DETAILED SITE INVESTIGATION
144, 152, 200 & 252
PARK ESTATE ROAD
HINGAIA
AUCKLAND

For the Attention of:

Hugh Green Limited

C/o Harrison Grierson Consultants Limited

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Contents

Figures

Appendices

Executive Summary

Focus Environmental Services Limited was contracted by Hugh Green Limited to carry out a Detailed Site Investigation of the properties at 144, 152, 200 and 252 Park Estate Road, Hingaia, Auckland. This investigation was completed to provide further information on potential contamination on-site as a result of historic or current land uses, and may be used support an application to develop the site.

Focus Environmental Services Limited personnel carried out the site intrusive investigations between December 2014 and March 2015 where samples were taken from within the areas of potential contamination as identified in the report titled '*Preliminary Site Investigation 144, 152, 180, 200 and 252 Park Estate Road, Hingaia, Auckland*' prepared by Focus Environmental Services Limited and dated October 2014.

In addition, four groundwater monitoring wells (MW1–MW4) were installed in general accordance with the Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (MfE, 1999) at the suspected landfill site at 152 Park Estate Road, Hingaia in January 2015. Two groundwater monitoring rounds were subsequently undertaken in February and March 2015.

This environmental investigation was carried out in general accordance with the Contaminated Land Management Guidelines No. 1 and No.5 (MfE, 2011).

The information obtained during the Preliminary Site Investigation was used to formulate a sampling program to assess if any of the potentially hazardous activities identified, as a result of past or current land use, have had an impact on the soils at the site.

The results of the detailed site investigation have indicated that historical activities carried out on the subject site have had an impact on the site soils. Elevated concentrations of heavy metals, polycyclic aromatic hydrocarbons, and total petroleum hydrocarbons have been detected in the site soils.

The results of the investigation undertaken at 144 Park Estate Road, Hingaia indicate that site soils do not contain chemical contamination at levels exceeding the Soil Contamination Standards for health ($SCS_{(health)}$) for Residential or Recreational land use as outlined in the National Environmental Standards (NES) or the discharge criteria of the Auckland Council Regional Plan: Air, Land and Water (ACRP:ALW) and the Proposed Auckland Unitary Plan (PAUP).

A controlled activity consent is required under Regulation 9 of the NES as the proposed subdivision and change in land use at 144 Park Estate Road do not meet the requirements of a permitted activity under Regulation 8 of the NES, and this detailed site investigation for the piece of land has shown that the soil contamination does not exceed the applicable standards.

The results of the investigation undertaken at 152 Park Estate Road indicate that the site soils in the burning area and the area of suspected landfilling are contaminated above the $SCS_{(health)}$ for Residential and Recreational land use, as outlined in the NES, and the discharge criteria of the ACRP:ALW and PAUP.

In addition, the results of the groundwater monitoring undertaken at 152 Park Estate Road indicate that, with the exception of zinc, the soluble heavy metals in the groundwater are below the ANZECC guidelines for the protection of both 80% and 95% of marine species.

However, as only two groundwater monitoring rounds have been completed to-date, the results obtained may not be entirely indicative of the conditions beneath the suspected landfill site and further groundwater sampling rounds are recommended on a biannual basis to gain representative information of the groundwater conditions at the site.

The results of the investigation undertaken at 200 Park Estate Road indicate that the site soils in the area of burning, the area of the hydrocarbon spill and the area of the demolished buildings within the northern section of the site are contaminated above the $SCS_{(health)}$ for Residential and Recreational land use, as outlined in the NES, and the discharge criteria of the ACRP:ALW and PAUP.

The results of the investigation undertaken at 252 Park Estate Road sample analysis indicate that the site soils in the areas of burning along with three areas from within the shed and barn complex are contaminated above the $SCS_{(health)}$ for Residential and Recreational land use, as outlined in the NES, and the discharge criteria of the ACRP:ALW and PAUP.

Remediation and/or management of the sites are required as the risk to human health and/or the environment has been confirmed as being unacceptable.

A restricted discretionary activity consent is required under Regulation 10 of the NES as the proposed subdivision, change in land use and soil disturbance at 152, 200 and 252 Park Estate Road will likely not meet the requirements of a permitted activity under Regulation 8 of the NES, and this detailed site investigation for the piece of land has shown that the soil contamination does exceed the applicable standards.

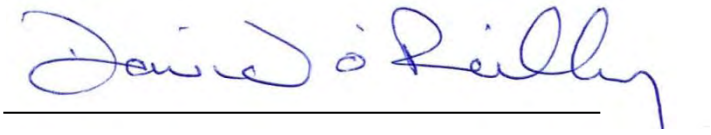
In addition, as the site soils at 152, 200 and 252 Park Estate Road were found to be contaminated above the discharge criteria of the ACRP:ALW and PAUP, the Contaminated Land rules of the ACRP:ALW and PAUP will likely be triggered and consent will likely be required for the proposed development of the site.

Furthermore, in the event that the landfill on site at 152 Park Estate Road is not remediated, the discharge of contaminants from the Landfill will likely trigger further consents under the ACRP:ALW and the PAUP.

Due to the contamination identified, the site soils in some areas of the site are not suitable for classification as cleanfill and any materials removed from these areas will be required to be disposed of to a suitably licensed facility.

A site management plan/remediation action plan will likely be required for the proposed works to ensure that any potential human health or environmental risks are effectively mitigated.

Submitted By,



David O'Reilly
Principal Environmental Consultant
Focus Environmental Services Limited

1.0 Scope

1.1 This report has been prepared at the request of Hugh Green Limited ("the Client") in terms of the Focus Environmental Services Agreement ("Agreement") attached as Appendix A of this report.

1.2 The following report is based on:

- *Information provided by the client;*
- *The report titled 'Preliminary Site Investigation 144, 152, 180, 200 and 252 Park Estate Road, Hingaia, Auckland' dated August 2014 and prepared by Focus Environmental Services Limited;*
- *A site inspection;*
- *Site investigation and soil sampling; and*
- *Ground water sampling.*

1.3 We have not independently verified the information provided to us by the Client or its completeness. We do not express an opinion on the accuracy or the reliability of such information.

1.4 No warranties are given, intended or implied.

1.5 Opinion, inferences, assumptions and interpretations made in this report should not be construed as legal opinion.

1.6 Where an assessment is given in this report, the Client must also rely upon their own judgement, knowledge and assessment of the subject of this report before undertaking any action.

1.7 This report must not be used in any other context or for any other purpose other than that for which it has been prepared without the prior written consent of Focus Environmental Services.

1.8 This report is strictly confidential and intended for the sole use of the Client and shall not be disclosed without the prior written consent of Focus Environmental Services.

2.0 Site Identification

2.1 144 Park Estate Road

The property is located at 144 Park Estate Road, Hingaia, Auckland as shown in Figure 1 attached. The legal description of the property is Allot 434 on SO 61864 Opaheke PSH BLKS III IV Drury SD and it has an area of 34.6243 ha. The site is located at national grid reference 1772162mE & 5893465mN and has a rural farming land use within the Auckland Council District Plan - Operative Papakura Section 1999, and is zoned Future Urban under the Proposed Auckland Unitary Plan (PAUP).

2.2 152 Park Estate Road

The property is located at 152 Park Estate Road, Hingaia, Auckland as shown in Figure 1 attached. The legal description of the property is SEC 1 SO 432649 and it has an area of 21.8762 ha. The site is located at national grid reference 1771898mE & 5893430mN and has a rural farming land use within the Auckland Council District Plan - Operative Papakura Section 1999, and is zoned Future Urban under the PAUP.

2.3 200 Park Estate Road

The property is located at 200 Park Estate Road, Hingaia, Auckland as shown in Figure 1 attached. The legal description of the property is Lot 12 DP 4963 Blk III Drury SD and it has an area of 12.5958 ha. The site is located at national grid reference 1771491mE & 5893489mN and has a rural farming land use within the Auckland Council District Plan - Operative Papakura Section 1999, and is zoned Future Urban under the PAUP.

2.4 252 Park Estate Road

The property is located at 252 Park Estate Road, Hingaia, Auckland as shown in Figure 1 attached. The legal description of the property is Lot 13 DP 4963 Blk III Drury SD and it has an area of 14.8722 ha. The site is located at national grid reference 1771249mE & 5893467mN and has a rural farming land use within the Auckland Council District Plan - Operative Papakura Section 1999, and is zoned Future Urban under the PAUP.

3.0 Geology and Hydrology

Published geological maps indicate alluvial deposits of the Puketoka Formation typically underlie the site. A description of the underlying geologies is presented in Table 1 below.

Table 1: Geology of 144, 152, 200 and 252 Park Estate Road, Hingaia

Key name	Late Pliocene to Middle Pleistocene pumiceous river deposits
Simple name	Neogene sedimentary rocks
Main rock name	Sand
Description	Pumiceous mud, sand and gravel with muddy peat and lignite: rhyolite pumice, including non-welded ignimbrite, tephra and alluvia
Subsidiary rocks	Mud gravel peat lignite tephra pumice
Key group	Late Pliocene to Middle Pleistocene sediments
Stratigraphic lexicon name	Puketoka Formation
Absolute age (min)	0.071 million years
Absolute age (max)	3.6 million years
Rock group	Sandstone
Rock class	Clastic sediment

Augers taken across the area of the manufactured bund at 144 Park Estate Road typically encountered fill materials to a depth of up to 2.0m below ground level, underlain by a thin topsoil layer and natural orange/yellow clays.

Augers taken across the suspected stockpile of uncertified filling materials at 144 Park Estate Road typically encountered topsoil to a depth of 0.15m underlain by sand to a depth of up to 3.0m below ground level.

Test pits taken across the area of the suspected landfill at 152 Park Estate Road typically encountered metal, plastic, wire, concrete, brick and organic materials. In addition, asbestos containing materials were observed in all but two of the test pit locations.

Test pits taken across the area of the suspected filling at 200 Park Estate Road typically encountered topsoil, underlain with yellow/orange sandy silts to a depth of up to 1.5m below ground level.

4.0 Background

The history of the site has been described in detail in the report titled '*Preliminary Site Investigation 144, 152, 180, 200 and 252 Park Estate Road, Hingaia, Auckland*' prepared by Focus Environmental Services Limited and dated August 2014.

The preliminary site investigation for the site recommended a detailed site investigation to characterise the soils in the vicinity of the identified areas of contamination being: the suspected former vehicle workshop and automotive dismantlers, the area of the formed bund and the areas of the suspected uncertified fill material at 144 Park Estate Road; the area of the potential spray race operation, the burning area and the suspected landfill site at 152 Park Estate Road; the area of the hydrocarbon spill, the areas of burning, the demolished buildings and the area of potentially uncertified filling at 200 Park Estate Road; and the area of burning and the storage area and sheds at 252 Park Estate Road

This document is therefore intended to confirm the contamination status of the sites at 144, 152, 200 and 252 Park Estate Road, Hingaia.

5.0 Sampling and Analysis Plan and Sampling Method

Environmental Sampling was carried out in accordance with the Contaminated Land Management Guidelines No.5 (MfE, 2011).

5.1 144 Park Estate Road

Nine surface samples were taken in an approximate grid from the area of the suspected former vehicle workshop and automotive dismantlers. Soil samples were taken at the locations shown in Figure 2-1. Nine surface samples (SS01 to SS09) were sent under full chain of custody documentation to an IANZ accredited laboratory and analysed for:

- Total recoverable arsenic, cadmium, chromium, copper, lead, nickel zinc;
- Total petroleum hydrocarbons; and
- Polycyclic aromatic hydrocarbons.

In addition, surface and depth samples, taken at 0.5m intervals to a maximum depth of 5.0m below ground level (bgl), were recovered from the area of the formed bund and the areas of the suspected uncertified fill material. Soil samples were taken at the locations shown in Figure 2-1. Ten surface samples (AH01 0.15m to AH10 0.15m) and ten depth samples (AH01 to AH10 1.0m) were sent under full chain of custody documentation to an IANZ accredited laboratory and analysed for:

- Total recoverable arsenic, cadmium, chromium, copper, lead, nickel zinc;
- Polycyclic aromatic hydrocarbons; and
- Organo-chlorine pesticides.

5.2 152 Park Estate Road

Four surface soil samples were taken across the area of the potential spray race operation at the former milking sheds and stock yards as shown in Figure 2-2. Four samples (SS01 152 to SS04 152) were sent under full chain of custody documentation to an IANZ accredited laboratory and analysed for:

- Total recoverable arsenic, cadmium, chromium, copper, lead, nickel zinc; and
- Organo-chlorine pesticides.

One soil sample was taken at the burning location shown in Figure 2-2. The surface sample (BP01) was sent under full chain of custody documentation to an IANZ accredited laboratory and analysed for:

- Total recoverable arsenic, cadmium, chromium, copper, lead, nickel zinc; and
- Polycyclic aromatic hydrocarbons.

Forty three test pits were excavated across the area of the suspected landfill site. Continuous landfill gas monitoring was undertaken during the investigation using an REA systems QRAE(II) gas meter and all excavations were visually assessed for the presence of asbestos containing materials. Surface, depth and base samples were taken, to a maximum depth of 2.2m bgl. Soil samples were taken at the locations shown in Figure 2-2. In total 16 surface samples, 11 depth samples and 16 base samples were sent under full chain of custody documentation to an IANZ accredited laboratory and analysed for:

- Total recoverable arsenic, cadmium, chromium, copper, lead, nickel zinc;
- Total petroleum hydrocarbons;
- Polycyclic aromatic hydrocarbons; and
- Organo-chlorine pesticides.

Those samples not sent for laboratory analysis were screened for heavy metals using an INNOV-X Delta Series x-ray fluorescence analyser (XRF). The results of the XRF screening are provided in Appendix D.

In addition, four groundwater monitoring wells (MW1–MW4) were installed at the historical landfill site on the 28th of January 2015. The monitoring wells were installed in general accordance with the Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (MfE, 1999). The locations of the groundwater monitoring wells are illustrated on Figure 3-1.

Prior to purging the wells, the depth to groundwater was measured from the top of the well casings and recorded for each well. During purging of the wells pH, temperature and electrical conductivity were measured and samples were collected once the readings had stabilised or once three times the well volumes had been purged.

Groundwater samples were sent under full chain of custody documentation to an IANZ accredited laboratory and analysed for:

- Total recoverable arsenic, cadmium, chromium, copper, lead, nickel zinc, iron, boron, manganese;
- pH;
- Total Alkalinity;

- Electrical Conductivity;
- Total Ammoniacal-N; and
- Chemical Oxygen Demand.

Australian and New Zealand Guidelines for Fresh and Marine Water Quality - October 2000 (ANZECC) recommend initial sampling and analysis using total values to ensure that the fraction of the contaminant that is bioavailable is over estimated. As the major toxic effects of metals come from the dissolved fraction the guidelines recommend the analysis of dissolved metals for subsequent monitoring rounds if trigger values are exceeded.

5.3 200 Park Estate Road

Four surface samples and one sample taken at a depth of 0.5m bgl were taken from the area of an identified hydrocarbon spill. Soil samples were taken at the locations shown in Figure 2-3. Four surface samples (HC01 to HC04) and one depth sample (HC05) were sent under full chain of custody documentation to an IANZ accredited laboratory and analysed for:

- Total recoverable arsenic, cadmium, chromium, copper, lead, nickel zinc;
- Total petroleum hydrocarbons; and
- Poly-aromatic hydrocarbons.

Twelve surface soil samples were taken from the areas of burning, as shown in Figure 2-3 and were sent under full chain of custody documentation to an IANZ accredited laboratory and analysed for:

- Total recoverable arsenic, cadmium, chromium, copper, lead, nickel zinc; and
- Poly-aromatic hydrocarbons.

Six surface soil samples were taken from the area of previously demolished buildings and sheds, where no evidence of burning was noted, as shown in Figure 2-3. Six surface samples (SS01 200 to SS06 200) were sent under full chain of custody documentation to an IANZ accredited laboratory and analysed for:

- Total recoverable arsenic, cadmium, chromium, copper, lead, nickel zinc;
- Organo-chlorine pesticides.

Seven test pits were excavated from within the area of potentially uncertified fill. Surface and depth samples, taken at 0.5m intervals to a maximum depth of 1.0m below ground level (bgl), were recovered from the area of the potentially uncertified fill. Soil samples were taken at the locations shown in Figure 2-3. Seven surface samples (AH01 200 0.15 to AH07 200 0.15) and three depth samples (AH01, AH05, and AH06 (0.5 m)) were sent under full chain of custody documentation to an IANZ accredited laboratory and analysed for:

- Total recoverable arsenic, cadmium, chromium, copper, lead, nickel zinc;
- Organo-chlorine pesticides; and
- Polycyclic aromatic hydrocarbons.

5.4 252 Park Estate Road

Five discrete samples were taken from the burning areas identified, as shown in Figure 2-4. Five samples (BP01 and BP02-1 to BP02-4) were sent under full chain of custody documentation to an IANZ accredited laboratory and analysed for:

- Total recoverable arsenic, cadmium, chromium, copper, lead, nickel zinc; and
- Polycyclic aromatic hydrocarbons.

Eight discrete soil samples were taken from the areas of potential contamination surrounding the shed and storage areas, as shown in Figure 2-4. Eight surface samples (DS01 to DS08) were sent under full chain of custody documentation to an IANZ accredited laboratory and analysed for:

- Total recoverable arsenic, cadmium, chromium, copper, lead, nickel zinc;
- Organo-chlorine pesticides; and
- Polycyclic aromatic hydrocarbons.

6.0 Field Sampling Quality Assurance

All hand sampling implements were triple washed between samples using clean tap water, followed by a solution of laboratory grade phosphate free detergent (Decon 90), and a final rinse with de-ionised water and groundwater samples were collected using dedicated PVC bailers.

Clean, latex gloves were worn when handling each sample. Samples were stored in laboratory supplied glass jars for soils, and laboratory supplied bottles for groundwater, and immediately placed in an iced cooler. The samples were transported under chain of custody documentation to an IANZ accredited laboratory for analysis.

7.0 Laboratory Quality Assurance

Routine laboratory quality assurance procedures include analysis of laboratory blanks and spiked samples. All analyses were carried out using industry standard methods for soils and groundwater as follows:

7.1 Soil Analysis

- Total Recoverable Metals – Dried sample, <2mm fraction. Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2.
- Organo-chlorine pesticides – sonication extraction – OCP Screen method, air dry, grind, sonication extraction GC-ECD.
- Poly-Aromatic Hydrocarbons - Sonication extraction, GPC cleanup (if required), GC-MS FS analysis. US EPA 3540, 3550, 3640 & 8270.
- TPH Oil Industry Profile + PAH screen - Sonication in DCM extraction, SPE cleanup, GC-FID & GC-MS analysis. Tested on as received sample. US EPA 8015B/MfE Petroleum Industry Guidelines [KBIs:5786,2805,10734;2695]

7.2 Groundwater Analysis

- Heavy metals, totals: As, Cd, Cr, Cu, Ni, Pb, Zn - Nitric acid digestion, ICP-MS, trace level
- pH - pH meter. APHA 4500-H+ B 22nd ed. 2012.
- Total Alkalinity - Titration to pH 4.5 (M-alkalinity), autotitrator. APHA 2320 B (Modified for alk <20) 22nd ed. 2012.
- Electrical Conductivity (EC) - Conductivity meter, 25°C. APHA 2510 B 22nd ed. 2012.
- Total Boron Total Iron - Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 22nd ed. 2012.
- Total Manganese - Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 22nd ed. 2012 / US EPA 200.8.
- Total Ammoniacal-N - Filtered sample. Phenol/hypochlorite colorimetry. Discrete Analyser. (NH4-N = NH4+-N + NH3-N). APHA 4500-NH3 F (modified from manual analysis) 22nd ed. 2012.
- Chemical Oxygen Demand - Dichromate/sulphuric acid digestion in Hach tubes, colorimetry. Trace Level method. APHA 5220 D 22nd ed. 2012.

8.0 Basis for Guideline Values

8.1 Soil Analysis

It is proposed to redevelop the site for residential land use. There are also likely to be areas of the development which would be used for parks/recreation use. The following guidelines have therefore been used to assess the results of soil sampling carried out.

The values of the Soil Contaminant Standards for health ($SCSs_{(health)}$) for residential land use with 10% produce, and Soil Contaminant Standards for health ($SCSs_{(health)}$) for recreational land use as outlined in the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES), along with the values of the discharge criteria of the Auckland Council Regional Plan: Air, Land and Water (ACRP:ALW) and the Proposed Auckland Unitary Plan (PAUP), are considered relevant and have been adopted as the site assessment criteria for the site. The relevant values of the above guidelines have been reproduced in Table 2 below.

Table 2: Site assessment and validation criteria for 144-252 Park Estate Drive (mg/kg).

