PRELIMINARY & DETAILED SITE INVESTIGATION

174, 176, 184 & LOT 1 DP 529421 BROOKVALE ROAD HAVELOCK NORTH

PROJECT NO. EAM2553-01

PREPARED FOR
VERMONT STREET PARTNERS No. 4 LIMITED

PREPARED BY
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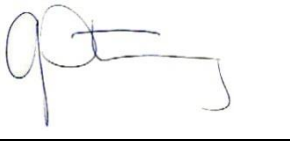

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1 INTRODUCTION

EAM NZ Limited (EAM) has been engaged by VERMONT STREET PARTNERS NO.4 LTD to undertake a review of site history (i.e., Preliminary Site Investigation; PSI) and a Detailed Site Investigation (DSI), at 174 & 176 Brookvale Road, Havelock North.

Our client proposes to redevelop the property for Residential land use. EAM have been commissioned to complete the required Preliminary and Detailed Site Investigation (PSI/DSI) at this site to characterise potential contaminants in site soils because of former land use.

The objectives of this PSI/DSI are to:

- Review the site history to identify HAIL[1] activities, associated potential sources of contamination and the principal contaminants of concern.
- Determine the contamination status of the soils through a comprehensive sampling investigation.
- Assess compliance under the NESCS[2] for the proposed future development of the site.
- Provide a risk assessment for soil within the site regarding future land use of the site.
- Determine whether contaminants of concern identified present an unacceptable risk to human health or identified environmental receptors.
- Assess whether the soils remaining on-site are suitable for the proposed end use.
- Provide options for soil remediation as part of development works.

A PSI has been undertaken as a first step in this investigation to assess the site history and identify HAIL activities over the site and potential and contaminants of concern. Following the PSI, a comprehensive sampling investigation was completed (DSI) to assess the contamination status of soils across the site. Soil analysis was completed systematically where possible in a grid-based system, to assess the site sufficiently.

This investigation has been conducted in accordance with the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES) and the current edition (2021) Ministry for Environment (MfE) Contaminated Land Management Guidelines, No1 and No 5.

1.1 SUITABLY QUALIFIED ENVIRONMENTAL PRACTITIONERS

EAM are Suitably Qualified and Experienced Practitioners (SQEP) in the field of contaminated sites. We offer 20+ years' experience in the contaminated site and environmental science fields. EAM routinely carry out contaminated land assessments in both the North and South Islands over many different Council jurisdictions.

Jason Strong (Principle Environmental Scientist - MSc Environmental Science1st Class)

Jason has undertaken literally hundreds of contaminated site assessments and remediation over the past 15 years. He has an MSc in Environmental Science where his thesis was based around trace metal contamination of soils/sediment.

[1] Hazardous Activities and Industries List (Ministry for the Environment; MfE, 2011)
[2] Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) regulations 2011.

1.2 SCOPE

The following scope of work was completed:

- Review of available information from Hastings District Council, namely, the Listed Land Use Register (LLUR), historical aerial photographs, and available environmental reports.
- Review of the environmental setting of the site.
- Review client supplied information.
- Review readily available historical aerial photography.
- Detailed Soil Investigation.
- Collection of surface soils across the site.
- Analysis of soils at an IANZ accredited laboratory; Hills Laboratory Services.
- Preparation of a DSI report, including presentation and interpretation of results in accordance with the requirements of the NESCS and with the current 2021 edition of the MfE Contaminated Land Management Guidelines No. 1 and No. 5.

1.3 LIMITATIONS

This report: has been prepared by EAM for VERMONT STREET PARTNERS NO.4 LTD and may only be used and relied on by Hastings District Council for the purpose agreed between EAM and VERMONT STREET PARTNERS NO.4 LTD as set out in section 1.1 of this report. EAM otherwise disclaims responsibility to any person other than VERMONT STREET PARTNERS NO.4 LTD arising in connection with this report. EAM also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by EAM in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. EAM has no responsibility or obligation to update this report to account for events or changes occurring after the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by EAM described in this report (refer section(s) 1.3 of this report). EAM disclaims liability arising from any of the assumptions being incorrect.

The opinions, conclusions and any recommendations in this report are based on information obtained from, and testing undertaken at or in connection with, specific sample points. Site conditions at other parts of the site may be different from the site conditions found at the specific sample points.

Investigations undertaken in respect of this report are constrained by the site conditions, such as the location of buildings, services, and vegetation. As a result, not all relevant site features and conditions may have been identified in this report.

Site conditions (including the presence of hazardous substances and/or site contamination) may change after the date of this Report. EAM does not accept responsibility arising from, or in connection with, any change to the site conditions. EAM is also not responsible for updating this report if the site conditions change.

EAM has prepared this report based on information provided VERMONT STREET PARTNERS NO.4 LTD others who provided information to EAM (including Government authorities), which EAM has not independently verified or checked beyond the agreed scope of work. EAM does not

accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

Notwithstanding the Report Limitations, we confirm that Hastings District Council can rely on this report for the purposes of determining compliance with the NES guidelines with respect to the development identified in this assessment.

1.4 ASSUMPTIONS

EAM has made the following assumptions during the preparation of this report:

- Information obtained from third parties and VERMONT STREET PARTNERS NO.4 LTD is complete and accurate.
- The observed and inferred conditions are representative of the actual conditions associated with HAIL sites and / or other sites not directly assessed.
- That the future land use of the assessment site will be Residential.

1.5 NATIONAL ENVIRONMENTAL STANDARD (NES)

The NES Regulations (2011) ensures that land affected by contaminants in soil is appropriately identified and assessed. When soil disturbance and / or land development activities take place, it should be, if necessary, remediated or the contaminants contained to make the land safe for human use.

Under the NES, land is actually or potentially contaminated if an activity or industry on the MfE Hazardous Activities and Industries List (HAIL) has been, is, or is more likely than not to have been, undertaken on the land. Consequently, any subdivision or development requires a preliminary site investigation (PSI) of the land to determine if there is a risk to human health because of any current or former activities that are occurring, or may have occurred, on the land under investigation.

2 SITE DETAILS

2.1 LEGAL DESCRIPTIONS

The assessment site is legally described as 174,176,184 Brookvale Road and Lot 1 DP 529421 (Brookvale Road), Havelock North. The legal descriptions are tabulated below. Figure 1 (Appendix A) shows the site layout.

Table 1: Property Details for 174 Brookvale Road

Details	
Property Number	58916
Property Address	174 Brookvale Road Havelock North 4130
Valuation Number	0965175100
Record of Title	858136
Area (Ha)	4.1271
Primary Use	Rural Industry

Table 2: Property Details for 176 Brookvale Road

Details	
Property Number	58836
Property Address	176 Brookvale Road Havelock North 4130
Valuation Number	0965172901
Record of Title	J1/57
Area (Ha)	9.4833
Primary Use	Rural Industry

Table 3: Property Details for 184 Brookvale Road

Details	
Property Number	58908
Property Address	184 Brookvale Road Havelock North 4130
Valuation Number	0965174700
Record of Title	M1/10
Area (Ha)	18.9165
Primary Use	Rural Industry

Table 3: Property Details for Lot 1 DP 529421 (Brookvale Road)

Parcel	
Property ID	96483
Land Number	77766
Legal Description	LOT 1 DP 529421 CT 858135
Area (Ha)	0.3389

2.2 ASSESSMENT SITE DESCRIPTION

The site is located within Havelock North on relatively flat ground which has formed from the deposition of river transported materials, predominantly from the Tukituki River which is located about 1.2km east of the site.

The ground level generally rises gently across the site from ~RL10 (NZVD 2016) in north to around RL15 in the south-east of the site. Along the western site boundary there is significant sloping ground which leads up to the higher elevated alluvial terrace to the west. Some of the slopes have been cut back at steep angles (i.e. >35°) and the natural slopes are typically moderate (i.e. between 20° to 30°). There are two stream corridors at the site. One meanders through the centre and the other forming the northern boundary. Neither of these have natural flows. To the east of the site, the ground levels are similar or slightly lower where a younger river terrace is located.

The site is currently used for commercial and agricultural purposes with several businesses operating out of the existing buildings on site and most of the undeveloped land being used for growing young trees. There is significant existing infrastructure on site including:

- Multiple large sheds and many smaller commercial sheds.
- Existing treatment ponds.
- A residential dwelling / office.
- Several overland storm water drains – conveying overland flows to the eastern ephemeral stream.

2.3 PROPOSED DEVELOPMENT

Our client is proposing to develop the site with up to between 189 - 215 residential building lots and associated services. Soil disturbance will be proposed as part of the works to install the necessary foundations and services for the proposed activity. Figure 2 (Appendix A) shows the proposed subdivision masterplan.

3 ENVIRONMENTAL SETTING

3.1 SOIL

Soils at the Site are described by Manaaki Whenua (2019) as poorly draining Gley soils. Gley soils occur throughout New Zealand in low parts of the landscape where water tables are high. They have a high bulk density and movement through the soil is limited when soils are wet. They are prone to waterlogging, which typically occurs during winter and spring. They have light grey subsoils, usually with reddish brown or brown mottles. The grey colours usually extend to more than 100 cm depth. Site soils are described as Hastings _29 (100%) which is a deep, poorly drained loam, over sand.

3.2 GEOLOGY

GNS (Geological and Nuclear Sciences) online maps vary:-The 1:250,000 scale online web maps indicate the southern half of the site is underlain by Middle Pleistocene to Late Pleistocene River deposits (comprising of moderately weathered undifferentiated poorly sorted loess-covered alluvial gravel deposits), and the north of the site by more recent Holocene River deposits comprising predominantly of poorly consolidated alluvial gravel, sand, and mud. The most recent (2020) geological maps (1:75,000, GNS Science geological map1) indicates that the site is entirely within the Middle to Late Pleistocene River deposits (am) comprising of gravel, sand, and silt.

3.3 HYDROLOGY

The site is located between the Karamu Stream to the west (1.4 km at its closest point) and the Tukituki River to the east (1.4 km at its closest point).

A small unnamed waterway flows north across the site where it ultimately joins the Karamu Stream via the Mangateretere Stream.

3.4 HYDROGEOLOGY

Groundwater in the Heretaunga plains is source from the Main (Ngaruroro & Tutaekuri) aquifer system which extends to more than 250m depth. The plains are underlain by inter fingered river channel, estuarine and marine quaternary sediments which have occurred during a period of fluctuating sea level changes (Rosen & White, 2001).

The major aquifers in the quaternary sediments are primarily river channel and shoreline gravels which have been transported during by the Ngaruroro, Tutaekuri and Tukituki Rivers. These gravel aquifers are separated by impermeable marine muds, clays, silts, and estuarine sediments which create the confined aquifer systems which underlie the eastern two-thirds of the Heretaunga plains aquifer system. Groundwater is predominantly sourced for domestic water supply, and irrigation.

4 PROPERTY HISTORY

A desktop study was undertaken to gain an understanding of the history of the site. The review looks to determine potential contaminants which may be present at the site because of past and present land uses. The following information was sourced to establish the history of the site:

- Historical Aerial Photographs
- Review of available property files
- Anecdotal information
- Site visit and sampling
- Hail Review

4.1 HISTORICAL AERIAL PHOTOGRAPHS

Historical aerial photographs of the site, from 1949 through to 2024, were sourced from Hastings District Council, and Retrolens. Aerial photographs for the years 1947, 1964, 1978, 1980, 1988, 1994, 2004, 2014, 2022 and 2024 are presented in Appendix B.

1947: The site is in pasture. There are no structures present.

1964: No changes noted between 1947 and 1964.

1978: The area where the current buildings are located has started to be developed. The remainder of the site is still in pasture. Te Mata Mushrooms was established at the site in 1976.

1980: The area where the mushroom operation is occurring has expanded with new sheds. The remainder of the site is still in pasture.

1988: Again, the mushroom activity has expanded since 1980. The wider site appears to have been planted in fruit trees.

1994: The main difference since 1988 is that many of the trees planted across the wider site have gone.

2004: No significant changes noted compared to the 1994 aerial.

2014: The main difference noted is that the site has again been planted in trees.

2022: A new building is located to the northeast of the main mushroom operation. The wider site remains planted in trees.

2024: No significant changes noted compared to 2022 aerial.

4.2 ANECDOTAL INFORMATION

As part of this investigation, I discussed the mushroom growing process including chemicals used with Mr. Kallam McNabb. Mr McNabb has worked at the site as a mushroom grower since 2014. He currently operates a small operation as Te Mata Mushrooms at the site.

The list of chemicals provided by Mr. McNabb used as part of the process include:

- Recoil ® (pesticide). Active ingredient is Fipronil. The half-life in soils is four months to one year (Simon-Delso, N.; Amaral-Rogers, V.; Belzunces, L. P.; et al. (2015). "Systemic insecticides (Neonicotinoids and fipronil): Trends, uses, mode of action and metabolites". *Environmental Science and Pollution Research*. 22 (1): 5–34.).
- Curator (fungicide). Active ingredient is Prochloraz. The half-life in soils is eight to twenty days (Simultaneous Determination of Pyraclostrobin, Prochloraz, and its Metabolite in Apple and Soil Via RRLC-MS/MS May 2018 Food Analytical Methods 11(3–4)).

- Chlorine (for spore killing and cleaning).

Mr. McNabb noted that all chemical use was undertaken indoors within the mushroom growing facility.

The presence of asbestos in buildings was also discussed. Mr. McNabb said to his knowledge there was very little asbestos in the buildings. He pointed out the areas where he knew it was present, and these were above some of the doors (exterior) in the mushroom growing rooms and the side of another building. The asbestos sheets on the growing rooms were painted and in relatively good condition. The side of the other building had asbestos sheeting that was cracked and broken. These are discussed further in Section 6 of this report.

4.3 HASTINGS DISTRICT COUNCIL PROPERTY FILES

HDC property files for this site are large. A significant number of these files is involved with previous consents and litigation regarding historic air and effluent discharges from Te Mata Mushrooms Ltd.

With respect to possible contaminant risks at the site there was only one document from 1973 (Application to construct 3 mushroom grow houses (Permit No. 1579) was identified. This document details construction materials that include fibrolite beneath corrugated iron roof. A copy of this file is provided in Appendix C.

4.4 PREVIOUS REPORTS

In about 2020, the Te Mata Mushroom Company Ltd (TMM) excavated a large pond on a near-level paddock on the eastern side of their property at 174 Brookvale Road, Havelock North, to store stormwater collected from across the site. It is understood that prior to the pond being operational, it was required to be backfilled; however, details of pond dimensions and backfilled soils are unknown.

In 2022, EAM NZ Ltd was engaged to undertake an assessment on the contaminant status of backfilled soils at the site (EAM Project Reference EAM2352-01. Detailed Site Investigation 174 Brookvale Road, Havelock North. November 2022). Soil samples were collected from within the known pond footprint at 500 mm intervals until natural ground was identified. Soil samples were analysed for:

- Metals
- Asbestos
- Acid herbicides (AH)
- Organochlorine Pesticides (OCP)

- Semi-volatile organic compounds (SVOC)
- Polycyclic aromatic hydrocarbons (PAH)
- Total petroleum hydrocarbons (TPH)

In general, metal concentrations were recorded at concentrations to be expected from an uncontaminated Hawke's Bay soil. In summary, soil results suggest that the backfilled soils are largely contaminant free and do not pose a risk to human or environmental health.

4.5 SITE VISIT

An initial site visit was undertaken in early August 2025. The site is currently used for commercial and horticultural purposes with several businesses operating out of the existing buildings on site and most of the undeveloped land being used for growing young trees. There is significant existing infrastructure on site including:

- Multiple large sheds and many smaller commercial sheds.
- Existing treatment pond.
- A residential dwelling.
- Several overland storm water drains – conveying overland flows to the eastern ephemeral stream.

The area where most of the buildings are located are surrounded by concrete surfaces. Hardstand areas are present around ancillary buildings such as implement sheds.

The buildings at the site are constructed of differing materials including poly-panel, corrugated iron, timber, steel, and plywood. As discussed, there was asbestos present but not in large amounts.

Two hazardous chemical stores were identified at the site. These stored the chemicals described in Section 4.2.

Two of the current tenants at the site use heavy machinery (trucks) with aboveground (bunded) diesel fuel tanks upon hardstand. Minor staining was noted around these tanks.

Two large stockpiles of soil were also noted at the site. Discussions with staff suggest this soil was a result of scraping soil from the site as part of site development.

A small burn pile was noted in part of a paddock to the south of the mushroom activity. There was no evidence of refuse or tanalised timber having been burnt in the burn pile and green waste.

4.6 SUMMARY OF DESKTOP REVIEW

The desktop review has sown that the assessment site was in pasture until. Te Mata Mushrooms Ltd began operating at the site in1976. Most of the site (where activities not associated with the mushroom growing operation occurred) has periodically been in fruit trees since the late 1980s.

Discussions with staff at the site indicate that very few chemicals are used in the mushroom growing process and are typically fungicides, insecticides and sanitisers. The chemicals used have a short half-life in soil and all applications occur indoors within the growing rooms.

A review of HDC Property Files indicated that some of the buildings contained asbestos. Areas where asbestos was present on the exterior of buildings was minimal.

4.7 HAZARDOUS ACTIVITIES AND INDUSTRIES LIST

In accordance with Appendix C: Hazardous Activities and Industries List (HAIL) of the MfE NES for Assessing and Managing Contaminants in Soil to Protect Human Health, the site is considered HAIL based on the bulk storage and processing of agrichemicals, known presence of asbestos, and hydrocarbons (diesel storage) under the following sections:

Under Section A: Chemical Manufacture, application, and bulk storage: (*10). Persistent pesticide bulk storage or use including sports turf, market gardens, orchards, glass houses or spray sheds.*

Under Section A: Chemical Manufacture, application, and bulk storage: (17). Storage tanks or drums for fuel, chemicals or liquid waste.

