP
C1-250.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-260-0.1	12/08/2025	Soil - Jar	HM8 and OCP
C1-270-0.1	12/08/2025	Soil - Jar	HM8 and OCP
C1-270.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-280-0.1	12/08/2025	Soil - Jar	HM8 and OCP
C1-290-0.1	12/08/2025	Soil - Jar	HM8
C1-290.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-300-0.1	12/08/2025	Soil - Jar	HM8 and TPH/PAH
C1-300.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-310-0.1	12/08/2025	Soil - Jar	HM8
C1-310.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-320-0.1	12/08/2025	Soil - Jar	HM8
C1-320.3-0.4	12/08/2025	Soil - Jar	Cold hold
C1-330-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-330.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-340-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-340.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-350-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-350.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-360-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-360.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-370-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-370.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-400-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-400.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-410-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-410.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-41 Bulk	13/08/2025	Asbestos Bulk	Asbestos P/A
C1-420-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-420.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-430-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-430.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-450-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8
C1-450.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-460-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8
C1-460.3-0.4	13/08/2025	Soil - Jar	Cold hold

C1-47 0-0.1	13/08/2025	Soil - Jar	HM8
C1-47 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-48 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-49 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-49 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-50 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-50 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-51 0-0.1	13/08/2025	Soil - Jar	HM8
C1-51 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-52 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-52 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-53 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8
C1-53 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-54 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-54 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-55 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-55 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-56 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-56 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-57 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-57 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-58 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-58 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
C1-59 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and Asbestos S/Q
C1-59 0.3-0.4	13/08/2025	Soil - Jar	Cold hold
TE 0-0.1	13/08/2025	Soil - Jar, Asbestos SQ	HM8 and OCP
TE 0.4-0.5	13/08/2025	Soil - Jar	Cold hold

Laboratory Quality Assurance and Quality Control

Laboratory quality control (QC) analytes were generally reported within the method control limits, the following comments however, relating to QC were extracted from laboratory reports and are summarised below:

Laboratory Report 3900458-QCPv2:

- Blank – 1- Methylnaphtlene and 2-Methylnaphtlene (Soil): Slight exceedances of the control limits were identified, so the reporting limit was increased due to inconsistent background levels. Contamination was also found to be affecting the blank dilution and was excluded from the sample correction.
- Blank - Naphthalene (soil): A false alert was detected as the result was within the detection limit.
- Blank - Pyrene (soil): The laboratory notes that an in-house blank check was not applicable or used for sample correction.
- Blank - Copper (water): The laboratory notes that the result is outside of control limit, no comment is provided.
- Spike - Copper (water): The laboratory notes that the result is outside of control limit, no comment is provided.
- Laboratory Control Spike (LCS) - 2,4'-DDE (soil): The laboratory notes that the spike recovery was elevated above acceptable recovery range. The result was accepted as the sample spike recovery was within the expected range.
- LCS - Benzo[a]pyrene (BAP), Benzo[b]fluoranthene, Benzo[j]fluoranthene and Benzo[k]fluoranthene (soil): The laboratory notes that the spike recovery was elevated above the acceptable recovery range. The sample results were accepted as the laboratory spike control had a similar outcome, and the recovery was corrected to 101%.
- Sample Spike - Acenaphthene Spike (soil): The laboratory notes that the spike recovery was elevated above the acceptable recovery range. The sample results were accepted as no positives were detected in the sample results.
- Sample Spike - Benzo[k]fluoranthene (soil): The laboratory noted that the spile recovery was above the acceptable rand, however the in-house control had a similar outcome and a corrected recovery of 97% was utilised.
- Silica Elimination for Testing Organic Compounds (SETOC) – Mercury (Soil): Recovery was outside the acceptable range of the method. The QC material analysed was within the expected range, so the laboratory accepted the results of the sample.

Laboratory Report 3967877-QCPv1:

- LCS - 2-(thiocyanomethylthio)benzothiazole, Busan (TCMTB) (soil): The laboratory states that recovery for this analyte was below the acceptable recovery range, however the sample result was considered acceptable as the sample spike was within the expected recovery range.
- LCS – 2,4'-DDE (soil): The laboratory states that the spike recovery was elevated above the acceptable recovery range, however the sample result was expected as there were it was not detected in the sample.

- SETOC – Copper (soil): The laboratory states that recovery for this analyte was outside the acceptable range of recovery, however the corresponding sample result was accepted by the laboratory as recovery of the QC material was within the expected range.

Laboratory Report 3960753-QCPv2:

- Blank - 2-Methylnaphthalene (soil): The laboratory states that elevated blank levels were observed. The laboratory corrected the sample results with blank subtraction.
- LCS - trans-Chlordane (soil): The laboratory reported that the sample spike was below the acceptable range of recovery, however the result was considered acceptable as the spike standard was returning lower than the calibration standard.
- Spike – Aldrin, alpha-BHC, beta-BHC, delta-BHC, gamma-BHC (Lindane), cis-Chlordane, trans-Chlordane, 2,4'-DDD, 4,4'-DDE, 2,4'-DDT, 4,4'-DDT, Dieldrin, Endosulfan I, Endosulfan II, Endosulfan sulphate, Endrin, Endrin aldehyde, Endrin ketone, Heptachlor, Heptachlor epoxide and Hexachlorobenzene (Soil): The laboratory states that the spike recovery was below the acceptable recovery of the method, however the sample result was accepted as the control sample spike was within the expected range.
- SETOC – mercury (soil): The laboratory noted that the recovery was outside the acceptable recovery range of the method. The laboratory accepted the sample result as the QC material was within the expected range.

Laboratory Report 3976198-QCPv2:

- SPLP Spike – zinc: The laboratory noted that the sample spike recovery was outside of the acceptable range due to elevated levels of the targeted analyte in the sample.

Appendix 8: RPD Tables

Appendix 9: Relative Percentage Difference (RPD) – Bell Road Development, Papamoa

Analyte	Parent Sample (mg/kg) <i>A2-6 @ 0-0.1</i>	Duplicate Sample (mg/kg) <i>Dup7a</i>	RPD (%)		Parent Sample (mg/kg) <i>A2-6 @ 0.3-0.4</i>	Duplicate Sample (mg/kg) <i>Dup7b</i>	RPD (%)		Parent Sample (mg/kg) <i>A3-48 @ 0-0.1</i>	Duplicate Sample (mg/kg) <i>Dup5</i>	RPD (%)
Arsenic	2	3	40		2	3	40		20	23	14
Cadmium	0.16	0.17	6		0.1	0.1	0		5.8	4.5	25
Chromium	4	4	0		5	5	0		63	62	2
Copper	7	6	15		2	3	40		57	58	2
Lead	4.7	5.2	10		11.4	8.9	25		1000	1050	5
Mercury	0.1	0.1	0		0.13	0.13	0		<0.10	0.1	0
Nickel	3	3	0		2	2	0		5	6	18
Zinc	92	64	36		15	26	54		2200	1910	14

Green Text: Represent analyte RPD's reported below 30 – 50% RPD threshold.

Orange Text: Represent analyte RPD's reported above 50% RPD threshold, due to low concentration values effecting RPD calculations.

Red Text: Represent analyte RPD's reported above 50% RPD threshold.

Acceptable RPD thresholds are taken from U.S. Environmental Protection Agency (EPA). *Functional Guidelines for Evaluating Environmental Data*. EPA Publication No. QA/G-9.

Relative Percentage Difference (RPD)
Bell Road Development - Fast Track Application

Analyte	Parent Sample (mg/kg) <i>A3-49 @ 0-0.1</i>	Duplicate Sample (mg/kg) <i>Dup6</i>	RPD (%)		Parent Sample (mg/kg) <i>A3-50 @ 0-0.1</i>	Duplicate Sample (mg/kg) <i>Dup8</i>	RPD (%)		Parent Sample (mg/kg) <i>A3-51 @ 0-0.1</i>	Duplicate Sample (mg/kg) <i>Dup9</i>	RPD (%)
Arsenic	4	3	29		91	3	14		3	3	0
Cadmium	0.51	0.2	87		0.24	0.2	4		0.1	0.1	0
Chromium	7	7	0		93	7	25		4	6	40
Copper	15	13	14		138	13	46		5	7	33
Lead	21	16.5	24		10.7	16.5	9		147	220	40
Mercury	<0.1	0.1	0		0.12	0.1	0		0.1	0.1	0
Nickel	3	2	40		5	2	22		2	3	40
Zinc	2100	1800	15		550	1800	12		680	840	21

Green Text: Represent analyte RPD's reported below 30 – 50% RPD threshold.

Orange Text: Represent analyte RPD's reported above 50% RPD threshold, due to low concentration values effecting RPD calculations.

Red Text: Represent analyte RPD's reported above 50% RPD threshold.

Acceptable RPD thresholds are taken from U.S. Environmental Protection Agency (EPA). *Functional Guidelines for Evaluating Environmental Data*. EPA Publication No. QA/G-9.

Relative Percentage Difference (RPD)
Bell Road Development - Fast Track Application

Analyte	Parent Sample (mg/kg) <i>A3-52 @ 0-0.1</i>	Duplicate Sample (mg/kg) <i>Dup10</i>	RPD (%)		Parent Sample (mg/kg) <i>B1-9 @ 0-0.1</i>	Duplicate Sample (mg/kg) <i>Dup4a</i>	RPD (%)		Parent Sample (mg/kg) <i>B1-9 @ 0.3-0.4</i>	Duplicate Sample (mg/kg) <i>Dup4b</i>	RPD (%)
Arsenic	5	4	22		2	2	0		2	4	67
Cadmium	<0.1	<0.10	0		0.37	0.37	0		0.21	0.2	5
Chromium	4	4	0		5	5	0		3	4	29
Copper	5	5	0		8	8	0		3	4	29
Lead	7.9	7.2	9		2.5	2.5	0		2.1	3.9	60
Mercury	<0.10	<0.10	0		0.1	0.1	0		0.1	0.2	0
Nickel	<2	<2	0		4	5	22		2	4	67
Zinc	71	62	14		45	50	11		19	8	81

Green Text: Represent analyte RPD's reported below 30 – 50% RPD threshold.

Orange Text: Represent analyte RPD's reported above 50% RPD threshold, due to low concentration values effecting RPD calculations.

Red Text: Represent analyte RPD's reported above 50% RPD threshold.

Acceptable RPD thresholds are taken from U.S. Environmental Protection Agency (EPA). *Functional Guidelines for Evaluating Environmental Data*. EPA Publication No. QA/G-9.

Analyte	Parent Sample (mg/kg) <i>B3-22 @ 0-0.1</i>	Duplicate Sample (mg/kg) <i>Dup3a</i>	RPD (%)		Parent Sample (mg/kg) <i>B3-22 @ 0.3-0.4</i>	Duplicate Sample (mg/kg) <i>Dup3b</i>	RPD (%)		Parent Sample (mg/kg) <i>C1-60 @ 0-0.1</i>	Duplicate Sample (mg/kg) <i>BrDup1a</i>	RPD (%)
Arsenic	<2	<2	0		2	<2	0		2	2	0
Cadmium	0.42	0.5	17		0.3	0.24	22		0.23	0.22	4
Chromium	5	6	18		2	3	40		6	7	15
Copper	6	5	18		4	3	29		15	14	7
Lead	2.8	2.3	20		2.8	2.3	20		8	7.5	6
Mercury	0.1	<0.1	0		<0.1	<0.1	0		< 0.10	< 0.10	0
Nickel	5	4	22		<2	<2	0		4	4	0
Zinc	60	43	33		16	12	29		51	52	2

Green Text: Represent analyte RPD's reported below 30 – 50% RPD threshold.

Orange Text: Represent analyte RPD's reported above 50% RPD threshold, due to low concentration values effecting RPD calculations.

Red Text: Represent analyte RPD's reported above 50% RPD threshold.

Acceptable RPD thresholds are taken from U.S. Environmental Protection Agency (EPA). *Functional Guidelines for Evaluating Environmental Data*. EPA Publication No. QA/G-9.

Relative Percentage Difference (RPD)
Bell Road Development - Fast Track Application

Analyte	Parent Sample (mg/kg) <i>C1-61 @ 0-0.1</i>	Duplicate Sample (mg/kg) <i>Dup2a</i>	RPD (%)		Parent Sample (mg/kg) <i>C1-61 @ 0.3-0.4</i>	Duplicate Sample (mg/kg) <i>Dup2b</i>	RPD (%)
Arsenic	4	4	0		< 4	< 4	0
Cadmium	0.26	0.24	8		< 0.2	< 0.2	0
Chromium	4	4	0		< 4	6	40
Copper	8	8	0		7	10	35
Lead	5.4	5.4	0		4.4	6.2	34
Mercury	< 0.10	< 0.10	0		0.2	< 0.2	0
Nickel	2	< 2	0		< 4	< 4	0
Zinc	37	37	0		8	8	0

Green Text: Represent analyte RPD's reported below 30 – 50% RPD threshold.

Orange Text: Represent analyte RPD's reported above 50% RPD threshold, due to low concentration values effecting RPD calculations.

Red Text: Represent analyte RPD's reported above 50% RPD threshold.

Acceptable RPD thresholds are taken from U.S. Environmental Protection Agency (EPA). *Functional Guidelines for Evaluating Environmental Data*. EPA Publication No. QA/G-9.

Appendix 9: Test Pit Logs

CLIENT: Bell Road Limited Partnership
 PROJECT: Bell Road - Wairakei South
 LOCATION: Bell Road, Papamoa
 JOB NO: 019630.000.001

COORDS: N: 801671.6 E: 387474.4 (Bay of Plenty 2000)
 SURFACE RL: 1.82 m (NZVD2016)
 PIT WIDTH: 1m
 PIT MAX DEPTH: 1.20 m

START: 03/06/25 11:30
 END: 03/06/25 12:00

Sheet 1 of 1
 EXCAVATION EQUIPMENT: 1.7T Excavator
 CONTRACTOR: Bay Civil
 LOGGED: DRT
 CHECKED: GMS

DEPTH (m)	Material	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION mRL ()	STRENGTH / CONSISTENCY	MOISTURE CONDITION	GROUNDWATER LEVELS	Shear Vane (Peak / Residual) & Samples	DCP TEST (NZS4402 Test 6.5.2) Blows / 100 mm						
									0	5	10	15	20		
0.0	(2) TOPSOIL		[TOPSOIL] Organic SILT with trace rootlets; dark brown. Low plasticity.		M										
			Fine to medium SAND; white. Poorly graded. (Kaharoa Ash)		M										
	(3a) PUMICE AIRFALL DEPOSITS		Fine to medium GRAVEL; yellow grey. Poorly graded. Gravel is sub rounded pumice.		M										
1.0	(3b) PEAT		[PEAT] Organic SILT with some wood inclusions; dark brown. Low plasticity. Fibrous to amorphous. Wood inclusions are fresh to slightly weathered.	1.0	S										
			Terminated at 1.20 m. Machine limit.												