Parameter	NES ($SCSs_{(health)}$) Residential	NES ($SCSs_{(health)}$) Parks/ Recreation	ACRP:ALW/ PAUP
Arsenic	20	70	100
Cadmium	3	400	7.5
Chromium	460	2,700	400
Copper	NL	NL	325
Lead	210	880	250
Nickel	600[1]	600[1]	105
Zinc	7000[1]	14,000[1]	400
Total DDT	70	400	0.7/12
BaP eq.	10	40	2.15
$C_7 - C_9$	500[3]	500[3]	500[3]
$C_{10} - C_{14}$	510[3]	510[3]	510[3]
$C_{15} - C_{36}$	NA[3]	NA[3]	NA[3]

Note: NL = Not Limited, where the derived values exceed 10,000mg/kg; NA = criterion exceeds 20,000 mg/kg; 1. = No Soil Contaminant Standards for health ($SCSs_{(health)}$) given, guideline values taken from the former Auckland City Council interim soil screening criteria for soils – human health residential land use and Parkland/Recreation; 2. = Denotes the two values specified for total DDT under the Auckland Council Regional Plan: Air, Land and Water, displayed as the guideline value for land not being redeveloped/guideline value for land undergoing development. 3 – Ministry for the Environment Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand – Tier 1 Soil Acceptance Criteria, Module 4, August 1999.

In addition to the above site assessment criteria, the concentrations of heavy metals detected will be compared to the maximum background levels for non-volcanic soils in Auckland[1] which are used to assess if the material is suitable for classification as cleanfill material. The maximum background levels for non-volcanic soils in Auckland are presented in Table 3 below.

Table 3: Maximum background levels for non-volcanic soils (mg/kg).

Parameter	Level
Arsenic	12
Cadmium	0.65
Chromium	55
Copper	45
Lead	65
Nickel	35
Zinc	180

In addition, the natural background levels of organo-chlorine pesticides and polycyclic aromatic hydrocarbons are considered to be below the analytical levels of detection and hence the detection of these analytes would restrict material from being classified as cleanfill material.

[1] Auckland Regional Council Technical Publication No.153, Oct 2001 Reprinted April 2002 ISSN 1175 205X

8.2 Groundwater Analysis

The trigger values of the Australian and New Zealand Environment Conservation Council (ANZECC) Guidelines for Marine Water Quality (2000) for the protection of 95% of freshwater species and 80% of freshwater species are considered relevant and have been adopted as the site assessment criteria. The relevant values of these guidelines have been reproduced in Table 4 below.

Table 4: Site assessment criteria for 152 Park Estate Drive (mg/L)

Parameter	ANZECC 95%	ANZECC 80%
Arsenic	-[1]	-[1]
Cadmium	0.0055	0.036
Chromium	0.0044	0.085
Copper	0.0013	0.008
Lead	0.0044	0.012
Nickel	0.07	0.56
Zinc	0.015	0.043
Iron	-[1]	-[1]
Boron	-[1]	-[1]
Manganese	-[1]	-[1]
Total Ammoniacal-N	0.91	1.7

Note 1: = No ANZECC guidelines available for Marine Water Quality.

Groundwater parameters were chosen in reference to the reports titled 'Landfill guidelines', CAE 2000 and 'A Guide for the Management of Closing and Closed Landfills in New Zealand', MfE 2001.

PAHs were not included in the ground water assessment for the site as they were generally detected in the surface of the landfill materials and were not detected at concentrations above the land use criteria.

9.0 Soil Sampling Results

Summarised soil sampling results for each of the sites are presented in Tables 5 to 8 below. Compiled laboratory results are provided in Appendix B and laboratory transcripts are provided in Appendix C.

9.1 144 Park Estate Road

Table 5: Summary of Laboratory Soil Results for 144 Park Estate Road (mg/kg).

Contaminant	Analyte	Min	Max	$SCSs_{(health)}$ Residential	$SCSs_{(health)}$ Recreation	ACRP:ALW /PAUP
Heavy Metals	Arsenic	2	6	20	80	100
	Cadmium	0.14	*0.79*	3	400	7.5
	Chromium	6	24	460	2,700	400
	Copper	2	23	>10,000	>10,000	325
	Lead	6.9	*133*	210	880	250
	Nickel	2	*41*	600	600	105
	Zinc	12	150	7000	7000	400
OCP	ΣDDT	*0.17*	*0.17*	70	400	0.7/12
Polycyclic Aromatic Hydrocarbons	BAP eq.	*0.09*	*0.24*	10	40	2.15
Total Petroleum Hydrocarbons	C_7-C_9	< 9	< 9	500	500	500
	C_{10}-C_{14}	< 20	< 20	510	510	510
	C_{15}-C_{36}	< 40	< 40	NA	NA	NA

Note: Results in red exceed the Soil Contaminant Standards for health ($SCSs_{(health)}$) for Residential land use with 10% produce; Results in **bold** exceed the Soil Contaminant Standards for health ($SCSs_{(health)}$) for Recreational land use. Results highlighted exceed the discharge criteria as outlined in Schedule 10 of the Auckland Council Regional Plan: Air, Land and Water. Results in *italics* exceed the Maximum Auckland Background Concentrations outlined in the Auckland Regional Council Technical Publication No.153, Oct 2001 Reprinted April 2002 ISSN 1175 205X.

The concentrations of cadmium, lead and nickel exceeded the maximum Auckland soil background concentrations for non-volcanic soils in three surface locations (AH03, AH07 and SS03). All other results were below the background concentrations for non-volcanic soils.

The concentrations arsenic, cadmium, chromium, copper, lead, nickel & zinc in all soil samples were below the discharge criteria of both the ACRP:ALW and PAUP, and the $SCSs_{(health)}$ for both residential and parks/recreational land use as outlined in the NES.

There was a single concentration of organo-chlorine pesticides detected above the analytical limits of detection in the surface soils at sampling location AH07 144. However, this concentration was below the discharge criteria of the ACRP:ALW and the PAUP, and the $SCSs_{(health)}$ for both residential and parks/recreational land use as outlined in the NES.

There were three concentrations of BaP eq. detected above the analytical limits of detection in the soils at sampling locations AH03 0.15, SS01 144 and SS07 144. The concentrations of BaP eq. from all soil samples were below the discharge criteria of both the ACRP:ALW and the PAUP, and the $SCSs_{(health)}$ for both residential and parks/recreational land use as outlined in the NES.

The concentration of total petroleum hydrocarbons in all samples analysed were below the analytical limits of detection. The concentration of total petroleum hydrocarbons were all below the discharge criteria of both the ACRP:ALW and the PAUP, and the $SCSs_{(health)}$ for both residential and parks/recreational land use as outlined in the NES.

9.2 152 Park Estate Road

Table 6: Summary of Laboratory Soil Results 152 Park Estate Road (mg/kg).

Contaminant	Analyte	Min	Max	$SCSs_{(health)}$ Residential	$SCSs_{(health)}$ Recreation	ACRP:ALW /PAUP
Heavy Metals	Arsenic	2	**320**	20	80	100
	Cadmium	0.13	*7*	3	400	7.5
	Chromium	6	*188*	460	2,700	400
	Copper	4	*1550*	>10,000	>10,000	325
	Lead	4.5	***2400***	210	880	250
	Nickel	3	*81*	600	600	105
	Zinc	8	*2000*	7000	7000	400
OCP	ΣDDT	<0.01	*0.2*	70	400	0.7/12
Polycyclic Aromatic Hydrocarbons	BAP eq.	<0.08	*16.3*	10	40	2.15
Total Petroleum Hydrocarbons	C_7-C_9	< 9	ND	500	500	500
	C_{10}-C_{14}	< 20	ND	510	510	510
	C_{15}-C_{36}	< 40	*1390*	NA	NA	NA

Note: Results in red exceed the Soil Contaminant Standards for health ($SCSs_{(health)}$) for Residential land use with 10% produce; Results in **bold** exceed the Soil Contaminant Standards for health ($SCSs_{(health)}$) for Recreational land use. Results highlighted exceed the discharge criteria as outlined in Schedule 10 of the Auckland Council Regional Plan: Air, Land and Water. Results in *italics* exceed the Maximum Auckland Background Concentrations outlined in the Auckland Regional Council Technical Publication No.153, Oct 2001 Reprinted April 2002 ISSN 1175 205X.

The concentrations of arsenic in 17 samples were above the maximum Auckland soil background concentrations for non-volcanic soils of 12 mg/kg. Ten sample results exceeded the $SCSs_{(health)}$ for Residential land use, two sample results exceeded the $SCSs_{(health)}$ for Recreational land use of 80 mg/kg with two samples also exceeding the discharge criteria of the ACRP:ALW and PAUP of 100 mg/kg.

The concentrations of cadmium in 17 samples were above the maximum Auckland soil background concentrations for non-volcanic soils of 0.65 mg/kg. Four sample results exceeded the $SCSs_{(health)}$ for Residential land use of 7.5 mg/kg. All sample results were below the discharge criteria of the ACRP:ALW and PAUP of 7 mg/kg.

The concentrations of chromium in three samples were above the maximum Auckland soil background concentrations for non-volcanic soils of 55 mg/kg. All sample results were below the SCSs $_{(health)}$ for Residential land use and Recreational land use of >10,000 mg/kg and the discharge criteria of the ACRP:ALW and the PAUP of 400 mg/kg.

The concentrations of copper in 14 samples were above the maximum Auckland soil background concentrations for non-volcanic soils of 45 mg/kg. Two sample results exceeded the discharge criteria of the ACRP:ALW and the PAUP of 45 mg/kg. All sample results were below the SCSs$_{(health)}$ for Residential land use and Recreational land use of >10,000 mg/kg.

The concentrations of lead in 23 samples were above the maximum Auckland soil background concentrations for non-volcanic soils of 65 mg/kg. Nine sample results exceeded the SCSs$_{(health)}$ for Residential land use of 210 mg/kg, four samples exceeded the SCSs$_{(health)}$ for Recreational land use of 880 mg/kg and nine samples exceeded the discharge criteria of the ACRP:ALW and the PAUP of 250 mg/kg.

The concentration of nickel in five samples was above the maximum Auckland soil background concentrations for non-volcanic soils of 35 mg/kg. All sample results were below the adopted human health criteria for Residential land use and Recreational land use of 600 mg/kg and the discharge criteria of the ACRP:ALW and the PAUP of 105 mg/kg.

The concentration of zinc in 27 samples was above the maximum Auckland soil background concentrations for non-volcanic soils of 180 mg/kg. All sample results were below the adopted Residential land use and Recreational land use criteria of 7000 mg/kg. The concentration of zinc in 12 samples was above the discharge criteria of the ACRP:ALW and the PAUP of 400 mg/kg.

DDT isomers were detected in 11 of the samples analysed. The concentration of total DDT from all samples were below the discharge criteria of the ACRP:ALW and the PAUP of 0.7 mg/kg, the SCSs$_{(health)}$ for Residential land use of 70 mg/kg and the SCSs$_{(health)}$ for Recreational land use of 400 mg/kg as outlined in the NES.

BaP eq. were detected in 15 of the samples analysed. The concentrations of BaP eq. in a single soil sample was above the discharge criteria of the ACRP:ALW and the PAUP of 2.15 mg and the SCSs$_{(health)}$ for residential land use of 10 mg/kg outlined in the NES, but was below the SCSs$_{(health)}$ for Recreational land use of 40 mg/kg.

Total petroleum hydrocarbons (C_7 - C_{36}) were detected in eight of the samples analysed. All detected sample results were for the C_{15}-C_{36} hydrocarbon range and were all below the SCSs $_{(health)}$ for Residential land use and Recreational land use of >20,000 mg/kg and the discharge criteria of the ACRP:ALW and the PAUP of >20,000 mg/kg.

9.3 200 Park Estate Road

Table 7: Summary of Laboratory Soil Results 200 Park Estate Road (mg/kg).

Contaminant	Analyte	Min	Max	$SCSs_{(health)}$ Residential	$SCSs_{(health)}$ Recreation	ACRP:ALW /PAUP
Heavy Metals	Arsenic	3	***1700***	20	80	100
	Cadmium	0.14	*2*	3	400	7.5
	Chromium	8	*370*	460	2,700	400
	Copper	4	*2900*	>10,000	>10,000	325
	Lead	9.8	***2000***	210	880	250
	Nickel	2	*56*	600	600	105
	Zinc	19	***9900***	7000	7000	400
OCP	ΣDDT	<0.01	<0.01	70	400	0.7/12
Polycyclic Aromatic Hydrocarbons	BAP eq.	<0.08	*0.42*	10	40	2.15
Total Petroleum Hydrocarbons	C_7-C_9	< 9	*51*	500	500	500
	C_{10}-C_{14}	< 20	***3600***	510	510	510
	C_{15}-C_{36}	< 40	***46000***	NA	NA	NA

Note: ND = not detected; Results in red exceed the Soil Contaminant Standards for health ($SCSs_{(health)}$) for Residential land use with 10% produce; Results in **bold** exceed the Soil Contaminant Standards for health ($SCSs_{(health)}$) for Recreational land use. Results highlighted exceed the discharge criteria as outlined in Schedule 10 of the Auckland Council Regional Plan: Air, Land and Water. Results in *italics* exceed the Maximum Auckland Background Concentrations outlined in the Auckland Regional Council Technical Publication No.153, Oct 2001 Reprinted April 2002 ISSN 1175 205X.

The concentrations of arsenic in 22 of the samples analysed were above the maximum Auckland soil background concentrations for non-volcanic soils of 12 mg/kg. 19 sample results exceeded the $SCSs_{(health)}$ for Residential land use of 20 mg/kg, ten sample results exceeded the $SCSs_{(health)}$ for Residential land use of 80 mg/kg and nine sample results exceeded the discharge criteria of the ACRP:ALW and the PAUP of 100 mg/kg.

The concentrations of cadmium in nine of the samples analysed were above the maximum Auckland soil background concentrations for non-volcanic soils of 0.65 mg/kg. All sample results were below the $SCSs_{(health)}$ for Residential land use of 7.5 mg/kg, the $SCSs_{(health)}$ for Recreational land use of 400 mg/kg and the discharge criteria of the ACRP:ALW and the PAUP of 7 mg/kg.

The concentrations of chromium in seven of the samples analysed were above the maximum Auckland soil background concentrations for non-volcanic soils of 125 mg/kg. All sample results were below the $SCSs_{(health)}$ for Residential land use and Recreational land use of >10,000 mg/kg and the discharge criteria of the ACRP:ALW and the PAUP of 400 mg/kg.

The concentrations of copper in 11 of the samples analysed were above the maximum Auckland soil background concentrations for non-volcanic soils of 90 mg/kg. All sample results were below the $SCSs_{(health)}$ for Residential land use and Recreational land use of >10,000 mg/kg. Four sample results exceeded the discharge criteria of the ACRP:ALW and the PAUP of 325 mg/kg.

The concentrations of lead in 17 of the samples analysed were above the maximum Auckland soil background concentrations for non-volcanic soils of 65 mg/kg. Nine sample results exceeded both the $SCSs_{(health)}$ for Residential land use of 210 mg/kg and the discharge criteria of the ACRP:ALW and the PAUP of 250 mg/kg and two sample results exceeded the $SCSs_{(health)}$ for Recreational land use of 880 mg/kg.

The concentrations of nickel in all samples were below the maximum Auckland soil background concentrations for non-volcanic soils of 320 mg/kg. All sample results were below the adopted human health criteria for Residential land use and Recreational land use of 600 mg/kg and the discharge criteria of the ACRP:ALW and the PAUP of 105 mg/kg.

The concentrations of zinc in 19 of the samples analysed were above the maximum Auckland soil background concentrations for non-volcanic soils of 180 mg/kg. Two sample results were above the adopted human health criteria for Residential land use and Recreational land use of 7,000 mg/kg and 17 sample results were above the discharge criteria of the ACRP:ALW and the PAUP of 400 mg/kg.

DDT isomers in all samples were below the $SCSs_{(health)}$ for Residential land use of 70 mg/kg and the $SCSs_{(health)}$ for Recreational land use of 400 mg/kg outlined in the NES and the discharge criteria of 0.7 mg/kg of the ACRP:ALW and PAUP.

BaP eq. were detected in nine of the samples analysed. The concentrations of BaP eq. from all samples were below the $SCSs_{(health)}$ for Residential land use of 10 mg/kg and for Recreational land use of 40 mg/kg as outlined in the NES and below the discharge criteria of the ACRP:ALW and the PAUP of 2.15 mg/kg.

Total hydrocarbons (C_7 - C_{36}) were detected in five of the samples analysed from around the area of the identified hydrocarbon spill. All sample results for the C_7-C_9 and C_{10}-C_{14} bands exceeded the adopted human health criteria and the discharge criteria of the ACRP:ALW and the PAUP of 500mg/kg and 510mg/kg for surface soils. The results for the C_{15}-C_{36} band of hydrocarbons indicate that the spill was most likely lubricating oil.

9.4 252 Park Estate Road

Table 8: Summary of Laboratory Soil Results 252 Park Estate Road (mg/kg).

Contaminant	Analyte	Min	Max	$SCSs_{(health)}$ Residential	$SCSs_{(health)}$ Recreation	ACRP:ALW /PAUP
Heavy Metals	Arsenic	7	***900***	20	80	100
	Cadmium	0.25	*5.2*	3	400	7.5
	Chromium	19	*370*	460	2,700	400
	Copper	27	*890*	>10,000	>10,000	325
	Lead	11.6	*570*	210	880	250
	Nickel	6	*37*	600	600	105
	Zinc	136	*2700*	7000	7000	400
OCP	ΣDDT	<0.01	<0.01	70	400	0.7/12
Polycyclic Aromatic Hydrocarbons	BAP eq.	<0.08	*0.15*	10	40	2.15
Total Petroleum Hydrocarbons	C_7-C_9	< 9	< 9	500	500	500
	C_{10}-C_{14}	< 20	< 20	510	510	510
	C_{15}-C_{36}	< 40	< 40	NA	NA	NA

Note: ND = not detected; Results in red exceed the Soil Contaminant Standards for health ($SCSs_{(health)}$) for Residential land use with 10% produce; Results in **bold** exceed the Soil Contaminant Standards for health ($SCSs_{(health)}$) for Recreational land use. Results highlighted exceed the discharge criteria as outlined in Schedule 10 of the Auckland Council Regional Plan: Air, Land and Water. Results in *italics* exceed the Maximum Auckland Background Concentrations outlined in the Auckland Regional Council Technical Publication No.153, Oct 2001 Reprinted April 2002 ISSN 1175 205X.

The concentrations of arsenic in eight of the samples analysed were above the maximum Auckland soil background concentrations for non-volcanic soils of 12 mg/kg. Five Sample results exceeded the $SCSs_{(health)}$ for Residential land use of 20 mg/kg with two samples exceeding the SCS for Recreational land use of 80 mg/kg. Four samples also exceeded the discharge criteria of the ACRP:ALW and the PAUP of 100 mg/kg.

The concentrations of cadmium in five of the samples analysed were above the maximum Auckland soil background concentrations for non-volcanic soils of 0.65 mg/kg. One sample result exceeded the $SCSs_{(health)}$ for Residential land use of 7.5 mg/kg. All sample results were below the $SCSs_{(health)}$ for Recreational land use of 400 mg/kg and the discharge criteria of the ACRP:ALW and the PAUP of 7 mg/kg.

The concentrations of chromium in three of the samples analysed were above the maximum Auckland soil background concentrations for non-volcanic soils of 55 mg/kg. All sample results were below the $SCSs_{(health)}$ for Residential land use of 460 mg/kg and the Recreational land use of 2,700 mg/kg and the discharge criteria of the ACRP:ALW and the PAUP of 400 mg/kg.

The concentrations of copper in nine of the samples analysed were above the maximum Auckland soil background concentrations for non-volcanic soils of 45 mg/kg. All sample results were below the $SCSs_{(health)}$ for Residential and Recreational land use of >10,000 mg/kg. Two sample results exceeded the discharge criteria of the ACRP:ALW and the PAUP of 325 mg/kg.

The concentrations of lead in four of the samples analysed were above the maximum Auckland soil background concentrations for non-volcanic soils of 65 mg/kg. One sample result exceeded both the $SCSs_{(health)}$ for Residential land use of 210 mg/kg and the discharge criteria of the ACRP:ALW and the PAUP of 250 mg/kg. All of the sample results were below the $SCSs_{(health)}$ for Recreational land use of 880 mg/kg.

With the exception of one sample the concentrations of nickel in all samples analysed were below the maximum Auckland soil background concentrations for non-volcanic soils of 35 mg/kg. All sample results were below the adopted human health criteria for Residential and Recreational land use of 600 mg/kg and the discharge criteria of the ACRP:ALW and the PAUP of 105 mg/kg.

The concentrations of zinc in ten of the samples analysed were above the maximum Auckland soil background concentrations for non-volcanic soils of 180 mg/kg. Four sample results exceeded the discharge criteria of the ACRP:ALW and the PAUP of 400 mg/kg. All sample results were below the adopted human health criteria for Residential and Recreational land use of 7,000 mg/kg.

DDT isomers were not detected in any of the samples analysed from 252 Park Estate Road.

BaP eq. were detected in four of the samples analysed. The concentrations of BaP eq. from all soil samples were below the $SCSs_{(health)}$ for Residential land use of 10 mg/kg and the $SCSs_{(health)}$ for Recreational land use of 40 mg/kg as outlined in the NES and the discharge criteria of the ACRP:ALW and the PAUP of 2.15 mg/kg.

10.0 Groundwater Sampling Results

Four groundwater monitoring wells (MW1–MW4) were installed in general accordance with the Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (MfE, 1999) at the historical landfill site at 152 Park Estate Road, Hingaia on the 28th of January 2015.

The bore construction details are provided in Table 9 below, the locations of the groundwater monitoring wells are illustrated on Figure 2-2 and the borehole logs are presented in Appendix E.