Under Section 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.

5 CONCEPTUAL MODEL

5.1 HAZARDOUS SUBSTANCES AND POTENTIAL CONTAMINANTS OF CONCERN IN THE PROPOSED COMMERCIAL SECTION

The following potential contaminates of concern have been identified within this site:

- Metals.
- Organochlorines, organophosphorus, and organonitrogen compounds.
- Asbestos.
- Hydrocarbons.

Metals occur naturally in the soil environment from the process of weathering of parent materials. Soils may become contaminated by the accumulation of metals and through leaded paints, land application of fertilisers, animal manures, sewage, pesticides, leaching from treated timber and wastewater irrigation. Most metals do not undergo microbial or chemical degradation hence, their total concentration in soils persists forever. Metals are associated with human illness, particularly nervous system damage from long term exposure in humans.

Organophosphorus and Organo nitrate pesticides (OPP/ONPs) were introduced on the phasing out of organochlorine and metal-based pesticides in the early 1970's. They are used in the present day primarily as agricultural pesticides, herbicides and insecticides and occur in the soil environment through spraying on the soil surface during pesticide application in agriculture. The majority of OPPs demonstrate high acute toxicity. Organophosphates are acutely toxic to a wide variety of non-target species, including humans and are also associated with delayed neuropathology. Because Organophosphates are chemically reactive, they persist in the environment only for relatively short periods, especially under alkaline conditions.

Asbestos is a highly hazardous material when broken down from its encapsulating material form. Asbestos is known for its hazardous health implications when present as asbestos fibres and fibrous asbestos.

5.2 POTENTIALLY RELEVANT SENSITIVE HUMAN AND ECOLOGICAL RECEPTORS

The site is proposed for residential land use. The MFEs National Environmental Standard (NESCS) for soil contaminants, considers that residential landowners may use the land for gardens, and home grown produce consumption (10%). These activities pose a risk to the consumer/landowner's where contaminated soils are involved in an exposure pathway.

The following potential receptors were identified as being relevant to the Site:

- Earthworks, construction, maintenance, and excavation contractors who may encounter potentially contaminated soil during the proposed works via inhalation (dusts).
- Future residents at the Site via inhalation (dusts) and/or ingestion of contaminated soil.

5.3 EXPOSURE PATHWAYS

A human health risk can only occur when there is a direct link between contaminant source and receptor. If contaminants of concern were present in site soils, its principal transport and exposure pathways could include:

- Dermal (skin) contact with soil, for gardening, construction.
- Direct contact and inhalation of dusts and soil during construction and site works.
- Uptake of contaminants through produce grown on the property.

5.4 RISK ASSESSMENT

In contaminated land practice, a 'contaminant linkage' is said to be present if a sensitive receptor could be exposed to a contaminant discharged from a source. If there are no complete contaminant linkages, the site is highly unlikely to pose a threat to health or the environment.

Based on the above assessment, the following source-pathway-receptor linkages may currently be complete:

- Exposure of construction workers to potential heavy metals and pesticides.
- Exposure to occupants of the site through inhalation and ingestion of dusts
- Uptake of contaminants through produce grown on the property.

6 FIELD INVESTIGATION

6.1 RATIONALE OF SAMPLE COLLECTION

The location of samples collected is presented in Figure 3, Appendix A, and site photographs are presented in Appendix D. Sampling locations across the Site were established using reference to the "Contaminated Land Guidelines No. 5" (MfE 2021).

Systematic (grid) sampling (to a depth of 150mm with a hand auger) was undertaken in the areas of the site where buildings are not present (pastoral/horticultural land). Samples were analysed for metals and organo-chlorines/phosphates/nitrates. These samples were composited (two samples per composite).

Targeted sampling was undertaken in and around the buildings. This involved breaking through concrete surfaces with an excavator and sampling directly from the bucket. Only the top 250mm was sampled as beneath the concrete and basecourse was what appeared to be native soils in most cases. Samples were analysed for metals, organo-chlorines/phosphates/nitrates, and asbestos.

Targeted sampling was also undertaken where hydrocarbons were noted. Hydrocarbons and metals were analysed.

Two soil stockpiles were also sampled and analysed for metals and organo-chlorines/phosphates/nitrates.

The small burn pile was also sampled and analysed for metals.

Note: samples were composited for organo-chlorines/phosphates/nitrates analysis.

Samples were collected directly into laboratory supplied containers and were placed in a chilly bin with ice packs for transport. Samples were couriered to an IANZ accredited laboratory (Hills Laboratories) under standard chain of custody procedures. Samples were analysed for metals and organo-chlorines/phosphates/nitrates.

6.2 SITE LITHOLOGY AND SAMPLING OBSERVATIONS

In the undeveloped areas thee soils at the site were typically SILTS to a depth of at least 250mm.

In the areas beneath concrete (around buildings, the topsoil was largely absent and were instead CLAYEY SILTS to approximately 300mm.

7 ASSESSMENT CRITERIA

The following soil assessment criteria have been selected for the site.

7.1 THE NATIONAL ENVIRONMENTAL STANDARD FOR ASSESSING AND MANAGING CONTAMINANTS IN SOIL TO PROTECT HUMAN HEALTH (NESCS) (2012).

The NESCS sets national standards for contaminants in soil to protect human health. It contains a national set of soil contaminant standards (SCS) for twelve priority contaminants for five standard land use scenarios. The land use category selected for this investigation was Residential (10% Produce) as described in the NES CS User Guide.

7.2 THE NATIONAL ENVIRONMENTAL PROTECTION MEASURE.

In the absence of New Zealand specific risk-based human health criteria for nickel and zinc, the Australian National Environment Protection Measure 2013 (NEPM) guidelines have been adopted for this investigation. The intention of the NEPM is to enable safe use of contaminated land to ensure that contaminated land is appropriately assessed prior to development. The NEPM covers a range of land uses. For the purposes of this assessment, the NEPM Health-based Investigation Level A (Residential Land Use) have been selected based on the land use and Site attributes.

7.3 BACKGROUND CONCENTRATIONS OF HEAVY METALS.

Established background concentrations are based on the analysis of soil sample sets collected from major soil types in the Hawke's Bay Region for selected heavy metals. If concentrations of contaminants are found to be at or less than typical background concentrations, then the NES CS does not apply.

7.4 ECOLOGICAL SOIL GUIDELINE VALUES.

To assess potential risk to environmental receptors, the criteria for Residential / Recreational area developed for protection of ecological receptors from the updated, Development of soil guideline values for the protection of ecological receptors (Eco-SGVs): Technical Document (Manaaki

Whenua Landcare Research, 2019) were used. Criteria were selected assuming a typical soil, aged contamination source, and a residential land use.

7.5 THE NEW ZEALAND (BRANZ) GUIDELINES FOR ASSESSING ASBESTOS IN SOIL (2017).

Soil results were to be compared to the soil asbestos investigation criteria of 0.001% w/w asbestos for Fibrous Asbestos (FA) and Asbestos Fines (AF) - for all land use scenarios as set out in the NZ Guidelines for Assessing and Managing Asbestos in Soil (2017).

7.6 GUIDELINES FOR ASSESSING AND MANAGING PETROLEUM HYDROCARBON CONTAMINATED SITES IN NEW ZEALAND (2011).

These guidelines have been designed to help both industry and regulatory authorities develop uniform and suitable methods of site investigation, contamination assessment, risk assessment, modelling, and site management. The guidelines focus on sites that have stored, handled, or distributed petroleum products. They aim to provide details of methods for investigating potentially contaminated sites, and for identifying whether remediation or controls of the site are necessary to protect human health and the environment.

In this instance, the Tier 1 soil acceptance criteria (Silty Clay <1m) for Residential use ALL PATHWAYS have been used.

Note: The 'soil acceptance criteria' used in these guidelines are not derived according to the methodology referenced in the NES and do not have the status of being NES soil contaminant standards. However, until petroleum hydrocarbons standards are developed these risk-based 'soil acceptance criteria' are supported by the Ministry for Environment for adoption within New Zealand.

8 ANALYTICAL RESULTS

The following sections discusses the analytical results by analyte and compares against the adopted human health guideline criteria. In this case, the most appropriate SCS for the site is likely to be the NES land use scenario of Residential (10% Produce). The NES descriptions of this land use are as follows:

'Standard residential lot, for single dwelling sites with gardens, including homegrown produce consumption (10 per cent).'

The analytical results are summarised in Appendix E, along with the laboratory reports. The results of analysis have been compared directly against appropriate (where available) Soil Contaminant Standards (SCS) from the NES Priority contaminants list (MfE, 2012).

8.1 BACKGROUND SOIL METAL CONCENTRATIONS

All but four samples were at or below metal concentrations considered to be typical for an uncontaminated Hawke's Bay soil. Samples that exceeded the range for an uncontaminated Hawke's Bay soil were as follows:

- Sample #17 and #18 Composite exceeded the range for lead (27 mg/kg) and zinc (105 mg/kg) with results of 46 mg/kg and 370 mg/kg respectively.
- Sample #27 and #28 Composite exceeded the range for zinc (105 mg/kg) with a result of 131 mg/kg.

- The burn pile sample exceeded the range for copper (32 mg/kg) and zinc (105 mg/kg) with results of 48 mg/kg and 117 mg/kg respectively.
- A sample from stockpile #1 exceeded the range for zinc (105 mg/kg) with a result of 169 mg/kg.

8.2 METALS/METALLOIDS (NESCS)

All samples were below the Soil Contaminant Standards for the NESCS land use scenario of Residential (10% Produce).

8.3 ORGANOCHLORINE/PHOSPHORUS/NITRO COMPOUNDS

Three composite samples were analysed for organo-chlorine, organo-nitro, and organo-phosphorus pesticides as follows.

Composite #1: Samples #1, #5, and #10.

Composite #2: Samples #13, #18, and #23.

Composite #3: Samples #26, #31, and #35.

Composite #4: Samples #37, #44, and #50.

All results were below the Laboratory Method Detection Limits and therefore well below the SCSs for the NESCS land use scenario of Residential (10% Produce).

8.4 ECOLOGICAL SOIL GUIDELINE VALUES

No recorded results exceeded the Ecological Soil Guideline Values for a residential Land use.

8.5 ASBESTOS

All analysed soils (13) were negative for asbestos.

8.6 HYDROCARBONS

A single sample from a large diesel spill located on the upper platform where Xtreme Ltd was analysed for hydrocarbons. The lighter carbon bands (C_7-C_{14}) were below the method detection limits. The heavier carbon band (C_{15}-C_{36}) was recorded as 13,700 mg/kg. There are no guidelines/standards for this band as the main issue is aesthetic rather than a health risk.

8.7 QUALITY ASSURANCE AND QUALITY CONTROL

Duplicate analysis was completed as a means for determining uncertainty, accuracy, and precision of laboratory analysis. A total of one duplicate sample was collected from the same sample location and depth interval.

The RPD between samples was calculated according to the following formula:

$$RPD = \frac{(Result\ No.1 - Result\ No.2)\ x\ 100}{(Mean\ of\ result\ No.1 + result\ No.2)}$$

The typical data quality objective was for an RPD to be within 30% (MfE, 2021). The RPD results were well within this objective. RPD calculations are presented in Appendix E.

8.8 RISK ASSESSMENT

A hazard – pathway – receptor pollution linkage is considered to aid assessment of risk associated with results of the site investigation.

For contaminated soils to pose a risk to a receptor, a complete pathway must exist between the contamination source and the identified receptor(s). If there is an incomplete pathway, then there is no risk. In this instance, the risk to human health from this site is considered low.

9 CONCLUSIONS

EAM was engaged to undertake a Detailed Site Investigation at 174, 176, 184 Brookvale Road, and LOT 1 DP 529421 Brookvale Road, Havelock North. The site is proposed for residential land use. The objectives of the investigation were to review:

1. The type, extent, and level of contamination, if any, within the site.
2. Whether contaminants of concern identified present an unacceptable risk to human health or identified environmental receptors.
3. Whether the soils remaining on-site are suitable for the proposed end use.

A detailed soil investigation was completed with soils collected from 78 sample locations across the assessment site. Samples were analysed for heavy metals and Organochlorines, organophosphorus, and organonitrogen compounds, asbestos (only around buildings), and hydrocarbons (only at localised spill site). The findings of the laboratory analysis were:

1. Compared to a typical Hawke's Bay background uncontaminated soil, all but 4 samples are at or below these concentrations.
2. All samples were below the Soil Contaminant Standards for the NESCS land use scenario of Residential (10% Produce).
3. No recorded results exceeded the Ecological Soil Guideline Values for a residential Land use.
4. Organochlorine/phosphorus/nitro compound results for composite samples from the wider site were below the NES CS Soil Contaminant Standards for the land use scenario of Rural Residential (10% Produce).
5. A single sample from a large diesel spill located on the upper platform where Xtreme Ltd was analysed for hydrocarbons. The lighter carbon bands (C_7-C_{14}) were below the method detection limits. The heavier carbon band (C_{15}-C_{36}) was recorded as 13,700 mg/kg. There are no guidelines/standards for this band as the main issue is aesthetic rather than a health risk.
6. All analysed soils (13) were negative for asbestos.

Based on these results, the soils at the site (within assessment area) are highly unlikely to pose a risk to human health. No further work is required.

10 REFERENCES

J Cavanagh. 2014. Hawke's Bay Region: Background Soil Concentrations for Managing Soil Quality. Landcare Research

Lee, J.M.; Townsend, D.; Bland, K.; Kamp, P.J.J (Compilers) 2011. Geology of the Hawke's Bay area. Institute of Geological and Nuclear Sciences. 1:250,000 geological map 8. 1 Sheet + 86 p. Lower Hutt, New Zealand. GNS Science.

Ministry for Environment, 2011. Hazardous Activities and Industries List. Ministry for the Environment, Wellington.

Ministry for the Environment, 2011a. Contaminated Land Management Guidelines No 1: Reporting on Contaminated Sites in New Zealand (Revised 2011). Ministry for the Environment, Wellington.

Ministry for the Environment, 2011b. Contaminated Land Management Guidelines No. 5: Site Investigation and Analysis of Soils (Revised 2011). Ministry for the Environment, Wellington.

Ministry for the Environment, 2011c. Methodology for Deriving standards for Contaminants in Soil to Protect Human Health. Ministry for the Environment, Wellington.

National Environmental Protection Council, 2013. Guideline on the Investigation Levels for Soil and Groundwater. National Environment Protection Council Australia.

National Environmental Protection (Assessment of Site Contamination) Measure, 1999, Australia.

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

MfE 2012 Users' Guide National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health. Ministry for the Environment.

APPENDIX A - FIGURES

FIGURE 1. CURRENT SITE LAYOUT

FIGURE 2: CONCEPT MASTERPLAN

FIGURE 3: SAMPLE SITES

APPENDIX B – AERIAL PHOTOGRAPHY


1947 – Source: HDC
BROOKVALE ROAD
ARATAKI ROAD
TE HEIPORA PLACE
KAROOLA PLACE
MEISSNER ROAD


1964 – Source: Retrolens


1978 – Source: HDC
BROOKVALE ROAD
ARATAKI ROAD
TE HEIPORA PLACE
MEISSNER ROAD

1980 – Source: Retrolens

1988 – Source: Retrolens


1994 – Source: Retrolens


2004 – Source: HDC
BROOKVALE ROAD
WHITTAKER PLACE
ARATAKI ROAD
TE HEIPORA PLACE
KAROOLA PLACE
MEISSNER ROAD


2014 – Source: HDC
BROOKVALE ROAD
ARATAKI ROAD
TE HEIPORA PLACE
KAROOLA PLACE
MEISSNER ROAD


2022 – Source: HDC
OKVALE ROAD
ARATAKI ROAD
TE HEIPORA PLACE
MEISSNER ROAD
PER


2024 – Source: HDC
BROOKVALE ROAD
ARATAKI ROAD
TE HEIPORA PLACE
KAROOLA PLACE

APPENDIX C – HDC PROPERTY FILE DOCUMENTS

APPLICATION FOR BUILDING PERMIT

Receipt No. ..... Permit No. 1579

To the Hawke's Bay County Building Inspector,
P.O. Box 172, Napier.

Date: 28-11-73

I hereby apply for permission to erect, ~~alter, repair, shift,~~ install, 3 MUSHROOM ~~3 [illegible] HOUSES~~ GROWING HOUSES

according to site plan and detailed plans, elevations, cross-sections, computations and specifications of buildings deposited herewith.

Name and Address of Owner: TE MATA GROWERS LTD
ARATAKI RD HAVELOCK NTH

Address of Building Site: BROOKVALE RD

Valuation Roll No.: 968/21 Approximate Area of Property: 7 acres
Lot 2 D.P. 7771

Name and Address of Builder: SELF

If application is for —

(1) A Dwelling:
State number of existing dwellings on land (if any): .....
or

(2) An outbuilding on a Residential site:
State total floor area of existing outbuildings on land (if any): ..... sq. ft.

also state

Floor area of the New Building, addition or extension: 3168 each. 4104 sq. ft.

ESTIMATED VALUE:

Building $ 3000

Plumbing and Drainage $

NOTE: Where the work involves any drainage or sanitary plumbing work a separate application for this work must be made at the same time.

And I hereby agree to abide by all the provisions of the Hawke's Bay County Council By-Laws governing and regulating all matters the subject of the foregoing.