Trial Pit Photographs



TP107

General Notes:

Coordinate Method: Hand Held GPS
 Surface Elevation Method: Maven Survey (07/08/25)
 ENGEO ENVIRO NAME: A1-TP1 ; Depth of sand inferred at 1.2 m by resistance of DCP pushed through base of test pit.

Groundwater Observations

Date/Time	Depth	Event
03/06/2025 12:00	0.70m	After drilling

CLIENT: Bell Road Limited Partnership
 PROJECT: Bell Road - Wairakei South
 LOCATION: Bell Road, Papamoa
 JOB NO: 019630.000.001

COORDS: N: 801657.4 E: 387468.2 (Bay of Plenty 2000)
 SURFACE RL: 1.83 m (NZVD2016)
 PIT WIDTH: 1m
 PIT MAX DEPTH: 1.90 m

START: 03/06/25 12:00
 END: 03/06/25 12:15

Sheet 1 of 1
 EXCAVATION EQUIPMENT: 1.7T Excavator
 CONTRACTOR: Bay Civil
 LOGGED: DRT
 CHECKED: GMS

DEPTH (m)	Material	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION mRL ()	STRENGTH / CONSISTENCY	MOISTURE CONDITION	GROUNDWATER LEVELS	Shear Vane (Peak / Residual) & Samples	DCP TEST (NZS4402 Test 6.5.2) Blows / 100 mm						
									0	5	10	15	20		
0.0	(2) TS		[TOPSOIL] Organic SILT with trace rootlets; dark brown. Low plasticity.		M										
	(3a) PUMICE AIRFALL DEPOSITS		Fine to medium GRAVEL; brown. Poorly graded. Gravel is sub rounded pumice.		M										
1.0															
	(3b) PEAT		[PEAT] Organic SILT with some wood inclusions; dark brown. Low plasticity. Fibrous to amorphous. Wood inclusions are fresh to slightly weathered. Terminated at 1.90 m. Hole Collapse.	0.0	S										
2.0															
3.0															

Trial Pit Photographs



TP108

General Notes:

Coordinate Method: Hand Held GPS
 Surface Elevation Method: Maven Survey (07/08/25)
 ENGEO ENVIRO NAME: A1-TP2 ; TS = TOPSOIL

Groundwater Observations

Date/Time	Depth	Event
03/06/2025 12:15	1.10m	After drilling

CLIENT: Bell Road Limited Partnership
 PROJECT: Bell Road - Wairakei South
 LOCATION: Bell Road, Papamoa
 JOB NO: 019630.000.001

COORDS: N: 802722.0 E: 387884.4 (Bay of Plenty 2000)
 SURFACE RL: 2.33 m (NZVD2016)
 PIT WIDTH: 1m
 PIT MAX DEPTH: 2.20 m

START: 03/06/25 11:00
 END: 03/06/25 11:30

Sheet 1 of 1
 EXCAVATION EQUIPMENT: 1.7T Excavator
 CONTRACTOR: Bay Civil
 LOGGED: DRT
 CHECKED: GMS

DEPTH (m)	Material	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION mRL (-)	STRENGTH / CONSISTENCY	MOISTURE CONDITION	GROUNDWATER LEVELS	Shear Vane (Peak / Residual) & Samples	DCP TEST (NZS4402 Test 6.5.2) Blows / 100 mm						
									0	5	10	15	20		
0.0	(2) TOPSOIL	[Pattern]	[TOPSOIL] Organic SILT with trace rootlets; dark brown. Low plasticity.			M									
	(1) FILL	[Pattern]	[FILL] Fine to medium SAND; brown. Poorly graded.	2.0		M									
	(3) TOPSOIL	[Pattern]	[BTS] Organic SILT; dark brown. Low plasticity.												
1.0	(3b) PEAT	[Pattern]	[PEAT] Organic SILT; brown. Low plasticity. Amorphous. 0.90 m: Thin ash layer. (Kaharoa Ash)	1.0		S									
2.0			Terminated at 2.20 m. Machine limit.	0.0											

Trial Pit Photographs



TP106

General Notes:

Coordinate Method: Hand Held GPS
 Surface Elevation Method: Maven Survey (07/08/25)
 ENGEO ENVIRO NAME: A3-TP1 ; Excavator reached machine limit.

Groundwater Observations

Date/Time	Depth	Event
03/06/2025 11:30	0.70m	After drilling

CLIENT: Bell Road Limited Partnership
 PROJECT: Bell Road - Wairakei South
 LOCATION: Bell Road, Papamoa
 JOB NO: 019630.000.001

COORDS: N: 802977.1 E: 388643.8 (Bay of Plenty 2000)
 SURFACE RL: 1.14 m (NZVD2016)
 PIT WIDTH: 1m
 PIT MAX DEPTH: 2.00 m

START: 03/06/25 08:45
 END: 03/06/25 09:15

Sheet 1 of 1
 EXCAVATION EQUIPMENT: 1.7T Excavator
 CONTRACTOR: Bay Civil
 LOGGED: DRT
 CHECKED: GMS

DEPTH (m)	Material	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION mRL ()	STRENGTH / CONSISTENCY	MOISTURE CONDITION	GROUNDWATER LEVELS	Shear Vane (Peak / Residual) & Samples	DCP TEST (NZS4402 Test 6.5.2) Blows / 100 mm						
									0	5	10	15	20		
0.0	(2) TOPSOIL		[TOPSOIL] Organic SILT with trace rootlets; dark brown. Low plasticity.	1.0		W									
0.70	(3b) PEAT		[PEAT] Organic SILT with some wood inclusions; dark brown. Low plasticity. Fibrous to amorphous. Wood inclusions are fresh to slightly weathered.												
0.80			0.70 m: Thin lense of ash. (Kaharoa Ash) 0.80 m: Hard to excavate due to wood inclusions.				S	▼							
2.0			Terminated at 2.00 m. Machine limit.	-1.0											

Trial Pit Photographs



TP102

General Notes:

Coordinate Method: Hand Held GPS
 Surface Elevation Method: Maven Survey (07/08/25)
 ENGEO ENVIRO NAME: B3-TP1 ; Depth of sand inferred at 2.0 m by resistance of DCP pushed through base of test pit.

Groundwater Observations

Date/Time	Depth	Event
03/06/2025 09:15	1.20m	After drilling

CLIENT: Bell Road Limited Partnership
 PROJECT: Bell Road - Wairakei South
 LOCATION: Bell Road, Papamoa
 JOB NO: 019630.000.001

COORDS: N: 803090.5 E: 388672.1 (Bay of Plenty 2000)
 SURFACE RL: 1.36 m (NZVD2016)
 PIT WIDTH: 1m
 PIT MAX DEPTH: 1.60 m

START: 03/06/25 08:15
 END: 03/06/25 08:45

Sheet 1 of 1
 EXCAVATION EQUIPMENT: 1.7T Excavator
 CONTRACTOR: Bay Civil
 LOGGED: DRT
 CHECKED: GMS

DEPTH (m)	Material	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION mRL ()	STRENGTH / CONSISTENCY	MOISTURE CONDITION	GROUNDWATER LEVELS	Shear Vane (Peak / Residual) & Samples	DCP TEST (NZS4402 Test 6.5.2) Blows / 100 mm						
									0	5	10	15	20		
0.0	(2) TOPSOIL		[TOPSOIL] Organic SILT with trace rootlets; dark brown. Low plasticity.			W									
1.0	(3b) PEAT		[PEAT] Organic SILT with some wood inclusions; dark brown. Low plasticity. Fibrous to amorphous. Wood inclusions are fresh to slightly weathered.			S	▼								
2.0	Terminated at 1.60 m. Machine limit.														

Trial Pit Photographs



TP101

General Notes:

Coordinate Method: Hand Held GPS
 Surface Elevation Method: Maven Survey (07/08/25)
 ENGEO ENVIRO NAME: B3-TP2 ; Depth of sand inferred at 1.6 m by resistance of DCP pushed through base of test pit.

Groundwater Observations

Date/Time	Depth	Event
03/06/2025 08:45	0.50m	After drilling

CLIENT: Bell Road Limited Partnership
 PROJECT: Bell Road - Wairakei South
 LOCATION: Bell Road, Papamoa
 JOB NO: 019630.000.001

COORDS: N: 803014.0 E: 388845.5 (Bay of Plenty 2000)
 SURFACE RL: 1.18 m (NZVD2016)
 PIT WIDTH: 1m
 PIT MAX DEPTH: 1.00 m

START: 03/06/25 09:15
 END: 03/06/25 09:30

DEPTH (m)	Material	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION mRL (-)	STRENGTH / CONSISTENCY	MOISTURE CONDITION	GROUNDWATER LEVELS	Shear Vane (Peak / Residual) & Samples	DCP TEST (NZS4402 Test 6.5.2) Blows / 100 mm
0.0	(2) TOPSOIL		[TOPSOIL] Organic SILT with trace rootlets; dark brown. Low plasticity.	1.0	W				
			Silty fine to medium SAND; yellow brown. Poorly graded. Low plasticity. (Kaharoa Ash)		W				
	(3b) PEAT		[PEAT] Organic SILT with some wood inclusions; dark brown. Low plasticity. Fibrous to amorphous. Wood inclusions are fresh to slightly weathered.		W				
1.0	(4b) LAS		Fine to coarse SAND; dark grey. Well graded. Terminated at 1.00 m. Target depth.	0.0	S				
2.0				-1.0					
3.0									

Trial Pit Photographs



TP103

General Notes:

Coordinate Method: Hand Held GPS
 Surface Elevation Method: Maven Survey (07/08/25)
 ENGEO ENVIRO NAME: B3-TP3 ; LAS = LOOSE ALLUVIAL SANDS

Groundwater Observations

Date/Time	Depth	Event
03/06/2025 09:30	1.00m	After drilling

CLIENT: Bell Road Limited Partnership
 PROJECT: Bell Road - Wairakei South
 LOCATION: Bell Road, Papamoa
 JOB NO: 019630.000.001

COORDS: N: 803089.3 E: 389012.8 (Bay of Plenty 2000)
 SURFACE RL: 2.41 m (NZVD2016)
 PIT WIDTH: 1m
 PIT MAX DEPTH: 1.10 m

START: 03/06/25 09:30
 END: 03/06/25 10:00

DEPTH (m)	Material	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION mRL ()	STRENGTH / CONSISTENCY	MOISTURE CONDITION	GROUNDWATER LEVELS	Shear Vane (Peak / Residual) & Samples	DCP TEST (NZS4402 Test 6.5.2) Blows / 100 mm						
									0	5	10	15	20		
0.0	(3) TOP SOIL		[TOPSOIL] Organic SILT with trace rootlets; dark brown. Low plasticity.			D									
	(4a) DUNE SANDS		Fine to medium SAND; yellow. Poorly graded.	2.0		D									
1.0			Silty fine to medium SAND with trace rootlets; light brown. Poorly graded. Low plasticity.			D									
			Terminated at 1.10 m. Target depth.	1.0											
2.0				0.0											
3.0															

Trial Pit Photographs



TP104

General Notes:

Coordinate Method: Hand Held GPS
 Surface Elevation Method: Maven Survey (07/08/25)
 ENGEO ENVIRO NAME: B3-TP4

Groundwater Observations

Date/Time	Depth	Event

CLIENT: Bell Road Limited Partnership
 PROJECT: Bell Road - Wairakei South
 LOCATION: Bell Road, Papamoa
 JOB NO: 019630.000.001

COORDS: N: 801673.5 E: 388098.7 (Bay of Plenty 2000)
 SURFACE RL: 2.00 m (NZVD2016)
 PIT WIDTH: 1m
 PIT MAX DEPTH: 1.30 m

START: 07/08/25 09:00
 END: 07/08/25 09:30

Sheet 1 of 1
 EXCAVATION EQUIPMENT: 13T Excavator
 CONTRACTOR: Bay Civil
 LOGGED: CR
 CHECKED: MM

DEPTH (m)	Material	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION mRL (NZVD2016)	STRENGTH / CONSISTENCY	MOISTURE CONDITION	GROUNDWATER LEVELS	Shear Vane (Peak / Residual) & Samples	DCP TEST (NZS4402 Test 6.5.2) Blows / 100 mm
0.0	(1) FILL	[Cross-hatch pattern]	[FILL] Organic SILT with minor debris and trace rootlets; dark brown. Low plasticity. Debris is wood, wire, charcoal and tiles.	2.0				C1-TP1, ES: 0.00-0.10 m	
	(2) TOPSOIL	[Diagonal lines pattern]	[TOPSOIL] Organic SILT with trace rootlets; dark brown. Low plasticity.		M			C1-TP1, ES: 0.10-0.15 m	
	(3a) PAD	[Dotted pattern]	Silty medium to coarse SAND; greyish brown.		M				
1.0				1.0		W	∇		
			Terminated at 1.30 m. Target depth.						
2.0				0.0					
3.0				1.0					

Trial Pit Photographs



C1-TP3

General Notes:

Coordinate Method: Hand Held GPS
 Surface Elevation Method: Maven Survey (07/08/25)

Groundwater Observations

Date/Time	Depth	Event
07/08/2025 09:00	1.00m	At time of drilling

CLIENT: Bell Road Limited Partnership
 PROJECT: Bell Road - Wairakei South
 LOCATION: Bell Road, Papamoa
 JOB NO: 019630.000.001

COORDS: N: 801672.0 E: 388074.5 (Bay of Plenty 2000)
 SURFACE RL: 2.00 m (NZVD2016)
 PIT WIDTH: 1m
 PIT MAX DEPTH: 0.80 m

START: 07/08/25 09:30
 END: 07/08/25 10:00

Sheet 1 of 1
 EXCAVATION EQUIPMENT: 13T Excavator
 CONTRACTOR: Bay Civil
 LOGGED: CR
 CHECKED: MM

DEPTH (m)	Material	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION mRL (NZVD2016)	STRENGTH / CONSISTENCY	MOISTURE CONDITION	GROUNDWATER LEVELS	Shear Vane (Peak / Residual) & Samples	DCP TEST (NZS4402 Test 6.5.2) Blows / 100 mm
0.0	(1) FILL		[FILL] Coarse Gravel; brownish orange. Poorly graded.	2.0	D			C1-TP4, ES: 0.00-0.10 m	
	(2) TOPSOIL		[BTS] Organic SILT with trace rootlets; dark brown. Low plasticity.		M				
	(3b) PEAT		Fine SAND with some wood inclusions; light grey. Poorly graded. (Kaharoa Ash)		S				
			[PEAT] Organic SILT with some wood inclusions; dark brown to brown. Low plasticity. Fibrous to amorphous. Wood inclusions are fresh to slightly weathered.						
			Terminated at 0.80 m. Target depth.						