Two groundwater monitoring rounds were undertaken on the 18th of February and the 20th of March 2015. Sampling results for each of the monitoring bores are presented in Tables 11 & 12 and 14 & 15 respectively. Laboratory transcripts are provided in Appendix C.

Table 9: Bore construction details: 152 Park Estate Road, Hingaia

Well ID	Total Depth (m)	Depth to screen (m btoc)	Depth of Screen (m)	Depth to Water (m btoc)
MW1 (East)	6.05	3.55	2.5	3.86
MW2 (South)	6.71	3.71	3.0	3.26
MW3 (North)	6.60	3.6	3.0	0.84
MW4 (West)	6.69	3.69	3.0	2.30

Note: m btoc: meters below top of casing.

10.1 Groundwater Sampling Results - Round One

Table 10: Well and Groundwater Data - Round One

Well ID	Date	Depth to SPH (m btoc)	Depth to Water (m btoc)	Total Depth (m btoc)
MW1 (East)	18/02/15	ND	4.70	6.05
MW2 (South)	18/02/15	ND	3.68	6.71
MW3 (North)	18/02/15	ND	0.85	6.60
MW4 (West)	18/02/15	ND	2.18	6.69

Note: ND: not detected; m btoc: meters below top of casing.

Table 11: Heavy Metal Results - Round One (mg/kg).

Analyte	MW1 (East)	MW2 (South)	MW3 (North)	MW4 (West)
Arsenic	<0.011	0.0115	<0.0011	<0.0053
Cadmium	<0.00053	<0.00053	<0.00053	<0.00027
Chromium	0.024	0.0149	<0.00053	<0.0027
Copper	**0.039**	**0.0148**	0.00058	<0.0027
Lead	**0.02**	**0.0107**	0.00012	**0.0046**
Nickel	0.0162	0.0132	<0.00053	<0.0027
Zinc	**0.084**	**0.057**	0.0028	0.0085

Note: Results in red exceed the ANZECC 2000 guidelines for the protection of 80% of marine species. Results in **Bold** exceed ANZECC 2000 guidelines for the protection of 95% of marine species.

Table 12: Other Potential Contaminant Results – Round One (mg/kg).

Analyte	MW1 (East)	MW2 (South)	MW3 (North)	MW4 (West)
Total Alkalinity	14.6	143	36	130
Conductivity (mS/m)	14.2	44	26.4	428
pH	6.3	7.3	6.0	6.4
Total Ammoniacal-N	0.012	0.146	0.026	0.030
Chemical Oxygen Demand	28	8	16	34
Boron	<0.053	0.029	0.028	0.40
Iron	31	2.2	10.3	10.2
Manganese	0.45	0.135	0.104	0.49

Note: Results in red exceed the ANZECC 2000 guidelines for the protection of 80% of marine species. Results in **Bold** exceed ANZECC 2000 guidelines for the protection of 95% of marine species.

10.2 Groundwater Sampling Results - Round Two

Table 13: Well and Groundwater Data: Round Two

Well ID	Date	Depth to SPH (m btoc)	Depth to Water (m btoc)	Total Depth (m btoc)
MW1 (East)	20/03/15	ND	4.71	6.06
MW2 (South)	20/03/15	ND	3.46	6.73
MW3 (North)	20/03/15	ND	0.85	6.60
MW4 (West)	20/03/15	ND	2.24	6.69

Note: ND: not detected; m btoc: meters below top of casing.

Table 14: Heavy Metal Results - Round Two (mg/L).

Analyte	MW1 (East)	MW2 (South)	MW3 (North)	MW4 (West)
Arsenic	<0.0010	<0.0010	<0.0010	<0.005
Cadmium	<0.00005	<0.00005	<0.00005	<0.0003
Chromium	<0.0005	<0.0005	<0.0005	<0.003
Copper	0.0007	<0.0005	<0.0005	<0.003
Lead	<0.00010	<0.00010	<0.00010	<0.0005
Nickel	0.0009	0.0009	<0.0005	<0.003
Zinc	**0.0157**	**0.021**	0.0021	0.010

Note: Results in red exceed the ANZECC 2000 guidelines for the protection of 80% of marine species. Results in **Bold** exceed ANZECC 2000 guidelines for the protection of 95% of marine species.

Table 15: Other Potential Contaminant Results – Round Two (mg/L).

Analyte	MW1 (East)	MW2 (South)	MW3 (North)	MW4 (West)
Total Alkalinity	11.7	30	146	125
Conductivity (mS/m)	13.7	25.6	43.5	489
pH	**5.9**	**5.9**	7.2	6.4
Total Ammoniacal-N	<0.010	0.027	0.175	0.048
Chemical Oxygen Demand	8	14	<6	40
Boron	0.025	0.027	0.033	0.43
Iron	<0.02	<0.02	<0.02	8.6
Manganese	0.120	0.053	0.127	0.27

Note: Results in red exceed the ANZECC 2000 guidelines for the protection of 80% of marine species. Results in **Bold** exceed ANZECC 2000 guidelines for the protection of 95% of marine species.

10.3 Groundwater Sampling Results Summary

Groundwater samples were collected from groundwater wells that were installed up gradient (MW1 East, MW3 North) and down gradient (MW2 South, MW4 West) of the historical landfill site at 152 Park Estate Road, Hingaia in February and March 2015.

Following the guidance provided in the ANZECC guidelines the samples obtained during the first monitoring round were tested for total metals, in order to ensure that the fraction of the contaminant that is bioavailable was over estimated and to supply a conservative result.

Here, groundwater samples both up and down gradient of the historical landfill were found to contain contaminants at concentrations in excess of the adopted guideline values.

In summary, the concentration of copper, lead and zinc detected at sample location MW1 (up gradient) was found to exceed the ANZECC 80% and 95% guideline values. The concentration of copper and zinc detected at sample location MW2 (down gradient) was found to exceed the ANZECC 80% and 95% guideline values, with the concentration of lead being detected at levels exceeding the ANZECC 95% guideline value. The concentration of lead at sample location MW3 (up gradient) was found to exceed the ANZECC 95% guideline value, but not the ANZECC 80% guideline value.

In accordance with the ANZECC guidelines, as the above results show that the guideline values are being exceeded, a second sampling round was initiated which included the analysis of soluble heavy metals, representative of the bioavailable fraction.

The results of the second monitoring round indicate that, with the exception of zinc, the soluble heavy metals in the groundwater are below the ANZECC guidelines for the protection of both 80% and 95% of marine species. Zinc levels exceeded the ANZECC guidelines for the protection of both 80% and 95% of marine species in MW1 (up gradient) and MW3 (down gradient) monitoring wells.

Alkalinity was elevated in the western (MW4) and northern monitoring wells (MW3) indicating that these sites have the greatest tidal intrusion into the monitoring zone.

Conductivity was an order of magnitude higher in the western monitoring well (MW4) in comparison to other sites indicating that the landfill materials are having an effect on the quality of the underlying water.

Ammoniacal Nitrogen was greatest in the northern monitoring well (MW3). The elevated result may be caused by the breakdown of organic material in the surrounding marsh type area. The levels of ammoniacal nitrogen detected in the remaining sites are a good indication that both the degradable fractions of waste in the fill materials are small, and that the site is likely to be highly influenced by tidal flushing.

As only two groundwater monitoring rounds have been completed to-date, the results obtained may not be entirely indicative of the conditions beneath the historical landfill site. Further groundwater sampling rounds are therefore recommended on a biannual basis to gain representative information of the groundwater conditions at the site.

11.0 Extent of Contamination

11.1 144 Park Estate Road

The results of the investigation undertaken at 144 Park Estate Road, Hingaia indicate that site soils do not contain chemical contamination at levels exceeding the $SCS_{(health)}$ for Residential or Recreational land use as outlined in the NES or the discharge criteria of the ACRP:ALW and PAUP.

11.2 152 Park Estate Road

The results of the sample analysis indicate that the site soils in the burning area and the area of historical landfilling are contaminated above the $SCS_{(health)}$ for Residential and Recreational land use, as outlined in the NES, and the discharge criteria of the ACRP:ALW and PAUP.

Remediation will most likely be required around the area of the 44 gallon burning drum. Excavations around rear house carport will also be required to remove potential asbestos fragments that were evident. A small area from eastern end of stockyards will also require remediation or management due to arsenic contamination.

Sampling and test pits indicate the historical landfill is approximately 18,250m^2 in area and to a depth of up to 2.8m below ground level. The depositing of materials including refuse has caused extensive contamination of this area of the site. No landfill gas was detected during the investigation and asbestos fragments were observed in all but two of the test pits locations.

Although removal of contaminated material from the historical landfill area is only one of the potential management options for the site, if it is chosen as the preferred management option, approximate excavation volume required to remove the fill material from the site is presented in Table 16 below.

Table 16: Estimated Excavation Volumes at 152 Park Estate Road

Zone	Area (m^2)	Depth (m)	Volume (m^3)
Burning Area	2	0.3	0.6
Stockyards	40	0.5	20
Landfill	18,250	4	73,000
Total Volume			73,020.6
Potential Total Tonnes (Landfill m^3 x 1.0, Burning/Stockyards m^3 x 1.5)			**73,030.9**

Based on Table 16 (above) the estimated volume of material potentially requiring off-site disposal is 73,000.6 m^3. The inferred area of contamination is shown in Figure 3-1.

This conservative estimate is based on the sampling and results available following the site investigation. Removal of material is only one of the potential management options that can be considered for the site. An investigation into the alternative management options for the contamination identified at 152 Park Estate Road has not been undertaken at this stage.

11.3 200 Park Estate Road

The results of the sample analysis indicate that the site soils in the area of burning, the area of the hydrocarbon spill and the area of the demolished buildings within the northern section of the site are contaminated above the $SCS_{(health)}$ for Residential and Recreational land use, as outlined in the NES, and the discharge criteria of the ACRP:ALW and PAUP.

Estimates of the excavation volumes required to remove the materials from the site are presented in Table 17 below.

Table 17: Estimated Excavation Volumes at 200 Park Estate Road

Zone	Area (m^2)	Depth (m)	Volume (m^3)
Area North of Road	1,250	0.3	625
Area South of Road	1,800	0.5	540
Western Burn pile	500	0.3	150
Hydrocarbon Spill	10	0.75	7.5
Total Volume			1,322.5
Potential Total Tonnes (m^3 x 1.5)			**1,983.75**

Based on Table 17 (above) the estimated volume of material requiring off-site disposal is 1,322.5 m^3. The inferred area of contamination is shown in Figure 3-2.

This conservative estimate is based on the sampling and results available following the site investigation. In addition, due to the presence of asbestos containing materials within each of the major burn piles, an accurate volume and area is difficult to calculate. The volume to be removed is dependent on the extent of dispersion of asbestos fibres from the burning activity.

11.4 252 Park Estate Road

The results of the sample analysis indicate that the site soils in the areas of burning along with three areas from within the shed and barn complex are contaminated above the $SCSs_{(health)}$ for Residential and Recreational land use, as outlined in the NES, and the discharge criteria of the ACRP:ALW and PAUP.

Estimates of the excavation volumes required to remove the fill material from the site are presented in Table 18 below.

Table 18: Estimated Excavation Volumes at 252 Park Estate Road

Zone	Area (m^2)	Depth (m)	Volume (m^3)
Front Burn Pile	9	0.3	2.7
Rear Burn Pile	150	0.5	75
Sheds and Barns	180	0.3	54
Total Volume			131.7
Potential Total Tonnes (m^3 x 1.5)			**197.55**

Based on Table 18 (above) the estimated volume of material requiring off-site disposal is 131.7 m^3. The inferred area of contamination is shown in Figure 3-3.

This estimate is based on the sampling and results available following the site investigation. Due to the presence of asbestos within the rear burn pile, an accurate volume and area is difficult to calculate.

12.0 Regulatory Requirements

12.1 The National Environmental Standard

Due to the potentially contaminating land uses identified at 144, 152, 200 and 252 Park Estate Road it is considered that an activity described in the HAIL is being, has been, or is more likely than not to have been undertaken at the site.

Resource Consent will therefore likely be required for the site under the District Plan, following the introduction of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES).

In reference to the NES the following assessment was made in determining the activity status of the proposed works at 144 Park Estate Road:

- The land is covered by the NES under regulation 5.7(b) 'an activity or industry described in the HAIL has been undertaken on it'.
- The activity is subdividing a piece of land under regulation 5(5) 'means subdividing land that has all the piece of land within its boundaries.
- The activity of subdividing land does not comply with regulation 8(4).
- The activity is changing the use of a piece of land under regulation 5(6) 'means changing it to a use that, because the land is described in subclause (7), is reasonably likely to harm human health'.
- The activity of changing use does not comply with regulation 8(4).
- A detailed site investigation for the piece of land does exist.

A controlled activity consent is required under Regulation 9 of the NES as the proposed subdivision and change in land use do not meet the requirements of a permitted activity under Regulation 8 of the NES, and this detailed site investigation for the piece of land has shown that the soil contamination does not exceed the applicable standards.

In addition, in the event that the proposed soil disturbance exceeds $25m^3$ per $500m^2$, or the soil removal exceeds $5m^3$ per $500m^2$ for the 'pieces of land' identified, a controlled activity consent will likely be required under Regulation 9 of the NES.

In reference to the NES the following assessment was made in determining the activity status of the proposed works at 152, 200 and 252 Park Estate Road:

- The land is covered by the NES under regulation 5.7(b) 'an activity or industry described in the HAIL has been undertaken on it'.
- A detailed site investigation report has been prepared for the site.
- The soil contamination present on the site does exceed the applicable standard.
- The site soils are required to be either remediated, to reduce the concentration of the contaminants to an acceptable level, or managed, to prevent exposure of people to the contaminants.
- The activity is subdividing a piece of land under regulation 5(5) 'means subdividing land that has all the piece of land within its boundaries.
- The activity of subdividing land does not comply with regulation 8(4).

- The activity is changing the use of a piece of land under regulation 5(6) 'means changing it to a use that, because the land is described in subclause (7), is reasonably likely to harm human health'.
- The activity of changing use does not comply with regulation 8(4).
- The activity of remediation is disturbing soil under regulation 5(4)(a) 'means disturbing the soil of the piece of land for a particular purpose'.
- The activity of remediation will likely not comply with regulation 8(3)(c) 'the volume of the disturbance of the soil of the piece of land must be no more than 25m^3 per 500m^2, or the soil removal must not exceed 5m^3 per 500m^2.

A restricted discretionary activity consent is required under Regulation 10 of the NES as the proposed subdivision, change in land use and soil disturbance will likely not meet the requirements of a permitted activity under Regulation 8 of the NES, and this detailed site investigation for the piece of land has shown that the soil contamination does exceed the applicable standards.

12.2 Auckland Council Regional Plan: Air, Land and Water

As the site soils at 144 Park Estate Road were found to not be contaminated above the discharge criteria of the ACRP:ALW, the Contaminated Land rules of the ACRP:ALW are not triggered and consent will unlikely be required for the proposed development of the site.

However, as the site soils at 152, 200 and 252 Park Estate Road were found to be contaminated above the discharge criteria of the ACRP:ALW, the Contaminated Land rules of the ACRP:ALW will likely be triggered and consent will likely be required for the proposed development of the site.

In order to undertake the remediation of the site a controlled activity short-term discharge consent under rule 5.5.44 of the ACRP:ALW will likely be required.

Rule 5.5.44 covers the discharge of contaminants to land or water from land containing elevated levels of contaminants that is undergoing remediation or land disturbance that does not meet the standards, terms and conditions of the permitted activity rule 5.5.40.

In addition, specific rules of the ACRP: ALW relate to closed landfills (Rules 5.5.49 – 5.5.51 and 5.5.53) which provide for activities in relation to discharges from landfills.

The discharge of contaminants from the historical landfill at 152 Park Estate Road does not meet the requirements of a permitted activity under rule 5.5.49 or 5.5.50 given that:

- Sampling has shown down groundwater beneath the landfill exceeds the 95% ANZECC guidelines for marine water (ANZECC, 2000) for some contaminants;
- The landfill does not have an effective capping layer;
- The landfill contains more than 1000 m^3 of material; and
- Hazardous substances have been disposed of in the Landfill.

Therefore a controlled activity consent, under Rule 5.5.51, will likely be required to authorise the discharge from the closed landfill at the site.

Furthermore, specific rules in the ACRP:ALW cover the discharges of contaminants into air which include landfill gas and "hazardous air pollutants".

The diffuse discharge of landfill gas to air from the closed landfill is a permitted activity given that:

- The landfill ceased accepting waste after 1991;
- The volume of waste disposed of is significantly less than 200,000 tonnes;
- The discharge will not cause any adverse effects or nuisance effects beyond the property boundary.

However, as asbestos is considered a "hazardous air pollutant" under the ACRP:ALW the general permitted activity rule (Rule 4.5.1) will need to be considered.

Here, it is considered that without an effective cap/cover over the historical landfill site, the presence of asbestos at the surface of the historical landfill site has the potential to cause discharges that may cause adverse effects on human health, property or the environment beyond the property boundary. The discharge of contaminants into air would therefore be considered as a discretionary activity under Rule 4.5.2.

12.3 Proposed Auckland Unitary Plan

The contaminated land rules of the Proposed Auckland Unitary Plan (PAUP) have immediate legal effect following its notification. As the PAUP was notified on the 30th of September 2013 the contaminated land rules of the PAUP must be considered.

As the site soils at 144 Park Estate Road were found to not be contaminated above the discharge criteria of the PAUP, the Contaminated Land rules of the PAUP are not triggered and consent will unlikely be required for the proposed development of the site.

However, as the site soils at 152, 200 and 252 Park Estate Road were found to be contaminated above the discharge criteria of the PAUP, the Contaminated Land rules of the PAUP will likely be triggered and consent will likely be required for the proposed development of the site. In order to undertake the remediation of the site, a controlled activity short-term discharge consent under Rule H.4.5.2.2.2 of the PAUP will likely be required.

In addition, Part 3, Chapter H.4.4 of the PAUP contains rules in relation to Cleanfills, Managed Fills and Landfills.

Closed landfills which cannot meet the permitted activity controls outline in Rule H.4.4.2.1.2 are considered to be a non-complying activity under the PAUP.

Here the discharge of contaminants from the unauthorised Landfill will likely not meet the permitted activity controls of Rule H.4.4.2.1.2 given that:

- Contaminants measured in groundwater beneath the landfill footprint exceed the 95% ANZECC guidelines for freshwater and marine water (ANZECC 2000);
- The landfill does not have a compliant capping layer;
- Vegetation on the landfill has naturally established and includes tree species which may not be shallow rooting.

Therefore, in accordance with the Activity Table, Chapter H.4.4, discharges of contaminants from the closed landfill on site are a non-complying activity.

Furthermore, Part 3, Chapter H.4.1 of the PAUP contains rules in relation to discharges to air. The diffuse discharge of landfill gas to air from the closed landfill is a permitted activity given that:

- The landfill ceased accepting waste after 1991;
- The volume of waste disposed of is significantly less than 200,000 tonnes;
- The discharge will not cause any adverse effects or nuisance effects beyond the property boundary.

However, as asbestos is considered a "hazardous air pollutant" under the PAUP the general permitted activity rule (Rule H.4.1.3.1.1) will need to be considered.

Here, it is considered that without an effective cap/cover over the historical landfill site, the presence of asbestos at the surface of the historical landfill site has the potential to cause discharges that may cause adverse effects on human health, property or the environment beyond the property boundary. The discharge of contaminants into air would therefore be considered as a discretionary activity under Rule H.4.1.3.4

13.0 Conclusions and Recommendations

Focus Environmental Services Limited personnel carried out the site intrusive investigations between December 2014 and March 2015 where samples were taken from within the areas of potential contamination as identified in the report titled '*Preliminary Site Investigation 144, 152, 180, 200 and 252 Park Estate Road, Hingaia, Auckland*' prepared by Focus Environmental Services Limited and dated October 2014.

In addition, four groundwater monitoring wells (MW1–MW4) were installed in general accordance with the Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (MfE, 1999) at the suspected landfill site at 152 Park Estate Road, Hingaia in January 2015. Two groundwater monitoring rounds were subsequently undertaken in February and March 2015.

This environmental investigation was carried out in general accordance with the Contaminated Land Management Guidelines No. 1 and No.5 (MfE, 2011).

The information obtained during the Preliminary Site Investigation was used to formulate a sampling program to assess if any of the potentially hazardous activities identified, as a result of past or current land use, have had an impact on the soils at the site.

The results of the detailed site investigation have indicated that historical activities carried out on the subject site have had an impact on the site soils. Elevated concentrations of heavy metals, polycyclic aromatic hydrocarbons, and total petroleum hydrocarbons have been detected in the site soils.

The results of the investigation undertaken at 144 Park Estate Road, Hingaia indicate that site soils do not contain chemical contamination at levels exceeding the Soil Contamination Standards for health ($SCS_{(health)}$) for Residential or Recreational land use as outlined in the National Environmental Standards (NES) or the discharge criteria of the Auckland Council Regional Plan: Air, Land and Water (ACRP:ALW) and the Proposed Auckland Unitary Plan (PAUP).

A controlled activity consent is required under Regulation 9 of the NES as the proposed subdivision and change in land use at 144 Park Estate Road do not meet the requirements of a permitted activity under Regulation 8 of the NES, and this detailed site investigation for the piece of land has shown that the soil contamination does not exceed the applicable standards.