Owner/Builder: TE MATA GROWERS LTD per G. J. Hawley

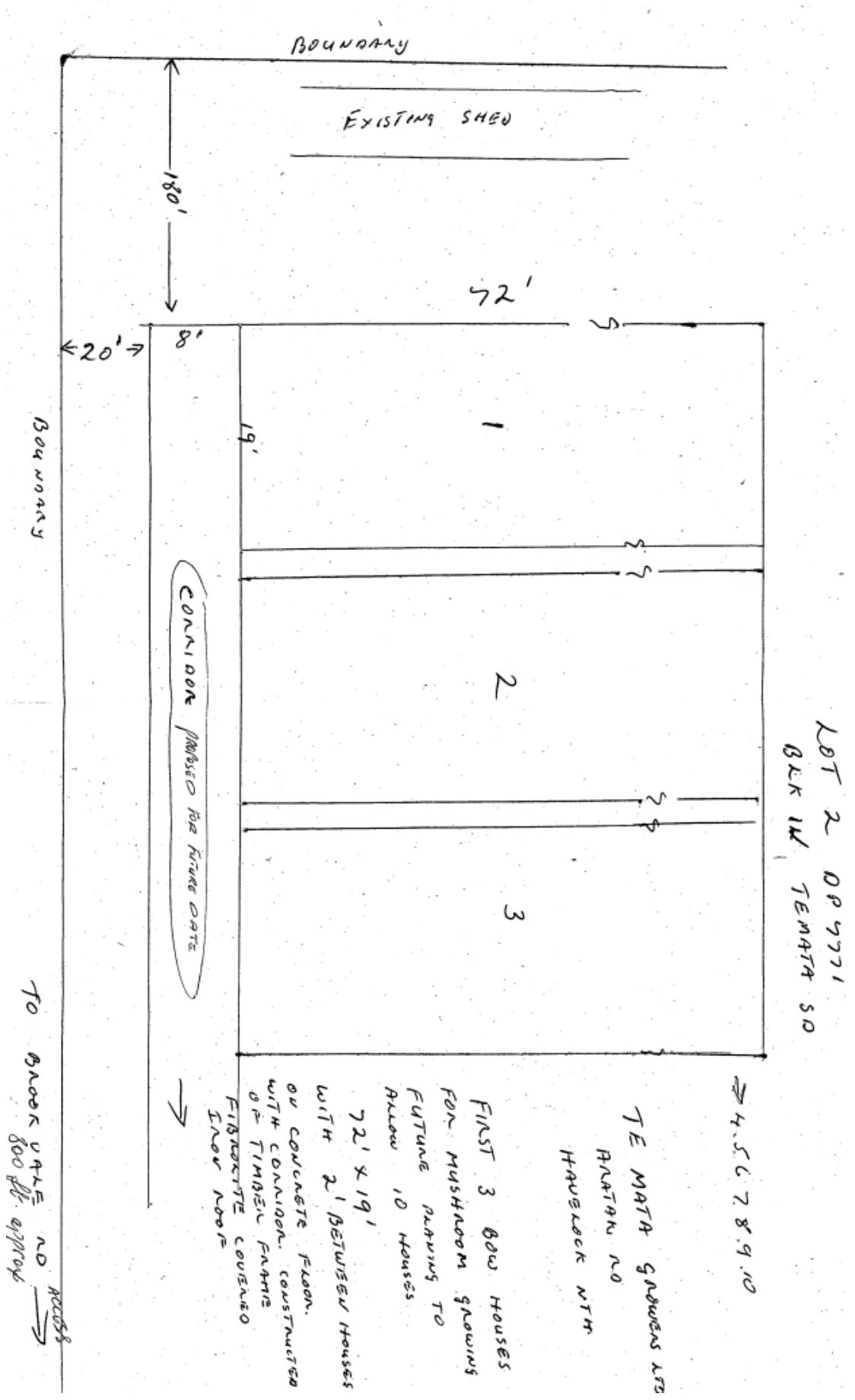
Postal Address: P.O Box 137
HAVELOCK NTH.

OFFICE USE ONLY

Other Buildings on same site ~~Yes~~/No

Examined	Approved	Approved	A/c. Sent
Planning Officer	Building Inspector	Health Inspector	
6/12/73	6/12/73	../../..	6/12/73

vw 5689 5,000/11/71


BOUNDARY
EXISTING SHED
180'
72'
20'
8'
19'
1
2
3
CORRIDOR PROPOSED FOR FUTURE USE
BOUNDARY
TO BROOKVALE RD
LOT 2 DP 7771
BLK IV TEMATA SO
4.5 C 7 8 9 10
TE MATA GROWERS LTD
RATAN RD
HAVELOCK NTH
FIRST 3 BOW HOUSES
FOR MUSHROOM GROWING
FUTURE PLANNING TO
ALLOW 10 HOUSES
72' X 19'
WITH 2' BETWEEN HOUSES
ON CONCRETE FLOOR.
WITH CORRIDOR. CONSTRUCTED
OF TIMBER FRAME
FIBREOTTE COVERED
ROOF

APPENDIX D - SITE PHOTOGRAPHS


WARNING
EFFLUENT
POND


HAZCHEM 2YE
HAZCHEM


HAZCHEM
2WE
AGRICHEMICALS
WHEN HANDLING CHEMICALS PROTECTIVE CLOTHING MUST BE WORN
wear gloves, boots, eye protection, head protection, respirator and PVC clothing


WASH
FORKLIFTS IN USE

APPENDIX E - LABORATORY ANALYSIS AND REPORTS

ANALYSIS REQUEST

R J Hill Laboratories Limited
28 Duke Street, Hamilton 3204
Private Bag 3205
Hamilton 3240, New Zealand

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

Job No: **396 0764**
Date Recv: 14-Aug-25 06:51
Received by: David Manson

Quote No
Primary Contact Jason Strong
Submitted By Jason Strong
Client Name EAM NZ Limited
Address PO Box 1154, Napier
Postcode
Phone *Mobile*
Email s 9(2)(a)
Charge To EAM NZ Limited
Client Reference TMM
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

CHAIN OF CUSTODY RECORD

Sent to Hill Laboratories *Date & Time:* 13/08/25
Name: J. Strong
☑ *Tick if you require COC to be emailed back* *Signature:*

Received at Hill Laboratories *(Refer to Lab created Job No above)*
Date & Time:
Name:
Signature:

Condition ☐ Room Temp ☐ Chilled ☐ Frozen
Temp: 14.1

ADDITIONAL INFORMATION / KNOWN HAZARDS

comp for dep/app/comp as follows:
comp #1 = TMM #1 + #5 + #10

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	TMM #1	12/08/25		ES	Metal Suite } composite
2	#2				"
3	#3				Metal Suite } composite
4	#4				"
5	#5				Metal Suite } composite
6	#6				"
7	#7				Metal Suite } composite
8	#8				"
9	#9				Metal Suite } composite
10	#10				"
11	#11				Metal Suite } composite
12	#12				"

KB Item: 43432

Hill Labs

ANALYSIS REQUEST

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T +64 7 858 2000
E mail@hill-labs.co.nz
W www.hill-laboratories.com

Office use only (Job No)

Quote No
Primary Contact Jason Strong
Submitted By Jason Strong
Client Name EAM NZ Limited
Address PO Box 1154, Napier
Postcode
Phone *Mobile*
Email s 9(2)(a)
Charge To EAM NZ Limited
Client Reference Tmm
Order No

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

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☐ Email Other
☐ Other

CHAIN OF CUSTODY RECORD

Sent to Hill Laboratories *Date & Time:* 12/08/25
Name: J Strong
Tick if you require COC to be emailed back *Signature:*

Received at Hill Laboratories *(Refer to Lab created Job No above)*
Date & Time:
Name:
Signature:

Condition ☐ Room Temp ☐ Chilled ☐ Frozen
Temp:

ADDITIONAL INFORMATION / KNOWN HAZARDS

comp as follows
comp #2 = Tmm # 13 + # 15 + #23

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	Tmm # 13	12/08/25		ES	Metal Suite } composite
2	# 14				"
3	# 15				Metal Suite } composite
4	# 16				"
5	# 17				Metal Suite } composite
6	# 18				"
7	# 19				Metal Suite } composite
8	# 20				"
9	# 21				Metal Suite } Composite
10	# 22				"
11	# 23				Metal Suite } Composite
12	# 24				"

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ANALYSIS REQUEST

R J Hill Laboratories Limited
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Hamilton 3240, New Zealand

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T +64 7 858 2000
E mail@hill-labs.co.nz
W www.hill-laboratories.com

Office use only
(Job No)

Quote No
Primary Contact Jason Strong
Submitted By Jason Strong
Client Name EAM NZ Limited
Address PO Box 1154, Napier
Postcode
Phone *Mobile*
Email s 9(2)(a)
Charge To EAM NZ Limited
Client Reference TMM
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

CHAIN OF CUSTODY RECORD

Sent to Hill Laboratories
Date & Time: 13/08/25
Name: J Strong
☑ *Tick if you require COC to be emailed back*
Signature:

Received at Hill Laboratories
(Refer to Lab created Job No above)
Date & Time:
Name:
Signature:

Condition ☐ Room Temp ☐ Chilled ☐ Frozen
Temp:

ADDITIONAL INFORMATION / KNOWN HAZARDS

comp for ocp/oppolonp as follows
comp #3 = TMM #26 + #31 + #35

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	TMM #25	12/08/25		FS	Metal Suite 7 Composite
2	#26				"
3	#27				Metal Suite 7 Composite
4	#28				"
5	#29				Metal Suite 7 Composite
6	#30				"
7	#31				Metal Suite 7 Composite
8	#32				"
9	#33				Metal Suite 7 Composite
10	#34				"
11	#35				Metal Suite 7 Composite
12	#36				"

KB Item: 43432

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Hamilton 3240, New Zealand

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T +64 7 858 2000
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W www.hill-laboratories.com

Office use only (Job No)

Quote No
Primary Contact Jason Strong
Submitted By Jason Strong
Client Name EAM NZ Limited
Address PO Box 1154, Napier
Postcode
Phone *Mobile*
Email s 9(2)(a)
Charge To EAM NZ Limited
Client Reference TMM
Order No

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

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☐ Email Other
☐ Other

CHAIN OF CUSTODY RECORD

Sent to Hill Laboratories *Date & Time:*
Name:
☐ *Tick if you require COC to be emailed back* *Signature:*

Received at Hill Laboratories *(Refer to Lab created Job No above)* *Date & Time:*
Name:
Signature:

Condition ☐ Room Temp ☐ Chilled ☐ Frozen **Temp:**

ADDITIONAL INFORMATION / KNOWN HAZARDS

comp for acp/oppl on? as follows:
comp #4 = TMM #37 + #44 + #50

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	TMM #37	12/08/21		ES	Metal Suite } composite
2	#38				" }
3	#39				Metal Suite.
4	#40				Metal Suite +TPH.
5	#41				Metal Suite.
6	#42				Metal Suite } composite
7	#43				" }
8	#44				Metal Suite } composite
9	#45				" }
10	#46				Metal Suite } composite
11	#47				}
12	#48				Metal Suite.

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Page 1 of 2

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W www.hill-laboratories.com

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(Job No)

Quote No
Primary Contact Jason Strong
Submitted By Jason Strong
Client Name EAM NZ Limited
Address PO Box 1154, Napier
Postcode
Phone *Mobile*
Email s 9(2)(a)
Charge To EAM NZ Limited
Client Reference TMM
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*

CHAIN OF CUSTODY RECORD

Sent to Hill Laboratories
☐ *Tick if you require COC to be emailed back*
Date & Time: 13/8/25
Name: J Strong
Signature:

Received at Hill Laboratories
(Refer to Lab created Job No above)
Date & Time:
Name:
Signature:

Condition ☐ *Room Temp* ☐ *Chilled* ☐ *Frozen* *Temp:*

ADDITIONAL INFORMATION / KNOWN HAZARDS

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	TMM #49	12/08/25		BS	Metal Suite composite
2	#50			"	"
3	#51				Metal Suite composite
4	#52				"
5	#53				Metal Suite composite
6	#54				"
7	#55				Metal Suit.
8	#56				Metal Suite
9	#57				" + TPH.
10	#58				"
11	#59				" + TPH.
12	#60.				"

KB Item: 43432

ANALYSIS REQUEST

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W www.hill-laboratories.com

Office use only
(Job No)

Quote No
Primary Contact Jason Strong
Submitted By Jason Strong
Client Name EAM NZ Limited
Address PO Box 1154, Napier
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Phone *Mobile*
Email s 9(2)(a)
Charge To EAM NZ Limited
Client Reference TMM
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

CHAIN OF CUSTODY RECORD

Sent to Hill Laboratories *Date & Time:* 8/08/25
Name: J Strong
☑ *Tick if you require COC to be emailed back* *Signature:*

Received at Hill Laboratories *(Refer to Lab created Job No above)*
Date & Time:
Name:
Signature:

Condition ☐ Room Temp ☐ Chilled ☐ Frozen
Temp:

ADDITIONAL INFORMATION / KNOWN HAZARDS

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	TMM #61	12/08/25		ES	Metal Suite -
2	#62				Metal Suite -
3	#63				Metal Suite + TPH.
4	#64				Metal Suite
5	#65				
6	#66				
7	#68				
8	#69				
9	#70				+ TPH.
10	#71				
11	#72				
12	#73				

KR Item: 434370

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(Job No)

Quote No
Primary Contact Jason Strong
Submitted By Jason Strong
Client Name EAM NZ Limited
Address PO Box 1154, Napier
Postcode
Phone *Mobile*
Email s 9(2)(a)
Charge To EAM NZ Limited
Client Reference TMM
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

CHAIN OF CUSTODY RECORD

Sent to Hill Laboratories *Date & Time:* 13/08/25
Name: J Strong
☐ *Tick if you require COC to be emailed back* *Signature:*

Received at Hill Laboratories *(Refer to Lab created Job No above)* *Date & Time:*
Name:
Signature:

Condition ☐ Room Temp ☐ Chilled ☐ Frozen
Temp:

ADDITIONAL INFORMATION / KNOWN HAZARDS

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	TMM #74	12/08/25		ES	Metal Suite
2	#75			"	"
3	TMM Burnpile			"	" + PAH.
4	TMM XTREME DIESEL				Metal Suite + TPH.
5	TMM SP1 #1				Metal Suite
6	" #2				
7	" #3				
8	TMM SP2 #1				
9	" #2				
10	" #3				
11	" #4				
12	" #5				

KB Item: 43432

Page 1 of 2

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E mail@hill-labs.co.nz
W www.hill-laboratories.com

Office use only (Job No)

Quote No
Primary Contact Jason Strong
Submitted By Jason Strong
Client Name EAM NZ Limited
Address PO Box 1154, Napier
Postcode
Phone *Mobile*
Email s 9(2)(a)
Charge To EAM NZ Limited
Client Reference TMM
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

CHAIN OF CUSTODY RECORD

Sent to Hill Laboratories
☑ Tick if you require COC to be emailed back
Date & Time: 15/08/25
Name: J Strong
Signature:

Received at Hill Laboratories (Refer to Lab created Job No above)
Date & Time:
Name:
Signature:

Condition ☐ Room Temp ☐ Chilled ☐ Frozen
Temp:

ADDITIONAL INFORMATION / KNOWN HAZARDS

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	TMM Dup #1	12/08/25		ES	Metal Suite.
2	#11				
3	#21				
4	#31				
5	#41				
6	#51				
7	#61				
8	#71				
9	SP#2 Dup 1				
10					
11					
12					

Could we please analyse the corresponding Samples for metal Suite also

i.e. TMM Dup #1 and also TMM #1
TMM Dup #11 and also TMM #11 etc.