Trial Pit Photographs



C1-TP4

General Notes:

Coordinate Method: Hand Held GPS
 Surface Elevation Method: Maven Survey (07/08/25)
 Kaharoa Ash included within peat geological unit for consistency with site geological model.




Groundwater Observations

Date/Time	Depth	Event
07/08/2025 09:00	0.80m	At time of drilling

CLIENT: Bell Road Limited Partnership
 PROJECT: Bell Road - Wairakei South
 LOCATION: Bell Road, Papamoa
 JOB NO: 019630.000.001

COORDS: N: 801679.7 E: 388082.3 (Bay of Plenty 2000)
 SURFACE RL: 2.00 m (NZVD2016)
 PIT WIDTH: 1m
 PIT MAX DEPTH: 0.60 m

START: 07/08/25 10:00
 END: 07/08/25 10:30

DEPTH (m)	Material	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION mRL (NZVD2016)	STRENGTH / CONSISTENCY	MOISTURE CONDITION	GROUNDWATER LEVELS	Shear Vane (Peak / Residual) & Samples	DCP TEST (NZS4402 Test 6.5.2) Blows / 100 mm
0.0	(1) FILL		[FILL] Coarse Gravel; brownish orange. Poorly graded.	2.0	M			C1-TP6, ES: 0.00-0.10 m	
			[FILL] SILT with minor debris; dark brown. Low plasticity. Debris is plastic and glass.		M			C1-TP6, ES: 0.10-0.50 m	
	(3b) PEAT		Fine SAND with some wood inclusions; light grey. Poorly graded. (Kaharoa Ash)		W				
			Terminated at 0.60 m. Target depth.						

Trial Pit Photographs



C1-TP6

General Notes:

Coordinate Method: Hand Held GPS
 Surface Elevation Method: Maven Survey (07/08/25)
 Kaharoa Ash included within peat geological unit for consistency with site geological model.

Groundwater Observations

Date/Time	Depth	Event
07/08/2025 10:00	0.50m	At time of drilling

CLIENT: Bell Road Limited Partnership
 PROJECT: Bell Road - Wairakei South
 LOCATION: Bell Road, Papamoa
 JOB NO: 019630.000.001

COORDS: N: 801684.3 E: 388098.0 (Bay of Plenty 2000)
 SURFACE RL: 2.00 m (NZVD2016)
 PIT WIDTH: 1m
 PIT MAX DEPTH: 1.00 m

START: 07/08/25 10:30
 END: 07/08/25 11:00

DEPTH (m)	Material	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION mRL (NZVD2016)	STRENGTH / CONSISTENCY	MOISTURE CONDITION	GROUNDWATER LEVELS	Shear Vane (Peak / Residual) & Samples	DCP TEST (NZS4402 Test 6.5.2) Blows / 100 mm
0.0	(2) TOPSOIL		[TOPSOIL] Organic SILT with trace rootlets; dark brown. Low plasticity.	2.0	M			C1-TP8, ES: 0.00-0.10 m	
1.0	(3b) PEAT		Fine SAND with some wood inclusions; light grey. Poorly graded. (Kaharoa Ash)	1.0	S				
1.0	Terminated at 1.00 m. Target depth.			1.0					
2.0				0.0					
3.0				1.0					

Trial Pit Photographs



C1-TP8

General Notes:

Coordinate Method: Hand Held GPS
 Surface Elevation Method: Maven Survey (07/08/25)
 Kaharoa Ash included within peat geological unit for consistency with site geological model.

Groundwater Observations

Date/Time	Depth	Event
07/08/2025 11:00	1.00m	At time of drilling

CLIENT: Bell Road Limited Partnership
 PROJECT: Bell Road - Wairakei South
 LOCATION: Bell Road, Papamoa
 JOB NO: 019630.000.001

COORDS: N: 801698.9 E: 388081.8 (Bay of Plenty 2000)
 SURFACE RL: 2.00 m (NZVD2016)
 PIT WIDTH: 1m
 PIT MAX DEPTH: 0.90 m

START: 07/08/25 11:00
 END: 07/08/25 11:30

DEPTH (m)	Material	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION mRL (NZVD2016)	STRENGTH / CONSISTENCY	MOISTURE CONDITION	GROUNDWATER LEVELS	Shear Vane (Peak / Residual) & Samples	DCP TEST (NZS4402 Test 6.5.2) Blows / 100 mm
0.0	(1) FILL		[FILL] Sandy GRAVEL; fine to coarse gravel with medium to coarse sand; yellowish brown. Poorly graded.	2.0	M			C1-TP9, ES: 0.00-0.20 m	
	(2) TOPSOIL		[BTS] Organic SILT with trace sand; dark brown. Low plasticity.		M				
	(3B) PEAT		Fine SAND with some wood inclusions; light grey. Poorly graded. (Kaharoa Ash). Terminated at 0.90 m. Target depth.		W				
1.0				1.0					
2.0				0.0					
3.0				1.0					

Trial Pit Photographs



C1-TP9

General Notes:

Coordinate Method: Hand Held GPS
 Surface Elevation Method: Maven Survey (07/08/25)
 Kaharoa Ash included within peat geological unit for consistency with site geological model.

Groundwater Observations

Date/Time	Depth	Event
07/08/2025 11:00	0.80m	At time of drilling

CLIENT: Bell Road Limited Partnership
 PROJECT: Bell Road - Wairakei South
 LOCATION: Bell Road, Papamoa
 JOB NO: 019630.000.001

COORDS: N: 802708.3 E: 387881.5 (Bay of Plenty 2000)
 SURFACE RL: 2.00 m (NZVD2016)
 PIT WIDTH: 1m
 PIT MAX DEPTH: 1.00 m

START: 07/08/25 11:30
 END: 07/08/25 12:30

DEPTH (m)	Material	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION mRL (NZVD2016)	STRENGTH / CONSISTENCY	MOISTURE CONDITION	GROUNDWATER LEVELS	Shear Vane (Peak / Residual) & Samples	DCP TEST (NZS4402 Test 6.5.2) Blows / 100 mm
0.0	(3) TOP SOIL		[TOPSOIL] Organic SILT with trace rootlets; dark brown. Low plasticity.	2.0		M			
	(1) FILL		[FILL] Fine to medium SAND; brown. Poorly Graded.			M			
	(3b) PEAT		[PEAT] Organic SILT; dark brown. Low plasticity. Amorphous.			M			
1.0	Terminated at 1.00 m. Target depth.								
2.0									
3.0									

Trial Pit Photographs



TB-TP11

General Notes:

Coordinate Method: Hand Held GPS
 Surface Elevation Method: Maven Survey (07/08/25)

Groundwater Observations		
Date/Time	Depth	Event
	NE	

CLIENT: Bell Road Limited Partnership
 PROJECT: Bell Road - Wairakei South
 LOCATION: Bell Road, Papamoa
 JOB NO: 019630.000.001

COORDS: N: 801574.7 E: 387176.7 (Bay of Plenty 2000)
 SURFACE RL: 2.24 m (NZVD2016)
 PIT WIDTH: 1m
 PIT MAX DEPTH: 1.00 m

START: 03/06/25 12:15
 END: 03/06/25 12:45

Sheet 1 of 1
 EXCAVATION EQUIPMENT: 1.7T Excavator
 CONTRACTOR: Bay Civil
 LOGGED: DRT
 CHECKED: GMS

DEPTH (m)	Material	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION mRL ()	STRENGTH / CONSISTENCY	MOISTURE CONDITION	GROUNDWATER LEVELS	Shear Vane (Peak / Residual) & Samples	DCP TEST (NZS4402 Test 6.5.2) Blows / 100 mm						
									0	5	10	15	20		
0.0	(2) TOP SOIL	[Diagonal Hatching]	[TOPSOIL] Organic SILT with trace rootlets; dark brown. Low plasticity.		M										
	(3a) PUMICE AIRFALL DEPOSIT	[Cross-hatching]	Fine to coarse SAND; yellow. Well graded. (Kaharoa Ash)		M										
			Silty fine to medium SAND; reddish orange. Poorly graded. Low plasticity.		M										
1.0	(4b) LAS	[Dotted]	Fine to coarse SAND; grey. Well graded. Terminated at 1.00 m. Target depth.		W										

Trial Pit Photographs



TP109

General Notes:

Coordinate Method: Hand Held GPS
 Surface Elevation Method: Maven Survey (07/08/25)
 ENGEO ENVIRO NAME: TP-2.35 ; LAS = LOOSE ALLUVIAL SANDS

Groundwater Observations

Date/Time	Depth	Event
03/06/2025 12:45	1.00m	After drilling

CLIENT: Bell Road Limited Partnership
 PROJECT: Bell Road - Wairakei South
 LOCATION: Bell Road, Papamoa
 JOB NO: 019630.000.001

COORDS: N: 801569.5 E: 387310.0 (Bay of Plenty 2000)
 SURFACE RL: 2.35 m (NZVD2016)
 PIT WIDTH: 1m
 PIT MAX DEPTH: 1.10 m

START: 03/06/25 12:45
 END: 03/06/25 01:00

Sheet 1 of 1
 EXCAVATION EQUIPMENT: 1.7T Excavator
 CONTRACTOR: Bay Civil
 LOGGED: DRT
 CHECKED: GMS

DEPTH (m)	Material	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION mRL ()	STRENGTH / CONSISTENCY	MOISTURE CONDITION	GROUNDWATER LEVELS	Shear Vane (Peak / Residual) & Samples	DCP TEST (NZS4402 Test 6.5.2) Blows / 100 mm					
									0	5	10	15	20	
0.0	(2) TOPSOIL		(TOPSOIL) Organic SILT with trace rootlets; dark brown. Low plasticity.	2.0	M									
			Fine to coarse SAND; yellow. Well graded.											
	(3a) PUMICE AIRFALL DEPOSITS		Fine to medium GRAVEL; grey brown. Well graded. Gravel is sub rounded pumice.	2.0	M									
			Sandy SILT; orange red. Low plasticity. Sand is fine to medium.											
1.0	(4b) LAS		Fine to coarse SAND; grey. Well graded.	1.0	W									
	Terminated at 1.10 m. Target depth.													

Trial Pit Photographs



TP110

General Notes:

Coordinate Method: Hand Held GPS
 Surface Elevation Method: Maven Survey (07/08/25)
 ENGEO ENVIRO NAME: TP-2.41 ; LAS = LOOSE ALLUVIAL SANDS

Groundwater Observations

Date/Time	Depth	Event
03/06/2025 13:00	1.00m	After drilling

Appendix 10: Site Observations



Photo 1: Waste visible in topsoil (O2)



Photo 2: ACM mixed with topsoil (O3)



Photo 3: Looking west over sample location with hydrocarbon odour (O4)



Photo 4: Waste observed in western wall of test pit adjacent to dairy shed (O5)



Photo 5: Looking across subfloor of woolshed (O6)



Photo 6: Looking across subfloor of woolshed (O6)



Photo 7: Looking northeast across woolshed / sheep dip area (O6)



Photo 8: Looking west across area to the south of the woolshed (O6)



Photo 9: Looking north across burn pit (O7)



Photo 10: Looking north across burn pit (O7)



Photo 11: Looking west across CI-TP2 during test pit investigations. Mixed waste is visible in the foreground (O8).



Photo 12: Looking east across burn pit (O8)



Photo 13: Looking northeast across waste materials observed to the north of the test pit area (O8)



Photo 14: Chemical container storage to the north of the test pit area (O8)



Photo 15: Looking northeast across waste observed to the south of the western residence in area C1 (O9)



Photo 16: Looking south across storage of treated timber (O10)



Photo 17: Looking at chemical mixing area (O11)



Photo 18: Looking into freezer used as chemical storage (O11) adjacent to the mixing area.