The results of the investigation undertaken at 152 Park Estate Road indicate that the site soils in the burning area and the area of suspected landfilling are contaminated above the $SCSs_{(health)}$ for Residential and Recreational land use, as outlined in the NES, and the discharge criteria of the ACRP:ALW and PAUP.

In addition, the results of the groundwater monitoring undertaken at 152 Park Estate Road indicate that, with the exception of zinc, the soluble heavy metals in the groundwater are below the ANZECC guidelines for the protection of both 80% and 95% of marine species. However, as only two groundwater monitoring rounds have been completed to-date, the results obtained may not be entirely indicative of the conditions beneath the suspected landfill site and further groundwater sampling rounds are recommended on a biannual basis to gain representative information of the groundwater conditions at the site.

The results of the investigation undertaken at 200 Park Estate Road indicate that the site soils in the area of burning, the area of the hydrocarbon spill and the area of the demolished buildings within the northern section of the site are contaminated above the $SCSs_{(health)}$ for Residential and Recreational land use, as outlined in the NES, and the discharge criteria of the ACRP:ALW and PAUP.

The results of the investigation undertaken at 252 Park Estate Road sample analysis indicate that the site soils in the areas of burning along with three areas from within the shed and barn complex are contaminated above the $SCSs_{(health)}$ for Residential and Recreational land use, as outlined in the NES, and the discharge criteria of the ACRP:ALW and PAUP.

Remediation and/or management of the sites are required as the risk to human health and/or the environment has been confirmed as being unacceptable.

A restricted discretionary activity consent is required under Regulation 10 of the NES as the proposed subdivision, change in land use and soil disturbance at 152, 200 and 252 Park Estate Road will likely not meet the requirements of a permitted activity under Regulation 8 of the NES, and this detailed site investigation for the piece of land has shown that the soil contamination does exceed the applicable standards.

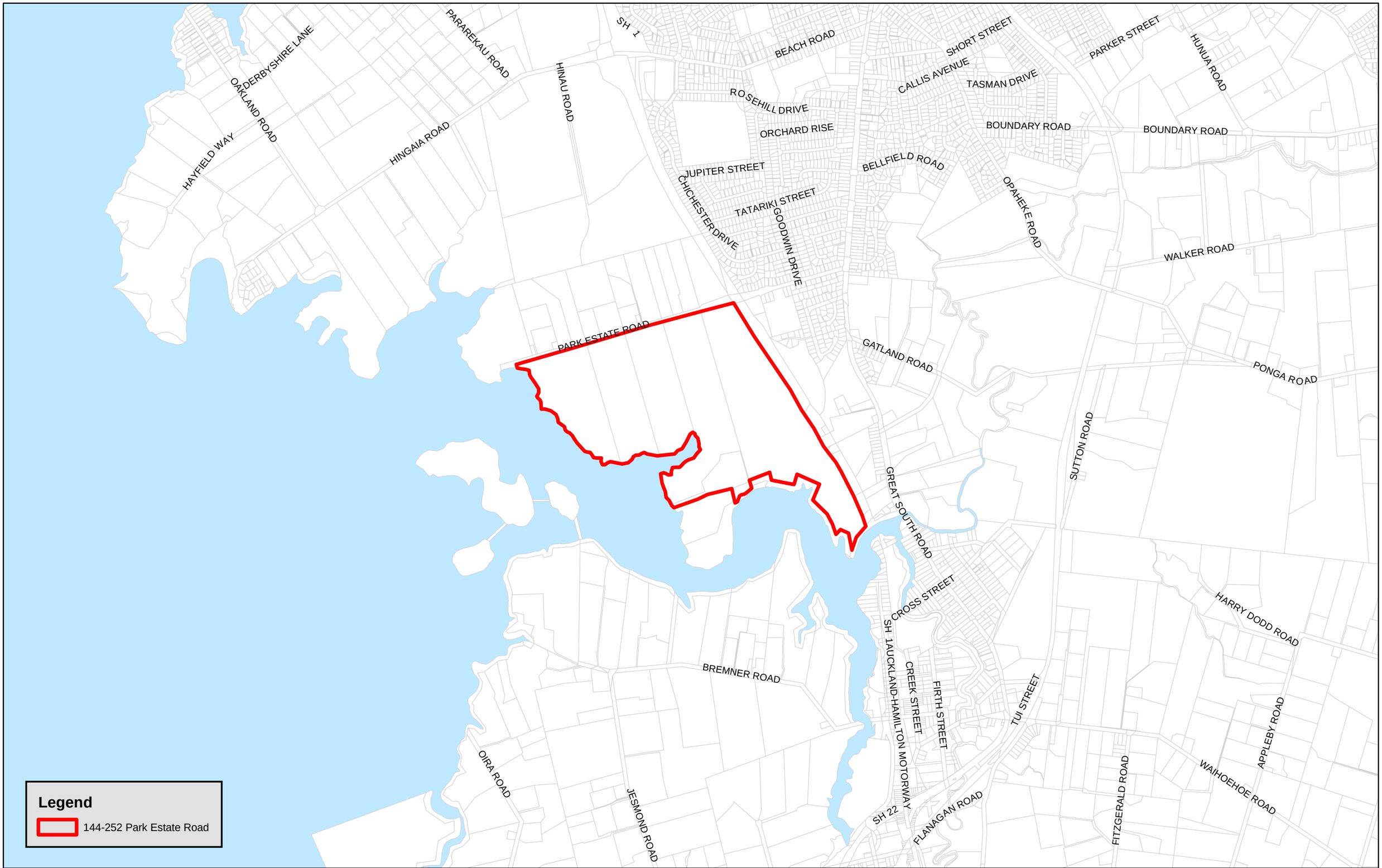
In addition, as the site soils at 152, 200 and 252 Park Estate Road were found to be contaminated above the discharge criteria of the ACRP:ALW and PAUP, the Contaminated Land rules of the ACRP:ALW and PAUP will likely be triggered and consent will likely be required for the proposed development of the site.

Furthermore, in the event that the landfill on site at 152 Park Estate Road is not remediated, the discharge of contaminants from the Landfill will likely trigger further consents under the ACRP:ALW and the PAUP.

Due to the contamination identified, the site soils in some areas of the site are not suitable for classification as cleanfill and any materials removed from these areas will be required to be disposed of to a suitably licensed facility.

A site management plan/remediation action plan will likely be required for the proposed works to ensure that any potential human health or environmental risks are effectively mitigated.

Figures



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Hugh Green Limited

144-252 Park Estate Road
Hingaia
Auckland

Figure 1: Site Location Plan

Detailed Site Investigation

0344.002

Drawing Number: 0344.002.01
Drawn By: SAR
Checked By: DO'R
Date: 16/04/2015

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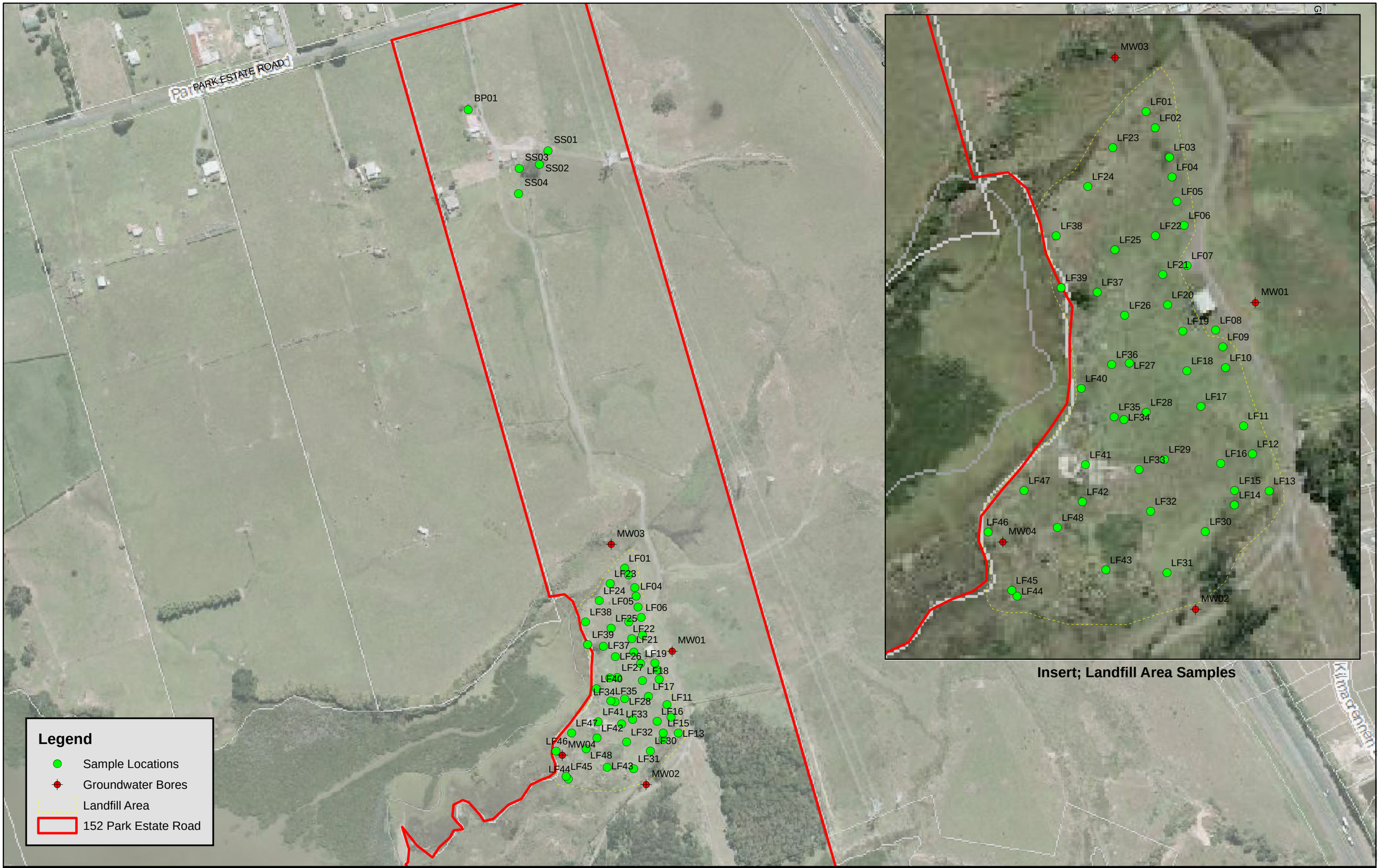
Hingaia
Auckland

Figure 2-1: Sample Location Plan 144 Park Estate Road

Detailed Site Investigation

	Drawing Number: 0344.002.02-1
	Drawn By: SAR
0344.002	Checked By: DO'R
	Date: 16/04/2015



Insert; Landfill Area Samples

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Auckland

Figure 2-2: Sample Location Plan 152 Park Estate Road

Detailed Site Investigation

Drawing Number: 0344.002.02-2

Drawn By: SAR

0344.002

Checked By: DO'R

Date: 16/04/2015

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Figure 2-3A: Sample Location Plan 200 Park Estate Road

Detailed Site Investigation

	Drawing Number: 0344.002.02-3A
	Drawn By: SAR
0344.002	Checked By: DO'R
	Date: 16/04/2015

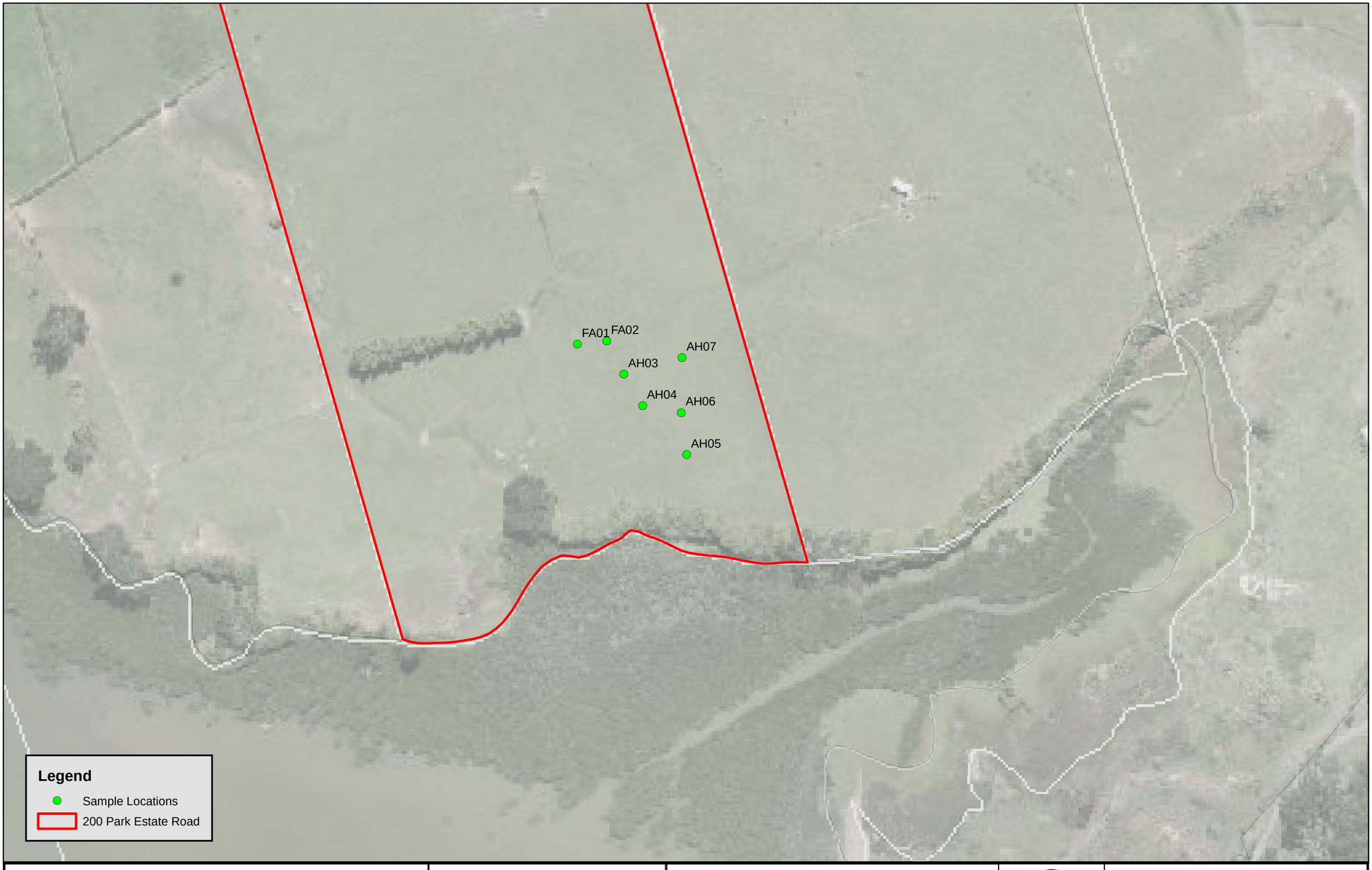

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Figure 2-3B: Sample Location Plan
200 Park Estate Road

Detailed Site Investigation

0344.002

Drawing Number: 0344.002.02-3B
Drawn By: SAR
Checked By: DO'R
Date: 16/04/2015

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Figure 2-4: Sample Location Plan
252 Park Estate Road
Detailed Site Investigation

0344.002

Drawing Number: 0344.002.02-4
Drawn By: SAR
Checked By: DO'R
Date: 13/04/2015

Insert: Landfill Area

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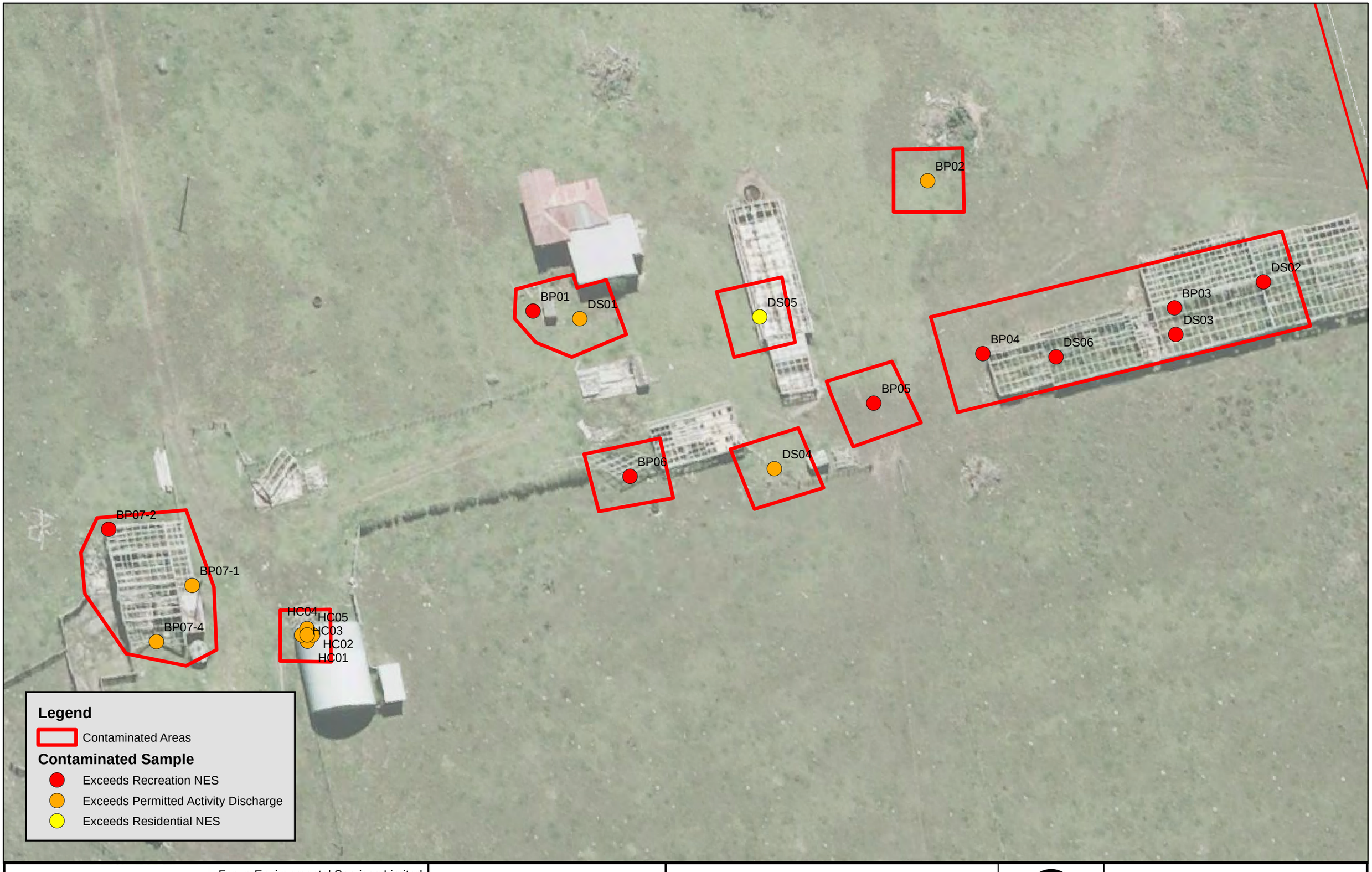
Figure 3-1: Inferred Area of Contamination
152 Park Estate Road
Detailed Site Investigation

0344.002	Drawing Number: 0344.002.03-1
	Drawn By: SAR
	Checked By: DO'R
	Date: 16/04/2015



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144-252 Park Estate Road
Hingaia
Auckland

Figure 3-2: Inferred Area of Contamination 200 Park Estate Road

Detailed Site Investigation

	Drawing Number: 0344.002.03-2
	Drawn By: SAR
0344.002	Checked By: DO'R
	Date: 13/04/2014

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Figure 3-3: Inferred Area of Contamination
252 Park Estate Road
Detailed Site Investigation

0344.002

Drawing Number: 0344.002.03.3
Drawn By: SAR
Checked By: DO'R
Date: 13/04/2015

Appendices

Appendix A – Service Contract Agreement

10 November 2014

Hugh Green Limited

P O Box 12-443 Penrose

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Direct Dial: +64 9 6220179

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Email: david@focusenvironmental.co.nz

Po Box 11455

Ellerslie

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New Zealand

Attention: Pat Gavaghan

Re: Phase 2 Detailed Site Investigation Report and Remediation Action Plan & Assessment of Environmental Effects for the 144-252 Park Estate Road, Hingaia.

Dear Pat,

Following your request, the proposal presented sets out the basis on which we will carry out a Phase 2 Detailed Site Investigations at 144-252 Park Estate Road, Hingaia.

Table 1: - The physical addresses, legal descriptions are presented below:

Physical Address	Legal Description	Area m2
144 Park Estate Road	Allotment 434 PSH of Opaheke	346,243
152 Park Estate Road	Section 1 SO 432649	218,762
180 Park Estate Road	Lot 11 DP 4963	129,499
200 Park Estate Road	Lot 12 DP 4963	125,956
252 Park Estate Road	Lot 13 DP 4963	148,722
158 Park Estate Road	Section 2 SO 432649	80,752

Note: No DSI is proposed for 180 or 158 Park Estate Road. However a review of the SVR prepared for 158 will be undertaken to determine if the remediation criteria used was stringent enough to account for the SCS's Health outlined in the National Environmental Standards and the Proposed Auckland Unitary Plan for residential land use.