KB Item: 43432

R J Hill Laboratories Limited
28 Duke Street Frankton 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

Job Information Summary

Client:	EAM NZ Limited	Lab No:	3960764
Contact:	J Strong	Date Registered:	14-Aug-2025 12:32 pm
	C/- EAM NZ Limited	Priority:	High
	1257 Dartmoor Road	Quote No:	72316
	Dartmoor	Order No:	
	Napier 4186	Client Reference:	TMM
		Add. Client Ref:	
		Submitted By:	J Strong
		Charge To:	EAM NZ Limited
		Target Date:	25-Aug-2025 4:30 pm

Samples

No	Sample Name	Sample Type	Containers	Tests Requested
1	TMM#1 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
2	TMM#2 12-Aug-2025	Soil	cpBag	
3	TMM#3 12-Aug-2025	Soil	cpBag	
4	TMM#4 12-Aug-2025	Soil	cpBag	
5	TMM#5 12-Aug-2025	Soil	cpBag	
6	TMM#6 12-Aug-2025	Soil	cpBag	
7	TMM#7 12-Aug-2025	Soil	cpBag	
8	TMM#8 12-Aug-2025	Soil	cpBag	
9	TMM#9 12-Aug-2025	Soil	cpBag	
10	TMM#10 12-Aug-2025	Soil	cpBag	
11	TMM#11 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
12	TMM#12 12-Aug-2025	Soil	cpBag	
13	TMM#13 12-Aug-2025	Soil	cpBag	
14	TMM#14 12-Aug-2025	Soil	cpBag	
15	TMM#15 12-Aug-2025	Soil	cpBag	
16	TMM#16 12-Aug-2025	Soil	cpBag	
17	TMM#17 12-Aug-2025	Soil	cpBag	
18	TMM#18 12-Aug-2025	Soil	cpBag	
19	TMM#19 12-Aug-2025	Soil	cpBag	
20	TMM#20 12-Aug-2025	Soil	cpBag	
21	TMM#21 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
22	TMM#22 12-Aug-2025	Soil	cpBag	
23	TMM#23 12-Aug-2025	Soil	cpBag	
24	TMM#24 12-Aug-2025	Soil	cpBag	
25	TMM#25 12-Aug-2025	Soil	cpBag	
26	TMM#26 12-Aug-2025	Soil	cpBag	
27	TMM#27 12-Aug-2025	Soil	cpBag	
28	TMM#28 12-Aug-2025	Soil	cpBag	
29	TMM#29 12-Aug-2025	Soil	cpBag	
30	TMM#30 12-Aug-2025	Soil	cpBag	
31	TMM#31 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
32	TMM#32 12-Aug-2025	Soil	cpBag	
33	TMM#33 12-Aug-2025	Soil	cpBag	
34	TMM#34 12-Aug-2025	Soil	cpBag	
35	TMM#35 12-Aug-2025	Soil	cpBag	
36	TMM#36 12-Aug-2025	Soil	cpBag	
37	TMM#37 12-Aug-2025	Soil	cpBag	

Samples				
No	**Sample Name**	**Sample Type**	**Containers**	**Tests Requested**
38	TMM #38 12-Aug-2025	Soil	cpBag	
39	TMM #39 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
40	TMM #40 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level, Total Petroleum Hydrocarbons in Soil
41	TMM #41 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
42	TMM #42 12-Aug-2025	Soil	cpBag	
43	TMM #43 12-Aug-2025	Soil	cpBag	
44	TMM #44 12-Aug-2025	Soil	cpBag	
45	TMM #45 12-Aug-2025	Soil	cpBag	
46	TMM #46 12-Aug-2025	Soil	cpBag	
47	TMM #47 12-Aug-2025	Soil	cpBag	
48	TMM #48 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
49	TMM #49 12-Aug-2025	Soil	cpBag	
50	TMM #50 12-Aug-2025	Soil	cpBag	
51	TMM #51 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
52	TMM #52 12-Aug-2025	Soil	cpBag	
53	TMM #53 12-Aug-2025	Soil	cpBag	
54	TMM #54 12-Aug-2025	Soil	cpBag	
55	TMM #55 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
56	TMM #56 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
57	TMM #57 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level, Total Petroleum Hydrocarbons in Soil
58	TMM #58 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
59	TMM #59 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level, Total Petroleum Hydrocarbons in Soil
60	TMM #60 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
61	TMM #61 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
62	TMM #62 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
63	TMM #63 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level, Total Petroleum Hydrocarbons in Soil
64	TMM #64 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
65	TMM #65 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
66	TMM #66 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
67	TMM #67 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
68	TMM #68 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
69	TMM #69 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
70	TMM #70 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level, Total Petroleum Hydrocarbons in Soil
71	TMM #71 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
72	TMM #72 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
73	TMM #73 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
74	TMM #74 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
75	TMM #75 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
76	TMM Burnpile 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level, Polycyclic Aromatic Hydrocarbons Screening in Soil
77	TMM Xtreme Diesel 12-Aug-2025	Roading Material	cpBag	Total Petroleum Hydrocarbons, Misc, Heavy metals, MacroDig, screen, As,Cd,Cr,Cu,Ni,Pb,Zn
78	TMM SP1 #1 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
79	TMM SP1 #2 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
80	TMM SP1 #3 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
81	TMM SP2 #1 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
82	TMM SP2 #2 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
83	TMM SP2 #3 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
84	TMM SP2 #4 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
85	TMM SP2 #5 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
86	TMM Dup #1 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
87	TMM Dup #11 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level

Lab No: 3960764 Hill Labs Page 2 of 5

Samples				
No	Sample Name	Sample Type	Containers	Tests Requested
88	TMM Dup #21 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
89	TMM Dup #31 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
90	TMM Dup #41 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
91	TMM Dup #51 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
92	TMM Dup #61 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
93	TMM Dup #71 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
94	TMM SP #2 Dup 1 12-Aug-2025	Soil	cpBag	Heavy Metals, Screen Level
95	Composite of TMM #1 & TMM #2	Soil	OrgComp	Heavy Metals, Screen Level
96	Composite of TMM #3 & TMM #4	Soil	OrgComp	Heavy Metals, Screen Level
97	Composite of TMM #5 & TMM #6	Soil	OrgComp	Heavy Metals, Screen Level
98	Composite of TMM #7 & TMM #8	Soil	OrgComp	Heavy Metals, Screen Level
99	Composite of TMM #9 & TMM #10	Soil	OrgComp	Heavy Metals, Screen Level
100	Composite of TMM #11 & TMM #12	Soil	OrgComp	Heavy Metals, Screen Level
101	Composite of TMM #13 & TMM #14	Soil	OrgComp	Heavy Metals, Screen Level
102	Composite of TMM #15 & TMM #16	Soil	OrgComp	Heavy Metals, Screen Level
103	Composite of TMM #17 & TMM #18	Soil	OrgComp	Heavy Metals, Screen Level
104	Composite of TMM #19 & TMM #20	Soil	OrgComp	Heavy Metals, Screen Level
105	Composite of TMM #21 & TMM #22	Soil	OrgComp	Heavy Metals, Screen Level
106	Composite of TMM #23 & TMM #24	Soil	OrgComp	Heavy Metals, Screen Level
107	Composite of TMM #25 & TMM #26	Soil	OrgComp	Heavy Metals, Screen Level
108	Composite of TMM #27 & TMM #28	Soil	OrgComp	Heavy Metals, Screen Level
109	Composite of TMM #29 & TMM #30	Soil	OrgComp	Heavy Metals, Screen Level
110	Composite of TMM #31 & TMM #32	Soil	OrgComp	Heavy Metals, Screen Level
111	Composite of TMM #33 & TMM #34	Soil	OrgComp	Heavy Metals, Screen Level
112	Composite of TMM #35 & TMM #36	Soil	OrgComp	Heavy Metals, Screen Level
113	Composite of TMM #37 & TMM #38	Soil	OrgComp	Heavy Metals, Screen Level
114	Composite of TMM #42 & TMM #43	Soil	OrgComp	Heavy Metals, Screen Level
115	Composite of TMM #44 & TMM #45	Soil	OrgComp	Heavy Metals, Screen Level
116	Composite of TMM #46 & TMM #47	Soil	OrgComp	Heavy Metals, Screen Level
117	Composite of TMM #49 & TMM #50	Soil	OrgComp	Heavy Metals, Screen Level
118	Composite of TMM #51 & TMM #52	Soil	OrgComp	Heavy Metals, Screen Level
119	Composite of TMM #53 & TMM #54	Soil	OrgComp	Heavy Metals, Screen Level
120	Composite of TMM #1, TMM #5 & TMM #10	Soil	OrgComp	Organochlorine/nitro&phosphorus Pest.s Screen in Soils, GCMS
121	Composite of TMM #13, TMM #18 & TMM #23	Soil	OrgComp	Organochlorine/nitro&phosphorus Pest.s Screen in Soils, GCMS
122	Composite of TMM #26, TMM #31 & TMM #35	Soil	OrgComp	Organochlorine/nitro&phosphorus Pest.s Screen in Soils, GCMS
123	Composite of TMM #37, TMM #44 & TMM #50	Soil	OrgComp	Organochlorine/nitro&phosphorus Pest.s Screen in Soils, GCMS

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, 11, 21, 31, 39-41, 48, 51, 55-76, 78-119
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	76
Dry Matter	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	40, 57, 59, 63, 70, 76, 120-123

Sample Type: Soil			
Test	Method Description	Default Detection Limit	Sample No
Composite Environmental Solid Samples	Individual sample fractions mixed together to form a composite fraction.	-	1-38, 42-47, 49-54
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	76
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	76
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion. Complies with NES Regulations. ICP-MS screen level, Interference removal by Kinetic Energy Discrimination if required. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.10 - 4 mg/kg dry wt	1, 11, 21, 31, 39-41, 48, 51, 55-76, 78-119
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	120-123
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	76
Total Petroleum Hydrocarbons in Soil			
Client Chromatogram for TPH by FID	Small peaks associated with QC compounds may be visible in chromatograms with low TPH concentrations. QC peaks are as follows: one peak in the C12 - 14 band, the C21 - 25 band and the C30 - 36 band. All QC peaks are corrected for in the reported TPH concentrations.	-	40, 57, 59, 63, 70, 77
C7 - C9	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg dry wt	40, 57, 59, 63, 70
C10 - C14	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg dry wt	40, 57, 59, 63, 70
C15 - C36	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	40 mg/kg dry wt	40, 57, 59, 63, 70
Total hydrocarbons (C7 - C36)	Calculation: Sum of carbon bands from C7 to C36. In-house based on US EPA 8015.	70 mg/kg dry wt	40, 57, 59, 63, 70

Sample Type: Roading Material			
Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
SHOC Macro Extraction 10x Dilution		-	77
Macro Total Recoverable digestion	Nitric / hydrochloric acid digestion. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	-	77
Total Recoverable Arsenic	Tested on as received sample. Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	2 mg/kg as rcvd	77
Total Recoverable Cadmium	Tested on as received sample. Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.10 mg/kg as rcvd	77
Total Recoverable Chromium	Tested on as received sample. Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	2 mg/kg as rcvd	77
Total Recoverable Copper	Tested on as received sample. Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	2 mg/kg as rcvd	77
Total Recoverable Lead	Tested on as received sample. Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.4 mg/kg as rcvd	77
Total Recoverable Nickel	Tested on as received sample. Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	2 mg/kg as rcvd	77
Total Recoverable Zinc	Tested on as received sample. Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	4 mg/kg as rcvd	77
Heavy metals, MacroDig, screen, As,Cd,Cr,Cu,Ni,Pb,Zn	Tested on as received sample. Nitric/Hydrochloric acid digestion, ICP-MS, screen level.	0.10 - 4 mg/kg as rcvd	77

Sample Type: Roading Material			
Test	Method Description	Default Detection Limit	Sample No
Total Petroleum Hydrocarbons, Misc			
C7 - C9	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg as rcvd	77
C10 - C14	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg as rcvd	77
C15 - C36	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	40 mg/kg as rcvd	77
Total hydrocarbons (C7 - C36)	Calculation: Sum of carbon bands from C7 to C36. In-house based on US EPA 8015.	70 mg/kg as rcvd	77

Hill Labs

ANALYSIS REQUEST

R J Hill Laboratories Limited
28 Duke Street, Hamilton 3204
Private Bag 3205
Hamilton 3240, New Zealand

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E mail@hill-labs.co.nz
W www.hill-laboratories.com

Job No: 396 1174
Date Recv: 14-Aug-25 09:49
Received by: Danielle McNeilly

Quote No
Primary Contact Jason Strong
Submitted By Jason Strong
Client Name EAM NZ Limited
Address PO Box 1154, Napier
Postcode
Phone *Mobile*
Email s 9(2)(a)
Charge To EAM NZ Limited
Client Reference TMM
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*

CHAIN OF CUSTODY RECORD

Sent to Hill Laboratories
☑ *Tick if you require COC to be emailed back*
Date & Time: 13/08/25
Name: J Strong
Signature:

Received at Hill Laboratories
(Refer to Lab created Job No above)
Date & Time:
Name:
Signature:

Condition ☐ *Room Temp* ☐ *Chilled* ☐ *Frozen*
Temp:

ADDITIONAL INFORMATION / KNOWN HAZARDS

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	TMM 63-75	12/08/25		ES	Asbestos P/A.
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

KB Item: 43432

R J Hill Laboratories Limited
28 Duke Street Frankton 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

Job Information Summary

Client:	EAM NZ Limited	Lab No:	3961174
Contact:	J Strong	Date Registered:	14-Aug-2025 9:57 am
	C/- EAM NZ Limited	Priority:	High
	1257 Dartmoor Road	Quote No:	72316
	Dartmoor	Order No:	
	Napier 4186	Client Reference:	TMM
		Add. Client Ref:	
		Submitted By:	J Strong
		Charge To:	EAM NZ Limited
		Target Date:	18-Aug-2025 4:30 pm

Samples

No	Sample Name	Sample Type	Containers	Tests Requested
1	TMM 63 12-Aug-2025	Soil	cpBagAsb	Asbestos in Soil
2	TMM 64 12-Aug-2025	Soil	cpBagAsb	Asbestos in Soil
3	TMM 65 12-Aug-2025	Soil	cpBagAsb	Asbestos in Soil
4	TMM 66 12-Aug-2025	Soil	cpBagAsb	Asbestos in Soil
5	TMM 67 12-Aug-2025	Soil	cpBagAsb	Asbestos in Soil
6	TMM 68 12-Aug-2025	Soil	cpBagAsb	Asbestos in Soil
7	TMM 69 12-Aug-2025	Soil	cpBagAsb	Asbestos in Soil
8	TMM 70 12-Aug-2025	Soil	cpBagAsb	Asbestos in Soil
9	TMM 71 12-Aug-2025	Soil	cpBagAsb	Asbestos in Soil
10	TMM 72 12-Aug-2025	Soil	cpBagAsb	Asbestos in Soil
11	TMM 73 12-Aug-2025	Soil	cpBagAsb	Asbestos in Soil
12	TMM 74 12-Aug-2025	Soil	cpBagAsb	Asbestos in Soil
13	TMM 75 12-Aug-2025	Soil	cpBagAsb	Asbestos in Soil

Summary of Methods

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

Sample Type: Soil

Test	Method Description	Default Detection Limit	Sample No
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	1-13
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	1-13
<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.	-	1-13
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%	1-13
Description of Asbestos Form Presence / Absence Testing	Description of asbestos form and/or shape if present.	-	1-13

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Certificate of Analysis

Client:	EAM NZ Limited	**Lab No:**	3960764 SPv2
Contact:	J Strong	**Date Received:**	14-Aug-2025
	C/- EAM NZ Limited	**Date Reported:**	25-Aug-2025
	1257 Dartmoor Road	**Quote No:**	72316
	Dartmoor	**Order No:**	
	Napier 4186	**Client Reference:**	TMM
		Submitted By:	J Strong

Sample Type: Soil

Sample Name:		TMM #1 12-Aug-2025	TMM #11 12-Aug-2025	TMM #21 12-Aug-2025	TMM #31 12-Aug-2025	TMM #39 12-Aug-2025
Lab Number:		3960764.1	3960764.11	3960764.21	3960764.31	3960764.39
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	4	5	4	4	4
Total Recoverable Cadmium	mg/kg dry wt	0.18	0.18	0.16	0.16	< 0.10
Total Recoverable Chromium	mg/kg dry wt	12	12	10	10	11
Total Recoverable Copper	mg/kg dry wt	21	20	15	16	11
Total Recoverable Lead	mg/kg dry wt	10.1	10.3	10.0	10.7	11.0
Total Recoverable Nickel	mg/kg dry wt	7	7	7	8	9
Total Recoverable Zinc	mg/kg dry wt	74	78	78	79	66

Sample Name:		TMM #40 12-Aug-2025	TMM #41 12-Aug-2025	TMM #48 12-Aug-2025	TMM #51 12-Aug-2025	TMM #55 12-Aug-2025
Lab Number:		3960764.40	3960764.41	3960764.48	3960764.51	3960764.55
Individual Tests						
Dry Matter	g/100g as rcvd	90	-	-	-	-
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	6	2	3	3	< 2
Total Recoverable Cadmium	mg/kg dry wt	0.16	0.18	0.18	< 0.10	< 0.10
Total Recoverable Chromium	mg/kg dry wt	13	9	11	13	9
Total Recoverable Copper	mg/kg dry wt	12	7	17	10	5
Total Recoverable Lead	mg/kg dry wt	20	9.8	12.7	7.7	5.5
Total Recoverable Nickel	mg/kg dry wt	9	8	7	7	5
Total Recoverable Zinc	mg/kg dry wt	78	68	99	40	28
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	< 40	-	-	-	-
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 60	-	-	-	-

Sample Name:		TMM #56 12-Aug-2025	TMM #57 12-Aug-2025	TMM #58 12-Aug-2025	TMM #59 12-Aug-2025	TMM #60 12-Aug-2025
Lab Number:		3960764.56	3960764.57	3960764.58	3960764.59	3960764.60
Individual Tests						
Dry Matter	g/100g as rcvd	-	91	-	87	-
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	3	3	4	3	4
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	< 0.10	< 0.10	0.13
Total Recoverable Chromium	mg/kg dry wt	12	13	13	14	9
Total Recoverable Copper	mg/kg dry wt	10	10	10	11	6
Total Recoverable Lead	mg/kg dry wt	9.6	10.1	10.5	12.5	10.8
Total Recoverable Nickel	mg/kg dry wt	8	8	8	9	7

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:		TMM #56 12-Aug-2025	TMM #57 12-Aug-2025	TMM #58 12-Aug-2025	TMM #59 12-Aug-2025	TMM #60 12-Aug-2025
Lab Number:		3960764.56	3960764.57	3960764.58	3960764.59	3960764.60
Heavy Metals, Screen Level						
Total Recoverable Zinc	mg/kg dry wt	44	48	50	45	56
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	-	< 20	-	< 20	-
C10 - C14	mg/kg dry wt	-	< 20	-	< 20	-
C15 - C36	mg/kg dry wt	-	< 40	-	< 40	-
Total hydrocarbons (C7 - C36)	mg/kg dry wt	-	< 80	-	< 80	-

Sample Name:		TMM #61 12-Aug-2025	TMM #62 12-Aug-2025	TMM #63 12-Aug-2025	TMM #64 12-Aug-2025	TMM #65 12-Aug-2025
Lab Number:		3960764.61	3960764.62	3960764.63	3960764.64	3960764.65
Individual Tests						
Dry Matter	g/100g as rcvd	-	-	84	-	-
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	2	4	4	4	3
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	0.10	0.19	< 0.10
Total Recoverable Chromium	mg/kg dry wt	9	13	13	11	11
Total Recoverable Copper	mg/kg dry wt	5	9	13	26	7
Total Recoverable Lead	mg/kg dry wt	9.5	12.6	10.0	16.1	11.4
Total Recoverable Nickel	mg/kg dry wt	7	9	8	10	8
Total Recoverable Zinc	mg/kg dry wt	48	61	53	65	48
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	-	-	< 40	-	-
Total hydrocarbons (C7 - C36)	mg/kg dry wt	-	-	< 80	-	-