Appendix 11: Result Summary Tables

Results Table 1: Soil Results - Areas A1 and A2

				Heavy Metals / Metalloids							
				Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
Human Health Criteria - Residential ¹				20	3 ²	480 ³	10000 ⁴	210 ⁵	310 ⁶	400 ¹⁰	7400 ¹⁰
Human Health Criteria - High-Density Residential ¹				45	230 ²	1500 ³	10000 ⁷	500 ⁸	1000 ⁹	1200 ¹⁰	60000 ¹⁰
Human Health Criteria - Recreational ¹				80	400 ²	2700 ³	10000 ⁷	880 ⁸	1800 ⁹	1200 ¹⁰	30000 ¹⁰
Human Health Criteria - Commercial/Industrial ¹				70	1300 ²	6300 ³	10000 ⁷	3300 ⁸	4200 ⁹	6300 ¹⁰	400000 ¹⁰
Environmental Discharge Criteria (AUP) ²				100	7.5	400	325	250	0.75	105	400
Predicted Background Concentrations ³				9.97 - 16.38	0.28 - 1.4	51.67 - 100.84	40.17 - 62.17	24.79 - 44.34	-	32.88 - 57.44	97.97 - 191.00
Sediment Quality Guideline Value ⁴				20	1.5	80	65	50	0.15	21	200
Sample Location	Depth (m bgl)	Date Sampled	Soil Description	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
A1-6	0 - 0.1	27-May-25	Topsoil	9	0.41	6	8	7.2	< 0.10	3	40
A1-7	0 - 0.1	27-May-25	Topsoil	9	0.47	6	12	8.6	0.11	5	64
A1-8	0 - 0.1	27-May-25	Topsoil	16	0.18	6	9	10.4	0.11	< 2	210
A1-9	0 - 0.1	27-May-25	Topsoil	18	0.16	5	8	9.4	0.17	< 2	96
A1-10	0 - 0.1	27-May-25	Topsoil	13	0.29	4	6	8.8	< 0.10	< 2	430
A1-11	0 - 0.1	27-May-25	Topsoil	15	0.55	5	10	17	0.12	< 2	800
A1 - TP1 1	0 - 0.1	3-Jun-25	Topsoil	4	0.25	4	8	6	< 0.10	4	83
A1 - TP1 2	0.3 - 0.4	3-Jun-25	Gravel	< 2	< 0.10	< 2	< 2	3.5	< 0.10	< 2	20
A1 - TP2 1	0 - 0.1	3-Jun-25	Topsoil	6	0.33	4	8	5.7	< 0.10	3	68
A1 - TP2 2	0.3 - 0.4	3-Jun-25	Gravel	< 2	< 0.10	2	< 2	3.2	< 0.10	< 2	17
A2-1	0 - 0.1	27-May-25	Topsoil	< 2	< 0.10	2	3	3.9	< 0.10	< 2	22
A2-2	0 - 0.1	27-May-25	Topsoil	2	0.33	4	6	3.1	< 0.10	2	43
A2-3	0 - 0.1	27-May-25	Topsoil	< 2	0.44	5	9	2.2	< 0.10	5	130
A2-4	0 - 0.1	27-May-25	Topsoil	< 2	0.51	7	10	3.7	< 0.10	4	84
A2-5	0 - 0.1	27-May-25	Topsoil	2	0.3	5	13	5.1	< 0.10	2	121
A2-6	0 - 0.1	1-Sept-25	Topsoil	2	0.16	4	7	4.7	< 0.10	3	92
A2-6	0.3 - 0.4	1-Sept-25	Peat	2	< 0.10	5	2	11.4	0.13	2	15

Table Notes:

All results and criteria are presented in milligram per kilogram (mg/kg) on a dry weight basis
 Soil descriptions indicative only - refer to report/borehole logs for full descriptions
 Selected results shown; Full results are included in the laboratory reports
 LOR: Limit of Reporting; Results below LOR or exceeding red criteria are shown in grey text
 - : not analysed or no applicable criteria
 m bgl: metres below ground level

Criteria notes:

- Human Health Criteria selected in general accordance with CLMG No. 2 (MfE, 2011). Unless otherwise stated, criteria are from MfE (2011) Methodology for Deriving Standards for Contaminants in Soil to Protect Human
- BoPRC Interim Ecological Guidelines Adopted from Permitted activity standards selected in accordance with Section E30.6.1.4 of the Auckland Unitary Plan (Auckland Council, 2016).
- Landcare Research (2019) Bay of Plenty Heavy Metals Background Range. Excludes Rhyolite.
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality - Default Guideline Values for Toxicants in Sediment
- Conservatively assumes soil pH of 5 for produce ingestion pathway.
- Criterion applies to Cr(VI). Conservatively applied to total Cr laboratory result
- No limit; 10,000 mg/kg conservatively applied. Derived human health value exceeds values likely to be encountered on-site and phytotoxicity threshold
- Applies to inorganic lead only
- Applies to inorganic mercury only
- Australian National Environment Protection (Assessment of Site Contamination) Measure 2013; Health Investigation Levels.

Results Table 2: Soil Results - Area A3 - Heavy Metals

				Heavy Metals / Metalloids								Asbestos			
				Antimony	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Asbestos Presence / Absence	Asbestos as ACM	Asbestos as APFA	
Human Health Criteria - Residential 1				20	3*	400*	10000*	210*	210*	400**	7000**	-	-	0.01**	0.001**
Human Health Criteria - High-Density Residential 1				45	230*	1500*	10000*	500*	1000*	1200**	6000**	-	0.04**	0.001**	
Human Health Criteria - Recreational 1				80	400*	2700*	10000*	800*	1900*	1200**	3000**	-	-	0.02**	0.001**
Human Health Criteria - Commercial/Industrial 1				70	1300*	6300*	10000*	3300*	<200**	6300**	40000**	-	-	0.05**	0.001**
Environmental Discharge Criteria (AUP) 2				100	7.6	400	200	200	0.76	100	400	-	-	-	-
Predicted Background Concentrations 3				9.97 - 16.38	0.28 - 1.4	51.67 - 100.84	40.17 - 52.17	24.78 - 44.34	-	32.88 - 57.64	97.97 - 191.00	-	-	-	-
Bedrock Quality Guideline Value 4				20	1.6	50	66	60	0.16	21	200	-	-	-	-
Sample Location	Depth (m bgl)	Date Sampled	Soil Description	Antimony	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Asbestos Presence / Absence	Asbestos as ACM	Asbestos as APFA	
A3-1.1	0-0.1	26-May-25	Topsoil	6	<0.10	4	7	12.9	<0.10	<2	68	Asbestos NOT detected.	-	-	
A3-2.1	0-0.1	26-May-25	Topsoil	7	<0.10	4	7	36	<0.10	<2	59	Chrysotile (White Asbestos) detected.	<0.001	<0.001	
A3-3.1	0-0.1	26-May-25	Topsoil	144	0.91	101	162	220	<0.10	6	1850	Asbestos NOT detected.	-	-	
A3-4	0-0.1	26-May-25	Topsoil	3	<0.10	3	<2	2	<0.10	<2	16	Asbestos NOT detected.	-	-	
A3-5	0-0.1	26-May-25	Topsoil	5	<0.10	13	12	9.2	<0.10	<2	101	-	-	-	
A3-6	0-0.1	26-May-25	Topsoil	5	0.17	8	11	121	<0.10	<2	1210	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	<0.001	0.001	
A3-7	0-0.1	26-May-25	Topsoil	7	0.5	7	34	890	<0.10	3	350	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	0.167	<0.001	
A3-7	0.3-0.4	26-May-25	Topsoil	4	0.34	4	16	220	<0.10	3	138	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	<0.001	0.003	
A3-07 PACM	0.3-0.4	29-May-25	Bulk Sample	-	-	-	-	-	-	-	-	Amosite (Brown Asbestos) and Chrysotile (White Asbestos) detected.	-	-	
A3-8	0-0.1	26-May-25	Topsoil	18	0.58	8	15	54	<0.10	5	210	-	-	-	
A3-9	0-0.1	26-May-25	Topsoil	8	<0.10	7	13	14.1	<0.10	<2	171	Asbestos NOT detected.	-	-	
A3-10	0-0.1	26-May-25	Topsoil	6	0.24	11	15	19.2	0.73	<2	220	Asbestos NOT detected.	-	-	
A3-11	0-0.1	26-May-25	Topsoil	3	<0.10	2	3	3.1	<0.10	<2	14	Asbestos NOT detected.	-	-	
A3-12	0-0.1	26-May-25	Topsoil	4	<0.10	2	3	3.1	<0.10	<2	19	Asbestos NOT detected.	-	-	
A3-13	0-0.1	26-May-25	Topsoil	3	0.12	3	10	4.5	<0.10	<2	27	Asbestos NOT detected.	-	-	
A3-14	0-0.1	26-May-25	Topsoil	2	0.16	2	7	3	<0.10	<2	23	-	-	-	
A3-15	0-0.1	26-May-25	Silty Gravel	4	0.15	3	7	11	0.23	<2	111	-	-	-	
A3-16	0-0.1	26-May-25	Topsoil	2	<0.10	2	<2	2	<0.10	<2	11	-	-	-	
A3-18	0-0.1	26-May-25	Silty Gravel	16	0.12	18	34	7.5	<0.10	2	200	-	-	-	
A3-18	0.3-0.4	26-May-25	Silty Gravel	3	<0.10	8	7	7.2	0.12	2	34	-	-	-	
A3-19	0-0.1	26-May-25	Topsoil	122	0.26	121	260	10.2	<0.10	4	820	-	-	-	
A3-19	0.3-0.4	26-May-25	Blackish grey Clay	14	0.23	7	15	21	<0.10	3	138	-	-	-	
A3-20	0-0.1	26-May-25	Silty Gravel	3	<0.10	4	8	3.6	<0.10	<2	111	-	-	-	
A3-20	0.3-0.4	26-May-25	Peat	18	0.26	10	14	126	<0.10	<2	123	-	-	-	
A3-21	0-0.1	26-May-25	Silt	3	<0.10	5	9	16.6	<0.10	<2	111	-	-	-	
A3-22	0-0.1	26-May-25	Gravel	4	<0.10	9	20	7.5	<0.10	<2	200	Asbestos NOT detected.	-	-	
A3-23	0-0.1	26-May-25	Topsoil	7	<0.10	7	44	5.2	<0.10	<2	107	Asbestos NOT detected.	-	-	
A3-24	0-0.1	26-May-25	Topsoil	3	0.13	4	7	5.6	<0.10	<2	109	Asbestos NOT detected.	-	-	
A3-25	0-0.1	26-May-25	Pumice	<2	<0.10	<2	<2	1.6	<0.10	<2	30	-	-	-	
A3-26	0-0.1	26-May-25	Topsoil	<2	<0.10	5	10	4	<0.10	3	210	-	-	-	
A3-27	0-0.1	26-May-25	Clay	<2	0.15	5	23	3.5	<0.10	9	57	-	-	-	
A3-28	0-0.1	26-May-25	Topsoil	6	0.18	10	31	21	<0.10	2	460	-	-	-	
A3-29	0-0.1	26-May-25	Topsoil	<2	0.14	6	11	12.6	<0.10	2	820	-	-	-	
A3-30	0-0.1	26-May-25	Organic Silt	2	0.13	3	13	3.8	<0.10	<2	480	-	-	-	
A3-31	0-0.1	26-May-25	Topsoil	<2	<0.10	4	11	6.2	<0.10	<2	62	-	-	-	
A3-32	0-0.1	26-May-25	Silty Gravel	3	<0.10	2	3	2.8	<0.10	<2	23	-	-	-	
A3-33	0-0.1	26-May-25	Silty Gravel	3	<0.10	3	4	2.9	<0.10	<2	31	-	-	-	
A3-34	0-0.1	26-May-25	Topsoil	<2	<0.10	7	15	5.8	<0.10	2	181	-	-	-	
A3-35	0-0.1	26-May-25	Topsoil	3	0.53	6	17	3.9	<0.10	3	104	-	-	-	
A3-36	0-0.1	26-May-25	Topsoil	4	<0.10	2	3	2.4	<0.10	<2	43	-	-	-	
A3-36	0.3-0.4	26-May-25	Gravelly Sand	2	<0.10	3	<2	2.9	<0.10	<2	32	-	-	-	
A3-37	0-0.1	26-May-25	Topsoil	5	0.25	3	4	5.3	<0.10	<2	20	-	-	-	
A3-38	0-0.1	30-May-25	Organic Silt	21	0.41	15	19	6.6	<0.10	2	220	-	-	-	
A3-39	0-0.1	30-May-25	Pumice	12	0.46	18	30	12.2	<0.10	6	440	-	-	-	
A3-40	0-0.1	30-May-25	Topsoil	7	0.25	7	10	46	<0.10	<2	164	Asbestos NOT detected.	-	-	
A3-41	0-0.1	30-May-25	Topsoil	22	0.24	13	24	106	<0.10	2	171	Asbestos NOT detected.	-	-	
A3-42	0-0.1	30-May-25	Topsoil	16	0.27	5	15	28	<0.10	<2	151	Asbestos NOT detected.	-	-	
A3-43	0-0.1	30-May-25	Organic Silt	18	3.2	63	82	860	0.1	5	1480	Asbestos NOT detected.	-	-	
A3-44	0-0.1	30-May-25	Topsoil	103	0.39	6	13	67	<0.10	4	97	Asbestos NOT detected.	-	-	
A3-44	0.3-0.4	30-May-25	Peat	26	<0.10	2	3	7	<0.10	<2	11	-	-	-	
A3-45	0-0.1	30-May-25	Topsoil	26	0.47	5	9	10.2	<0.10	4	52	-	-	-	
A3-45	0.3-0.4	30-May-25	Topsoil	67	0.3	4	4	5.3	<0.10	<2	23	-	-	-	
A3-46	0-0.1	30-May-25	Topsoil	9	0.39	4	8	5	<0.10	3	69	-	-	-	
A3-47	0-0.1	30-May-25	Topsoil	9	0.37	5	14	37	<0.10	3	180	-	-	-	
A3-48	0-0.1	1-Sept-25	Topsoil	20	5.4	63	57	1000	<0.10	5	2200	-	-	-	
A3-49	0-0.1	1-Sept-25	Topsoil	5	0.51	7	15	21	<0.10	3	2100	-	-	-	
A3-50	0-0.1	1-Sept-25	Organic Silt	21	0.24	23	128	10.7	0.12	5	550	-	-	-	
A3-51	0-0.1	1-Sept-25	Organic Silt	3	<0.10	4	5	4.7	<0.10	<2	680	-	-	-	
A3-52	0-0.1	1-Sept-25	Topsoil	5	<0.10	4	5	7.9	<0.10	<2	71	-	-	-	
A3-TP1.1	0-0.1	3-Jun-25	Topsoil	3	0.15	5	10	5.1	<0.10	<2	73	-	-	-	
A3-TP1.2	0.3-0.4	3-Jun-25	Sand	3	0.15	5	10	5.1	<0.10	<2	73	-	-	-	
A3-TP1.3	0.7-0.8	3-Jun-25	Buried Topsoil	<2	<0.10	2	<2	1.5	<0.10	<2	16	Asbestos NOT detected.	-	-	