Proposed work Programme

Detailed Site Investigation

Following a Preliminary Site Investigation of the properties a number of areas of contamination and HAIL activities were identified. As a result of the findings of the

PSI, Detailed Site Investigations were recommended for 144, 152, 200, & 252 Park Estate Road.

As it is proposed to develop these properties, Council will require a DSI to determine if any historical or current land uses have impacted on the site soils. The site soils will be assessed against the Human Health Guidelines outlined in the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011 (NES) and Environmental Guidelines outlined in the Auckland Council Regional: ACRP:ALW Plan Schedule 10 Permitted Activity Soil Criteria and the Proposed Auckland Unitary Plan (PAUP).

144 Park Estate Road
The following areas on 144 will require investigation as part of the DSI:

- Workshop and Vehicle Dismantlers (8 surface samples) (HM, TPH, PAH, OCP)
- Bund of uncertified materials (4 surface & 4 depth samples) (HM, PAH, OCP)
- Stockpile Adjacent SH1 (8 surface & 8 depth samples) (HM, PAH, OCP)

152 Park Estate Road
The following areas on 152 will require investigation as part of the DSI:

- Milking Shed/Stock Pens (4 samples) (HM, OCP)
- Carport (Visual assessment for ACM)
- Landfill Area (36 samples of selected surface and depth) (HM, TPH, PAH, OCP)
- Area of Burning (1 sample) (HM, PAH)
- Waste Water Irrigation and Oxidation Pond (Review of URS SVR Criteria)

This investigation works may be considered stage 1 of the DSI for 152 Park Estate Road, additional investigations which may include groundwater/leachate/gas monitoring may also be required following the delineation and characterisation of the landfill site.

200 Park Estate Road
The following areas on 200 will require investigation as part of the DSI:

- Half Round Barn (Hydrocarbons) (4 surface 1 depth sample) (HM, TPH, PAH)
- Areas of Burning (12 Surface samples) (HM, PAH)
- Area of uncertified filling/stockpiling (9 surface and 9 depth samples) (HM, PAH, OCP)
- Areas of former demolished buildings (6 surface samples) (HM, OCP)

252 Park Estate Road
The following areas on 252 will require investigation as part of the DSI:

- Areas of Burning (8 surface samples) (HM, PAH, ACM)

- Farm Sheds (8 surface samples) (HM, OCP, PAH, Visual for ACM)

Environmental Soil Investigation will be carried out in accordance with the Contaminated Land Management Guidelines No. 1 and No.5 (MfE, 2011).

Test pits will be excavated through the fill materials and stockpiles across the affected areas of the sites. The excavations will be carried out by Hugh Green Limited personnel under the direct supervision of Focus Environmental Services Limited. Soil samples will be collected at various depths throughout the fill materials and stockpiles.

Samples will be taken in accordance with Ministry for the Environment contaminated site guidelines and internationally recognised procedures. These cover the method of sample recovery, handling and cleaning of sampling equipment. Soil samples will be submitted for analysis. 15 selected soil samples will be sent under full chain of custody documentation to an IANZ accredited laboratory and analysed for a combination of:

- Total Recoverable Arsenic, Cadmium, Chromium, Copper, Lead, Nickel, and Zinc.
- Total Recoverable Organo-Chlorine Pesticides.
- Total Petroleum Hydrocarbons.
- Poly-Aromatic Hydrocarbons.
- Asbestos Fibres.

Focus Environmental Services personnel will screen the surface and depth samples using a SPECTRO X-Sort x-ray fluorescence analyser (XRF), to provide further information on potential heavy metals contamination across the affected areas of the sites.

A technical report summarising the results of the investigations will be prepared in accordance with Ministry for the Environment Contaminated Land Management Guideline No.1 "Reporting on Contaminated sites in New Zealand". The report will include recommendations for further work if relevant.

Remediation Action Plan and Assessment of Environmental Effects

Focus Environmental Services Limited will prepare a Remediation Action Plan (RAP) and Assessment of Environmental Effects (AEE) to address all potential environmental and health and safety that may arise as a result of the site remediation project required for the Sandy Lane residential development project. The RAP & AEE will be prepared in accordance with Ministry for the Environment Contaminated Land Management Guideline No.1 "Reporting on Contaminated sites

in New Zealand". Focus will liaise with Auckland Council to ensure that they are satisfied with the proposed Remedial Action Plan.

In order to satisfy the requirements of the Auckland Council, a Remediation Action Plan is required. The RAP & AEE will detail the:

- Extent to which the site is contaminated.
- Health and safety standards covering the intended works.
- The measures by which the site will be remediated and restored.
- Safety standards for the intended use of the site.
- The means by which any adverse effects on the environment will be avoided or mitigated.

Should the above meet with your approval, please sign and return the contract. Thank you for the opportunity to present this proposal and we look forward to being of further assistance. Please contact David O'Reilly on (09) 6220179 or Cell (027) 5567995.

Yours sincerely,

David O'Reilly
Environmental Consultant
Principal Environmental Consultant

Confirmation of Acceptance

Project: Phase 2 Detailed Site Investigation and Remediation Action Plan & Assessment of Environmental Effects of land at 144-252 Park Estate Road, Hingaia.

I/we:

_____

Confirm acceptance of the above contract.

Signed:

_____

Appendix B – Compiled Sampling Results

144 Park Estate Road

		Acceptance Criteria														
	Sample Name:	NES (SCSs(health))	NES ($SCS_{(health)}$)	ACRP:ALW/ PAUP	Background	AH01 144 0.15	AH01 144 0.5	AH02 144 0.15	AH02 144 1.0	AH03 144 0.15	AH03 144 1.0	AH04 144 0.15	AH04 144 1.0	AH05 144 0.15	AH05 144 0.5	AH06 144 0.15	AH06 144 0.5
	Lab Number:	Residential	Parks/Recreational		Non-volcanic	1357653.45	1357653.46	1357653.47	1357653.48	1357653.49	1357653.5	1357653.51	1357653.52	1357653.53	1357653.54	1357653.55	1357653.56
Dry Matter	g/100g as rcvd					76	79	78	71	75	75	77	67	80	88	72	79
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	10	40	**2.15**	*ND*	< 0.07	< 0.07	< 0.07	< 0.08	0.09	< 0.07	< 0.07	< 0.09	< 0.07	< 0.06	< 0.08	< 0.07
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn																	
Total Recoverable Arsenic	mg/kg dry wt	20	80	**100**	*12*	4	2	3	< 2	5	4	3	< 2	4	3	3	2
Total Recoverable Cadmium	mg/kg dry wt	3	400	**7.5**	*0.65*	0.26	0.22	0.33	< 0.10	0.35	0.15	0.39	< 0.10	< 0.10	< 0.10	0.27	< 0.10
Total Recoverable Chromium	mg/kg dry wt	460	2,700	**400**	*55*	13	11	14	10	14	12	14	9	6	6	8	6
Total Recoverable Copper	mg/kg dry wt	>10,000	>10,000	**325**	*45*	14	12	14	11	16	15	14	4	4	2	6	3
Total Recoverable Lead	mg/kg dry wt	210	880	**250**	*65*	39	32	33	27	*133*	37	38	23	8.4	10.5	47	11.4
Total Recoverable Nickel	mg/kg dry wt	600	600	**105**	*35*	6	5	7	5	6	6	8	3	3	2	3	< 2
Total Recoverable Zinc	mg/kg dry wt	7,000	7,000	**400**	*180*	40	26	34	17	43	33	39	12	24	15	34	13
Organochlorine Pesticides Screening in Soil																	
Aldrin	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
beta-BHC	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Chlordane [(cis+trans)*100/42]	mg/kg dry wt					< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDE	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDE	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDT	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDT	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total DDT	mg/kg dry wt	70	400	**0.7**	*ND*	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dieldrin	mg/kg dry wt	2.6	70		*ND*	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan I	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan II	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin aldehyde	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Polycyclic Aromatic Hydrocarbons Screening in Soil																	
Acenaphthene	mg/kg dry wt					< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	mg/kg dry wt					< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	mg/kg dry wt					< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03
Benzo[a]anthracene	mg/kg dry wt					< 0.03	< 0.03	< 0.03	< 0.03	0.05	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03
Benzo[a]pyrene (BAP)	mg/kg dry wt					< 0.03	< 0.03	< 0.03	< 0.03	0.07	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt					< 0.03	< 0.03	< 0.03	< 0.03	0.06	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03
Benzo[g,h,i]perylene	mg/kg dry wt					< 0.03	< 0.03	< 0.03	< 0.03	0.06	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03
Benzo[k]fluoranthene	mg/kg dry wt					< 0.03	< 0.03	< 0.03	< 0.03	0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	mg/kg dry wt					< 0.03	< 0.03	< 0.03	< 0.03	0.08	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo[a,h]anthracene	mg/kg dry wt					< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	mg/kg dry wt					< 0.03	< 0.03	< 0.03	< 0.03	0.16	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	mg/kg dry wt					< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt					< 0.03	< 0.03	< 0.03	< 0.03	0.06	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03
Naphthalene	mg/kg dry wt					< 0.14	< 0.14	< 0.15	< 0.15	< 0.15	< 0.15	< 0.14	< 0.17	< 0.14	< 0.13	< 0.15	< 0.14
Phenanthrene	mg/kg dry wt					< 0.03	< 0.03	< 0.03	< 0.03	0.06	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	mg/kg dry wt					< 0.03	< 0.03	< 0.03	< 0.03	0.17	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03
Total Petroleum Hydrocarbons in Soil																	
C7 - C9	mg/kg dry wt	500	500	**500**	*ND*	-	-	-	-	-	-	-	-	-	-	-	-
C10 - C14	mg/kg dry wt	510	510	**510**	*ND*	-	-	-	-	-	-	-	-	-	-	-	-
C15 - C36	mg/kg dry wt			**NL**	*ND*	-	-	-	-	-	-	-	-	-	-	-	-
Total hydrocarbons (C7 - C36)	mg/kg dry wt			**20,000**	*ND*	-	-	-	-	-	-	-	-	-	-	-	-

144 Park Estate Road

AH07 144 0.15	AH07 144 0.5	AH08 144 0.15	AH08 144 0.5	AH09 144 0.15	AH09 144 0.5	AH10 144 0.15	AH10 144 0.5	SS01 144	SS02 144	SS03 144	SS04 144	SS05 144	SS06 144	SS07 144	SS08 144	SS09 144
1357653.57	1357653.58	1357653.59	1357653.6	1357653.61	1357653.62	1357653.63	1357653.64	1357659.2	1357659.3	1357659.4	1357659.5	1357659.6	1357659.7	1357659.8	1357659.9	1357659.1
77	75	90	93	83	92	78	80	72	-	56	65	82	65	64	78	77
< 0.07	< 0.08	< 0.06	< 0.06	< 0.07	< 0.06	< 0.07	< 0.07	*0.24*	-	< 0.19	< 0.09	< 0.07	< 0.08	0.24	< 0.07	< 0.08
4	4	4	4	4	4	3	2	5	2	3	3	3	3	6	3	3
0.79	< 0.10	< 0.10	< 0.10	0.19	< 0.10	0.27	< 0.10	0.36	< 0.10	0.32	0.43	< 0.10	0.37	0.3	0.14	0.19
9	8	7	6	6	6	8	8	15	11	24	19	12	12	20	10	9
8	2	3	< 2	6	< 2	< 2	< 2	21	11	23	22	15	19	19	14	13
18.4	11.8	12.2	10	13.4	6.9	11.8	11.8	44	23	21	31	32	22	28	37	33
3	4	2	< 2	2	2	< 2	3	9	8	41	31	5	28	14	5	4
45	19	17	12	87	13	15	17	80	28	82	150	39	77	142	52	31
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
0.017	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
0.017	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	-	< 0.08	< 0.04	< 0.03	< 0.04	< 0.04	< 0.03	< 0.03
< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	*0.06*	-	< 0.08	< 0.04	< 0.03	< 0.04	*0.06*	< 0.03	< 0.03
< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	*0.03*	-	< 0.08	< 0.04	< 0.03	< 0.04	< 0.04	< 0.03	< 0.03
< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	*0.1*	-	< 0.08	< 0.04	< 0.03	< 0.04	*0.07*	< 0.03	< 0.03
< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	*0.15*	-	< 0.08	< 0.04	< 0.03	< 0.04	*0.16*	< 0.03	< 0.03
< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	*0.2*	-	< 0.08	< 0.04	< 0.03	< 0.04	*0.16*	< 0.03	< 0.03
< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	*0.16*	-	< 0.08	< 0.04	< 0.03	< 0.04	*0.15*	< 0.03	< 0.03
< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	*0.09*	-	< 0.08	< 0.04	< 0.03	< 0.04	*0.07*	< 0.03	< 0.03
< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	*0.11*	-	< 0.08	< 0.04	< 0.03	< 0.04	*0.08*	< 0.03	< 0.03
< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	*0.03*	-	< 0.08	< 0.04	< 0.03	< 0.04	< 0.04	< 0.03	< 0.03
< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	*0.2*	-	< 0.08	< 0.04	< 0.03	< 0.04	*0.14*	< 0.03	< 0.03
< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	-	< 0.08	< 0.04	< 0.03	< 0.04	< 0.04	< 0.03	< 0.03
< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	*0.15*	-	< 0.08	< 0.04	< 0.03	< 0.04	*0.18*	< 0.03	< 0.03
< 0.14	< 0.15	< 0.13	< 0.12	< 0.14	< 0.12	< 0.14	< 0.14	< 0.15	-	< 0.4	< 0.18	< 0.14	< 0.17	< 0.17	< 0.14	< 0.15
< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	*0.05*	-	< 0.08	< 0.04	< 0.03	< 0.04	*0.04*	< 0.03	< 0.03
< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	*0.24*	-	< 0.08	< 0.04	< 0.03	< 0.04	*0.16*	< 0.03	< 0.03
-	-	-	-	-	-	-	-	< 9	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	< 20	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	< 40	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	< 70	-	-	-	-	-	-	-	-

152 Park Estate Road

LF01 152 1.9	LF05 152 SUR	LF05 152 1.0	LF05 152 2.2	LF09 152 SUR	LF09 152 0.6	LF09 152 1.0	LF13 152 SUR	LF13 152 1.0	LF18 152 SUR	LF18 152 0.8	LF18 152 1.0	LH24 152 SUR	LF24 152 0.9	LH24 152 2.4	LF25 152 SUR	LF25 152 0.6	LF25 152 1.5	LF26 152 SUR	LF26 152 1.1
1357653.3	1357653.4	1357653.5	1357653.6	1357653.7	1357653.8	1357653.9	1357653.1	1357653.11	1357653.12	1357653.13	1357653.14	1357653.15	1357653.16	1357653.17	1357653.18	1357653.19	1357653.2	1357653.21	1357653.22
46	76	75	57	68	67	64	64	59	77	61	60	82	66	65	62	72	74	74	70
< 0.12	0.11	0.26	< 0.10	< 0.08	< 0.09	< 0.09	< 0.09	< 0.09	0.35	0.2	< 0.09	0.48	0.56	0.19	< 0.09	2	< 0.08	0.19	0.09
7	10	69	6	8	11	3	10	3	13	28	3	12	11	10	15	55	10	11	28
< 0.10	0.99	1.75	< 0.10	0.22	0.46	< 0.10	1.52	< 0.10	3.2	1.05	< 0.10	1.45	0.63	1.36	0.5	2.2	< 0.10	0.96	3.8
14	29	47	12	20	25	24	26	17	40	33	20	25	22	26	26	64	6	27	35
11	40	600	19	30	48	10	58	21	51	100	13	88	41	73	44	81	11	30	120
18.2	160	400	54	30	920	6.5	91	7.1	340	260	9.7	450	133	200	103	1,040	6.3	148	2,400
9	22	62	7	14	19	3	10	7	31	18	7	15	13	19	10	37	< 2	18	38
25	210	660	77	171	620	25	179	35	390	550	28	550	500	270	196	1,220	8	370	500
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.27
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.016	0.01	< 0.010	0.02	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	0.015	< 0.010	0.011	0.03	< 0.010	< 0.010	< 0.010	0.015	< 0.010	< 0.010	0.025	0.066	0.048	0.044	0.071	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.011	< 0.010	< 0.010	0.019	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	0.012	< 0.010	< 0.010	0.025	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.016	0.05	0.129	0.045	0.09	< 0.010	< 0.010	< 0.010
<0.010	<0.010	0.027	<0.010	0.011	0.055	<0.010	<0.010	<0.010	0.015	<0.010	<0.010	0.041	0.143	0.187	0.089	0.2	<0.010	<0.010	<0.010
< 0.010	< 0.010	0.06	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.131	< 0.010	0.016	0.029	< 0.010	< 0.010	0.024	< 0.010	< 0.010	0.054
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.05	< 0.03	< 0.03	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.03	< 0.04	< 0.04	< 0.03	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.03	< 0.04
< 0.05	< 0.03	< 0.03	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.03	< 0.04	< 0.04	< 0.03	0.06	< 0.04	< 0.04	0.08	< 0.04	< 0.03	< 0.04
< 0.05	< 0.03	< 0.03	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.03	< 0.04	< 0.04	< 0.03	< 0.04	< 0.04	< 0.04	0.1	< 0.04	< 0.03	< 0.04
< 0.05	0.05	0.13	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	0.14	0.08	< 0.04	0.23	0.11	0.12	< 0.04	0.92	< 0.04	0.1	0.04
< 0.05	0.08	0.17	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	0.23	0.13	< 0.04	0.32	0.38	0.12	< 0.04	1.37	< 0.04	0.12	0.06
< 0.05	0.11	0.21	< 0.04	< 0.04	< 0.04	< 0.04	0.04	< 0.04	0.32	0.17	< 0.04	0.44	0.42	0.17	0.04	1.6	< 0.04	0.14	0.07
< 0.05	0.06	0.12	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	0.18	0.1	< 0.04	0.24	0.32	0.09	< 0.04	1.1	< 0.04	0.11	0.05
< 0.05	0.04	0.09	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	0.13	0.07	< 0.04	0.13	0.17	0.08	< 0.04	0.66	< 0.04	0.06	< 0.04
< 0.05	0.06	0.12	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	0.14	0.09	< 0.04	0.22	0.12	0.1	< 0.04	0.77	< 0.04	0.09	0.04
< 0.05	< 0.03	0.03	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	0.04	< 0.04	< 0.04	0.04	0.07	< 0.04	< 0.04	0.2	< 0.04	< 0.03	< 0.04
< 0.05	0.13	0.25	< 0.04	< 0.04	0.04	< 0.04	0.04	< 0.04	0.29	0.13	< 0.04	0.29	0.19	0.26	0.05	1.69	< 0.04	0.21	0.08
< 0.05	< 0.03	< 0.03	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.03	< 0.04	< 0.04	< 0.03	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.03	< 0.04
< 0.05	0.07	0.13	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	0.26	0.14	< 0.04	0.33	0.44	0.09	< 0.04	1.32	< 0.04	0.12	0.06
< 0.3	< 0.15	< 0.15	< 0.2	< 0.17	< 0.17	< 0.17	< 0.18	< 0.19	< 0.14	< 0.18	< 0.19	< 0.14	< 0.17	< 0.17	< 0.18	< 0.16	< 0.16	< 0.15	< 0.16
< 0.05	0.04	0.06	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	0.06	0.04	< 0.04	0.07	0.09	0.08	< 0.04	0.42	< 0.04	0.07	< 0.04
< 0.05	0.12	0.25	< 0.04	< 0.04	< 0.04	< 0.04	0.04	< 0.04	0.29	0.13	< 0.04	0.28	0.22	0.22	0.05	1.96	< 0.04	0.23	0.09
< 14	< 9	< 9	< 12	< 10	< 11	< 10	< 11	< 12	< 9	< 11	< 12	< 9	< 11	< 10	< 11	< 10	< 10	< 9	< 10
< 30	< 20	< 20	< 30	< 20	< 30	< 20	< 30	< 30	< 20	< 30	< 30	< 20	< 30	< 20	< 30	< 20	< 20	< 20	< 20
< 60	< 40	56	< 50	< 40	< 50	< 40	< 50	< 50	< 40	< 50	< 50	< 40	< 50	71	< 50	98	< 40	< 40	79
< 100	< 70	< 70	< 90	< 70	< 80	< 70	< 80	< 80	< 70	< 80	< 80	< 70	< 80	71	< 80	98	< 70	< 70	79