Sample Name:		TMM #66 12-Aug-2025	TMM #67 12-Aug-2025	TMM #68 12-Aug-2025	TMM #69 12-Aug-2025	TMM #70 12-Aug-2025
Lab Number:		3960764.66	3960764.67	3960764.68	3960764.69	3960764.70
Individual Tests						
Dry Matter	g/100g as rcvd	-	-	-	-	76
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	3	3	4	3	2
Total Recoverable Cadmium	mg/kg dry wt	0.18	0.17	0.15	< 0.10	0.15
Total Recoverable Chromium	mg/kg dry wt	10	9	10	11	10
Total Recoverable Copper	mg/kg dry wt	16	14	28	8	26
Total Recoverable Lead	mg/kg dry wt	11.4	11.2	11.8	10.7	10.1
Total Recoverable Nickel	mg/kg dry wt	8	8	9	9	8
Total Recoverable Zinc	mg/kg dry wt	63	58	58	50	62
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	-	-	-	-	< 40
Total hydrocarbons (C7 - C36)	mg/kg dry wt	-	-	-	-	< 80

Sample Name:		TMM #71 12-Aug-2025	TMM #72 12-Aug-2025	TMM #73 12-Aug-2025	TMM #74 12-Aug-2025	TMM #75 12-Aug-2025
Lab Number:		3960764.71	3960764.72	3960764.73	3960764.74	3960764.75
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	6	4	3	4	3
Total Recoverable Cadmium	mg/kg dry wt	0.14	< 0.10	< 0.10	< 0.10	< 0.10
Total Recoverable Chromium	mg/kg dry wt	12	11	13	14	13
Total Recoverable Copper	mg/kg dry wt	24	7	9	10	10
Total Recoverable Lead	mg/kg dry wt	10.6	8.6	12.1	12.5	12.9
Total Recoverable Nickel	mg/kg dry wt	8	7	7	10	9
Total Recoverable Zinc	mg/kg dry wt	59	36	41	53	50

Sample Type: Soil						
Sample Name:		TMM Burnpile 12-Aug-2025	TMM SP1 #1 12-Aug-2025	TMM SP1 #2 12-Aug-2025	TMM SP1 #3 12-Aug-2025	TMM SP2 #1 12-Aug-2025
Lab Number:		3960764.76	3960764.78	3960764.79	3960764.80	3960764.81
Individual Tests						
Dry Matter	g/100g as rcvd	70	-	-	-	-
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	4	5	3	3	4
Total Recoverable Cadmium	mg/kg dry wt	0.26	0.28	0.25	0.16	0.19
Total Recoverable Chromium	mg/kg dry wt	11	9	8	8	10
Total Recoverable Copper	mg/kg dry wt	48	22	13	9	14
Total Recoverable Lead	mg/kg dry wt	9.9	9.4	9.6	10.5	11.9
Total Recoverable Nickel	mg/kg dry wt	9	8	8	6	7
Total Recoverable Zinc	mg/kg dry wt	117	169	100	74	90
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Total of Reported PAHs in Soil	mg/kg dry wt	< 0.4	-	-	-	-
1-Methylnaphthalene	mg/kg dry wt	< 0.014	-	-	-	-
2-Methylnaphthalene	mg/kg dry wt	< 0.014	-	-	-	-
Acenaphthylene	mg/kg dry wt	< 0.014	-	-	-	-
Acenaphthene	mg/kg dry wt	< 0.014	-	-	-	-
Anthracene	mg/kg dry wt	< 0.014	-	-	-	-
Benzo[a]anthracene	mg/kg dry wt	< 0.014	-	-	-	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.014	-	-	-	-
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	< 0.034	-	-	-	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	< 0.034	-	-	-	-
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.014	-	-	-	-
Benzo[e]pyrene	mg/kg dry wt	< 0.014	-	-	-	-
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.014	-	-	-	-
Benzo[k]fluoranthene	mg/kg dry wt	< 0.014	-	-	-	-
Chrysene	mg/kg dry wt	< 0.014	-	-	-	-
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.014	-	-	-	-
Fluoranthene	mg/kg dry wt	< 0.014	-	-	-	-
Fluorene	mg/kg dry wt	< 0.014	-	-	-	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.014	-	-	-	-
Naphthalene	mg/kg dry wt	< 0.07	-	-	-	-
Perylene	mg/kg dry wt	< 0.014	-	-	-	-
Phenanthrene	mg/kg dry wt	< 0.014	-	-	-	-
Pyrene	mg/kg dry wt	< 0.014	-	-	-	-

Sample Name:		TMM SP2 #2 12-Aug-2025	TMM SP2 #3 12-Aug-2025	TMM SP2 #4 12-Aug-2025	TMM SP2 #5 12-Aug-2025	TMM Dup #1 12-Aug-2025
Lab Number:		3960764.82	3960764.83	3960764.84	3960764.85	3960764.86
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	5	5	4	3	4
Total Recoverable Cadmium	mg/kg dry wt	0.17	0.18	0.11	< 0.10	0.19
Total Recoverable Chromium	mg/kg dry wt	10	10	14	11	12
Total Recoverable Copper	mg/kg dry wt	14	15	12	8	22
Total Recoverable Lead	mg/kg dry wt	13.8	12.5	11.3	11.9	10.5
Total Recoverable Nickel	mg/kg dry wt	7	7	10	7	7
Total Recoverable Zinc	mg/kg dry wt	100	101	55	50	76

Sample Name:		TMM Dup #11 12-Aug-2025	TMM Dup #21 12-Aug-2025	TMM Dup #31 12-Aug-2025	TMM Dup #41 12-Aug-2025	TMM Dup #51 12-Aug-2025
Lab Number:		3960764.87	3960764.88	3960764.89	3960764.90	3960764.91
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	5	4	4	2	3
Total Recoverable Cadmium	mg/kg dry wt	0.16	0.16	0.15	0.18	< 0.10
Total Recoverable Chromium	mg/kg dry wt	11	10	10	9	12
Total Recoverable Copper	mg/kg dry wt	20	14	17	7	11

Sample Type: Soil						
	Sample Name:	TMM Dup #11 12-Aug-2025	TMM Dup #21 12-Aug-2025	TMM Dup #31 12-Aug-2025	TMM Dup #41 12-Aug-2025	TMM Dup #51 12-Aug-2025
	Lab Number:	3960764.87	3960764.88	3960764.89	3960764.90	3960764.91
Heavy Metals, Screen Level						
Total Recoverable Lead	mg/kg dry wt	9.6	10.4	11.5	10.1	7.8
Total Recoverable Nickel	mg/kg dry wt	7	7	8	8	7
Total Recoverable Zinc	mg/kg dry wt	75	77	81	67	35

	Sample Name:	TMM Dup #61 12-Aug-2025	TMM Dup #71 12-Aug-2025	TMM SP #2 Dup 1 12-Aug-2025	Composite of TMM #1 & TMM #2	Composite of TMM #3 & TMM #4
	Lab Number:	3960764.92	3960764.93	3960764.94	3960764.95	3960764.96
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	< 2	5	4	4	4
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.17	0.19	0.20	0.17
Total Recoverable Chromium	mg/kg dry wt	8	11	10	13	13
Total Recoverable Copper	mg/kg dry wt	5	25	14	18	21
Total Recoverable Lead	mg/kg dry wt	8.9	10.7	12.4	10.4	11.6
Total Recoverable Nickel	mg/kg dry wt	6	8	7	7	7
Total Recoverable Zinc	mg/kg dry wt	46	67	93	68	69

	Sample Name:	Composite of TMM #5 & TMM #6	Composite of TMM #7 & TMM #8	Composite of TMM #9 & TMM #10	Composite of TMM #11 & TMM #12	Composite of TMM #13 & TMM #14
	Lab Number:	3960764.97	3960764.98	3960764.99	3960764.100	3960764.101
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	3	4	6	6	3
Total Recoverable Cadmium	mg/kg dry wt	0.16	0.12	0.15	0.16	0.15
Total Recoverable Chromium	mg/kg dry wt	12	12	11	11	10
Total Recoverable Copper	mg/kg dry wt	20	24	16	18	11
Total Recoverable Lead	mg/kg dry wt	10.3	10.4	10.1	10.2	11.1
Total Recoverable Nickel	mg/kg dry wt	6	7	6	7	7
Total Recoverable Zinc	mg/kg dry wt	60	66	57	68	72

	Sample Name:	Composite of TMM #15 & TMM #16	Composite of TMM #17 & TMM #18	Composite of TMM #19 & TMM #20	Composite of TMM #21 & TMM #22	Composite of TMM #23 & TMM #24
	Lab Number:	3960764.102	3960764.103	3960764.104	3960764.105	3960764.106
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	3	8	4	4	3
Total Recoverable Cadmium	mg/kg dry wt	0.15	0.22	0.13	0.14	0.15
Total Recoverable Chromium	mg/kg dry wt	11	14	10	10	10
Total Recoverable Copper	mg/kg dry wt	11	25	16	14	13
Total Recoverable Lead	mg/kg dry wt	10.5	46	10.3	9.9	9.6
Total Recoverable Nickel	mg/kg dry wt	7	7	7	7	7
Total Recoverable Zinc	mg/kg dry wt	69	370	68	77	78

	Sample Name:	Composite of TMM #25 & TMM #26	Composite of TMM #27 & TMM #28	Composite of TMM #29 & TMM #30	Composite of TMM #31 & TMM #32	Composite of TMM #33 & TMM #34
	Lab Number:	3960764.107	3960764.108	3960764.109	3960764.110	3960764.111
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	3	3	4	4	4
Total Recoverable Cadmium	mg/kg dry wt	0.13	0.12	0.14	0.14	0.15
Total Recoverable Chromium	mg/kg dry wt	10	11	11	10	13
Total Recoverable Copper	mg/kg dry wt	11	21	16	15	15
Total Recoverable Lead	mg/kg dry wt	10.1	10.8	11.0	10.9	10.7
Total Recoverable Nickel	mg/kg dry wt	7	9	11	8	9
Total Recoverable Zinc	mg/kg dry wt	70	131	70	74	103

	Sample Name:	Composite of TMM #35 & TMM #36	Composite of TMM #37 & TMM #38	Composite of TMM #42 & TMM #43	Composite of TMM #44 & TMM #45	Composite of TMM #46 & TMM #47
	Lab Number:	3960764.112	3960764.113	3960764.114	3960764.115	3960764.116

Sample Type: Soil						
Sample Name:		Composite of TMM #35 & TMM #36	Composite of TMM #37 & TMM #38	Composite of TMM #42 & TMM #43	Composite of TMM #44 & TMM #45	Composite of TMM #46 & TMM #47
Lab Number:		3960764.112	3960764.113	3960764.114	3960764.115	3960764.116
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	4	3	3	4	3
Total Recoverable Cadmium	mg/kg dry wt	0.11	0.16	0.15	0.31	0.18
Total Recoverable Chromium	mg/kg dry wt	12	10	10	11	10
Total Recoverable Copper	mg/kg dry wt	13	14	14	12	11
Total Recoverable Lead	mg/kg dry wt	11.1	10.8	10.6	11.9	10.6
Total Recoverable Nickel	mg/kg dry wt	9	8	7	8	8
Total Recoverable Zinc	mg/kg dry wt	69	83	76	74	68

Sample Name:		Composite of TMM #49 & TMM #50	Composite of TMM #51 & TMM #52	Composite of TMM #53 & TMM #54	Composite of TMM #1, TMM #5 & TMM #10	Composite of TMM #13, TMM #18 & TMM #23
Lab Number:		3960764.117	3960764.118	3960764.119	3960764.120	3960764.121
Individual Tests						
Dry Matter	g/100g as rcvd	-	-	-	82	81
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	3	3	3	-	-
Total Recoverable Cadmium	mg/kg dry wt	0.17	< 0.10	< 0.10	-	-
Total Recoverable Chromium	mg/kg dry wt	10	13	13	-	-
Total Recoverable Copper	mg/kg dry wt	14	10	10	-	-
Total Recoverable Lead	mg/kg dry wt	11.7	9.4	9.4	-	-
Total Recoverable Nickel	mg/kg dry wt	8	7	7	-	-
Total Recoverable Zinc	mg/kg dry wt	87	40	45	-	-
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	-	-	-	< 0.013	< 0.013
alpha-BHC	mg/kg dry wt	-	-	-	< 0.013	< 0.013
beta-BHC	mg/kg dry wt	-	-	-	< 0.013	< 0.013
delta-BHC	mg/kg dry wt	-	-	-	< 0.013	< 0.013
gamma-BHC (Lindane)	mg/kg dry wt	-	-	-	< 0.013	< 0.013
cis-Chlordane	mg/kg dry wt	-	-	-	< 0.013	< 0.013
trans-Chlordane	mg/kg dry wt	-	-	-	< 0.013	< 0.013
2,4'-DDD	mg/kg dry wt	-	-	-	< 0.013	< 0.013
4,4'-DDD	mg/kg dry wt	-	-	-	< 0.013	< 0.013
2,4'-DDE	mg/kg dry wt	-	-	-	< 0.013	< 0.013
4,4'-DDE	mg/kg dry wt	-	-	-	< 0.013	< 0.013
2,4'-DDT	mg/kg dry wt	-	-	-	< 0.013	< 0.013
4,4'-DDT	mg/kg dry wt	-	-	-	< 0.013	< 0.013
Total DDT Isomers	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Dieldrin	mg/kg dry wt	-	-	-	< 0.013	< 0.013
Endosulfan I	mg/kg dry wt	-	-	-	< 0.013	< 0.013
Endosulfan II	mg/kg dry wt	-	-	-	< 0.013	< 0.013
Endosulfan sulphate	mg/kg dry wt	-	-	-	< 0.013	< 0.013
Endrin	mg/kg dry wt	-	-	-	< 0.013	< 0.013
Endrin aldehyde	mg/kg dry wt	-	-	-	< 0.013	< 0.013
Endrin ketone	mg/kg dry wt	-	-	-	< 0.013	< 0.013
Heptachlor	mg/kg dry wt	-	-	-	< 0.013	< 0.013
Heptachlor epoxide	mg/kg dry wt	-	-	-	< 0.013	< 0.013
Hexachlorobenzene	mg/kg dry wt	-	-	-	< 0.013	< 0.013
Methoxychlor	mg/kg dry wt	-	-	-	< 0.013	< 0.013
Organonitro&phosphorus Pesticides Screen in Soil by GCMS						
Acetochlor	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Alachlor	mg/kg dry wt	-	-	-	< 0.05	< 0.05
Atrazine	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Atrazine-desethyl	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Atrazine-desisopropyl	mg/kg dry wt	-	-	-	< 0.12	< 0.12
Azaconazole	mg/kg dry wt	-	-	-	< 0.03	< 0.03

Sample Type: Soil						
Sample Name:		Composite of TMM #49 & TMM #50	Composite of TMM #51 & TMM #52	Composite of TMM #53 & TMM #54	Composite of TMM #1, TMM #5 & TMM #10	Composite of TMM #13, TMM #18 & TMM #23
Lab Number:		3960764.117	3960764.118	3960764.119	3960764.120	3960764.121
Organonitro&phosphorus Pesticides Screen in Soil by GCMS						
Azinphos-methyl	mg/kg dry wt	-	-	-	< 0.12	< 0.12
Benalaxyl	mg/kg dry wt	-	-	-	< 0.03	< 0.03
Bitertanol	mg/kg dry wt	-	-	-	< 0.12	< 0.12
Bromacil	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Bromopropylate	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Butachlor	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Captan	mg/kg dry wt	-	-	-	< 0.12	< 0.12
Carbaryl	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Carbofuran	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Chlorfluazuron	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Chlorothalonil	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Chlorpyrifos	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Chlorpyrifos-methyl	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Chlortoluron	mg/kg dry wt	-	-	-	< 0.12	< 0.12
Cyanazine	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Cyfluthrin	mg/kg dry wt	-	-	-	< 0.07	< 0.08
Cyhalothrin	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Cypermethrin	mg/kg dry wt	-	-	-	< 0.14	< 0.15
Deltamethrin (including Tralomethrin)	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Diazinon	mg/kg dry wt	-	-	-	< 0.03	< 0.03
Dichlofluanid	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Dichloran	mg/kg dry wt	-	-	-	< 0.2	< 0.2
Dichlorvos	mg/kg dry wt	-	-	-	< 0.09	< 0.09
Difenoconazole	mg/kg dry wt	-	-	-	< 0.09	< 0.09
Dimethoate	mg/kg dry wt	-	-	-	< 0.12	< 0.12
Diphenylamine	mg/kg dry wt	-	-	-	< 0.12	< 0.12
Diuron	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Fenpropimorph	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Fluazifop-butyl	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Fluometuron	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Flusilazole	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Fluvalinate	mg/kg dry wt	-	-	-	< 0.05	< 0.05
Furalaxyl	mg/kg dry wt	-	-	-	< 0.03	< 0.03
Haloxyfop-methyl	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Hexaconazole	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Hexazinone	mg/kg dry wt	-	-	-	< 0.03	< 0.03
IPBC (3-Iodo-2-propynyl-n-butylcarbamate)	mg/kg dry wt	-	-	-	< 0.3	< 0.3
Kresoxim-methyl	mg/kg dry wt	-	-	-	< 0.03	< 0.03
Linuron	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Malathion	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Metalaxyl	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Methamidophos	mg/kg dry wt	-	-	-	< 0.3	< 0.3
Metolachlor	mg/kg dry wt	-	-	-	< 0.05	< 0.05
Metribuzin	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Molinate	mg/kg dry wt	-	-	-	< 0.12	< 0.12
Myclobutanil	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Naled	mg/kg dry wt	-	-	-	< 0.3	< 0.3
Norflurazon	mg/kg dry wt	-	-	-	< 0.12	< 0.12
Oxadiazon	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Oxyfluorfen	mg/kg dry wt	-	-	-	< 0.03	< 0.03
Paclobutrazol	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Parathion-ethyl	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Parathion-methyl	mg/kg dry wt	-	-	-	< 0.06	< 0.06