Table Notes:
 All results and criteria are presented in milligram per kilogram (mg/kg) on a dry weight basis, except asbestos which is reported as % weight of asbestos / weight of sample (%w/w)
 Soil descriptions indicative only
 Selected results shown; Full results are included in the laboratory reports
 LOR: Limit of Reporting; Results below LOR or exceeding no criteria are shown in grey text
 -: not analysed or no applicable criteria
 m bgl: metres below ground level

Criteria notes:

- Human Health Criteria selected in general accordance with CLM5 No. 2 (MfE, 2011). Unless otherwise stated, criteria are from MfE (2011) Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health.
- BoRC Interim Ecological Guidelines Adopted from Permitted activity standards selected in accordance with Section E30.6.1.4 of the Auckland Unitary Plan (Auckland Council, 2016).
- Landcare Research (2015) Bay of Plenty Heavy Metals Background Range, Excludes Rhyolite.
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality - Default Guideline Values for Toxicants in Sediment
- Conservatively assumes soil pH of 5 for produce ingestion pathway.
- Criterion applies to Cr(VI). Conservatively applied to total Cr laboratory result
- No limit; 10,000 mg/kg conservatively applied. Derived human health value exceeds values likely to be encountered on-site and phytotoxicity threshold
- Applies to Inorganic lead only
- Applies to Inorganic mercury only
- Australian National Environment Protection (Assessment of Site Contamination) Measure 2013; Health Investigation Levels.
- New Zealand Guidelines for Assessing and Managing Asbestos in Soil (BSANZ, 2024). Soil Guidelines Value criteria as %w/w on a dry weight basis

Results Table 3: Soil Results - Area A3 - TPH and PAH

				Polycyclic Aromatic Hydrocarbons (Benzo[a]pyrene Equivalent)								Polycyclic Aromatic Hydrocarbons (Other)										Total Petroleum Hydrocarbons				
				Benzo[a]anthracene	Benzo[b]fluoranthene	Benzo[a]pyrene	Chrysene	Dibenz[a,h]anthracene	Fluoranthene	Indeno[1,2,3-cd]pyrene	Benzo[a]pyrene TEQ	Methylnaphthalene, 1-	Methylnaphthalene, 2-	Acenaphthene	Anthracene	Benzo[e]pyrene	Benzo[g,h,i]perylene	Fluorene	Naphthalene	Pyrene	Perylene	Total PAHs	C7-C9	C10-C14	C15-C36	Total C7-C36
Human Health Criteria - Residential ¹				NGV ²	NGV ²	NGV ²	NGV ²	NGV ²	NGV ²	NGV ²	10	-	-	NGV ²	NGV ²	-	NGV ²	NGV ²	49 ²	1600 ²	-	-	120 ²	400 ²	NA ⁷	-
Human Health Criteria - High-Density Residential ¹				NGV ²	NGV ²	NGV ²	NGV ²	NGV ²	NGV ²	NGV ²	24	-	-	NGV ²	NGV ²	-	NGV ²	NGV ²	-	-	-	-	-	-	-	-
Human Health Criteria - Recreational ¹				NGV ²	NGV ²	NGV ²	NGV ²	NGV ²	NGV ²	NGV ²	40	-	-	NGV ²	NGV ²	-	NGV ²	NGV ²	-	-	-	-	-	-	-	-
Human Health Criteria - Commercial/Industrial ¹				NGV ²	NGV ²	NGV ²	NGV ²	NGV ²	NGV ²	NGV ²	35	-	-	NGV ²	NGV ²	-	NGV ²	NGV ²	170 ²	NA ⁶	-	-	120 ²	470 ²	NA ⁷	-
Environmental Discharge Criteria ²				NGV ²	NGV ²	NGV ²	NGV ²	NGV ²	NGV ²	NGV ²	20 ⁴	-	-	-	-	-	-	-	0.043	1.2	-	-	590	1400	NA	-
Sample Location	Depth (m bgl)	Date Sampled	Soil Description	Benzo[a]anthracene	Benzo[b]fluoranthene	Benzo[a]pyrene	Chrysene	Dibenz[a,h]anthracene	Fluoranthene	Indeno[1,2,3-cd]pyrene	Benzo[a]pyrene TEQ	Methylnaphthalene, 1-	Methylnaphthalene, 2-	Acenaphthene	Anthracene	Benzo[e]pyrene	Benzo[g,h,i]perylene	Fluorene	Naphthalene	Pyrene	Perylene	Total PAHs	C7-C9	C10-C14	C15-C36	Total C7-C36
A3-3.1	0 - 0.1	26-May-25	Topsoil	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.044	< 0.019	< 0.03	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.10	< 0.019	0.02	< 0.5	-	-	-	-
A3-4	0 - 0.1	26-May-25	Topsoil	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.028	< 0.012	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.06	< 0.012	< 0.012	< 0.3	-	-	-	-
A3-5	0 - 0.1	26-May-25	Topsoil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 20	< 20	54	< 80
A3-8	0 - 0.1	26-May-25	Topsoil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 30	< 20	< 40	< 90
A3-18	0 - 0.1	26-May-25	Silty Gravel	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.030	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.07	< 0.013	< 0.013	< 0.3	< 20	< 20	210	220
A3-18	0.3 - 0.4	26-May-25	Silty Gravel	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.027	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.06	< 0.011	< 0.011	< 0.3	< 20	< 20	54	< 80
A3-19	0 - 0.1	26-May-25	Topsoil	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.035	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.08	< 0.015	< 0.015	< 0.4	< 30	< 20	106	125
A3-19	0.3 - 0.4	26-May-25	Blackish grey Clay	0.071	0.049	0.063	0.051	< 0.015	0.164	0.04	0.081	1.22	1.76	0.036	0.133	0.05	0.085	0.24	0.38	0.56	0.33	5.2	< 30	185	2700	2900
A3-20	0 - 0.1	26-May-25	Silty Gravel	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.031	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.07	< 0.013	< 0.013	< 0.4	< 20	< 20	77	94
A3-20	0.3 - 0.4	26-May-25	Peat	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.038	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.08	< 0.016	< 0.016	< 0.4	< 30	< 20	< 40	< 90
A3-21	0 - 0.1	26-May-25	Silt	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.030	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.07	< 0.013	< 0.013	< 0.3	< 20	< 20	47	< 80
A3-30	0 - 0.1	26-May-25	Organic Silt	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.044	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.10	< 0.019	< 0.019	< 0.5	< 30	< 30	290	310
A3-36	0.3 - 0.4	26-May-25	Gravelly Sand	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.026	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.06	< 0.011	< 0.011	< 0.3	-	-	-	-

Table Notes:
 All results and criteria are presented in milligram per kilogram (mg/kg) on a dry weight basis
 Selected results shown; Full results are included in the laboratory reports
 LOR: Limit of Reporting; Results below LOR or exceeding no criteria are shown in grey text
 -: not analysed or no applicable criteria
 m bgl: metres below ground level

Criteria notes:
 1: Human Health Criteria for Residential Land use selected in general accordance with CLMG No. 2 (MfE, 2011). Unless otherwise stated, criteria are from MfE (2011) Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health.
 2: Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (Revised 2011) (MfE, 2011). Criteria for Protection of Groundwater from Table 4.20 Council, 2016). Most conservative value for any soil type, contamination depth and groundwater depth.
 3: Included in Benzo[a]pyrene TEQ; individual criteria not presented
 4: BoPRC Interim Ecological Guidelines Adopted from Permitted activity standards selected in accordance with Section E30.6.1.4 of the Auckland Unitary Plan (Auckland Council, 2016).
 5: Included in Pyrene; individual criteria not presented
 6: Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (Revised 2011) (MfE, 2011). Soil Acceptance Criteria - Most conservative value for any soil type and contamination depth.
 7: Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (Revised 2011) (MfE, 2011). Soil Acceptance Criteria - Most conservative value for any soil type and contamination depth; calculated value exceeds concentration likely to result in separate-phase hydrocarbons

Results Table 4: Soil Results - Area A3 - OCP and ONOP

				Organochlorine Pesticides (OCP)	
				Dieldrin	All Other OCP's
Human Health Criteria - Residential *				2.6	-
Human Health Criteria - High-Density Residential *				45	-
Human Health Criteria - Recreational *				70	-
Human Health Criteria - Commercial/Industrial *				160	-
Environmental Discharge Criteria (AUP) †				0.5	> LOR
Sample Location	Depth (m bgl)	Date Sampled	Soil Description		
A3-30	0 - 0.1	26-May-25	Organic Silt	< LOR	< LOR
A3-36	0.3 - 0.4	26-May-25	Gravelly Sand	< LOR	< LOR
A3-40	0 - 0.1	30-May-25	Topsoil	< LOR	< LOR
A3-41	0 - 0.1	30-May-25	Topsoil	< LOR	< LOR
A3-42	0 - 0.1	30-May-25	Topsoil	0.051	< LOR
A3-43	0 - 0.1	30-May-25	Organic Silt	< LOR	< LOR
A3-44	0 - 0.1	30-May-25	Topsoil	< LOR	< LOR
A3-44	0.3 - 0.4	30-May-25	Peat	< LOR	< LOR
A3-45	0 - 0.1	30-May-25	Topsoil	< LOR	< LOR
A3-45	0.3 - 0.4	30-May-25	Topsoil	< LOR	< LOR
A3-46	0 - 0.1	30-May-25	Topsoil	< LOR	< LOR
A3-47	0 - 0.1	30-May-25	Topsoil	< LOR	< LOR

Table Notes:

All results and criteria are presented in milligram per kilogram (mg/kg) on a dry weight basis

Soil descriptions indicative only

Selected results shown; Full results are included in the laboratory reports

LOR: Limit of Reporting; Results below LOR or exceeding no criteria are shown in grey text

- : not analysed or no applicable criteria

m bgl: metres below ground level

Criteria notes:

1: Human Health Criteria selected in general accordance with CLMG No. 2 (MfE, 2011). Unless otherwise stated, criteria are from MfE (2011) Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health.

2: Identifying, Investigating and Managing Risks Associated with Former Sheep-dip Sites (MfE, 2006). Soil Guideline Values Protective of On-site Ecological Receptors (Serious Risk Guideline Value)

Results Table 5: Soil Results - Areas B1 and B2 - Heavy Metals and Asbestos

				Heavy Metals / Metalloids						Asbestos				
				Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Asbestos Presence / Absence	Asbestos as ACM	Asbestos as AF/A
Human Health Criteria - Residential *				20	3*	480*	10000*	210*	310*	400*	7400*	-	0.01**	0.001**
Human Health Criteria - High-Density Residential *				45	230*	1500*	10000*	500*	1000*	1200*	50000*	-	0.04**	0.001**
Human Health Criteria - Recreational *				80	400*	2700*	10000*	800*	1800*	1200*	30000*	-	0.02**	0.001**
Human Health Criteria - Commercial/Industrial *				70	1300*	6300*	10000*	3300*	4200*	6300*	400000*	-	0.05**	0.001**
Environmental Discharge Criteria (AUP) †				100	7.5	400	325	250	0.75	105	480	-	-	-
Predicted Background Concentrations ‡				9.97 - 16.38	0.28 - 1.4	51.67 - 100.84	40.17 - 62.17	24.79 - 44.34	-	32.88 - 57.44	97.97 - 191.00	-	-	-
Sediment Quality Guideline Value §				20	1.5	80	65	50	0.15	21	200	-	-	-
Sample Location	Depth (m bgl)	Date Sampled	Soil Description	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Asbestos Presence / Absence	Asbestos as ACM	Asbestos as AF/A
B1-7	0 - 0.1	29-May-25	Topsoil	<2	0.31	3	6	2.3	<0.10	3	45	-	-	-
B1-8	0 - 0.1	29-May-25	Topsoil	<2	0.45	4	10	2.4	<0.10	4	64	-	-	-
B1-9	0 - 0.1	1-Sept-25	Topsoil	2	0.37	5	8	2.5	<0.10	4	45	-	-	-
B1-9	0.3 - 0.4	1-Sept-25	Sandy Peat	<2	0.21	3	3	2.1	<0.10	<2	19	-	-	-
B2-1	0 - 0.1	29-May-25	Topsoil	25	0.12	5	13	1.7	<0.10	<2	35	Asbestos NOT detected.	-	-
B2-1	0.3 - 0.4	29-May-25	Sandy Peat	6	<0.10	2	3	1.5	<0.10	<2	11	-	-	-
B2-2	0 - 0.1	29-May-25	Topsoil	4	<0.10	2	2	2.4	<0.10	<2	14	-	-	-
B2-2	0.3 - 0.4	29-May-25	Sandy Peat	2	<0.10	2	<2	2	<0.10	<2	15	-	-	-
B2-3	0 - 0.1	29-May-25	Topsoil	2	0.12	2	<2	2.1	<0.10	<2	20	-	-	-
B2-3	0.3 - 0.4	29-May-25	Peat	2	0.11	<2	<2	2	<0.10	<2	15	-	-	-
B2-7	0 - 0.1	29-May-25	Topsoil	3	0.28	4	10	3.2	<0.10	3	47	-	-	-
B2-17	0 - 0.1	29-May-25	Topsoil	<2	0.14	3	3	1.9	<0.10	<2	24	-	-	-
B2-18	0 - 0.1	29-May-25	Sandy Peat	9	0.33	4	9	5	<0.10	<2	32	-	-	-
B2-19	0 - 0.1	29-May-25	Topsoil	<2	0.51	6	10	2.6	<0.10	5	34	-	-	-
B2-20	0 - 0.1	29-May-25	Sandy Peat	<2	0.46	5	8	2.3	<0.10	5	34	-	-	-
B3-16	0 - 0.1	30-May-25	Topsoil	3	0.45	4	4	1.8	<0.10	3	41	-	-	-
B3-17	0 - 0.1	29-May-25	Topsoil	3	0.38	4	8	2.3	<0.10	4	99	-	-	-
B3-18	0 - 0.1	29-May-25	Topsoil	2	0.34	3	6	1.6	<0.10	3	55	-	-	-
B3-19	0 - 0.1	29-May-25	Topsoil	3	0.56	5	7	2.5	<0.10	4	77	-	-	-
B3-20	0 - 0.1	29-May-25	Topsoil	3	0.47	4	5	2.7	<0.10	3	54	-	-	-
B3-21	0 - 0.1	29-May-25	Topsoil	4	0.29	3	3	2.4	<0.10	4	41	-	-	-
B3-22	0 - 0.1	1-Sept-25	Topsoil	<2	0.42	5	6	2.8	<0.10	5	60	-	-	-
B3-22	0.3 - 0.4	1-Sept-25	Sandy Peat	2	0.3	2	4	2.8	<0.10	<2	16	-	-	-
TP2.35 1	0 - 0.1	3-Jun-25	Topsoil	10	0.33	8	10	6.5	<0.10	6	70	-	-	-
TP2.35 2	0.3 - 0.4	3-Jun-25	Sand	4	<0.10	5	3	7.8	0.12	<2	34	-	-	-
TP2.41 1	0 - 0.1	3-Jun-25	Topsoil	7	0.24	4	7	4.2	<0.10	3	54	-	-	-
TP2.41 2	0.2 - 0.3	3-Jun-25	Sand	5	<0.10	5	3	8.8	0.15	<2	38	-	-	-
TP2.41 3	0.3 - 0.5	3-Jun-25	Gravel / Pumice	7	0.14	6	3	10.4	0.18	<2	58	-	-	-
B3 - TP1 1	0 - 0.1	3-Jun-25	Topsoil	2	0.14	2	5	1.9	<0.10	<2	78	-	-	-
B3 - TP2 1	0 - 0.1	3-Jun-25	Topsoil	2	0.15	2	5	1.9	<0.10	2	22	-	-	-
B3 - TP3 1	0 - 0.1	3-Jun-25	Topsoil	4	0.46	4	13	3.4	<0.10	3	125	-	-	-
B3 - TP3 2	0.3 - 0.4	3-Jun-25	Peat	<2	<0.10	<2	<2	0.5	<0.10	<2	13	-	-	-
B3 - TP4 1	0 - 0.1	3-Jun-25	Topsoil	<2	0.1	3	4	1.7	<0.10	<2	57	-	-	-
B2 - 1	0 - 0.1	26-May-25	Bulk Sample	-	-	-	-	-	-	-	-	Asbestos NOT detected.	-	-
Composite of B1-1, B1-2 & B1-3	0 - 0.1	-	Topsoil	<2	0.39	5	10	2.9	<0.10	6	51	-	-	-
Composite of B1-4, B1-5 & B1-6	0 - 0.1	-	Topsoil	<2	0.37	7	9	3.1	<0.10	5	44	-	-	-
Composite of B2-4, B2-5 & B2-6	0 - 0.1	-	Topsoil	2	0.39	6	9	2.7	<0.10	4	56	-	-	-
Composite of B2-8, B2-9 & B2-10	0 - 0.1	-	Topsoil	<2	0.34	5	10	3.1	<0.10	4	105	-	-	-
Composite of B2-11, B2-12 & B2-13	0 - 0.1	-	Topsoil	<2	0.34	5	9	3	<0.10	5	54	-	-	-
Composite of B2-14, B2-15 & B2-16	0 - 0.1	-	Topsoil	<2	0.34	4	9	2.7	<0.10	3	83	-	-	-
Composite of B3-2, B3-14 & B3-15	0 - 0.1	-	Topsoil	4	0.51	5	7	2	<0.10	5	45	-	-	-
Composite of B3-3, B3-5 & B3-7	0 - 0.1	-	Topsoil	3	0.48	4	8	2.1	<0.10	4	49	-	-	-
Composite of B3-1, B3-4 & B3-6	0 - 0.1	-	Topsoil	2	0.15	4	5	2.4	<0.10	4	35	-	-	-
Composite of B3-9, B3-11 & B3-12	0 - 0.1	-	Topsoil	3	0.27	5	4	2.2	<0.10	2	54	-	-	-
Composite of B3-8, B3-10 & B3-13	0 - 0.1	-	Topsoil	<2	0.41	3	7	2.1	<0.10	3	41	-	-	-