152 Park Estate Road

LF26 152 1.3	LF29 152 SUR	LF29 152 0.7	LF29 152 2.1	LF30 152 SUR	LF30 152 0.5	LF30 152 1.9	LH39 152 SUR	LF39 152 0.5	LH39 152 1.0	LH40 152 SUR	LH40 152 1.0	LH41 152 SUR	LH41 152 1.1	LF43 152 SUR	LF43 152 2.0	LF44 152 SUR	LF44 152 1.7	LF46 152 SUR	LF46 152 2.0
1357653.23	1357653.24	1357653.25	1357653.26	1357653.27	1357653.28	1357653.29	1357653.3	1357653.31	1357653.32	1357653.33	1357653.34	1357653.35	1357653.36	1357653.37	1357653.38	1357653.39	1357653.4	1357653.41	1357653.42
36	79	71	65	78	66	65	72	72	27	69	75	76	55	56	73	90	72	74	78
< 0.15	< 0.07	*0.11*	< 0.09	< 0.07	*1.05*	< 0.09	< 0.08	*0.32*	< 0.3	< 0.08	< 0.08	< 0.08	< 0.10	< 0.10	< 0.08	***16.3***	< 0.08	< 0.07	< 0.07
16	6	*27*	8	3	*38*	*14*	5	*14*	9	7	6	*15 #1*	11	5	2	5	2	5	*33*
0.18	0.23	*3.7*	*1.87*	0.13	*7*	0.56	0.29	*0.75*	< 0.10	0.3	0.15	0.62	< 0.10	0.13	< 0.10	0.19	< 0.10	0.48	< 0.10
21	18	*104*	21	18	46	16	15	25	17	15	11	22	20	15	11	28	15	16	24
15	20	*105*	*48*	18	*118*	13	18	36	10	30	12	36	10	35	< 2	40	4	11	5
62	32	***1,110***	*142*	14.4	***450***	16	38	*158*	29	50	16.6	*82*	14.9	45	5.4	*79*	8.5	20	6.4
12	8	22	25	9	*55*	12	8	15	8	10	10	18	8	8	5	*81*	6	6	*40*
53	52	*390*	**530**	29	***2,000***	52	121	**940**	29	90	*340*	*270*	55	27	12	110	29	*250*	*181*
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.04	< 0.04	< 0.2	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	*0.015*	< 0.010	< 0.010	0.017	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.017	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
<0.010	<0.010	<0.010	<0.010	<0.010	*0.015*	<0.010	<0.010	0.034	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	*0.014*	< 0.010	0.018	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.10	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
< 0.06	< 0.03	< 0.04	< 0.04	< 0.03	< 0.04	< 0.04	< 0.04	< 0.04	< 0.09	< 0.04	< 0.03	< 0.03	< 0.04	< 0.04	< 0.03	*0.17*	< 0.03	< 0.03	< 0.03
< 0.06	< 0.03	< 0.04	< 0.04	< 0.03	*0.08*	< 0.04	< 0.04	*0.04*	< 0.09	< 0.04	< 0.03	< 0.03	< 0.04	< 0.04	< 0.03	*1.32*	< 0.03	< 0.03	< 0.03
< 0.06	< 0.03	< 0.04	< 0.04	< 0.03	< 0.04	< 0.04	< 0.04	*0.07*	< 0.09	< 0.04	< 0.03	< 0.03	< 0.04	< 0.04	< 0.03	*1.61*	< 0.03	< 0.03	< 0.03
< 0.06	< 0.03	*0.05*	< 0.04	< 0.03	*0.12*	< 0.04	< 0.04	*0.18*	< 0.09	< 0.04	< 0.03	< 0.03	< 0.04	< 0.04	< 0.03	*7.3*	< 0.03	< 0.03	< 0.03
< 0.06	< 0.03	*0.07*	< 0.04	*0.04*	*0.66*	< 0.04	< 0.04	*0.2*	< 0.09	< 0.04	< 0.03	< 0.03	< 0.04	< 0.04	< 0.03	*10.5*	< 0.03	< 0.03	< 0.03
< 0.06	< 0.03	*0.09*	*0.04*	*0.04*	*1.17*	< 0.04	< 0.04	*0.24*	< 0.09	< 0.04	< 0.03	< 0.03	< 0.04	< 0.04	< 0.03	*11.2*	< 0.03	< 0.03	< 0.03
< 0.06	< 0.03	*0.09*	< 0.04	*0.04*	*0.9*	< 0.04	< 0.04	*0.19*	< 0.09	< 0.04	< 0.03	< 0.03	< 0.04	< 0.04	< 0.03	*10.6*	< 0.03	< 0.03	< 0.03
< 0.06	< 0.03	*0.04*	< 0.04	< 0.03	*0.5*	< 0.04	< 0.04	*0.08*	< 0.09	< 0.04	< 0.03	< 0.03	< 0.04	< 0.04	< 0.03	*4.9*	< 0.03	< 0.03	< 0.03
< 0.06	< 0.03	*0.04*	< 0.04	< 0.03	*0.57*	< 0.04	< 0.04	*0.16*	< 0.09	< 0.04	< 0.03	< 0.03	< 0.04	< 0.04	< 0.03	*6*	< 0.03	< 0.03	< 0.03
< 0.06	< 0.03	< 0.04	< 0.04	< 0.03	*0.1*	< 0.04	< 0.04	*0.03*	< 0.09	< 0.04	< 0.03	< 0.03	< 0.04	< 0.04	< 0.03	*1.9*	< 0.03	< 0.03	< 0.03
< 0.06	*0.03*	*0.08*	*0.05*	*0.04*	*1.6*	< 0.04	< 0.04	*0.56*	< 0.09	< 0.04	< 0.03	*0.04*	< 0.04	< 0.04	< 0.03	*11.6*	< 0.03	< 0.03	< 0.03
< 0.06	< 0.03	< 0.04	< 0.04	< 0.03	< 0.04	< 0.04	< 0.04	< 0.04	< 0.09	< 0.04	< 0.03	< 0.03	< 0.04	< 0.04	< 0.03	*0.21*	< 0.03	< 0.03	< 0.03
< 0.06	< 0.03	*0.1*	< 0.04	*0.03*	*1.02*	< 0.04	< 0.04	*0.22*	< 0.09	< 0.04	< 0.03	< 0.03	< 0.04	< 0.04	< 0.03	*13.3*	< 0.03	< 0.03	< 0.03
< 0.3	< 0.14	< 0.16	< 0.17	< 0.15	< 0.17	< 0.17	< 0.16	< 0.16	< 0.5	< 0.16	< 0.15	< 0.15	< 0.2	< 0.2	< 0.15	*0.16*	< 0.15	< 0.15	< 0.14
< 0.06	< 0.03	< 0.04	< 0.04	< 0.03	*0.86*	< 0.04	< 0.04	*0.44*	< 0.09	< 0.04	< 0.03	< 0.03	< 0.04	< 0.04	< 0.03	*3.7*	< 0.03	< 0.03	< 0.03
< 0.06	*0.03*	*0.08*	*0.05*	*0.05*	*1.52*	< 0.04	< 0.04	*0.54*	< 0.09	< 0.04	< 0.03	*0.04*	< 0.04	< 0.04	< 0.03	*13.8*	< 0.03	< 0.03	< 0.03
< 18	< 8	< 10	< 11	< 9	< 10	< 10	< 10	< 10	< 30	< 10	< 9	< 9	< 12	< 12	< 9	< 8	< 9	< 9	< 9
< 40	< 20	< 20	< 30	< 20	< 20	< 20	< 20	< 20	< 50	< 20	< 20	< 20	< 30	< 30	< 20	< 20	< 20	< 20	< 20
< 80	< 40	*171*	< 50	< 40	*110*	< 40	< 40	*66*	< 100	< 40	< 40	< 40	< 50	< 50	< 40	*1,390*	< 40	< 40	< 40
< 130	< 70	*171*	< 80	< 70	*110*	< 70	< 70	< 70	< 180	< 70	< 70	< 70	< 90	< 90	< 70	*1,390*	< 70	< 70	< 70

152 Park Estate Road

LH47 152 SUR	LH47 152 2.1	LF27 152 0.8	BP01 152	SS01 152	SS02 152	SS03 152	SS04 152
1357653.43	1357653.44	1357653.65	1357659.1	1357659.11	1357659.12	1357659.13	1357659.14
73	74	66	71	72	68	85	54
0.1	< 0.07	< 0.09	< 0.08	< 0.08	< 0.09	< 0.07	< 0.10
11	2	***320***	***220***	*23*	8	9	8
1.89	< 0.10	*0.7*	0.43	0.54	0.53	0.61	*0.66*
34	17	*188*	*140*	34	19	20	19
39	< 2	***1,550***	*240*	44	26	36	33
140	4.5	*147*	*136*	23	37	36	*168*
18	5	29	32	9	8	10	9
1,110	20	***530***	*350*	*270*	280	*320*	*390*
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.04	< 0.04	< 0.04	-	< 0.04	< 0.04	< 0.04	< 0.04
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
<0.010	<0.010	<0.010	-	<0.010	<0.010	<0.010	<0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.010	< 0.010	< 0.010	-	< 0.010	< 0.010	< 0.010	< 0.010
< 0.04	< 0.03	< 0.04	< 0.04	< 0.04	< 0.04	< 0.03	< 0.05
< 0.04	< 0.03	< 0.04	< 0.04	< 0.04	< 0.04	< 0.03	< 0.05
< 0.04	< 0.03	< 0.04	< 0.04	< 0.04	< 0.04	< 0.03	< 0.05
0.05	< 0.03	*0.04*	< 0.04	< 0.04	< 0.04	< 0.03	< 0.05
0.08	< 0.03	*0.03*	< 0.04	< 0.04	< 0.04	< 0.03	< 0.05
0.08	< 0.03	*0.04*	< 0.04	< 0.04	< 0.04	< 0.03	< 0.05
0.09	< 0.03	< 0.04	< 0.04	< 0.04	< 0.04	< 0.03	< 0.05
0.04	< 0.03	< 0.04	< 0.04	< 0.04	< 0.04	< 0.03	< 0.05
0.07	< 0.03	*0.04*	< 0.04	< 0.04	< 0.04	< 0.03	< 0.05
< 0.04	< 0.03	< 0.04	< 0.04	< 0.04	< 0.04	< 0.03	< 0.05
0.12	< 0.03	*0.06*	< 0.04	< 0.04	< 0.04	0.03	< 0.05
< 0.04	< 0.03	< 0.04	< 0.04	< 0.04	< 0.04	< 0.03	< 0.05
0.08	< 0.03	< 0.04	< 0.04	< 0.04	< 0.04	< 0.03	< 0.05
< 0.16	< 0.15	< 0.17	< 0.16	< 0.16	< 0.17	< 0.14	< 0.3
0.05	< 0.03	*0.05*	< 0.04	< 0.04	< 0.04	< 0.03	< 0.05
0.14	< 0.03	*0.06*	< 0.04	< 0.04	< 0.04	*0.03*	< 0.05
< 10	< 9	< 11	-	-	-	-	-
< 20	< 20	< 30	-	-	-	-	-
< 40	< 40	< 50	-	-	-	-	-
< 70	< 70	< 80	-	-	-	-	-

200 Park Estate Road

AH01 200 0.15	AH01 200 0.3	AH02 200 0.5	AH03 200 0.5	AH04 200 0.15	AH05 200 0.15	AH05 200 0.5	AH06 200 0.15	AH06 200 0.5	AH07 200 0.15	SP01 200	DS01 200	DS02 200	DS03 200	DS04 200	DS05 200	DS06 200	HC01 200	HC02 200	HC03 200
1357659.15	1357659.16	1357659.17	1357659.18	1357659.19	1357659.2	1357659.21	1357659.22	1357659.23	1357659.24	1357659.25	1357659.31	1357659.32	1357659.33	1357659.34	1357659.35	1357659.36	1357659.45	1357659.46	1357659.47
74	73	88	81	78	80	75	79	65	77	81	81	68	69	81	59	57	56	70	91
< 0.07	< 0.08	< 0.06	0.26	< 0.07	< 0.07	< 0.07	< 0.07	< 0.09	< 0.07	< 0.07	< 0.07	< 0.09	< 0.08	*0.14*	*0.22*	*0.12*	< 1.0	< 0.8	< 0.6
6	5	8	6	5	5	5	4	4	5	3	5	***130***	***150***	*13*	*55*	*84*	*30*	*58*	*33*
0.56	< 0.10	0.15	0.21	0.52	0.4	< 0.10	0.22	< 0.10	0.57	0.14	< 0.10	0.48	0.58	0.64	0.29	*0.72*	*0.65*	*0.68*	0.25
15	12	23	23	12	9	10	8	12	10	30	13	*88*	*153*	18	30	*90*	32	*60*	26
11	4	25	23	7	7	5	5	5	7	18	14	*200*	*122*	29	*48*	*111*	*84*	*81*	29
12.8	12.3	17.5	16.9	9.9	10	9.8	17.4	13.3	10.5	19.3	***410***	***340***	60	*158*	45	*75*	*69*	*65*	28
4	3	20	27	3	2	2	2	4	2	20	4	11	12	8	14	9	11	11	12
56	19	95	80	37	34	27	26	34	35	66	130	***2,200***	***850***	***490***	164	***990***	***450***	***930***	163
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-	-	-
< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.04	< 0.04	< 0.03	< 0.04	< 0.04	*0.7*	*1.2*	*1.3*
< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.04	< 0.04	< 0.03	< 0.04	< 0.04	< 0.4	< 0.4	< 0.3
< 0.03	< 0.03	< 0.03	*0.04*	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.04	*0.04*	< 0.03	< 0.04	*0.1*	< 0.4	< 0.4	< 0.3
< 0.03	< 0.03	< 0.03	*0.11*	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.04	< 0.04	*0.06*	*0.09*	*0.05*	< 0.4	< 0.4	< 0.3
< 0.03	< 0.03	< 0.03	*0.17*	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	*0.03*	< 0.03	< 0.04	< 0.04	*0.09*	*0.14*	*0.09*	< 0.4	< 0.4	< 0.3
< 0.03	< 0.03	< 0.03	*0.21*	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	*0.03*	< 0.03	< 0.04	*0.04*	*0.1*	*0.14*	*0.14*	< 0.4	< 0.4	< 0.3
< 0.03	< 0.03	< 0.03	*0.11*	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	*0.03*	< 0.03	< 0.04	< 0.04	*0.09*	*0.12*	*0.08*	< 0.4	< 0.4	< 0.3
< 0.03	< 0.03	< 0.03	*0.1*	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.04	< 0.04	*0.05*	*0.08*	*0.06*	< 0.4	< 0.4	< 0.3
< 0.03	< 0.03	< 0.03	*0.11*	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.04	< 0.04	*0.07*	*0.08*	*0.06*	< 0.4	< 0.4	< 0.3
< 0.03	< 0.03	< 0.03	*0.03*	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.04	< 0.04	< 0.03	< 0.04	< 0.04	< 0.4	< 0.4	< 0.3
< 0.03	< 0.03	< 0.03	*0.28*	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	*0.04*	< 0.03	< 0.04	*0.03*	*0.14*	*0.14*	*0.11*	*0.9*	*1.1*	*0.3*
< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.04	< 0.04	< 0.03	< 0.04	< 0.04	*1.8*	*3.7*	*3*
< 0.03	< 0.03	< 0.03	*0.17*	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	*0.03*	< 0.03	< 0.04	< 0.04	*0.06*	*0.1*	*0.08*	< 0.4	< 0.4	< 0.3
< 0.15	< 0.15	< 0.13	< 0.14	< 0.14	< 0.14	< 0.15	< 0.14	< 0.17	< 0.15	< 0.14	< 0.14	< 0.17	< 0.16	< 0.13	< 0.19	< 0.19	< 2	< 1.6	< 1.3
< 0.03	< 0.03	< 0.03	*0.1*	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.04	< 0.04	*0.05*	*0.04*	*0.05*	*1.5*	*3.7*	*4.3*
< 0.03	< 0.03	< 0.03	*0.26*	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	< 0.03	*0.04*	< 0.03	< 0.04	*0.03*	*0.15*	*0.17*	*0.12*	*55*	*27*	*9.6*
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*24*	*32*	*34*
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	***3,300***	***3,600***	**2,300**
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*46,000*	*38,000*	*12,300*
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*49,000*	*41,000*	*14,600*

200 Park Estate Road

HC04 200	HC05 200 0.3m	BP01 200	BP02 200	BP03-1 200	BP03-2 200	BP04-1 200	BP04-2 200	BP05 200	BP06 200	BP07-1 200	BP07-2 200	BP07-3 200	BP07-4 200
1357659.48	1357659.49	1357659.5	1357659.51	1357659.52	1357659.53	1357659.54	1357659.55	1357659.56	1357659.57	1357659.58	1357659.59	1357659.6	1357659.61
81	80	72	69	76	76	65	76	85	69	80	84	89	76
< 0.7	< 0.7	< 0.08	< 0.08	< 0.07	0.17	0.41	< 0.07	0.07	< 0.08	0.42	< 0.07	< 0.06	0.19
55	16	21	57	165	191	330	1,230	1,700	880	54	960	13	42
0.58	0.33	0.48	0.48	0.64	1.47	0.81	0.88	1.7	0.55	2	0.68	0.33	1.9
41	16	21	29	125	168	89	370	230	132	33	171	18	47
74	25	240	59	154	200	169	2,900	1,850	640	88	1,890	30	71
45	40	1,630	43	92	169	158	700	510	2,000	410	640	166	370
10	12	9	9	14	28	10	21	56	13	13	36	22	11
280	112	1,540	1,000	2,700	3,700	1,830	7,300	9,900	1,660	1,720	1,040	186	2,400
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.5	0.7	< 0.04	< 0.04	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03
< 0.3	< 0.3	< 0.04	< 0.04	< 0.03	0.03	0.07	< 0.03	< 0.03	< 0.04	0.04	< 0.03	< 0.03	< 0.03
< 0.3	< 0.3	< 0.04	< 0.04	< 0.03	0.06	0.22	< 0.03	< 0.03	< 0.04	0.14	< 0.03	< 0.03	< 0.03
< 0.3	< 0.3	0.04	< 0.04	< 0.03	0.06	0.3	< 0.03	0.04	< 0.04	0.21	< 0.03	< 0.03	0.08
< 0.3	< 0.3	0.05	< 0.04	< 0.03	0.09	0.26	< 0.03	0.04	< 0.04	0.26	< 0.03	< 0.03	0.12
< 0.3	< 0.3	0.08	< 0.04	< 0.03	0.19	0.33	< 0.03	0.06	< 0.04	0.42	< 0.03	0.04	0.18
< 0.3	< 0.3	0.05	< 0.04	< 0.03	0.13	0.17	< 0.03	0.04	< 0.04	0.36	< 0.03	0.1	0.12
< 0.3	< 0.3	0.03	< 0.04	< 0.03	0.07	0.13	< 0.03	0.03	< 0.04	0.17	< 0.03	< 0.03	0.07
< 0.3	< 0.3	0.04	< 0.04	< 0.03	0.09	0.27	< 0.03	0.04	< 0.04	0.29	< 0.03	< 0.03	0.1
< 0.3	< 0.3	< 0.04	< 0.04	< 0.03	0.04	0.05	< 0.03	< 0.03	< 0.04	0.04	< 0.03	< 0.03	< 0.03
0.6	< 0.3	0.06	< 0.04	< 0.03	0.11	0.71	< 0.03	0.1	< 0.04	0.7	0.05	0.04	0.16
1.1	1.6	< 0.04	< 0.04	< 0.03	< 0.03	0.08	< 0.03	0.03	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03
< 0.3	< 0.3	0.04	< 0.04	< 0.03	0.11	0.17	< 0.03	0.03	< 0.04	0.26	< 0.03	0.07	0.11
< 1.4	2.1	< 0.16	< 0.16	< 0.14	< 0.15	< 0.17	0.29	< 0.13	< 0.16	< 0.14	< 0.13	< 0.13	< 0.15
0.7	2.3	< 0.04	< 0.04	< 0.03	< 0.03	0.2	< 0.03	0.13	< 0.04	0.28	0.06	0.03	0.08
18.6	3.9	0.09	< 0.04	< 0.03	0.12	0.81	< 0.03	0.1	< 0.04	0.65	0.06	0.05	0.16
14	51	-	-	-	-	-	-	-	-	-	-	-	-
1,620	1,360	-	-	-	-	-	-	-	-	-	-	-	-
17,300	5,900	-	-	-	-	-	-	-	-	-	-	-	-
18,900	7,300	-	-	-	-	-	-	-	-	-	-	-	-