Sample Type: Soil						
Sample Name:		Composite of TMM #49 & TMM #50	Composite of TMM #51 & TMM #52	Composite of TMM #53 & TMM #54	Composite of TMM #1, TMM #5 & TMM #10	Composite of TMM #13, TMM #18 & TMM #23
Lab Number:		3960764.117	3960764.118	3960764.119	3960764.120	3960764.121
Organonitro&phosphorus Pesticides Screen in Soil by GCMS						
Pendimethalin	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Permethrin	mg/kg dry wt	-	-	-	< 0.03	< 0.03
Pirimicarb	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Pirimiphos-methyl	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Prochloraz	mg/kg dry wt	-	-	-	< 0.3	< 0.3
Procymidone	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Prometryn	mg/kg dry wt	-	-	-	< 0.03	< 0.03
Propachlor	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Propanil	mg/kg dry wt	-	-	-	< 0.2	< 0.2
Propazine	mg/kg dry wt	-	-	-	< 0.03	< 0.03
Propiconazole	mg/kg dry wt	-	-	-	< 0.05	< 0.05
Pyriproxyfen	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Quizalofop-ethyl	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Simazine	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Simetryn	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Sulfentrazone	mg/kg dry wt	-	-	-	< 0.3	< 0.3
TCMTB [2-(thiocyanomethylthio) benzothiazole,Busan]	mg/kg dry wt	-	-	-	< 0.12	< 0.12
Tebuconazole	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Terbacil	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Terbumeton	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Terbuthylazine	mg/kg dry wt	-	-	-	< 0.03	< 0.03
Terbuthylazine-desethyl	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Terbutryn	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Thiabendazole	mg/kg dry wt	-	-	-	< 0.3	< 0.3
Thiobencarb	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Tolylfluanid	mg/kg dry wt	-	-	-	< 0.03	< 0.03
Triazophos	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Trifluralin	mg/kg dry wt	-	-	-	< 0.06	< 0.06
Vinclozolin	mg/kg dry wt	-	-	-	< 0.06	< 0.06

Sample Name:		Composite of TMM #26, TMM #31 & TMM #35	Composite of TMM #37, TMM #44 & TMM #50
Lab Number:		3960764.122	3960764.123
Individual Tests			
Dry Matter	g/100g as rcvd	81	87
Organochlorine Pesticides Screening in Soil			
Aldrin	mg/kg dry wt	< 0.012	< 0.012
alpha-BHC	mg/kg dry wt	< 0.012	< 0.012
beta-BHC	mg/kg dry wt	< 0.012	< 0.012
delta-BHC	mg/kg dry wt	< 0.012	< 0.012
gamma-BHC (Lindane)	mg/kg dry wt	< 0.012	< 0.012
cis-Chlordane	mg/kg dry wt	< 0.012	< 0.012
trans-Chlordane	mg/kg dry wt	< 0.012	< 0.012
2,4'-DDD	mg/kg dry wt	< 0.012	< 0.012
4,4'-DDD	mg/kg dry wt	< 0.012	< 0.012
2,4'-DDE	mg/kg dry wt	< 0.012	< 0.012
4,4'-DDE	mg/kg dry wt	< 0.012	< 0.012
2,4'-DDT	mg/kg dry wt	< 0.012	< 0.012
4,4'-DDT	mg/kg dry wt	< 0.012	< 0.012
Total DDT isomers	mg/kg dry wt	< 0.08	< 0.07
Dieldrin	mg/kg dry wt	< 0.012	< 0.012
Endosulfan I	mg/kg dry wt	< 0.012	< 0.012
Endosulfan II	mg/kg dry wt	< 0.012	< 0.012
Endosulfan sulphate	mg/kg dry wt	< 0.012	< 0.012
Endrin	mg/kg dry wt	< 0.012	< 0.012

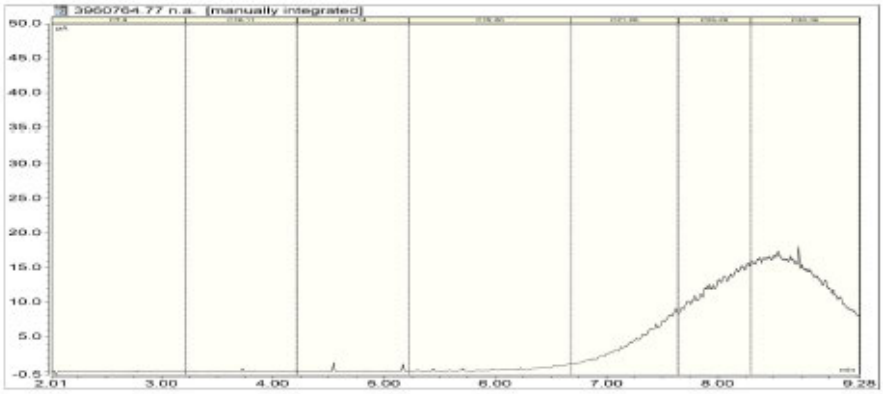
Sample Type: Soil			
Sample Name:		Composite of TMM #26, TMM #31 & TMM #35	Composite of TMM #37, TMM #44 & TMM #50
Lab Number:		3960764.122	3960764.123
Organochlorine Pesticides Screening in Soil			
Endrin aldehyde	mg/kg dry wt	< 0.012	< 0.012
Endrin ketone	mg/kg dry wt	< 0.012	< 0.012
Heptachlor	mg/kg dry wt	< 0.012	< 0.012
Heptachlor epoxide	mg/kg dry wt	< 0.012	< 0.012
Hexachlorobenzene	mg/kg dry wt	< 0.012	< 0.012
Methoxychlor	mg/kg dry wt	< 0.012	< 0.012
Organonitro&phosphorus Pesticides Screen in Soil by GCMS			
Acetochlor	mg/kg dry wt	< 0.07	< 0.06
Alachlor	mg/kg dry wt	< 0.05	< 0.05
Atrazine	mg/kg dry wt	< 0.07	< 0.06
Atrazine-desethyl	mg/kg dry wt	< 0.07	< 0.06
Atrazine-desisopropyl	mg/kg dry wt	< 0.14	< 0.11
Azaconazole	mg/kg dry wt	< 0.04	< 0.03
Azinphos-methyl	mg/kg dry wt	< 0.14	< 0.11
Benalaxyl	mg/kg dry wt	< 0.04	< 0.03
Bitertanol	mg/kg dry wt	< 0.14	< 0.11
Bromacil	mg/kg dry wt	< 0.07	< 0.06
Bromopropylate	mg/kg dry wt	< 0.07	< 0.06
Butachlor	mg/kg dry wt	< 0.07	< 0.06
Captan	mg/kg dry wt	< 0.14	< 0.11
Carbaryl	mg/kg dry wt	< 0.07	< 0.06
Carbofuran	mg/kg dry wt	< 0.07	< 0.06
Chlorfluazuron	mg/kg dry wt	< 0.07	< 0.06
Chlorothalonil	mg/kg dry wt	< 0.07	< 0.06
Chlorpyrifos	mg/kg dry wt	< 0.07	< 0.06
Chlorpyrifos-methyl	mg/kg dry wt	< 0.07	< 0.06
Chlortoluron	mg/kg dry wt	< 0.14	< 0.11
Cyanazine	mg/kg dry wt	< 0.07	< 0.06
Cyfluthrin	mg/kg dry wt	< 0.09	< 0.07
Cyhalothrin	mg/kg dry wt	< 0.07	< 0.06
Cypermethrin	mg/kg dry wt	< 0.17	< 0.14
Deltamethrin (including Tralomethrin)	mg/kg dry wt	< 0.07	< 0.06
Diazinon	mg/kg dry wt	< 0.04	< 0.03
Dichlofluanid	mg/kg dry wt	< 0.07	< 0.06
Dichloran	mg/kg dry wt	< 0.2	< 0.2
Dichlorvos	mg/kg dry wt	< 0.09	< 0.09
Difenoconazole	mg/kg dry wt	< 0.10	< 0.09
Dimethoate	mg/kg dry wt	< 0.14	< 0.11
Diphenylamine	mg/kg dry wt	< 0.14	< 0.11
Diuron	mg/kg dry wt	< 0.07	< 0.06
Fenpropimorph	mg/kg dry wt	< 0.07	< 0.06
Fluazifop-butyl	mg/kg dry wt	< 0.07	< 0.06
Fluometuron	mg/kg dry wt	< 0.07	< 0.06
Flusilazole	mg/kg dry wt	< 0.07	< 0.06
Fluvalinate	mg/kg dry wt	< 0.05	< 0.05
Furalaxyl	mg/kg dry wt	< 0.04	< 0.03
Haloxyfop-methyl	mg/kg dry wt	< 0.07	< 0.06
Hexaconazole	mg/kg dry wt	< 0.07	< 0.06
Hexazinone	mg/kg dry wt	< 0.04	< 0.03
IPBC (3-Iodo-2-propynyl-n-butylcarbamate)	mg/kg dry wt	< 0.4	< 0.3
Kresoxim-methyl	mg/kg dry wt	< 0.04	< 0.03
Linuron	mg/kg dry wt	< 0.07	< 0.06
Malathion	mg/kg dry wt	< 0.07	< 0.06
Metalaxyl	mg/kg dry wt	< 0.07	< 0.06

Sample Type: Soil			
	Sample Name:	Composite of TMM #26, TMM #31 & TMM #35	Composite of TMM #37, TMM #44 & TMM #50
	Lab Number:	3960764.122	3960764.123
Organonitro&phosphorus Pesticides Screen in Soil by GCMS			
Methamidophos	mg/kg dry wt	< 0.4	< 0.3
Metolachlor	mg/kg dry wt	< 0.05	< 0.05
Metribuzin	mg/kg dry wt	< 0.07	< 0.06
Molinate	mg/kg dry wt	< 0.14	< 0.11
Myclobutanil	mg/kg dry wt	< 0.07	< 0.06
Naled	mg/kg dry wt	< 0.4	< 0.3
Norflurazon	mg/kg dry wt	< 0.14	< 0.11
Oxadiazon	mg/kg dry wt	< 0.07	< 0.06
Oxyfluorfen	mg/kg dry wt	< 0.04	< 0.03
Paclobutrazol	mg/kg dry wt	< 0.07	< 0.06
Parathion-ethyl	mg/kg dry wt	< 0.07	< 0.06
Parathion-methyl	mg/kg dry wt	< 0.07	< 0.06
Pendimethalin	mg/kg dry wt	< 0.07	< 0.06
Permethrin	mg/kg dry wt	< 0.03	< 0.03
Pirimicarb	mg/kg dry wt	< 0.07	< 0.06
Pirimiphos-methyl	mg/kg dry wt	< 0.07	< 0.06
Prochloraz	mg/kg dry wt	< 0.4	< 0.3
Procymidone	mg/kg dry wt	< 0.07	< 0.06
Prometryn	mg/kg dry wt	< 0.04	< 0.03
Propachlor	mg/kg dry wt	< 0.07	< 0.06
Propanil	mg/kg dry wt	< 0.2	< 0.2
Propazine	mg/kg dry wt	< 0.04	< 0.03
Propiconazole	mg/kg dry wt	< 0.05	< 0.05
Pyriproxyfen	mg/kg dry wt	< 0.07	< 0.06
Quizalofop-ethyl	mg/kg dry wt	< 0.07	< 0.06
Simazine	mg/kg dry wt	< 0.07	< 0.06
Simetryn	mg/kg dry wt	< 0.07	< 0.06
Sulfentrazone	mg/kg dry wt	< 0.4	< 0.3
TCMTB [2-(thiocyanomethylthio) benzothiazole,Busan]	mg/kg dry wt	< 0.14	< 0.11
Tebuconazole	mg/kg dry wt	< 0.07	< 0.06
Terbacil	mg/kg dry wt	< 0.07	< 0.06
Terbumeton	mg/kg dry wt	< 0.07	< 0.06
Terbuthylazine	mg/kg dry wt	< 0.04	< 0.03
Terbuthylazine-desethyl	mg/kg dry wt	< 0.07	< 0.06
Terbutryn	mg/kg dry wt	< 0.07	< 0.06
Thiabendazole	mg/kg dry wt	< 0.4	< 0.3
Thiobencarb	mg/kg dry wt	< 0.07	< 0.06
Tolylfluanid	mg/kg dry wt	< 0.04	< 0.03
Triazophos	mg/kg dry wt	< 0.07	< 0.06
Trifluralin	mg/kg dry wt	< 0.07	< 0.06
Vinclozolin	mg/kg dry wt	< 0.07	< 0.06

Sample Type: Roading Material		
	Sample Name:	TMM Xtreme Diesel 12-Aug-2025
	Lab Number:	3960764.77
Heavy metals, MacroDig, screen, As,Cd,Cr,Cu,Ni,Pb,Zn*		
Total Recoverable Arsenic	mg/kg as rcvd	2
Total Recoverable Cadmium*	mg/kg as rcvd	< 0.10
Total Recoverable Chromium	mg/kg as rcvd	7
Total Recoverable Copper	mg/kg as rcvd	8
Total Recoverable Lead	mg/kg as rcvd	7.2
Total Recoverable Nickel	mg/kg as rcvd	4
Total Recoverable Zinc	mg/kg as rcvd	50

Sample Type: Roading Material		
Sample Name:		TMM Xtreme Diesel 12-Aug-2025
Lab Number:		3960764.77
Total Petroleum Hydrocarbons, Misc*		
C7 - C9*	mg/kg as rcvd	< 140
C10 - C14*	mg/kg as rcvd	< 120
C15 - C36*	mg/kg as rcvd	13,700
Total hydrocarbons (C7 - C36)*	mg/kg as rcvd	13,700

3960764.77
TMM Xtreme Diesel 12-Aug-2025
Client Chromatogram for TPH by FID



Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, 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, 11, 21, 31, 39-41, 48, 51, 55-76, 78-119
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	76
Dry Matter	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	40, 57, 59, 63, 70, 76, 120-123
Composite Environmental Solid Samples*	Individual sample fractions mixed together to form a composite fraction.	-	1-38, 42-47, 49-54
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	76
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	76

Sample Type: Soil			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion. Complies with NES Regulations. ICP-MS screen level, Interference removal by Kinetic Energy Discrimination if required. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.10 - 4 mg/kg dry wt	1, 11, 21, 31, 39-41, 46, 51, 55-76, 78-119
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	120-123
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	76
Total Petroleum Hydrocarbons in Soil			
C7 - C9	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg dry wt	40, 57, 59, 63, 70
C10 - C14	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg dry wt	40, 57, 59, 63, 70
C15 - C36	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	40 mg/kg dry wt	40, 57, 59, 63, 70
Total hydrocarbons (C7 - C36)	Calculation: Sum of carbon bands from C7 to C36. In-house based on US EPA 8015.	70 mg/kg dry wt	40, 57, 59, 63, 70

Sample Type: Roading Material			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Individual Tests			
SHOC Macro Extraction 10x Dilution*		-	77
Macro Total Recoverable digestion	Nitric / hydrochloric acid digestion. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	-	77
Total Recoverable Arsenic	Tested on as received sample. Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	2 mg/kg as rcvd	77
Total Recoverable Cadmium*	Tested on as received sample. Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.10 mg/kg as rcvd	77
Total Recoverable Chromium	Tested on as received sample. Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	2 mg/kg as rcvd	77
Total Recoverable Copper	Tested on as received sample. Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	2 mg/kg as rcvd	77
Total Recoverable Lead	Tested on as received sample. Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	0.4 mg/kg as rcvd	77
Total Recoverable Nickel	Tested on as received sample. Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	2 mg/kg as rcvd	77
Total Recoverable Zinc	Tested on as received sample. Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2 (modified), APHA 3125 B: Online Edition.	4 mg/kg as rcvd	77
Heavy metals, MacroDig, screen, As,Cd,Cr,Cu,Ni,Pb,Zn*	Tested on as received sample. Nitric/Hydrochloric acid digestion, ICP-MS, screen level.	0.10 - 4 mg/kg as rcvd	77
Total Petroleum Hydrocarbons, Misc			
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.	-	77
C7 - C9*	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg as rcvd	77
C10 - C14*	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg as rcvd	77
C15 - C36*	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	40 mg/kg as rcvd	77
Total hydrocarbons (C7 - C36)*	Calculation: Sum of carbon bands from C7 to C36. In-house based on US EPA 8015.	70 mg/kg as rcvd	77

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

Testing was completed between 14-Aug-2025 and 25-Aug-2025. For completion dates of individual analyses please contact the laboratory.