Table Notes:

All results and criteria are presented in milligram per kilogram (mg/kg) on a dry weight basis, except asbestos which is reported as % weight of asbestos / weight of sample (%w/w)
 Soil descriptions indicative only - refer to reports/borehole logs for full descriptions
 Selected results shown; Full results are included in the laboratory reports
 LOR: Limit of Reporting; Results below LOR or exceeding no criteria are shown in grey text
 - : not analysed or no applicable criteria
 m bgl: metres below ground level

Criteria notes:

- Human Health Criteria selected in general accordance with CLMG No. 2 (MfE, 2011). Unless otherwise stated, criteria are from MfE (2011) Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health.
- BoPRC Interim Ecological Guidelines Adopted from Permitted activity standards selected in accordance with Section E30.6.1.4 of the Auckland Unitary Plan (Auckland Council, 2016).
- Landcare Research (2019) Bay of Plenty Heavy Metals Background Range. Excludes Rhyolite.
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality - Default Guideline Values for Toxicants in Sediment
- Conservatively assumes soil pH of 5 for produce ingestion pathway.
- Criterion applies to Cr(VI). Conservatively applied to total Cr laboratory result
- No limit: 10,000 mg/kg conservatively applied. Derived human health value exceeds values likely to be encountered on-site and phytotoxicity threshold
- Applies to inorganic lead only
- Applies to inorganic mercury only
- Australian National Environment Protection (Assessment of Site Contamination) Measure 2013; Health Investigation Levels.
- New Zealand Guidelines for Assessing and Managing Asbestos in Soil (BRANZ, 2024). Soil Guidelines Values criteria as %w/w on a dry weight basis

Results Table 6: Soil Results - Areas B1 and B2 - TPH and PAH

				Polycyclic Aromatic Hydrocarbons (Benzo[a]pyrene Equivalent)									Polycyclic Aromatic Hydrocarbons (Other)													
				Benzo[a]anthracene	Benzo[b&j]fluoranthene	Benzo[k]fluoranthene	Benzo[a]pyrene	Chrysene	Dibenz[a,h]anthracene	Fluoranthene	Indeno[1,2,3-cd]pyrene	Benzo[a]pyrene TEQ	Methylnaphthalene, 1-	Methylnaphthalene, 2-	Acenaphthene	Acenaphthylene	Anthracene	Benzo[e]pyrene	Benzo(g,h,i)perylene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Perylene	Total PAHs	
Human Health Criteria - Residential ¹				NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	10	-	-	NGV ⁵	NGV ⁵	NGV ⁵	-	NGV ⁵	NGV ⁵	-	NGV ⁵	NGV ⁵	-	-	-
Human Health Criteria - High-Density Residential ¹				NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	24	-	-	NGV ⁵	NGV ⁵	NGV ⁵	-	NGV ⁵	NGV ⁵	-	NGV ⁵	NGV ⁵	-	-	-
Human Health Criteria - Recreational ¹				NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	40	-	-	NGV ⁵	NGV ⁵	NGV ⁵	-	NGV ⁵	NGV ⁵	-	NGV ⁵	NGV ⁵	-	-	-
Human Health Criteria - Commercial/Industrial ¹				NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	35	-	-	NGV ⁵	NGV ⁵	NGV ⁵	-	NGV ⁵	NGV ⁵	-	NGV ⁵	NGV ⁵	-	-	-
Environmental Discharge Criteria ²				NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	20 ⁴	-	-	-	-	-	-	-	-	0.043	5	1.2	-	-	-
Sample Location	Depth (m bgl)	Date Sampled	Soil Description	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.030	< 0.013	< 0.016	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.07	< 0.013	< 0.013	< 0.013	< 0.3	
B2-1	0 - 0.1	29-May-25	Topsoil	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.030	< 0.013	< 0.016	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.07	< 0.013	< 0.013	< 0.013	< 0.3	

Table Notes:

All results and criteria are presented in milligram per kilogram (mg/kg) on a dry weight basis
 Soil descriptions indicative only
 Selected results shown; Full results are included in the laboratory reports

- : not analysed or no applicable criteria
 m bgl: metres below ground level

Criteria notes:

- 1: Human Health Criteria for Residential Land use selected in general accordance with CLMG No. 2 (MfE, 2011). Unless otherwise stated, criteria are from MfE (2011) Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health.
- 2: Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (Revised 2011) (MfE, 2011). Criteria for Protection of Groundwater from Table 4.20 Council, 2016). Most conservative value for any soil type, contamination depth and groundwater depth.
- 3: Included in Benzo[a]pyrene TEQ; individual criteria not presented
- 4: BoPRC Interim Ecological Guidelines Adopted from Permitted activity standards selected in accordance with Section E30.6.1.4 of the Auckland Unitary Plan (Auckland Council, 2016).
- 5: Included in Pyrene; individual criteria not presented

Results Table 7: Soil Results - Areas B1 and B2 - OCP and ONOP

				Organochlorine Pesticides (OCP)
				All OCP's
Human Health Criteria - Residential ¹				-
Human Health Criteria - High-Density Residential ¹				-
Human Health Criteria - Recreational ¹				-
Human Health Criteria - Commercial/Industrial ¹				-
Environmental Discharge Criteria (AUP) ²				-
Predicted Background Concentrations ³				> LOR
Sample Location	Depth (m bgl)	Date Sampled	Soil Description	
Composite of B1-1, B1-2 & B1-3	0 - 0.1	29-May-25	Topsoil	< LOR
Composite of B1-4, B1-5 & B1-6	0 - 0.1	29-May-25	Topsoil	< LOR
Composite of B2-4, B2-5 & B2-6	0 - 0.1	29-May-25	Topsoil	< LOR
Composite of B2-8, B2-9 & B2-100.01	0 - 0.1	29-May-25	Topsoil	< LOR
Composite of B2-11, B2-12 & B2-13	0 - 0.1	29-May-25	Topsoil	< LOR
Composite of B2-14, B2-15 & B2-16	0 - 0.1	29-May-25	Topsoil	< LOR
Composite of B3-2, B3-14 & B3-15	0 - 0.1	29/30-May-25	Topsoil	< LOR
Composite of B3-3, B3-5 & B3-7	0 - 0.1	29-May-25	Topsoil	< LOR
Composite of B3-1, B3-4 & B3-6	0 - 0.1	30-May-25	Topsoil	< LOR
Composite of B3-9, B3-11 & B3-12	0 - 0.1	30-May-25	Topsoil	< LOR
Composite of B3-8, B3-10 & B3-13	0 - 0.1	30-May-25	Topsoil	< LOR

Table Notes:

All results and criteria are presented in milligram per kilogram (mg/kg) on a dry weight basis

Soil descriptions indicative only - refer to [report/borehole logs](#) for full descriptions

Selected results shown; Full results are included in the laboratory reports

LOR: Limit of Reporting; Results **below LOR** or **exceeding no criteria** are shown in grey text

- : not analysed or no applicable criteria

m bgl: metres below ground level

Criteria notes:

1: Human Health Criteria selected in general accordance with CLMG No. 2 (MfE, 2011). Unless otherwise stated, criteria are from MfE (2011) Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health.

2: BoPRC Interim Ecological Guidelings Adopted from Permitted activity standards selected in accordance with Section E30.6.1.4 of the Auckland Unitary Plan (Auckland Council, 2016).

3: Landcare Research (2019) Bay of Plenty Heavy Metals Background Range. Excludes Rhyolite.