252 Park Estate Road

BP01 252	BP02-1 252	BP02-2 252	BP02-3 252	BP02-4 252	DS01 252	DS02 252	DS03 252	DS04 252	DS05 252	DS06 252	DS07 252	DS08 252
1357659.26	1357659.27	1357659.28	1357659.29	1357659.3	1357659.37	1357659.38	1357659.39	1357659.4	1357659.41	1357659.42	1357659.43	1357659.44
63	78	74	75	73	40	70	68	59	51	93	35	98
< 0.09	0.07	< 0.07	0.15	< 0.08	< 0.3	< 0.08	< 0.08	< 0.09	0.13	0.06	< 0.16	< 0.6
22	45	**220**	**900**	76	8	7	14	11	10	16	19	-
0.41	0.71	5.2	1.21	1.01	0.4	0.25	0.57	0.29	0.74	0.38	0.49	-
20	39	158	370	38	26	20	85	33	19	54	25	-
64	49	**890**	**420**	74	82	44	40	27	47	51	80	-
195	44	**570**	58	42	13	11.6	39	30	67	70	24	-
7	11	35	8	6	8	11	27	13	7	37	8	-
370	181	**2,700**	300	136	390	177	**2,200**	240	**780**	**400**	370	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
-	-	-	-	-	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	-
< 0.04	< 0.03	< 0.03	0.03	< 0.03	< 0.11	< 0.04	< 0.04	< 0.04	< 0.05	< 0.03	< 0.07	< 0.3
< 0.04	< 0.03	< 0.03	0.07	< 0.03	< 0.11	< 0.04	< 0.04	< 0.04	< 0.05	< 0.03	< 0.07	< 0.3
< 0.04	< 0.03	< 0.03	0.14	< 0.03	< 0.11	< 0.04	< 0.04	< 0.04	< 0.05	< 0.03	< 0.07	< 0.3
< 0.04	0.03	< 0.03	0.11	< 0.03	< 0.11	< 0.04	< 0.04	< 0.04	0.06	< 0.03	< 0.07	< 0.3
< 0.04	0.05	< 0.03	0.06	< 0.03	< 0.11	< 0.04	< 0.04	< 0.04	0.07	0.03	< 0.07	< 0.3
< 0.04	0.06	< 0.03	0.14	< 0.03	< 0.11	< 0.04	< 0.04	< 0.04	0.11	0.04	< 0.07	< 0.3
< 0.04	0.04	< 0.03	0.05	< 0.03	< 0.11	< 0.04	< 0.04	< 0.04	0.09	0.03	< 0.07	< 0.3
< 0.04	< 0.03	< 0.03	0.04	< 0.03	< 0.11	< 0.04	< 0.04	< 0.04	0.05	< 0.03	< 0.07	< 0.3
< 0.04	0.04	< 0.03	0.15	< 0.03	< 0.11	< 0.04	< 0.04	< 0.04	0.07	< 0.03	< 0.07	< 0.3
< 0.04	< 0.03	< 0.03	0.04	< 0.03	< 0.11	< 0.04	< 0.04	< 0.04	< 0.05	< 0.03	< 0.07	< 0.3
< 0.04	0.05	< 0.03	0.3	< 0.03	< 0.11	< 0.04	< 0.04	< 0.04	0.17	0.04	< 0.07	< 0.3
< 0.04	< 0.03	< 0.03	0.22	< 0.03	< 0.11	< 0.04	< 0.04	< 0.04	< 0.05	< 0.03	< 0.07	< 0.3
< 0.04	0.04	< 0.03	0.07	< 0.03	< 0.11	< 0.04	< 0.04	< 0.04	0.07	0.02	< 0.07	< 0.3
< 0.18	< 0.15	< 0.15	0.45	< 0.15	< 0.6	< 0.16	< 0.16	< 0.19	< 0.3	< 0.12	< 0.4	< 1.1
< 0.04	< 0.03	< 0.03	1.73	< 0.03	< 0.11	< 0.04	< 0.04	< 0.04	0.08	< 0.03	< 0.07	< 0.3
< 0.04	0.06	< 0.03	0.25	< 0.03	< 0.11	< 0.04	< 0.04	< 0.04	0.16	0.05	< 0.07	0.2
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix C – Laboratory Transcripts

Hill Laboratories
BETTER TESTING BETTER RESULTS

R J Hill Laboratories Limited
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Hamilton 3240, New Zealand

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ANALYSIS REPORT

Client:	Focus Environmental Services Limited	**Lab No:**	1357653	SPv1
Contact:	Scott Rhodes	**Date Registered:**	28-Nov-2014	
	C/- Focus Environmental Services Limited	**Date Reported:**	12-Dec-2014	
	PO Box 11455	**Quote No:**	65118	
	Ellerslie	**Order No:**		
	AUCKLAND 1542	**Client Reference:**	Park Estate	
		Submitted By:	David O'Reilly	

Sample Type: Soil

Sample Name:		LF01 152 SUR 26-Nov-2014	LF01 152 1.0 26-Nov-2014	LF01 152 1.9 26-Nov-2014	LF05 152 SUR 26-Nov-2014	LF05 152 1.0 26-Nov-2014
Lab Number:		1357653.1	1357653.2	1357653.3	1357653.4	1357653.5
Individual Tests						
Dry Matter	g/100g as rcvd	75	71	46	76	75
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	0.21	0.30	< 0.12	0.11	0.26
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	8	13	7	10	69
Total Recoverable Cadmium	mg/kg dry wt	0.95	1.77	< 0.10	0.99	1.75
Total Recoverable Chromium	mg/kg dry wt	16	26	14	29	47
Total Recoverable Copper	mg/kg dry wt	30	48	11	40	600
Total Recoverable Lead	mg/kg dry wt	210	550	18.2	160	400
Total Recoverable Nickel	mg/kg dry wt	11	16	9	22	62
Total Recoverable Zinc	mg/kg dry wt	420	1,250	25	210	660
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	0.015	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt	0.026	0.016	< 0.010	< 0.010	< 0.010
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDE	mg/kg dry wt	0.102	0.152	< 0.010	< 0.010	0.015
2,4'-DDT	mg/kg dry wt	0.047	0.051	< 0.010	< 0.010	< 0.010
4,4'-DDT	mg/kg dry wt	0.28	0.40	< 0.010	< 0.010	0.012
Dieldrin	mg/kg dry wt	0.045	0.013	< 0.010	< 0.010	0.060
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

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 *, which are not accredited.

Sample Type: Soil						
Sample Name:		LF01 152 SUR 26-Nov-2014	LF01 152 1.0 26-Nov-2014	LF01 152 1.9 26-Nov-2014	LF05 152 SUR 26-Nov-2014	LF05 152 1.0 26-Nov-2014
Lab Number:		1357653.1	1357653.2	1357653.3	1357653.4	1357653.5
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.03	< 0.03	< 0.05	< 0.03	< 0.03
Acenaphthylene	mg/kg dry wt	< 0.03	< 0.03	< 0.05	< 0.03	< 0.03
Anthracene	mg/kg dry wt	< 0.03	< 0.03	< 0.05	< 0.03	< 0.03
Benzo[a]anthracene	mg/kg dry wt	0.10	0.14	< 0.05	0.05	0.13
Benzo[a]pyrene (BAP)	mg/kg dry wt	0.13	0.20	< 0.05	0.08	0.17
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	0.19	0.26	< 0.05	0.11	0.21
Benzo[g,h,i]perylene	mg/kg dry wt	0.09	0.14	< 0.05	0.06	0.12
Benzo[k]fluoranthene	mg/kg dry wt	0.08	0.10	< 0.05	0.04	0.09
Chrysene	mg/kg dry wt	0.09	0.13	< 0.05	0.06	0.12
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.03	0.03	< 0.05	< 0.03	0.03
Fluoranthene	mg/kg dry wt	0.19	0.28	< 0.05	0.13	0.25
Fluorene	mg/kg dry wt	< 0.03	< 0.03	< 0.05	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	0.13	0.21	< 0.05	0.07	0.13
Naphthalene	mg/kg dry wt	< 0.15	< 0.15	< 0.3	< 0.15	< 0.15
Phenanthrene	mg/kg dry wt	0.03	0.05	< 0.05	0.04	0.06
Pyrene	mg/kg dry wt	0.16	0.24	< 0.05	0.12	0.25
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 9	< 9	< 14	< 9	< 9
C10 - C14	mg/kg dry wt	< 20	< 20	< 30	< 20	< 20
C15 - C36	mg/kg dry wt	< 40	< 40	< 60	< 40	56
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 70	< 70	< 100	< 70	< 70

Sample Name:		LF05 152 2.2 26-Nov-2014	LF09 152 SUR 26-Nov-2014	LF09 152 0.6 26-Nov-2014	LF09 152 1.0 26-Nov-2014	LF13 152 SUR 26-Nov-2014
Lab Number:		1357653.6	1357653.7	1357653.8	1357653.9	1357653.10
Individual Tests						
Dry Matter	g/100g as rcvd	57	68	67	64	64
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.10	< 0.08	< 0.09	< 0.09	< 0.09
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	6	8	11	3	10
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.22	0.46	< 0.10	1.52
Total Recoverable Chromium	mg/kg dry wt	12	20	25	24	26
Total Recoverable Copper	mg/kg dry wt	19	30	48	10	58
Total Recoverable Lead	mg/kg dry wt	54	30	920	6.5	91
Total Recoverable Nickel	mg/kg dry wt	7	14	19	3	10
Total Recoverable Zinc	mg/kg dry wt	77	171	620	25	179
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDE	mg/kg dry wt	< 0.010	0.011	0.030	< 0.010	< 0.010
2,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	0.025	< 0.010	< 0.010
Dieldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Sample Type: Soil						
Sample Name:		LF05 152 2.2 26-Nov-2014	LF09 152 SUR 26-Nov-2014	LF09 152 0.6 26-Nov-2014	LF09 152 1.0 26-Nov-2014	LF13 152 SUR 26-Nov-2014
Lab Number:		1357653.6	1357653.7	1357653.8	1357653.9	1357653.10
Organochlorine Pesticides Screening in Soil						
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Acenaphthylene	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Anthracene	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Benzo[a]anthracene	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	0.04
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Benzo[k]fluoranthene	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Chrysene	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Fluoranthene	mg/kg dry wt	< 0.04	< 0.04	0.04	< 0.04	0.04
Fluorene	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Naphthalene	mg/kg dry wt	< 0.2	< 0.17	< 0.17	< 0.17	< 0.18
Phenanthrene	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Pyrene	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	0.04
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 12	< 10	< 11	< 10	< 11
C10 - C14	mg/kg dry wt	< 30	< 20	< 30	< 20	< 30
C15 - C36	mg/kg dry wt	< 50	< 40	< 50	< 40	< 50
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 90	< 70	< 80	< 70	< 80

Sample Name:		LF13 152 1.0 26-Nov-2014	LF18 152 SUR 26-Nov-2014	LF18 152 0.8 26-Nov-2014	LF18 152 1.0 26-Nov-2014	LH24 152 SUR 26-Nov-2014
Lab Number:		1357653.11	1357653.12	1357653.13	1357653.14	1357653.15
Individual Tests						
Dry Matter	g/100g as rcvd	59	77	61	60	82
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.09	0.35	0.20	< 0.09	0.48
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	3	13	28	3	12
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	3.2	1.05	< 0.10	1.45
Total Recoverable Chromium	mg/kg dry wt	17	40	33	20	25
Total Recoverable Copper	mg/kg dry wt	21	51	100	13	88
Total Recoverable Lead	mg/kg dry wt	7.1	340	260	9.7	450
Total Recoverable Nickel	mg/kg dry wt	7	31	18	7	15
Total Recoverable Zinc	mg/kg dry wt	35	390	550	28	550
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Sample Type: Soil						
Sample Name:		LF13 152 1.0 26-Nov-2014	LF18 152 SUR 26-Nov-2014	LF18 152 0.8 26-Nov-2014	LF18 152 1.0 26-Nov-2014	LH24 152 SUR 26-Nov-2014
Lab Number:		1357653.11	1357653.12	1357653.13	1357653.14	1357653.15
Organochlorine Pesticides Screening in Soil						
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDE	mg/kg dry wt	< 0.010	0.015	< 0.010	< 0.010	0.025
2,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	0.016
Dieldrin	mg/kg dry wt	< 0.010	< 0.010	0.131	< 0.010	0.016
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.04	< 0.03	< 0.04	< 0.04	< 0.03
Acenaphthylene	mg/kg dry wt	< 0.04	< 0.03	< 0.04	< 0.04	< 0.03
Anthracene	mg/kg dry wt	< 0.04	< 0.03	< 0.04	< 0.04	< 0.03
Benzo[a]anthracene	mg/kg dry wt	< 0.04	0.14	0.08	< 0.04	0.23
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.04	0.23	0.13	< 0.04	0.32
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.04	0.32	0.17	< 0.04	0.44
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.04	0.18	0.10	< 0.04	0.24
Benzo[k]fluoranthene	mg/kg dry wt	< 0.04	0.13	0.07	< 0.04	0.13
Chrysene	mg/kg dry wt	< 0.04	0.14	0.09	< 0.04	0.22
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.04	0.04	< 0.04	< 0.04	0.04
Fluoranthene	mg/kg dry wt	< 0.04	0.29	0.13	< 0.04	0.29
Fluorene	mg/kg dry wt	< 0.04	< 0.03	< 0.04	< 0.04	< 0.03
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.04	0.26	0.14	< 0.04	0.33
Naphthalene	mg/kg dry wt	< 0.19	< 0.14	< 0.18	< 0.19	< 0.14
Phenanthrene	mg/kg dry wt	< 0.04	0.06	0.04	< 0.04	0.07
Pyrene	mg/kg dry wt	< 0.04	0.29	0.13	< 0.04	0.28
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 12	< 9	< 11	< 12	< 9
C10 - C14	mg/kg dry wt	< 30	< 20	< 30	< 30	< 20
C15 - C36	mg/kg dry wt	< 50	< 40	< 50	< 50	< 40
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 80	< 70	< 80	< 80	< 70

Sample Name:		LF24 152 0.9 26-Nov-2014	LH24 152 2.4 26-Nov-2014	LF25 152 SUR 26-Nov-2014	LF25 152 0.6 26-Nov-2014	LF25 152 1.5 26-Nov-2014
Lab Number:		1357653.16	1357653.17	1357653.18	1357653.19	1357653.20
Individual Tests						
Dry Matter	g/100g as rcvd	66	65	62	72	74
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	0.56	0.19	< 0.09	2.0	< 0.08
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	11	10	15	55	10
Total Recoverable Cadmium	mg/kg dry wt	0.63	1.36	0.50	2.2	< 0.10
Total Recoverable Chromium	mg/kg dry wt	22	26	26	64	6
Total Recoverable Copper	mg/kg dry wt	41	73	44	81	11
Total Recoverable Lead	mg/kg dry wt	133	200	103	1,040	6.3

Sample Type: Soil						
Sample Name:		LF24 152 0.9 26-Nov-2014	LH24 152 2.4 26-Nov-2014	LF25 152 SUR 26-Nov-2014	LF25 152 0.6 26-Nov-2014	LF25 152 1.5 26-Nov-2014
Lab Number:		1357653.16	1357653.17	1357653.18	1357653.19	1357653.20
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Nickel	mg/kg dry wt	13	19	10	37	< 2
Total Recoverable Zinc	mg/kg dry wt	500	270	196	1,220	8
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt	0.016	0.010	< 0.010	0.020	< 0.010
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDE	mg/kg dry wt	0.066	0.048	0.044	0.071	< 0.010
2,4'-DDT	mg/kg dry wt	0.011	< 0.010	< 0.010	0.019	< 0.010
4,4'-DDT	mg/kg dry wt	0.050	0.129	0.045	0.090	< 0.010
Dieldrin	mg/kg dry wt	0.029	< 0.010	< 0.010	0.024	< 0.010
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Acenaphthylene	mg/kg dry wt	0.06	< 0.04	< 0.04	0.08	< 0.04
Anthracene	mg/kg dry wt	< 0.04	< 0.04	< 0.04	0.10	< 0.04
Benzo[a]anthracene	mg/kg dry wt	0.11	0.12	< 0.04	0.92	< 0.04
Benzo[a]pyrene (BAP)	mg/kg dry wt	0.38	0.12	< 0.04	1.37	< 0.04
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	0.42	0.17	0.04	1.60	< 0.04
Benzo[g,h,i]perylene	mg/kg dry wt	0.32	0.09	< 0.04	1.10	< 0.04
Benzo[k]fluoranthene	mg/kg dry wt	0.17	0.08	< 0.04	0.66	< 0.04
Chrysene	mg/kg dry wt	0.12	0.10	< 0.04	0.77	< 0.04
Dibenzo[a,h]anthracene	mg/kg dry wt	0.07	< 0.04	< 0.04	0.20	< 0.04
Fluoranthene	mg/kg dry wt	0.19	0.26	0.05	1.69	< 0.04
Fluorene	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	0.44	0.09	< 0.04	1.32	< 0.04
Naphthalene	mg/kg dry wt	< 0.17	< 0.17	< 0.18	< 0.16	< 0.16
Phenanthrene	mg/kg dry wt	0.09	0.08	< 0.04	0.42	< 0.04
Pyrene	mg/kg dry wt	0.22	0.22	0.05	1.96	< 0.04
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 11	< 10	< 11	< 10	< 10
C10 - C14	mg/kg dry wt	< 30	< 20	< 30	< 20	< 20
C15 - C36	mg/kg dry wt	< 50	71	< 50	98	< 40
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 80	71	< 80	98	< 70

Sample Type: Soil						
Sample Name:		LF26 152 SUR 26-Nov-2014	LF26 152 1.1 26-Nov-2014	LF26 152 1.3 26-Nov-2014	LF29 152 SUR 26-Nov-2014	LF29 152 0.7 26-Nov-2014
Lab Number:		1357653.21	1357653.22	1357653.23	1357653.24	1357653.25
Individual Tests						
Dry Matter	g/100g as rcvd	74	70	36	79	71
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	0.19	0.09	< 0.15	< 0.07	0.11
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	11	28	16	6	27
Total Recoverable Cadmium	mg/kg dry wt	0.96	3.8	0.18	0.23	3.7
Total Recoverable Chromium	mg/kg dry wt	27	35	21	18	104
Total Recoverable Copper	mg/kg dry wt	30	120	15	20	105
Total Recoverable Lead	mg/kg dry wt	148	2,400	62	32	1,110
Total Recoverable Nickel	mg/kg dry wt	18	38	12	8	22
Total Recoverable Zinc	mg/kg dry wt	370	500	53	52	390
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	0.27	< 0.010	< 0.010	< 0.10
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.2
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
4,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
4,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
2,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
4,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
Dieldrin	mg/kg dry wt	< 0.010	0.054	< 0.010	< 0.010	< 0.10
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.10
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.03	< 0.04	< 0.06	< 0.03	< 0.04
Acenaphthylene	mg/kg dry wt	< 0.03	< 0.04	< 0.06	< 0.03	< 0.04
Anthracene	mg/kg dry wt	< 0.03	< 0.04	< 0.06	< 0.03	< 0.04
Benzo[a]anthracene	mg/kg dry wt	0.10	0.04	< 0.06	< 0.03	0.05
Benzo[a]pyrene (BAP)	mg/kg dry wt	0.12	0.06	< 0.06	< 0.03	0.07
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	0.14	0.07	< 0.06	< 0.03	0.09
Benzo[g,h,i]perylene	mg/kg dry wt	0.11	0.05	< 0.06	< 0.03	0.09
Benzo[k]fluoranthene	mg/kg dry wt	0.06	< 0.04	< 0.06	< 0.03	0.04
Chrysene	mg/kg dry wt	0.09	0.04	< 0.06	< 0.03	0.04
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.03	< 0.04	< 0.06	< 0.03	< 0.04
Fluoranthene	mg/kg dry wt	0.21	0.08	< 0.06	0.03	0.08
Fluorene	mg/kg dry wt	< 0.03	< 0.04	< 0.06	< 0.03	< 0.04
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	0.12	0.06	< 0.06	< 0.03	0.10
Naphthalene	mg/kg dry wt	< 0.15	< 0.16	< 0.3	< 0.14	< 0.16
Phenanthrene	mg/kg dry wt	0.07	< 0.04	< 0.06	< 0.03	< 0.04

Sample Type: Soil						
Sample Name:		LF26 152 SUR 26-Nov-2014	LF26 152 1.1 26-Nov-2014	LF26 152 1.3 26-Nov-2014	LF29 152 SUR 26-Nov-2014	LF29 152 0.7 26-Nov-2014
Lab Number:		1357653.21	1357653.22	1357653.23	1357653.24	1357653.25
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Pyrene	mg/kg dry wt	0.23	0.09	< 0.06	0.03	0.08
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 9	< 10	< 18	< 8	< 10
C10 - C14	mg/kg dry wt	< 20	< 20	< 40	< 20	< 20
C15 - C36	mg/kg dry wt	< 40	79	< 80	< 40	171
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 70	79	< 130	< 70	171

Sample Name:		LF29 152 2.1 26-Nov-2014	LF30 152 SUR 26-Nov-2014	LF30 152 0.5 26-Nov-2014	LF30 152 1.9 26-Nov-2014	LH39 152 SUR 26-Nov-2014
Lab Number:		1357653.26	1357653.27	1357653.28	1357653.29	1357653.30
Individual Tests						
Dry Matter	g/100g as rcvd	65	78	66	65	72
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.09	< 0.07	1.05	< 0.09	< 0.08
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	8	3	38	14	5
Total Recoverable Cadmium	mg/kg dry wt	1.87	0.13	7.0	0.56	0.29
Total Recoverable Chromium	mg/kg dry wt	21	18	46	16	15
Total Recoverable Copper	mg/kg dry wt	48	18	118	13	18
Total Recoverable Lead	mg/kg dry wt	142	14.4	450	16.0	38
Total Recoverable Nickel	mg/kg dry wt	25	9	55	12	8
Total Recoverable Zinc	mg/kg dry wt	530	29	2,000	52	121
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	0.015	< 0.010	< 0.010
2,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dieldrin	mg/kg dry wt	< 0.010	< 0.010	0.014	< 0.010	0.018
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.04	< 0.03	< 0.04	< 0.04	< 0.04
Acenaphthylene	mg/kg dry wt	< 0.04	< 0.03	0.08	< 0.04	< 0.04
Anthracene	mg/kg dry wt	< 0.04	< 0.03	< 0.04	< 0.04	< 0.04
Benzo[a]anthracene	mg/kg dry wt	< 0.04	< 0.03	0.12	< 0.04	< 0.04
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.04	0.04	0.66	< 0.04	< 0.04