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

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

Martin Cowell - BSc
Client Services Manager - Environmental

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Quality Assurance Report

Client:	EAM NZ Limited	Lab No:	3960764	QCPv1
Contact:	J Strong C/- EAM NZ Limited 1257 Dartmoor Road Dartmoor Napier 4186	Date Received:	14-Aug-2025	
		Date Reported:	25-Aug-2025	
		Quote No:	72316	
		Order No:		
		Client Reference:	TMM	
		Submitted By:	J Strong	

Sample Specific QCs

Polycyclic Aromatic Hydrocarbons Screening in Soil

		3960764.76	Control Limits	Outside Limit (Yes/No)
1-methylnaphthalene-d10	%	106	65 – 130	No
Benzo[a]pyrene-d12	%	107	70 – 140	No
Fluoranthene-d10	%	111	66 – 130	No

Organochlorine Pesticides Screening in Soil

		3960764.120	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	83	40 – 120	No

Organonitro&phosphorus Pesticides Screen in Soil by GCMS

		3960764.120	Control Limits	Outside Limit (Yes/No)
Triphenylphosphate	%	90	40 – 120	No

Organochlorine Pesticides Screening in Soil

		3960764.121	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	82	40 – 120	No

Organonitro&phosphorus Pesticides Screen in Soil by GCMS

		3960764.121	Control Limits	Outside Limit (Yes/No)
Triphenylphosphate	%	97	40 – 120	No

Organochlorine Pesticides Screening in Soil

		3960764.122	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

		3960764.122	Control Limits	Outside Limit (Yes/No)
Triphenylphosphate	%	93	40 – 120	No

Organochlorine Pesticides Screening in Soil

		3960764.123	Control Limits	Outside Limit (Yes/No)
2,4,5,6-tetrachloro-m-xylene	%	62	40 – 120	No

Organonitro&phosphorus Pesticides Screen in Soil by GCMS

		3960764.123	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): 12534.13

		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

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12534.13				
		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 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): 12534.33				
		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 ± 0.065	-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 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): 12538.13				
		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 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): 12538.60				
		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 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): 12539.13				
		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 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): 12539.37				
		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

Digest Blank 2 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12539.37				
		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 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): 12539.62				
		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 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): 12540.13				
		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 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): 12540.38				
		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 ± 0.065	-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 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): 12542.13				
		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 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): 12542.42				
		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 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): 12542.42				
		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): 12543.13				
		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 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): 12543.45				
		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 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): 12543.72				
		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 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): 12546.13				
		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): 12546.29				
		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): 12546.53				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Copper	mg/kg dry wt	< 2 ± 1.3	-2.0 – 2.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12547.13				
		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 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): 12547.13				
		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): 12547.44				
		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 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 MacroESDig - WS: Environmental Soils by ICP-MS (esTR): 12186.27				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg as rcvd	< 2 ± 0.15	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg as rcvd	< 0.10 ± 0.067	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg as rcvd	< 2 ± 0.14	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg as rcvd	< 2 ± 0.14	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg as rcvd	< 0.4 ± 0.27	-0.40 – 0.40	No
Total Recoverable Nickel	mg/kg as rcvd	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg as rcvd	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 2 PrepWS MacroESDig - WS: Environmental Soils by ICP-MS (esTR): 12186.28				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg as rcvd	< 2 ± 0.15	-2.0 – 2.0	No
Total Recoverable Cadmium	mg/kg as rcvd	< 0.10 ± 0.067	-0.100 – 0.100	No
Total Recoverable Chromium	mg/kg as rcvd	< 2 ± 0.14	-2.0 – 2.0	No
Total Recoverable Copper	mg/kg as rcvd	< 2 ± 0.14	-2.0 – 2.0	No
Total Recoverable Lead	mg/kg as rcvd	< 0.4 ± 0.27	-0.40 – 0.40	No
Total Recoverable Nickel	mg/kg as rcvd	< 2 ± 1.4	-2.0 – 2.0	No
Total Recoverable Zinc	mg/kg as rcvd	< 4 ± 2.7	-4.0 – 4.0	No

Digest Blank 1 PrepWS esDig - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12555.13				
		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 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): 12555.22				
		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 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): 12555.22				
		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): 12555.65				
		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 Lead	mg/kg dry wt	< 0.4 ± 0.27	-0.40 – 0.40	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): 12556.13				
		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 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): 12556.62				
		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 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: 3975.1				
		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

Blank 1 - Multiresidue Soil Analysis Worksheet: 3975.1				
		Results	Control Limits	Outside Limit (Yes/No)
Chlorfluazuron	mg/kg dry wt	< 0.05 ± 0.023	0.0 – 0.0062	Yes #1
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
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
Haloxyfop-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

Blank 1 - Multiresidue Soil Analysis Worksheet: 3975.1				
		Results	Control Limits	Outside Limit (Yes/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
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
Tolylfluanid	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: 3975.5				
		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

Blank 1 - Multiresidue Soil Analysis Worksheet: 3975.5				
		Results	Control Limits	Outside Limit (Yes/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
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
Haloxyfop-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

Blank 1 - Multiresidue Soil Analysis Worksheet: 3975.5				
		Results	Control Limits	Outside Limit (Yes/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
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
Tolylfluanid	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: 3975.8				
		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

Blank 1 - Multiresidue Soil Analysis Worksheet: 3975.8				
		Results	Control Limits	Outside Limit (Yes/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
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
Haloxyfop-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	< 0.09 ± 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

Blank 1 - Multiresidue Soil Analysis Worksheet: 3975.8				
		Results	Control Limits	Outside Limit (Yes/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	< 0.09 ± 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
Tolylfluanid	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: 3975.21				
		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

Blank 1 - Multiresidue Soil Analysis Worksheet: 3975.21				
		Results	Control Limits	Outside Limit (Yes/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
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
Haloxyfop-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

Blank 1 - Multiresidue Soil Analysis Worksheet: 3975.21				
		Results	Control Limits	Outside Limit (Yes/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
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
Tolylfluanid	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: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17303.1				
		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 ± 0.0063	0.0 – 0.0100	No
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.010 ± 0.0066	0.0 – 0.0100	No

Blank 1 PrepWS xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17303.1				
		Results	Control Limits	Outside Limit (Yes/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 ± 0.0067	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: Organochlorine Pesticides Soil Analysis: 9097.1				
		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

Screen LCS Mix2&4 - Multiresidue Soil Analysis Worksheet: 3975.2				
		Results	Control Limits	Outside Limit (Yes/No)
Alachlor	%	92 ± 32	54 – 112	No
Atrazine-desethyl	%	79 ± 26	44 – 102	No

Screen LCS Mix2&4 - Multiresidue Soil Analysis Worksheet: 3975.2				
		Results	Control Limits	Outside Limit (Yes/No)
Benalaxyl	%	78 ± 24	55 – 105	No
Bitertanol	%	60 ± 38	31 – 114	No
Bromopropylate	%	62 ± 19	46 – 100	No
Butachlor	%	77 ± 27	44 – 113	No
Chlorothalonil	%	100 ± 67	29 – 124	No
Chlortoluron	%	82 ± 40	29 – 134	No
Cyhalothrin	%	64 ± 34	41 – 101	No
Cypermethrin	%	62 ± 27	37 – 120	No
Deltamethrin (including Tralomethrin)	%	77 ± 51	41 – 122	No
Dichlofluanid	%	79 ± 31	31 – 126	No
Difenoconazole	%	64 ± 43	37 – 115	No
Dimethoate	%	65 ± 32	33 – 115	No
Diuron	%	63 ± 34	21 – 110	No
Fenpropimorph	%	23 ± 16	31 – 90	Yes #2
Fluazifop-butyl	%	74 ± 25	51 – 105	No
Fluometuron	%	71 ± 19	17.0 – 125	No
Haloxyfop-methyl	%	88 ± 28	60 – 107	No
Linuron	%	77 ± 31	12.0 – 126	No
Metalaxyl	%	84 ± 23	45 – 105	No
Metolachlor	%	84 ± 26	58 – 113	No
Molinate	%	80 ± 32	58 – 115	No
Norflurazon	%	76 ± 27	43 – 100	No
Oxyfluorfen	%	56 ± 17	37 – 98	No
Parathion-ethyl	%	59 ± 19	36 – 108	No
Parathion-methyl	%	74 ± 26	31 – 113	No
Pendimethalin	%	65 ± 20	38 – 122	No
Prochloraz	%	44 ± 30	23 – 105	No
Procymidone	%	91 ± 31	64 – 111	No
Prometryn	%	83 ± 31	49 – 120	No
Propachlor	%	76 ± 18	50 – 107	No
Propanil	%	78 ± 29	43 – 94	No
Propazine	%	96 ± 34	56 – 116	No
Simazine	%	93 ± 32	49 – 104	No
Simetryn	%	41 ± 19	37 – 100	No
Tebuconazole	%	66 ± 36	58 – 117	No
Terbacil	%	79 ± 31	13.0 – 120	No
Terbuthylazine	%	98 ± 32	53 – 112	No
Tolylfluanid	%	86 ± 42	26 – 130	No
Trifluralin	%	76 ± 19	48 – 107	No

LCS TPH PrepWS xsSHOC - Total Petroleum Hydrocarbon Soil Analysis: 15156.3				
		Results	Control Limits	Outside Limit (Yes/No)
Total hydrocarbons (C7 - C36)	%	86 ± 43	74 – 108	No
Total hydrocarbons (C7 - C36)	%	86 ± 43	74 – 108	No

LCS PAH xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17303.2				
		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	%	103 ± 26	78 – 122	No
2-Methylnaphthalene	%	100 ± 25	72 – 117	No
Acenaphthylene	%	102.0 ± 9.2	75 – 118	No
Acenaphthene	%	105 ± 30	84 – 119	No
Anthracene	%	99 ± 30	79 – 121	No
Benzo[a]anthracene	%	99 ± 26	81 – 123	No
Benzo[a]pyrene (BAP)	%	108.0 ± 8.3	76 – 123	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	%	105 ± 22	80 – 121	No
Benzo[e]pyrene	%	102.0 ± 7.8	78 – 110	No
Benzo[g,h,i]perylene	%	105 ± 19	80 – 124	No
Benzo[k]fluoranthene	%	111 ± 14	79 – 121	No
Chrysene	%	105 ± 16	83 – 121	No
Dibenzo[a,h]anthracene	%	109 ± 14	78 – 124	No
Fluoranthene	%	104 ± 11	81 – 122	No
Fluorene	%	103 ± 13	86 – 122	No
Indeno(1,2,3-c,d)pyrene	%	105.0 ± 9.7	83 – 123	No
Naphthalene	%	105 ± 26	84 – 118	No
Perylene	%	83.0 ± 6.4	60 – 107	No
Phenanthrene	%	103 ± 15	84 – 120	No
Pyrene	%	99 ± 13	79 – 123	No

LCS OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9097.2				
		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	%	89 ± 27	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)	%	87 ± 25	78 – 116	No
cis-Chlordane	%	85 ± 28	78 – 118	No
trans-Chlordane	%	73 ± 22	76 – 121	Yes #3
2,4'-DDD	%	87 ± 32	75 – 114	No
4,4'-DDD	%	91 ± 44	75 – 120	No
2,4'-DDE	%	101 ± 33	73 – 118	No
4,4'-DDE	%	84 ± 43	73 – 116	No
2,4'-DDT	%	91 ± 48	70 – 124	No
4,4'-DDT	%	85 ± 50	65 – 120	No
Dieldrin	%	87 ± 39	84 – 124	No
Endosulfan I	%	90 ± 33	81 – 120	No
Endosulfan II	%	84 ± 37	72 – 117	No
Endosulfan sulphate	%	88 ± 55	76 – 120	No
Endrin	%	89 ± 59	78 – 124	No
Endrin aldehyde	%	94 ± 53	84 – 127	No
Endrin ketone	%	80 ± 39	69 – 115	No
Heptachlor	%	90 ± 31	74 – 120	No
Heptachlor epoxide	%	91 ± 26	79 – 119	No
Hexachlorobenzene	%	86 ± 30	77 – 116	No

LCS OC/PAH PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9097.2				
		Results	Control Limits	Outside Limit (Yes/No)
Methoxychlor	%	85 ± 57	70 – 125	No
Sample Spike QCs				
Screen Sample Spike Mix2&4 - Multiresidue Soil Analysis Worksheet: 3975.10				
		Results	Control Limits	Outside Limit (Yes/No)
Alachlor	%	82 ± 28	54 – 109	No
Atrazine-desethyl	%	79 ± 26	42 – 101	No
Benalaxyl	%	96 ± 30	64 – 109	No
Bitertanol	%	128 ± 80	30 – 171	No
Bromopropylate	%	93 ± 29	54 – 117	No
Butachlor	%	92 ± 32	56 – 116	No
Chlorothalonil	%	81 ± 54	26 – 129	No
Chlortoluron	%	131 ± 64	30 – 190	No
Cyhalothrin	%	101 ± 53	56 – 116	No
Cypermethrin	%	128 ± 54	51 – 144	No
Deltamethrin (including Tralomethrin)	%	130 ± 86	51 – 171	No
Dichlofluanid	%	80 ± 31	27 – 137	No
Difenoconazole	%	105 ± 70	53 – 132	No
Dimethoate	%	74 ± 36	37 – 127	No
Diuron	%	119 ± 63	17.0 – 158	No
Fenpropimorph	%	78 ± 52	9.0 – 138	No
Fluazifop-butyl	%	98 ± 33	63 – 110	No
Fluometuron	%	88 ± 24	15.0 – 140	No
Haloxyfop-methyl	%	96 ± 31	57 – 120	No
Linuron	%	82 ± 33	11.0 – 124	No
Metalaxyl	%	82 ± 22	51 – 102	No
Metolachlor	%	93 ± 29	61 – 124	No
Molinate	%	108 ± 43	62 – 128	No
Norflurazon	%	95 ± 33	54 – 111	No
Oxyfluorfen	%	81 ± 25	35 – 122	No
Parathion-ethyl	%	75 ± 24	35 – 130	No
Parathion-methyl	%	75 ± 26	39 – 109	No
Pendimethalin	%	84 ± 25	45 – 131	No
Prochloraz	%	116 ± 77	22 – 152	No
Procymidone	%	93 ± 32	58 – 115	No
Prometryn	%	94 ± 35	57 – 120	No
Propachlor	%	117 ± 28	48 – 118	No
Propanil	%	79 ± 29	42 – 112	No
Propazine	%	76 ± 27	56 – 104	No
Simazine	%	78 ± 27	53 – 98	No
Simetryn	%	82 ± 37	37 – 118	No
Tebuconazole	%	103 ± 56	69 – 135	No
Terbacil	%	86 ± 34	30 – 129	No
Terbuthylazine	%	81 ± 27	48 – 105	No
Tolylfluanid	%	86 ± 42	13.0 – 141	No
Trifluralin	%	102 ± 25	46 – 120	No

Matrix Spike TPH PrepWS xsSHOC - Total Petroleum Hydrocarbon Soil Analysis: 15156.18				
		Results	Control Limits	Outside Limit (Yes/No)
Total hydrocarbons (C7 - C36)	%	84 ± 43	71 – 104	No
Total hydrocarbons (C7 - C36)	%	84 ± 43	71 – 104	No

Spike PAH xsSHOC - WS: Polycyclic Aromatic Hydrocarbons Soil Analysis: 17303.4				
		Results	Control Limits	Outside Limit (Yes/No)
1-Methylnaphthalene	%	111 ± 28	77 – 126	No
2-Methylnaphthalene	%	107 ± 27	71 – 121	No
Acenaphthylene	%	110 ± 10	75 – 120	No
Acenaphthene	%	112 ± 32	84 – 121	No
Anthracene	%	105 ± 32	80 – 122	No
Benzo[a]anthracene	%	106 ± 28	81 – 126	No
Benzo[a]pyrene (BAP)	%	116.0 ± 8.9	77 – 125	No
Benzo[b]fluoranthene + Benzo[j]fluoranthene	%	114 ± 24	79 – 125	No
Benzo[e]pyrene	%	110.0 ± 8.4	77 – 115	No
Benzo[g,h,i]perylene	%	114 ± 20	77 – 129	No
Benzo[k]fluoranthene	%	119 ± 15	81 – 123	No
Chrysene	%	112 ± 17	83 – 125	No
Dibenzo[a,h]anthracene	%	118 ± 16	78 – 128	No
Fluoranthene	%	111 ± 12	78 – 127	No
Fluorene	%	109 ± 13	86 – 125	No
Indeno(1,2,3-c,d)pyrene	%	114 ± 11	80 – 129	No
Naphthalene	%	111 ± 28	84 – 120	No
Perylene	%	88.0 ± 6.7	60 – 110	No
Phenanthrene	%	110 ± 16	82 – 123	No
Pyrene	%	105 ± 14	76 – 128	No

Spike OC PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9097.21				
		Results	Control Limits	Outside Limit (Yes/No)
Aldrin	%	87 ± 27	83 – 122	No
alpha-BHC	%	85 ± 26	80 – 122	No
beta-BHC	%	83 ± 32	79 – 114	No
delta-BHC	%	86 ± 30	76 – 118	No
gamma-BHC (Lindane)	%	84 ± 24	80 – 117	No
cis-Chlordane	%	80 ± 26	80 – 120	No
trans-Chlordane	%	70 ± 22	79 – 121	Yes #4
2,4'-DDD	%	86 ± 31	74 – 120	No
4,4'-DDD	%	92 ± 45	75 – 125	No
2,4'-DDE	%	98 ± 32	74 – 119	No
4,4'-DDE	%	80 ± 41	76 – 120	No
2,4'-DDT	%	76 ± 40	72 – 126	No
4,4'-DDT	%	67 ± 39	63 – 123	No
Dieldrin	%	82 ± 37	86 – 126	Yes #5
Endosulfan I	%	85 ± 31	83 – 120	No
Endosulfan II	%	80 ± 36	72 – 119	No
Endosulfan sulphate	%	86 ± 54	78 – 124	No
Endrin	%	86 ± 57	82 – 126	No
Endrin aldehyde	%	90 ± 51	84 – 131	No

Spike OC PrepWS xsSHOC - WS: Organochlorine Pesticides Soil Analysis: 9097.21				
		Results	Control Limits	Outside Limit (Yes/No)
Endrin ketone	%	78 ± 38	70 – 119	No
Heptachlor	%	88 ± 30	79 – 123	No
Heptachlor epoxide	%	87 ± 25	81 – 119	No
Hexachlorobenzene	%	83 ± 29	77 – 119	No
Methoxychlor	%	77 ± 51	71 – 133	No