Results Table 8: Soil Results - Areas C1 and C2 - Heavy Metals and Asbestos

				Heavy Metals / Metalloids						Asbestos					
				Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Asbestos Presence / Absence	Asbestos as ACM	Asbestos as AFPA	
Human Health Criteria - Residential *				25	3	250	10000	300	300	300	3000	-	0.01%	0.001%	
Human Health Criteria - High-Density Residential *				45	230*	1500*	10000*	500*	1000*	1200*	6000*	-	-	0.04%	0.001%
Human Health Criteria - Recreational *				80	400*	2700*	10000*	800*	1500*	1200*	30000*	-	-	0.02%	0.001%
Human Health Criteria - Commercial/Industrial *				70	1300*	6300*	10000*	3300*	4200*	6300*	40000*	-	-	0.05%	0.001%
Environmental Discharge Criteria (AUP) †				100	7.6	400	326	260	0.76*	106	400	-	-	-	-
Predicted Background Concentrations ‡				9.57 - 16.38	0.28 - 1.4	51.67 - 100.84	40.17 - 62.17	24.73 - 44.34	-	32.88 - 57.44	37.97 - 191.00	-	-	-	-
Sediment Quality Guideline Value ‡				20	7.6	50	56	60	0.19	21	200	-	-	-	-
Sample Location	Depth (m)	Date Sampled	Soil Description	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	Asbestos Presence / Absence	Asbestos as ACM	Asbestos as AFPA	
Western Dwelling															
C1-1	D-0.1	11-Aug-2025	Topsoil	6	0.18	4	6	7.3	<0.1	3	22	-	-	-	
Composite of C1-2, C1-3, C1-4 & C1-5	D-0.1	14-Aug-2025	Topsoil	9	0.24	4	28	7.2	<0.1	<2	41	-	-	-	
Composite of C1-6, C1-7, C1-8 & C1-9	D-0.1	14-Aug-2025	Topsoil	15	0.3	6	31	7.1	<0.1	3	54	-	-	-	
Composite of C1-12, C1-13, C1-14 & C1-15	D-0.1	14-Aug-2025	Topsoil	7	0.15	3	10	5.2	<0.1	4	25	-	-	-	
Composite of C1-16, C1-17, C1-18 & C1-19	D-0.1	14-Aug-2025	Topsoil	8	0.17	4	10	5.8	<0.1	<2	26	-	-	-	
C1-10	D-0.1	11-Aug-2025	Topsoil	6	0.14	4	5	6	<0.1	<2	22	-	-	-	
C1-11	D-0.1	11-Aug-2025	Topsoil	5	0.14	4	5	8.5	<0.1	<2	26	-	-	-	
C1-20	D-0.1	12-Aug-2025	Topsoil	5	0.18	3	4	5.6	<0.1	<2	19	-	-	-	
C1-21	D-0.1	12-Aug-2025	Topsoil	<2	0.23	3	2	3.1	<0.1	<2	11	-	-	-	
C1-22	D-0.1	12-Aug-2025	Topsoil	2	0.21	4	4	3.3	<0.1	2	16	-	-	-	
C1-23	D-0.1	12-Aug-2025	Topsoil	3	0.31	4	4	3.1	<0.1	2	14	-	-	-	
C1-24	D-0.1	12-Aug-2025	Topsoil	<4	0.2	5	4	2.5	<0.2	<4	17	-	-	-	
C1-25	D-0.1	12-Aug-2025	Topsoil	2	0.25	4	4	3.2	<0.1	<2	15	-	-	-	
C1-26	D-0.1	12-Aug-2025	Topsoil	16	0.34	17	45	22	<0.1	3	144	-	-	-	
C1-27	D-0.1	12-Aug-2025	Topsoil	16	0.18	10	13	7	<0.1	<2	58	-	-	-	
C1-28	D-0.1	12-Aug-2025	Topsoil	6	0.41	9	16	11.7	<0.1	3	172	-	-	-	
C1-60	D-0.1	21-Aug-25	Gravelly Silt	2	0.23	6	15	8	<0.1	4	51	-	-	-	
Western Dwelling															
C1-29	D-0.1	12-Aug-2025	Topsoil	7	0.25	6	12	9	<0.1	<2	706	-	-	-	
C1-30	D-0.1	12-Aug-2025	Topsoil	6	0.3	11	16	17.6	<0.1	5	240	-	-	-	
C1-31	D-0.1	12-Aug-2025	Sandy Gravel	<2	<0.1	<2	4	4.4	<0.1	<2	48	-	-	-	
C1-32	D-0.1	12-Aug-2025	Topsoil	21	<0.1	18	22	12.3	<0.1	<2	42	-	-	-	
C1-33	D-0.1	13-Aug-2025	Topsoil	8	0.2	6	24	6.6	<0.1	<2	88	Asbestos NOT detected.	-	-	
C1-34	D-0.1	13-Aug-2025	Topsoil	11	0.15	10	11	7.7	0.11	<2	126	Asbestos NOT detected.	-	-	
C1-35	D-0.1	13-Aug-2025	Topsoil	8	0.11	7	8	5.6	<0.1	<2	65	Asbestos NOT detected.	-	-	
C1-36	D-0.1	13-Aug-2025	Topsoil	5	0.12	5	9	5	<0.1	3	104	Asbestos NOT detected.	-	-	
C1-37	D-0.1	13-Aug-2025	Topsoil	4	<0.1	4	3	5.9	0.14	<2	27	Asbestos NOT detected.	-	-	
Eastern Dwelling															
C1-40	D-0.1	13-Aug-2025	Topsoil	7	0.13	5	10	6	<0.1	<2	34	Asbestos NOT detected.	-	-	
C1-41	D-0.1	13-Aug-2025	Topsoil	4	<0.1	5	10	31	<0.1	3	210	Asbestos NOT detected.	-	-	
C1-42	D-0.1	13-Aug-2025	Topsoil	7	0.12	4	7	6.3	<0.1	<2	41	Asbestos NOT detected.	-	-	
C1-43	D-0.1	13-Aug-2025	Topsoil	16	0.31	17	23	12.6	0.13	6	230	Asbestos NOT detected.	-	-	
C1-45	D-0.1	13-Aug-2025	Topsoil	14	0.76	10	25	45	<0.1	4	270	Asbestos NOT detected.	-	-	
C1-46	D-0.1	13-Aug-2025	Topsoil	28	0.63	13	27	45	<0.1	3	260	-	-	-	
C1-47	D-0.1	13-Aug-2025	Topsoil	8	0.3	5	8	7.7	<0.1	<2	117	-	-	-	
C1-48	D-0.1	13-Aug-2025	Topsoil	6	0.28	13	21	38	<0.1	4	110	Asbestos NOT detected.	-	-	
C1-49	D-0.1	13-Aug-2025	Topsoil	11	0.27	12	49	23	<0.1	3	119	Asbestos NOT detected.	-	-	
C1-50	D-0.1	13-Aug-2025	Topsoil	5	0.17	3	6	5.3	<0.1	<2	49	Asbestos NOT detected.	-	-	
C1-51	D-0.1	13-Aug-2025	Topsoil	7	0.25	4	5	6.1	<0.1	<2	47	-	-	-	
C1-52	D-0.1	13-Aug-2025	Topsoil	10	0.29	7	12	23	<0.1	<2	166	Asbestos NOT detected.	-	-	
C1-53	D-0.1	13-Aug-2025	Topsoil	3	0.11	<2	3	3.8	<0.1	<2	18	-	-	-	
C1-54	D-0.1	13-Aug-2025	Topsoil	9	0.36	5	10	8.7	<0.1	3	123	Asbestos NOT detected.	-	-	
C1-55	D-0.1	13-Aug-2025	Topsoil	6	0.18	4	5	7.4	0.1	<2	49	Asbestos NOT detected.	-	-	
C1-56	D-0.1	13-Aug-2025	Topsoil	6	0.2	4	6	6.1	<0.1	<2	44	Asbestos NOT detected.	-	-	
C1-57	D-0.1	13-Aug-2025	Topsoil	8	0.19	5	7	7.5	<0.1	<2	82	Asbestos NOT detected.	-	-	
C1-58	D-0.1	13-Aug-2025	Topsoil	5	0.15	4	5	8	<0.1	<2	49	Asbestos NOT detected.	-	-	
C1-59	D-0.1	13-Aug-2025	Clayey Silt	4	0.11	3	5	5	<0.1	<2	60	Asbestos NOT detected.	-	-	
Test Pits															
BR Dupe 1B (C1-60)	0.3 - 0.4	21-Aug-2025	Silty Gravel	3	0.15	6	8	8.7	<0.10	2	39	-	-	-	
C1-61	D-0.1	1-Sept-2025	Topsoil	4	0.25	4	8	5.4	<0.10	2	37	-	-	-	
C1-61	0.3 - 0.4	1-Sept-2025	Topsoil	<4	<0.2	6	7	4.6	0.2	<4	8	-	-	-	
Test Pits															
C1-TP1 E	Stockpile	07-Aug-2025	Organic Silt	21	0.24	17	22	9.2	<0.1	3	280	Asbestos NOT detected.	-	-	
C1-TP1 W	Stockpile	07-Aug-2025	Organic Silt	8	0.21	9	14	11.4	<0.1	4	76	Asbestos NOT detected.	-	-	
C1-TP10	D-0.1	07-Aug-2025	Organic Silt	21	0.47	14	32	155	<0.1	3	183	-	-	-	
C1-TP2 W	Stockpile	07-Aug-2025	Organic Silt	24	0.39	28	28	6.6	<0.1	2	260	Asbestos NOT detected.	-	-	
C1-TP3	D-0.1	07-Aug-2025	Organic Silt	22	0.38	28	53	13.3	<0.1	2	250	Asbestos NOT detected.	-	-	
C1-TP3	D-0.1-0.15	07-Aug-2025	Organic Silt	22	0.34	10	33	6.5	<0.1	3	183	Asbestos NOT detected.	-	-	
C1-TP3 SP	Stockpile	07-Aug-2025	Organic Silt	11	0.18	6	16	6	<0.1	<2	79	Asbestos NOT detected.	-	-	
C1-TP4	D-0.1	07-Aug-2025	Gravel	4	0.1	6	13	5	0.26	3	87	-	-	-	
C1-TP5 SP	Stockpile	07-Aug-2025	Organic Silt	<2	<0.1	6	9	3.6	<0.1	3	37	-	-	-	
C1-TP6	D-0.1	07-Aug-2025	Gravel	5	0.1	7	11	8.1	<0.1	<2	54	-	-	-	
C1-TP6	D-0.1-0.5	07-Aug-2025	Sandy Silt	21	0.45	17	27	13.4	<0.1	2	156	-	-	-	
C1-TP7 SP	Stockpile	07-Aug-2025	Organic Silt	250	2.2	212	616	111	<0.1	16	1880	Asbestos NOT detected.	-	-	
C1-TP8	D-0.1	07-Aug-2025	Organic Silt	8	0.21	5	8	11.3	<0.1	<2	51	-	-	-	
C1-TP9	D-0.2	07-Aug-2025	Silty Sand	3	<0.1	6	12	4.7	0.33	3	62	-	-	-	

Table Notes:
 All results and criteria are presented in milligram per kilogram (mg/kg) on a dry weight basis, except asbestos which is reported as % weight of asbestos / weight of sample (%w/w)
 Soil descriptions indicative only - refer to report/borehole logs for full descriptions
 Selected results shown; Full results are included in the laboratory reports
 LOR: Limit of Reporting; Results below LOR or exceeding no criteria are shown in grey text
 -: not analysed or no applicable criteria
 m: g/m metres below ground level

- Criteria notes:**
- Human Health Criteria selected in general accordance with CLMG No. 2 (MfE, 2011). Unless otherwise stated, criteria are from MfE (2011) Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health.
 - bioRC Interim Ecological Guidelines Adopted from Permitted activity standards selected in accordance with Section E30.6.1.4 of the Auckland Unitary Plan (Auckland Council, 2016).
 - Landcare Research (2019) Bay of Plenty Heavy Metals Background Range. Excludes Rhynchos.
 - Australian and New Zealand Guidelines for Fresh and Marine Water Quality - Default Guideline Values for Toxicants in Sediment
 - Conservatively assumes soil pH of 5 for produce ingestion pathway.
 - Criteria applies to Cr(VI). Conservatively applied to total Cr laboratory result
 - No limit, 10,000 mg/kg conservatively applied. Derived human health value exceeds values likely to be encountered on-site and phytotoxicity threshold
 - Applies to inorganic lead only
 - Applies to inorganic mercury only
 - Australian National Environment Protection (Assessment of Site Contamination) Measure 2013; Health Investigation Levels.
 - New Zealand Guidelines for Assessing and Managing Asbestos in Soil (BRANZ, 2024). Soil Guideline Values criteria as %w/w on a dry weight basis

Results Table 9: Soil Results - Areas C1 and C2 - TPH and PAH

				Polycyclic Aromatic Hydrocarbons (Benzo[a]pyrene Equivalent)									Polycyclic Aromatic Hydrocarbons (Other)											Total Petroleum Hydrocarbons					
				Benzo[a]anthracene	Benzo[b]fluoranthene	Benzo[k]fluoranthene	Benzo[a]pyrene	Chrysene	Dibenz[a,h]anthracene	Fluoranthene	Indeno[1,2,3-cd]pyrene	Benzo[a]pyrene TEQ	Methylnaphthalene, 1-	Methylnaphthalene, 2-	Acenaphthene	Acenaphthylene	Anthracene	Benzo[e]pyrene	Benzo[g,h,i]perylene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Perylene	Total PAHs	C7-C9	C10-C14	C15-C36	Total C7-C36
Human Health Criteria - Residential ¹				NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	10	-	-	NGV ⁵	NGV ⁵	NGV ⁵	-	NGV ⁵	NGV ⁵	-	NGV ⁵	NGV ⁵	-	-	120 ⁶	400 ⁶	NA ⁷	-
Human Health Criteria - High-Density Residential ¹				NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	24	-	-	NGV ⁵	NGV ⁵	NGV ⁵	-	NGV ⁵	NGV ⁵	-	NGV ⁵	NGV ⁵	-	-	-	-	-	-
Human Health Criteria - Recreational ¹				NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	40	-	-	NGV ⁵	NGV ⁵	NGV ⁵	-	NGV ⁵	NGV ⁵	-	NGV ⁵	NGV ⁵	-	-	-	-	-	-
Human Health Criteria - Commercial/Industrial ¹				NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	35	-	-	NGV ⁵	NGV ⁵	NGV ⁵	-	NGV ⁵	NGV ⁵	-	NGV ⁵	NGV ⁵	-	-	120 ⁶	470 ⁶	NA ⁷	-
Environmental Discharge Criteria ²				NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	NGV ³	20 ⁴	-	-	-	-	-	-	-	-	0.043	5	1.2	-	-	590	1400	NA	-
Sample Location	Depth (m bgl)	Date Sampled	Soil Description	Western Dwelling																									
C1-30	0-0.1	12-Aug-2025	Topsoil	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.03	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.07	<0.013	<0.013	<0.013	<0.3	<20	<20	47	<80	
				Test Pits																									
C1-TP1 E	Stockpile	07-Aug-2025	Organic Silt	0.023	0.031	<0.014	0.031	0.019	<0.014	0.039	0.018	0.045	<0.014	<0.014	<0.014	<0.014	<0.014	0.018	0.018	<0.014	<0.07	0.014	0.041	0.014	<0.4	<20	<20	79	82
C1-TP1 W		07-Aug-2025	Organic Silt	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.029	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.06	<0.012	<0.012	<0.012	<0.3	<20	<20	60	<80
C1-TP10	0-0.1	07-Aug-2025	Organic Silt	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.04	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.09	<0.017	<0.017	<0.017	<0.4	<30	<20	260	270	
C1-TP2 W	Stockpile	07-Aug-2025	Organic Silt	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.046	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.1	<0.019	<0.019	<0.019	<0.5	<30	<30	69	<100	
C1-TP3	0-0.1	07-Aug-2025	Organic Silt	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.042	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.09	<0.018	<0.018	<0.018	<0.5	<30	<30	<50	<90	
C1-TP3	0.1-0.15	07-Aug-2025	Organic Silt	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.04	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.09	<0.017	<0.017	0.021	<0.4	<30	<20	65	<90	
C1-TP3 SP	Stockpile	07-Aug-2025	Organic Silt	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.037	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.08	<0.016	<0.016	<0.016	<0.4	<30	<20	104	109	
C1-TP4	0-0.1	07-Aug-2025	Gravel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C1-TP5 SP	Stockpile	07-Aug-2025	Organic Silt	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.026	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	0.014	<0.011	<0.06	<0.011	<0.011	<0.3	<20	<20	127	131	
C1-TP6	0.1-0.5	07-Aug-2025	Sandy Silt	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.035	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.08	<0.015	<0.015	<0.015	<0.4	<30	<20	<40	<90	
C1-TP7 SP	Stockpile	07-Aug-2025	Organic Silt	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.038	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.08	<0.016	<0.016	<0.016	<0.4	<30	<20	80	87	

Table Notes:
 All results and criteria are presented in milligram per kilogram (mg/kg) on a dry weight basis, except asbestos which is reported as % weight of asbestos / weight of sample
 Soil descriptions indicative only
 Selected results shown; Full results are included in the laboratory reports
 LOR: Limit of Reporting; Results below LOR or exceeding no criteria are shown in grey text
 -: not analysed or no applicable criteria
 m bgl: metres below ground level

Criteria notes:

- Human Health Criteria for Residential Land use selected in general accordance with CLMG No. 2 (MIE, 2011). Unless otherwise stated, criteria are from MIE (2011) Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health.
- Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (Revised 2011) (MIE, 2011). Criteria for Protection of Groundwater from Table 4.20 Council, 2016). Most conservative value for any soil type, contamination depth and groundwater depth.
- Included in Benzo[a]pyrene TEQ; individual criteria not presented
- BoPRC Interim Ecological Guidelings Adopted from Permitted activity standards selected in accordance with Section E30.6.1.4 of the Auckland Unitary Plan (Auckland Council, 2016).
- Included in Pyrene; individual criteria not presented
- Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (Revised 2011) (MIE, 2011). Soil Acceptance Criteria - Most conservative value for any soil type and contamination depth.
- Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (Revised 2011) (MIE, 2011). Soil Acceptance Criteria - Most conservative value for any soil type and contamination depth; calculated value exceeds concentration likely to result in separate-phase hydrocarbons

Results Table 10: Soil Results - Areas C1 and C2 - OCP and ONOP

				Organochlorine Pesticides (OCP)	Organophosphate Pesticides (ONOP)	
				All OCP's	Cypermethrin	All Other ONOP's
Human Health Criteria - Residential ¹				-	-	-
Human Health Criteria - High-Density Residential ¹				-	-	-
Human Health Criteria - Recreational ¹				-	-	-
Human Health Criteria - Commercial/Industrial ¹				-	-	-
Environmental Discharge Criteria (AUP) ²				-	-	-
Predicted Background Concentrations ³				> LOR	> LOR	> LOR
Sample Location	Depth (m bgl)	Date Sampled	Soil Description			
C1-1	0-0.1	11-Aug-2025	Topsoil	< LOR	-	< LOR
Composite of C1-2, C1-3, C1-4 & C1-5	0-0.1	14-Aug-2025	Topsoil	< LOR	-	-
Composite of C1-6, C1-7, C1-8 & C1-9	0-0.1	14-Aug-2025	Topsoil	< LOR	-	-
Composite of C1-12, C1-13, C1-14 & C1-15	0-0.1	14-Aug-2025	Topsoil	< LOR	-	-
Composite of C1-16, C1-17, C1-18 & C1-19	0-0.1	14-Aug-2025	Topsoil	< LOR	-	-
C1-20	0-0.1	12-Aug-2025	Topsoil	< LOR	-	< LOR
C1-23	0-0.1	12-Aug-2025	Topsoil	< LOR	-	< LOR
C1-25	0-0.1	12-Aug-2025	Topsoil	< LOR	-	< LOR
C1-26	0-0.1	12-Aug-2025	Topsoil	< LOR	-	-
C1-27	0-0.1	12-Aug-2025	Topsoil	< LOR	-	-
C1-28	0-0.1	12-Aug-2025	Topsoil	< LOR	-	-
C1-60	0-0.1	21-Aug-25	Silty Gravel	< LOR	<u>0.91</u>	< LOR
Test Pits						
C1-TP1 E	Stockpile	07-Aug-2025	Organic Silt	< LOR	-	-
C1-TP2 W	Stockpile	07-Aug-2025	Organic Silt	< LOR	-	-
C1-TP3	0.1-0.15	07-Aug-2025	Organic Silt	< LOR	-	-

Table Notes:

All results and criteria are presented in milligram per kilogram (mg/kg) on a dry weight basis
 Soil descriptions indicative only - refer to [report/borehole logs](#) for full descriptions
 Selected results shown; Full results are included in the laboratory reports
 LOR: Limit of Reporting; Results **below LOR or exceeding no criteria** are shown in grey text
 - : not analysed or no applicable criteria
 m bgl: metres below ground level

Criteria notes:

1: Human Health Criteria selected in general accordance with CLMG No. 2 (MfE, 2011). Unless otherwise stated, criteria are from MfE (2011) Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health.
 2: BoPRC Interim Ecological Guidelines Adopted from Permitted activity standards selected in accordance with Section E30.6.1.4 of the Auckland Unitary Plan (Auckland Council, 2016).
 3: Landcare Research (2019) Bay of Plenty Heavy Metals Background Range. Excludes Rhyolite.

Results Summary Table 11: Sediment Results

		Heavy Metals / Metalloids								Organochlorine Pesticides (OCP)	Polycyclic Aromatic Hydrocarbons (PAH)		Total Petroleum Hydrocarbons (TPH)
		Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	All OCP's	Perylene	All Other PAH's	All TPH's
Sediment Quality Guideline Value ¹		20	1.5	80	65	50	0.15 ²	21	200	-	-	-	-
Sample Location	Date Sampled												
DS-1	29-May-25	< 2	0.12	3	5	9.8	< 0.10	< 2	42	< LOR	< LOR	< LOR	< LOR
DS-2		< 2	< 0.10	< 2	< 2	1.1	< 0.10	< 2	19	< LOR	< LOR	< LOR	< LOR
DS-3		3	0.13	7	7	3.6	< 0.10	3	75	< LOR	< LOR	< LOR	< LOR
DS-4		7	0.31	5	21	16	< 0.10	< 2	142	< LOR	< LOR	< LOR	< LOR
DS-5		8	0.25	4	14	10.8	< 0.10	2	112	< LOR	0.05	< LOR	< LOR
DS-6		3	< 0.10	< 2	4	4.1	< 0.10	< 2	48	< LOR	< LOR	< LOR	< LOR

Table Notes:

All results and criteria are presented in milligram per kilogram (mg/kg) on a dry weight basis
 Selected results shown; Full results are included in the laboratory reports

Criteria notes:

- 1: Australian and New Zealand Guidelines for Fresh and Marine Water Quality - Default Guideline Values for Toxicants in Sediment
- 2: Assumes inorganic mercury

Results Summary Table 12: Water Results

		Heavy Metals / Metalloids															Organochlorine Pesticides (OCP)	Polycyclic Aromatic Hydrocarbons (PAH)	Total Petroleum Hydrocarbons (TPH)	
		Dissolved Arsenic	Total Arsenic	Dissolved Cadmium	Total Cadmium	Dissolved Chromium	Total Chromium	Dissolved Copper	Total Copper	Dissolved Lead	Total Lead	Dissolved Mercury	Total Mercury	Dissolved Nickel	Total Nickel	Dissolved Zinc	Total Zinc	All OCP's	All PAH's	All TPH's
ANZG (90% Level of Species Protection) with 20 x Dilution Factor ¹		840	840	8	8	120	120	36	36	188	112	38	38	260	260	300	300	-	-	-
ANZG (80% Level of Species Protection) ¹		42	42	0.4	0.4	6	6	1.8	1.8	9.4	5.6	1.9	1.9	13	13	15	15	-	-	-
Sample Location	Date Sampled																			
DS-1	29-May-25	-	1.9	-	0.073	-	0.92	-	1.89	-	0.5	-	< 0.11	-	< 0.53	-	51	< LOR	< LOR	< LOR
DS-2		4.6	4.6	< 0.06	< 0.063	0.7	0.85	3.3	4.7	< 0.1	0.15	< 0.08	< 0.11	0.8	0.92	21	35	< LOR	< LOR	< LOR
DS-3		-	5.7	-	0.31	-	1.79	-	8.3	-	1.7	-	< 0.11	-	1.19	-	170	< LOR	< LOR	< LOR
DS-4		1.6	1.9	0.05	0.063	0.8	0.79	1.7	2	0.15	0.36	< 0.08	< 0.11	0.6	0.56	45	49	< LOR	< LOR	< LOR
DS-5		1.4	1.7	0.06	0.069	0.8	0.84	1.6	1.9	0.16	0.38	< 0.08	< 0.11	0.7	0.59	45	48	< LOR	< LOR	< LOR
DS-6		1.6	3.6	< 0.06	0.143	0.8	1.16	1.9	3.3	0.14	1.35	< 0.08	< 0.11	0.6	0.84	47	66	< LOR	< LOR	< LOR

Table Notes:
 All results and criteria are presented in microgram per litre (µg/L)
 Selected results shown; Full results are included in the laboratory reports

Criteria notes:
 1: ANZG Default Guideline Values for 90% Level of Species Protection - Freshwater

Results Summary Table 13: Soil Results SPLP

			Heavy Metals / Metalloids			
			Arsenic	Copper	Lead	Zinc
ANZG (80% Level of Species Protection) with 20 x Dilution Factor ¹			2800	50	188	620
ANZG (80% Level of Species Protection) ¹			140	2.5	9.4	31
Sample Location	Date Sampled	Sample Depth				
A3-48	1-Sept-25	0-0.1	-	-	16.3	86
A3-49			-	-	-	97
A3-50			189	29	-	27
A3-51			-	-	-	28
C1-29	12-Aug-25		-	-	-	30
C1 -TP1 E	7-Aug-25	Stockpile	-	-	-	101
C1-TP7 SP			187	53	-	165
C1-45	13-Aug-25	0-0.1	-	-	-	24
C1-46			-	-	-	40
C1-47			-	-	-	-
C1-48			-	-	-	48

Table Notes:

All results and criteria are presented in microgram per litre (µg/L)

Selected results shown; Full results are included in the laboratory reports

SPLP: Synthetic Precipitation Leaching Procedure

Criteria notes:

1: ANZG Default Guideline Values for 80% Level of Species Protection - Freshwater

Appendix 12: Ecological and Human Health Exceedances

Appendix 13: Ecological and Human Health Exceedances – Bell Road Development, Papamoa

Sample Location	Depth	Contaminant	Concentration	Critical Pathway	Guideline Exceeded
Areas A1 and A2					
A1-10	0 – 0.1	Zinc	430 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP Criteria)
A1-11	0 – 0.1	Zinc	800 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP Criteria)
Area A3					
A3-1	0 – 0.1	Arsenic	144 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP Criteria)
				Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for recreational land use)
		Lead	390 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP Criteria)
				Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for recreational land use)
		Zinc	1950 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
		A3-6	0 – 0.1	Zinc	1210 mg/kg
Asbestos	0.001 % w/w AF/FA			Future site users (Inhalation)	Human health criteria (BRANZ asbestos guidelines – all land uses)

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A3-7	0 – 0.1	Lead	690 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
				Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential and high-density residential)
	Asbestos	0.167 %w/w ACM	Future site users (Inhalation)	Human health criteria (NES SCS for commercial/industrial land use)	
	0.3 – 0.4	Lead	250 mg/kg	Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential land use)
Asbestos		0.003 % w/w AF/FA and ACM fragments	Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential land use)	
A3-19	0 – 0.1	Arsenic	122 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
				Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential, high- density residential, commercial/industrial and recreational land use)
	Zinc	590 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)	
A3-28	0 – 0.1	Zinc	460 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
A3-29	0 – 0.1	Zinc	930 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
A3-30	0 – 0.1	Zinc	480 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)

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A3-38	0 – 0.1	Arsenic	21 mg/kg	Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential land use)
A3-39	0 – 0.1	Zinc	420 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
A3-41	0 – 0.1	Arsenic	21 mg/kg	Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential land use)
A3-42	0 – 0.1	Arsenic	46 mg/kg	Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential and high-density land use)
A3-43	0 - 0.1	Cadmium	3.7 mg/kg	Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential land use)
		Lead	980 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
				Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential, high-density residential and recreational land use)
		Zinc	1490 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
A3-44	0 – 0.1	Arsenic	103 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
				Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential, high-density residential, commercial/industrial and recreational land use)
	0.3 – 0.4		22 mg/kg	Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential land use)

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A3-45	0 – 0.1	Arsenic	34 mg/kg	Future site users (Dermal contact, ingestion and inhalation)	Human health criteria ((NES SCS for residential land use)
	0.3 – 0.4		57 mg/kg	Future site users (Dermal contact, ingestion and inhalation)	Human health criteria ((NES SCS for residential and high-density residential land use)
A3-48	0 – 0.1	Cadmium	5.8 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
				Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential land use)
		Lead	1000 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
				Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential, high-density residential and recreational land use)
Zinc	2200 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)		
A3-49	0 – 0.1	Zinc	2100 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
A3-50	0 – 0.1	Arsenic	91 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
				Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential, high-density residential, commercial/industrial and recreational land use)
A3-50	0 – 0.1	Zinc	550 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
A3-51	0 – 0.1	Zinc	680 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)

Areas B1 and B2					
B2-1	0 – 0.1	Arsenic	36 mg/kg	Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential land use)
Area C1					
C1-29	0 – 0.1	Zinc	700 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
C1-32	0 – 0.1	Arsenic	23 mg/kg	Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential land use)
C1-45	0 – 0.1	Zinc	670 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
C1-46	0 – 0.1	Arsenic	35 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
				Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential land use)
		Zinc	2900 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
C1-48	0 – 0.1	Zinc	810 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
C1-TP1 E	Stockpile	Arsenic	23 mg/kg	Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential land use)
		Zinc	980 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
C1-TP10	0 – 0.1	Arsenic	21 mg/kg	Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential land use)

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C1-TP2 W	Stockpile	Arsenic	80 mg/kg	Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential, high-density residential and commercial/industrial land use)
C1-TP3	0 – 0.1	Arsenic	49 mg/kg	Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential and high-density residential land use)
	0.1 – 0.15	Arsenic	30 mg/kg	Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential land use)
C1-TP6	0.1 – 0.5	Arsenic	37 mg/kg	Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential land use)
C1-TP7 SP	Stockpile	Arsenic	560 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria
				Future site users (Dermal contact, ingestion and inhalation)	Human health criteria (NES SCS for residential, high-density residential, commercial/industrial and recreational)
		Copper	510 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)
		Zinc	1980 mg/kg	Terrestrial eco-fauna (Leaching and uptake)	Ecological protection criteria (AUP criteria)