Reference Material QCs

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12534.14				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.4 ± 2.2	9.1 – 12.7	No
Total Recoverable Cadmium	mg/kg dry wt	0.93 ± 0.18	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	13.7 ± 2.6	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	33.7 ± 6.3	28 – 38	No
Total Recoverable Nickel	mg/kg dry wt	14.4 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	206 ± 31	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12534.61				
		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	0.85 ± 0.17	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	33.6 ± 6.3	28 – 38	No
Total Recoverable Nickel	mg/kg dry wt	14.0 ± 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): 12538.14				
		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 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.7 ± 3.6	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	31.8 ± 6.0	28 – 38	No
Total Recoverable Nickel	mg/kg dry wt	13.5 ± 2.2	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): 12538.51				
		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	26.2 ± 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	31.3 ± 5.9	28 – 38	No
Total Recoverable Nickel	mg/kg dry wt	14.0 ± 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): 12539.14				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	10.4 ± 2.1	9.1 – 12.7	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12539.14				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Cadmium	mg/kg dry wt	0.84 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.7 ± 3.6	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.0 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	33.8 ± 6.4	28 – 38	No
Total Recoverable Nickel	mg/kg dry wt	13.6 ± 2.2	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): 12539.30				
		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	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 Nickel	mg/kg dry wt	13.4 ± 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): 12539.63				
		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	12.2 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.3 ± 5.9	28 – 38	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): 12540.14				
		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	0.81 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	24.2 ± 3.5	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	12.3 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.9 ± 6.0	28 – 38	No
Total Recoverable Nickel	mg/kg dry wt	13.3 ± 2.2	11.7 – 16.3	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12540.22				
		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 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	25.4 ± 3.6	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	32.2 ± 6.1	28 – 38	No
Total Recoverable Nickel	mg/kg dry wt	13.5 ± 2.2	11.7 – 16.3	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12542.14				
		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	24.0 ± 3.4	21 – 30	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12542.14				
		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	32.7 ± 6.2	28 – 38	No
Total Recoverable Nickel	mg/kg dry wt	13.4 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	190 ± 29	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12542.33				
		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	0.75 ± 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	12.2 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.7 ± 6.0	28 – 38	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 ± 28	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12543.14				
		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 ± 0.15	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	12.3 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.2 ± 6.1	28 – 38	No
Total Recoverable Nickel	mg/kg dry wt	13.6 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	186 ± 28	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12543.31				
		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	0.81 ± 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	12.6 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	32.0 ± 6.0	28 – 38	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 ± 29	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12543.73				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	9.8 ± 2.0	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	24.5 ± 3.5	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	11.8 ± 2.3	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	29.6 ± 5.6	28 – 38	No
Total Recoverable Nickel	mg/kg dry wt	12.9 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	175 ± 26	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12546.14				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Zinc	mg/kg dry wt	197 ± 29	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12546.21				
		Results	Control Limits	Outside Limit (Yes/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): 12546.54				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Copper	mg/kg dry wt	13.0 ± 2.5	11.0 – 15.3	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12547.14				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.4 ± 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	28.2 ± 4.0	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	34.7 ± 6.5	28 – 38	No
Total Recoverable Nickel	mg/kg dry wt	14.6 ± 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): 12547.33				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg dry wt	11.4 ± 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	28.5 ± 4.0	21 – 30	No
Total Recoverable Copper	mg/kg dry wt	13.7 ± 2.6	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	34.9 ± 6.6	28 – 38	No
Total Recoverable Nickel	mg/kg dry wt	14.6 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	202 ± 30	166 – 230	No

QC A8 PrepWS MacroESDig - WS: Environmental Soils by ICP-MS (esTR): 12186.29				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg as rcvd	8.67 ± 0.15	7.6 – 10.2	No
Total Recoverable Cadmium	mg/kg as rcvd	0.364 ± 0.083	0.31 – 0.45	No
Total Recoverable Chromium	mg/kg as rcvd	12.2 ± 1.9	8.0 – 17.9	No
Total Recoverable Copper	mg/kg as rcvd	19.3 ± 2.7	15.1 – 23	No
Total Recoverable Lead	mg/kg as rcvd	42.5 ± 6.4	28 – 53	No
Total Recoverable Nickel	mg/kg as rcvd	5.6 ± 1.5	3.6 – 8.0	No
Total Recoverable Zinc	mg/kg as rcvd	88.9 ± 6.8	72 – 103	No

QC A8 PrepWS MacroESDig - WS: Environmental Soils by ICP-MS (esTR): 12186.40				
		Results	Control Limits	Outside Limit (Yes/No)
Total Recoverable Arsenic	mg/kg as rcvd	8.85 ± 0.15	7.6 – 10.2	No
Total Recoverable Cadmium	mg/kg as rcvd	0.370 ± 0.084	0.31 – 0.45	No
Total Recoverable Chromium	mg/kg as rcvd	12.2 ± 1.9	8.0 – 17.9	No
Total Recoverable Copper	mg/kg as rcvd	20.4 ± 2.8	15.1 – 23	No
Total Recoverable Lead	mg/kg as rcvd	41.0 ± 6.2	28 – 53	No
Total Recoverable Nickel	mg/kg as rcvd	5.2 ± 1.5	3.6 – 8.0	No
Total Recoverable Zinc	mg/kg as rcvd	84.7 ± 6.5	72 – 103	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12555.14				
		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	0.83 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	27.4 ± 3.8	21 – 30	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12555.14				
		Results	Control Limits	Outside Limit (Yes/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 Nickel	mg/kg dry wt	14.1 ± 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): 12555.32				
		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	0.79 ± 0.16	0.70 – 0.98	No
Total Recoverable Chromium	mg/kg dry wt	26.4 ± 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	30.5 ± 5.7	28 – 38	No
Total Recoverable Nickel	mg/kg dry wt	13.8 ± 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): 12555.66				
		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	0.78 ± 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	29.7 ± 5.6	28 – 38	No
Total Recoverable Nickel	mg/kg dry wt	13.0 ± 2.2	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	178 ± 27	166 – 230	No

SETOC-705 QC - WS: High Volume Environmental Soils by ICP-MS (HVesTR): 12556.14				
		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	0.84 ± 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	12.9 ± 2.4	11.0 – 15.3	No
Total Recoverable Lead	mg/kg dry wt	31.6 ± 5.9	28 – 38	No
Total Recoverable Nickel	mg/kg dry wt	13.7 ± 2.2	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): 12556.53				
		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	26.6 ± 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	31.1 ± 5.9	28 – 38	No
Total Recoverable Nickel	mg/kg dry wt	14.0 ± 2.3	11.7 – 16.3	No
Total Recoverable Zinc	mg/kg dry wt	188 ± 28	166 – 230	No

Analyst's Comments
[#1] False alert. Result is less than detection limit.
[#2] It was noted that the Laboratory Control Spike (LCS) recovery for this analyte was outside the acceptable recovery range. It is known that some compounds are affected by the un-ashed sand matrix used as the LCS.
[#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 as it appears that the current spike standard is reading back lower than the calibration standard (as it is from a separate source).
[#5] The sample spike recovery for this analyte was below the acceptable recovery range of the method. The corresponding sample result was accepted as the recovery is deemed to be fit for purpose when compared against generic 80-120% limits.

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Certificate of Analysis

Client:	EAM NZ Limited	Lab No:	3961174	A2Pv1
Contact:	J Strong C/- EAM NZ Limited 1257 Dartmoor Road Dartmoor Napier 4186	Date Received:	14-Aug-2025	
		Date Reported:	18-Aug-2025	
		Quote No:	72316	
		Order No:		
		Client Reference:	TMM	
		Submitted By:	J Strong	

Sample Type: Soil

Sample Name	Lab Number	As Received Weight Presence / Absence Testing (g)	Dry Weight Presence / Absence Testing (g)	<2mm Subsample Weight Presence / Absence Testing (g dry wt)	Asbestos Presence / Absence from Presence / Absence Testing	Description of Asbestos Form Presence / Absence Testing
TMM 63	3961174.1	263.4	227.9	51.6	Asbestos NOT detected.	-
TMM 64	3961174.2	211.3	169.7	54.7	Asbestos NOT detected.	-
TMM 65	3961174.3	114.5	98.0	67.4	Asbestos NOT detected.	-
TMM 66	3961174.4	255.4	207.0	50.3	Asbestos NOT detected.	-
TMM 67	3961174.5	160.8	131.5	57.1	Asbestos NOT detected.	-
TMM 68	3961174.6	197.4	153.8	56.7	Asbestos NOT detected.	-
TMM 69	3961174.7	375.0	359.7	50.4	Asbestos NOT detected.	-
TMM 70	3961174.8	209.8	162.1	52.2	Asbestos NOT detected.	-
TMM 71	3961174.9	162.6	129.8	51.6	Asbestos NOT detected.	-
TMM 72	3961174.10	272.4	248.3	55.2	Asbestos NOT detected.	-
TMM 73	3961174.11	231.9	192.4	57.6	Asbestos NOT detected.	-
TMM 74	3961174.12	215.7	186.9	53.5	Asbestos NOT detected.	-
TMM 75	3961174.13	288.5	240.3	58.4	Asbestos NOT detected.	-

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.

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
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	1-13
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	1-13

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

Sample Type: Soil			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
<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.	-	1-13
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%	1-13
Description of Asbestos Form Presence / Absence Testing	Description of asbestos form and/or shape if present.	-	1-13

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

Testing was completed on 18-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.

John Keneth Paglingayen BApSc
Laboratory Technician - Asbestos

TABLE 1. SUMMARY OF SOIL METALS 0-150mm and 150-300mm AT ST GEORGES ROAD (mg/kg Dry Wt.)

Sample Name	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Zinc
Sample #1	4	0.18	12	21	10.1	7	74
Composite (Samples #1 + #2)	4	0.20	13	18	10.4	7	68
Composite (Samples #3 + #4)	4	0.17	13	18	11.6	7	69
Composite (Samples #5 + #6)	3	0.16	12	21	10.3	6	60
Composite (Samples #7 + #8)	4	0.12	12	20	10.4	7	66
Composite (Samples #9 + #10)	6	0.15	11	24	10.1	6	57
Sample #11	5	0.18	12	20	10.3	7	78
Composite (Samples #11 + #12)	6	0.16	11	16	10.2	7	68
Composite (Samples #13 + #14)	3	0.15	10	18	11.1	7	72
Composite (Samples #15 + #16)	3	0.15	11	11	10.5	7	69
Composite (Samples #17 + #18)	8	0.22	14	25	46	7	370
Composite (Samples #19 + #20)	4	0.13	10	16	10.3	7	68
Sample #21	4	0.16	10	15	10.0	7	78
Composite (Samples #21 + #22)	4	0.14	10	14	9.9	7	77
Composite (Samples #23 + #24)	3	0.15	10	13	9.6	7	78
Composite (Samples #25 + #26)	3	0.13	10	11	10.1	7	70
Composite (Samples #27 + #28)	3	0.12	11	21	10.8	9	131
Composite (Samples #29 + #30)	4	0.14	11	16	11.0	11	70
Sample #31	4	0.16	10	16	10.7	8	79
Composite (Samples #31 + #32)	4	0.14	10	15	10.9	8	74
Composite (Samples #33 + #34)	4	0.15	13	15	10.7	9	103
Composite (Samples #35 + #36)	4	0.11	12	13	11.1	9	69
Composite (Samples #37 + #38)	3	0.16	10	14	10.8	8	83
Sample #39	4	<0.10	11	11	11.0	9	66
Sample #40	6	0.16	13	12	20	9	78
Sample #41	2	0.18	9	7	9.8	8	68
Composite (Samples #42 + #43)	3	0.15	10	14	10.6	7	76
Composite (Samples #44 + #45)	4	0.31	11	12	11.9	8	74
Composite (Samples #46 + #47)	3	0.18	10	11	10.6	8	68
Sample #48	3	0.18	11	17	12.7	7	99
Composite (Samples #49 + #50)	3	0.17	10	14	11.7	8	87
Sample #51	3	<0.10	13	10	7.7	7	40
Composite (Samples #51 + #52)	3	<0.10	13	10	9.4	7	40
Composite (Samples #53 + #54)	3	<0.10	13	10	9.4	7	45
Sample #55	<2	<0.10	9	5	5.5	5	28
Sample #56	3	<0.10	12	10	9.6	8	44
Sample #57	3	<0.10	13	10	10.1	8	48
Sample #58	4	<0.10	13	10	10.5	8	50
Sample #59	3	<0.10	14	11	12.5	9	45
Sample #60	4	0.13	9	6	10.8	7	56
HB Uncontaminated Soil[1]	9	0.7	24	32	27	17	105
NES Residential (10% Produce)[2]	17	0.8	290	>10,000	160	-	-
NEPM Residential A[3]	-	-	-	-	-	400	7,400
Landcare Eco SGV[4]	60	12	390	240	900	NGV	300

Sample Name	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Zinc
Sample #61	2	<0.10	9	5	9.5	7	48
Sample #62	4	<0.10	13	9	12.6	9	61
Sample #63	4	0.10	13	13	10.0	8	53
Sample #64	4	0.19	11	26	16.1	10	65
Sample #65	3	<0.10	11	7	11.4	8	48
Sample #66	3	0.18	10	16	11.4	8	63
Sample #67	3	0.17	9	14	11.2	8	58
Sample #68	4	0.15	10	28	11.8	9	58
Sample #69	3	<0.10	11	8	10.7	9	50
Sample #70	2	0.15	10	26	10.1	8	62
Sample #71	6	0.14	12	24	10.6	8	59
Sample #72	4	<0.10	11	7	8.6	7	36
Sample #73	3	<0.10	13	9	12.1	7	41
Sample #74	4	<0.10	14	10	12.5	10	53
Sample #75	3	<0.10	13	10	12.9	9	50
Burnpile	4	0.26	11	48	9.9	9	117
Hydrocarbon diesel stain (Xtreme yard)	2	<0.10	7	8	7.2	4	50
SP1#1	5	0.28	9	22	9.4	8	169
SP1#2	3	0.25	8	13	9.6	8	100
SP1#3	3	0.16	8	9	10.5	6	74
SP2#1	4	0.19	10	14	11.9	7	90
SP2#2	5	0.17	10	14	13.8	7	100
SP2#3	5	0.18	10	15	12.5	7	101
SP2#4	4	0.11	14	12	11.3	10	55
SP2#5	3	<0.10	11	8	11.9	7	50
HB Uncontaminated Soil[1]	9	0.7	24	32	27	17	105
NES Residential (10% Produce)[2]	17	0.8	290	>10,000	160	-	-
NEPM Residential A[3]	-	-	-	-	-	400	7,400
Landcare Eco SGV[4]	60	12	390	240	900	NGV	300

Exceeds Hawke's Bay Uncontaminated Background Soil

RED Exceeds NES Residential 25% Produce

123 Exceeds Development of Soil Guideline Values for Protection of Ecological Receptors (Eco SGV's). Assumes recreational/residential area, aged source, typical soil.

[1] Hawke's Bay Region; Background Soil Concentrations for Managing Soil Quality. Landcare Research. J Cavanagh, 2014.

[2] MfE, June 2011. Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations, 2011.

[3] National Environmental Protection (Assessment of Site Contamination) Measure, 1999.

[4] Development of Soil Guideline Values for Protection of Ecological Receptors (Eco SGV's).

TABLE 2. RELATIVE PERCENTILE DIFFERENCES (%)

Sample Name	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Zinc
Sample#1	4	0.18	12	21	10.1	7	74
Sample#1 Duplicate	4	0.19	12	22	10.5	7	76
Sample#11	5	0.18	12	20	10.3	7	78
Sample#11 Duplicate	5	0.16	11	20	9.6	7	75
Sample#21	4	0.16	10	15	10.0	7	78
Sample#21 Duplicate	4	0.16	10	14	10.4	7	77
Sample#31	4	0.16	10	16	10.7	8	79
Sample#31 Duplicate	4	0.15	10	17	11.5	8	81
Sample#41	2	0.18	9	7	9.8	8	68
Sample#41 Duplicate	2	0.18	9	7	10.1	8	67
Sample#51	3	<0.10	13	10	7.7	7	40
Sample#51 Duplicate	3	<0.10	12	11	7.8	7	35
Sample#61	2	<0.10	9	5	9.5	7	48
Sample#61 Duplicate	<2	<0.10	8	5	8.9	6	46
Sample#71	6	0.14	12	24	10.6	8	59
Sample#71 Duplicate	5	0.17	11	25	10.7	8	67
SP2 #1	4	0.19	10	14	11.9	7	90
SP2 #1 Duplicate	4	0.19	10	14	12.4	7	93
#1 Mean	4	0.185	12	21.5	10.3	7	75
#1 RPD%	**0**	**5.4**	**0**	**4.7**	**3.9**	**0**	**1.3**
#11 Mean	5	0.17	11.5	20	9.95	7	76.5
#11 RPD%	**0**	**8.5**	**8.7**	**0**	**7.0**	**0**	**3.9**
#21 Mean	4	0.16	10	14.5	10.2	7	77.5
#21 RPD%	**0**	**0**	**0**	**6.9**	**3.9**	**0**	**1.3**
#31 Mean	4	0.155	10	16.5	11.1	8	80.5
#31 RPD%	**0**	**6.4**	**0**	**6.1**	**7.2**	**0**	**2.5**
#41 Mean	2	0.18	9	7	9.95	8	67.5
#41 RPD%	**0**	**0**	**0**	**0**	**3.0**	**0**	**1.5**
#51 Mean	3	<0.10	12.5	10.5	7.75	7	37.5
#51 RPD%	**0**	**0**	**8**	**9.5**	**1.3**	**0**	**13.3**
#61 Mean	1.5	<0.10	8.5	5	9.2	6.5	47
#61 RPD%	**0**	**0**	**11.8**	**0**	**6.5**	**15.4**	**4.3**
#71 Mean	5.5	0.155	11.5	24.5	10.65	8	63
#71 RPD%	**18.2**	**16.1**	**8.7**	**4.1**	**0.9**	**0**	**12.7**
SP2 #1 Mean	4	0.19	10	14	12.15	7	91.5
SP2 #1 RPD%	**0**	**0**	**0**	**00**	**3.3**	**0**	**3.3**