Sample Type: Soil						
Sample Name:		LF29 152 2.1 26-Nov-2014	LF30 152 SUR 26-Nov-2014	LF30 152 0.5 26-Nov-2014	LF30 152 1.9 26-Nov-2014	LH39 152 SUR 26-Nov-2014
Lab Number:		1357653.26	1357653.27	1357653.28	1357653.29	1357653.30
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	0.04	0.04	1.17	< 0.04	< 0.04
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.04	0.04	0.90	< 0.04	< 0.04
Benzo[k]fluoranthene	mg/kg dry wt	< 0.04	< 0.03	0.50	< 0.04	< 0.04
Chrysene	mg/kg dry wt	< 0.04	< 0.03	0.57	< 0.04	< 0.04
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.04	< 0.03	0.10	< 0.04	< 0.04
Fluoranthene	mg/kg dry wt	0.05	0.04	1.60	< 0.04	< 0.04
Fluorene	mg/kg dry wt	< 0.04	< 0.03	< 0.04	< 0.04	< 0.04
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.04	0.03	1.02	< 0.04	< 0.04
Naphthalene	mg/kg dry wt	< 0.17	< 0.15	< 0.17	< 0.17	< 0.16
Phenanthrene	mg/kg dry wt	< 0.04	< 0.03	0.86	< 0.04	< 0.04
Pyrene	mg/kg dry wt	0.05	0.05	1.52	< 0.04	< 0.04
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 11	< 9	< 10	< 10	< 10
C10 - C14	mg/kg dry wt	< 30	< 20	< 20	< 20	< 20
C15 - C36	mg/kg dry wt	< 50	< 40	110	< 40	< 40
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 80	< 70	110	< 70	< 70

Sample Name:		LF39 152 0.5 26-Nov-2014	LH39 152 1.0 26-Nov-2014	LH40 152 SUR 26-Nov-2014	LH40 152 1.0 26-Nov-2014	LH41 152 SUR 26-Nov-2014
Lab Number:		1357653.31	1357653.32	1357653.33	1357653.34	1357653.35
Individual Tests						
Dry Matter	g/100g as rcvd	72	27	69	75	76
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	0.32	< 0.3	< 0.08	< 0.08	< 0.08
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	14	9	7	6	15 #1
Total Recoverable Cadmium	mg/kg dry wt	0.75	< 0.10	0.30	0.15	0.62
Total Recoverable Chromium	mg/kg dry wt	25	17	15	11	22
Total Recoverable Copper	mg/kg dry wt	36	10	30	12	36 #1
Total Recoverable Lead	mg/kg dry wt	158	29	50	16.6	82
Total Recoverable Nickel	mg/kg dry wt	15	8	10	10	18 #1
Total Recoverable Zinc	mg/kg dry wt	940	29	90	340	270
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDE	mg/kg dry wt	0.017	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDT	mg/kg dry wt	0.017	< 0.010	< 0.010	< 0.010	< 0.010
Dieldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Sample Type: Soil						
Sample Name:		LF39 152 0.5 26-Nov-2014	LH39 152 1.0 26-Nov-2014	LH40 152 SUR 26-Nov-2014	LH40 152 1.0 26-Nov-2014	LH41 152 SUR 26-Nov-2014
Lab Number:		1357653.31	1357653.32	1357653.33	1357653.34	1357653.35
Organochlorine Pesticides Screening in Soil						
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.04	< 0.09	< 0.04	< 0.03	< 0.03
Acenaphthylene	mg/kg dry wt	0.04	< 0.09	< 0.04	< 0.03	< 0.03
Anthracene	mg/kg dry wt	0.07	< 0.09	< 0.04	< 0.03	< 0.03
Benzo[a]anthracene	mg/kg dry wt	0.18	< 0.09	< 0.04	< 0.03	< 0.03
Benzo[a]pyrene (BAP)	mg/kg dry wt	0.20	< 0.09	< 0.04	< 0.03	< 0.03
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	0.24	< 0.09	< 0.04	< 0.03	< 0.03
Benzo[g,h,i]perylene	mg/kg dry wt	0.19	< 0.09	< 0.04	< 0.03	< 0.03
Benzo[k]fluoranthene	mg/kg dry wt	0.08	< 0.09	< 0.04	< 0.03	< 0.03
Chrysene	mg/kg dry wt	0.16	< 0.09	< 0.04	< 0.03	< 0.03
Dibenzo[a,h]anthracene	mg/kg dry wt	0.03	< 0.09	< 0.04	< 0.03	< 0.03
Fluoranthene	mg/kg dry wt	0.56	< 0.09	< 0.04	< 0.03	0.04
Fluorene	mg/kg dry wt	< 0.04	< 0.09	< 0.04	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	0.22	< 0.09	< 0.04	< 0.03	< 0.03
Naphthalene	mg/kg dry wt	< 0.16	< 0.5	< 0.16	< 0.15	< 0.15
Phenanthrene	mg/kg dry wt	0.44	< 0.09	< 0.04	< 0.03	< 0.03
Pyrene	mg/kg dry wt	0.54	< 0.09	< 0.04	< 0.03	0.04
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 10	< 30	< 10	< 9	< 9
C10 - C14	mg/kg dry wt	< 20	< 50	< 20	< 20	< 20
C15 - C36	mg/kg dry wt	66	< 100	< 40	< 40	< 40
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 70	< 180	< 70	< 70	< 70

	Sample Name:	LH41 152 1.1 26-Nov-2014	LF43 152 SUR 26-Nov-2014	LF43 152 2.0 26-Nov-2014	LF44 152 SUR 26-Nov-2014	LF44 152 1.7 26-Nov-2014
	Lab Number:	1357653.36	1357653.37	1357653.38	1357653.39	1357653.40
Individual Tests						
Dry Matter	g/100g as rcvd	55	56	73	90	72
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.10	< 0.10	< 0.08	16.3	< 0.08
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	11	5	2	5	2
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.13	< 0.10	0.19	< 0.10
Total Recoverable Chromium	mg/kg dry wt	20	15	11	28	15
Total Recoverable Copper	mg/kg dry wt	10	35	< 2	40	4
Total Recoverable Lead	mg/kg dry wt	14.9	45	5.4	79	8.5
Total Recoverable Nickel	mg/kg dry wt	8	8	5	81	6
Total Recoverable Zinc	mg/kg dry wt	55	27	12	110	29
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Sample Type: Soil						
Sample Name:		LH41 152 1.1 26-Nov-2014	LF43 152 SUR 26-Nov-2014	LF43 152 2.0 26-Nov-2014	LF44 152 SUR 26-Nov-2014	LF44 152 1.7 26-Nov-2014
Lab Number:		1357653.36	1357653.37	1357653.38	1357653.39	1357653.40
Organochlorine Pesticides Screening in Soil						
4,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dieldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	0.17	< 0.03
Acenaphthylene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	1.32	< 0.03
Anthracene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	1.61	< 0.03
Benzo[a]anthracene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	7.3	< 0.03
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.04	< 0.04	< 0.03	10.5	< 0.03
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	11.2	< 0.03
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	10.6	< 0.03
Benzo[k]fluoranthene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	4.9	< 0.03
Chrysene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	6.0	< 0.03
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	1.90	< 0.03
Fluoranthene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	11.6	< 0.03
Fluorene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	0.21	< 0.03
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	13.3	< 0.03
Naphthalene	mg/kg dry wt	< 0.2	< 0.2	< 0.15	0.16	< 0.15
Phenanthrene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	3.7	< 0.03
Pyrene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	13.8	< 0.03
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 12	< 12	< 9	< 8	< 9
C10 - C14	mg/kg dry wt	< 30	< 30	< 20	< 20	< 20
C15 - C36	mg/kg dry wt	< 50	< 50	< 40	1,390	< 40
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 90	< 90	< 70	1,390	< 70

Sample Name:		LF46 152 SUR 26-Nov-2014	LF46 152 2.0 26-Nov-2014	LH47 152 SUR 26-Nov-2014	LH47 152 2.1 26-Nov-2014	AH01 144 0.15 26-Nov-2014
Lab Number:		1357653.41	1357653.42	1357653.43	1357653.44	1357653.45
Individual Tests						
Dry Matter	g/100g as rcvd	74	78	73	74	76
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.07	< 0.07	0.10	< 0.07	< 0.07
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	5	33	11	2	4
Total Recoverable Cadmium	mg/kg dry wt	0.48	< 0.10	1.89	< 0.10	0.26
Total Recoverable Chromium	mg/kg dry wt	16	24	34	17	13
Total Recoverable Copper	mg/kg dry wt	11	5	39	< 2	14
Total Recoverable Lead	mg/kg dry wt	20	6.4	140	4.5	39
Total Recoverable Nickel	mg/kg dry wt	6	40	18	5	6
Total Recoverable Zinc	mg/kg dry wt	250	181	1,110	20	40
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Sample Type: Soil						
Sample Name:		LF46 152 SUR 26-Nov-2014	LF46 152 2.0 26-Nov-2014	LH47 152 SUR 26-Nov-2014	LH47 152 2.1 26-Nov-2014	AH01 144 0.15 26-Nov-2014
Lab Number:		1357653.41	1357653.42	1357653.43	1357653.44	1357653.45
Organochlorine Pesticides Screening in Soil						
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dieldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03
Acenaphthylene	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03
Anthracene	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03
Benzo[a]anthracene	mg/kg dry wt	< 0.03	< 0.03	0.05	< 0.03	< 0.03
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.03	< 0.03	0.08	< 0.03	< 0.03
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.03	< 0.03	0.08	< 0.03	< 0.03
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.03	< 0.03	0.09	< 0.03	< 0.03
Benzo[k]fluoranthene	mg/kg dry wt	< 0.03	< 0.03	0.04	< 0.03	< 0.03
Chrysene	mg/kg dry wt	< 0.03	< 0.03	0.07	< 0.03	< 0.03
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03
Fluoranthene	mg/kg dry wt	< 0.03	< 0.03	0.12	< 0.03	< 0.03
Fluorene	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.03	< 0.03	0.08	< 0.03	< 0.03
Naphthalene	mg/kg dry wt	< 0.15	< 0.14	< 0.16	< 0.15	< 0.14
Phenanthrene	mg/kg dry wt	< 0.03	< 0.03	0.05	< 0.03	< 0.03
Pyrene	mg/kg dry wt	< 0.03	< 0.03	0.14	< 0.03	< 0.03
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 9	< 9	< 10	< 9	-
C10 - C14	mg/kg dry wt	< 20	< 20	< 20	< 20	-
C15 - C36	mg/kg dry wt	< 40	< 40	< 40	< 40	-
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 70	< 70	< 70	< 70	-

Sample Name:		AH01 144 0.5 26-Nov-2014	AH02 144 0.15 26-Nov-2014	AH02 144 1.0 26-Nov-2014	AH03 144 0.15 26-Nov-2014	AH03 144 1.0 26-Nov-2014
Lab Number:		1357653.46	1357653.47	1357653.48	1357653.49	1357653.50
Individual Tests						
Dry Matter	g/100g as rcvd	79	78	71	75	75
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.07	< 0.07	< 0.08	0.09	< 0.07
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						

Sample Type: Soil						
Sample Name:		AH01 144 0.5 26-Nov-2014	AH02 144 0.15 26-Nov-2014	AH02 144 1.0 26-Nov-2014	AH03 144 0.15 26-Nov-2014	AH03 144 1.0 26-Nov-2014
Lab Number:		1357653.46	1357653.47	1357653.48	1357653.49	1357653.50
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	2	3	< 2	5	4
Total Recoverable Cadmium	mg/kg dry wt	0.22	0.33	< 0.10	0.35	0.15
Total Recoverable Chromium	mg/kg dry wt	11	14	10	14	12
Total Recoverable Copper	mg/kg dry wt	12	14	11	16	15
Total Recoverable Lead	mg/kg dry wt	32	33	27	133	37
Total Recoverable Nickel	mg/kg dry wt	5	7	5	6	6
Total Recoverable Zinc	mg/kg dry wt	26	34	17	43	33
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dieldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo[a]anthracene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	0.05	< 0.03
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.03	< 0.03	< 0.03	0.07	< 0.03
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	0.06	< 0.03
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	0.06	< 0.03
Benzo[k]fluoranthene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	0.03	< 0.03
Chrysene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	0.08	< 0.03
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	0.16	< 0.03
Fluorene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	0.06	< 0.03
Naphthalene	mg/kg dry wt	< 0.14	< 0.15	< 0.15	< 0.15	< 0.15
Phenanthrene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	0.06	< 0.03
Pyrene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	0.17	< 0.03

Sample Name:		AH04 144 0.15 26-Nov-2014	AH04 144 1.0 26-Nov-2014	AH05 144 0.15 26-Nov-2014	AH05 144 0.5 26-Nov-2014	AH06 144 0.15 26-Nov-2014
Lab Number:		1357653.51	1357653.52	1357653.53	1357653.54	1357653.55

Sample Type: Soil						
Sample Name:		AH04 144 0.15 26-Nov-2014	AH04 144 1.0 26-Nov-2014	AH05 144 0.15 26-Nov-2014	AH05 144 0.5 26-Nov-2014	AH06 144 0.15 26-Nov-2014
Lab Number:		1357653.51	1357653.52	1357653.53	1357653.54	1357653.55
Individual Tests						
Dry Matter	g/100g as rcvd	77	67	80	88	72
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.07	< 0.09	< 0.07	< 0.06	< 0.08
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	3	< 2	4	3	3
Total Recoverable Cadmium	mg/kg dry wt	0.39	< 0.10	< 0.10	< 0.10	0.27
Total Recoverable Chromium	mg/kg dry wt	14	9	6	6	8
Total Recoverable Copper	mg/kg dry wt	14	4	4	2	6
Total Recoverable Lead	mg/kg dry wt	38	23	8.4	10.5	47
Total Recoverable Nickel	mg/kg dry wt	8	3	3	2	3
Total Recoverable Zinc	mg/kg dry wt	39	12	24	15	34
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dieldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03
Acenaphthylene	mg/kg dry wt	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03
Anthracene	mg/kg dry wt	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03
Benzo[a]anthracene	mg/kg dry wt	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03
Benzo[k]fluoranthene	mg/kg dry wt	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03
Chrysene	mg/kg dry wt	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03
Fluoranthene	mg/kg dry wt	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03
Fluorene	mg/kg dry wt	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03
Naphthalene	mg/kg dry wt	< 0.14	< 0.17	< 0.14	< 0.13	< 0.15
Phenanthrene	mg/kg dry wt	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03

Sample Type: Soil						
Sample Name:		AH04 144 0.15 26-Nov-2014	AH04 144 1.0 26-Nov-2014	AH05 144 0.15 26-Nov-2014	AH05 144 0.5 26-Nov-2014	AH06 144 0.15 26-Nov-2014
Lab Number:		1357653.51	1357653.52	1357653.53	1357653.54	1357653.55
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Pyrene	mg/kg dry wt	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03

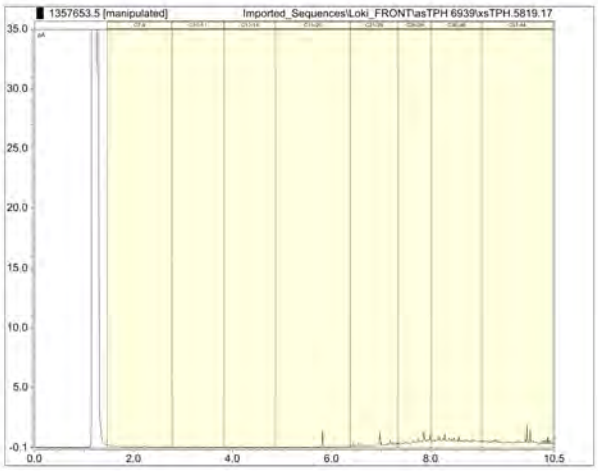
Sample Name:		AH06 144 0.5 26-Nov-2014	AH07 144 0.15 26-Nov-2014	AH07 144 0.5 26-Nov-2014	AH08 144 0.15 26-Nov-2014	AH08 144 0.5 26-Nov-2014
Lab Number:		1357653.56	1357653.57	1357653.58	1357653.59	1357653.60
Individual Tests						
Dry Matter	g/100g as rcvd	79	77	75	90	93
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.07	< 0.07	< 0.08	< 0.06	< 0.06
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	2	4	4	4	4
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.79	< 0.10	< 0.10	< 0.10
Total Recoverable Chromium	mg/kg dry wt	6	9	8	7	6
Total Recoverable Copper	mg/kg dry wt	3	8	2	3	< 2
Total Recoverable Lead	mg/kg dry wt	11.4	18.4	11.8	12.2	10.0
Total Recoverable Nickel	mg/kg dry wt	< 2	3	4	2	< 2
Total Recoverable Zinc	mg/kg dry wt	13	45	19	17	12
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDE	mg/kg dry wt	< 0.010	0.017	< 0.010	< 0.010	< 0.010
2,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dieldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo[a]anthracene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo[k]fluoranthene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03

Sample Type: Soil						
Sample Name:		AH06 144 0.5 26-Nov-2014	AH07 144 0.15 26-Nov-2014	AH07 144 0.5 26-Nov-2014	AH08 144 0.15 26-Nov-2014	AH08 144 0.5 26-Nov-2014
Lab Number:		1357653.56	1357653.57	1357653.58	1357653.59	1357653.60
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Fluoranthene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Naphthalene	mg/kg dry wt	< 0.14	< 0.14	< 0.15	< 0.13	< 0.12
Phenanthrene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03

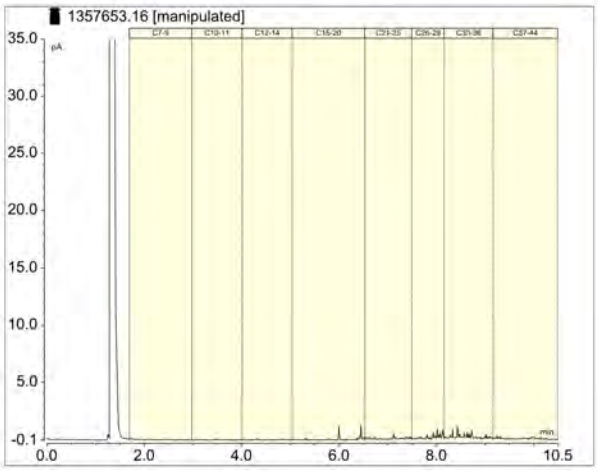
Sample Name:		AH09 144 0.15 26-Nov-2014	AH09 144 0.5 26-Nov-2014	AH10 144 0.15 26-Nov-2014	AH10 144 0.5 26-Nov-2014	LF27 152 0.8
Lab Number:		1357653.61	1357653.62	1357653.63	1357653.64	1357653.65
Individual Tests						
Dry Matter	g/100g as rcvd	83	92	78	80	66
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.07	< 0.06	< 0.07	< 0.07	< 0.09
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	4	4	3	2	320
Total Recoverable Cadmium	mg/kg dry wt	0.19	< 0.10	0.27	< 0.10	0.70
Total Recoverable Chromium	mg/kg dry wt	6	6	8	8	188
Total Recoverable Copper	mg/kg dry wt	6	< 2	< 2	< 2	1,550
Total Recoverable Lead	mg/kg dry wt	13.4	6.9	11.8	11.8	147
Total Recoverable Nickel	mg/kg dry wt	2	2	< 2	3	29
Total Recoverable Zinc	mg/kg dry wt	87	13	15	17	530
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dieldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04
Acenaphthylene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04
Anthracene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04
Benzo[a]anthracene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	0.04
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	0.03

Sample Type: Soil						
Sample Name:		AH09 144 0.15 26-Nov-2014	AH09 144 0.5 26-Nov-2014	AH10 144 0.15 26-Nov-2014	AH10 144 0.5 26-Nov-2014	LF27 152 0.8
Lab Number:		1357653.61	1357653.62	1357653.63	1357653.64	1357653.65
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	0.04
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04
Benzo[k]fluoranthene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04
Chrysene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	0.04
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04
Fluoranthene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	0.06
Fluorene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04
Naphthalene	mg/kg dry wt	< 0.14	< 0.12	< 0.14	< 0.14	< 0.17
Phenanthrene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	0.05
Pyrene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	0.06
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	-	-	-	-	< 11
C10 - C14	mg/kg dry wt	-	-	-	-	< 30
C15 - C36	mg/kg dry wt	-	-	-	-	< 50
Total hydrocarbons (C7 - C36)	mg/kg dry wt	-	-	-	-	< 80

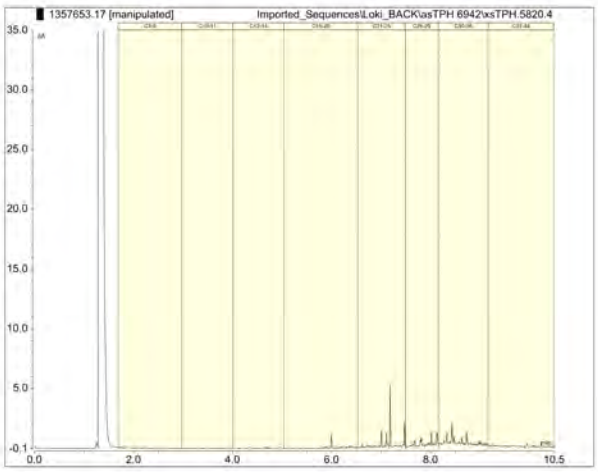
1357653.5
LF05 152 1.0 26-Nov-2014
Client Chromatogram for TPH by FID



1357653.16
LF24 152 0.9 26-Nov-2014
Client Chromatogram for TPH by FID



1357653.17
LH24 152 2.4 26-Nov-2014
Client Chromatogram for TPH by FID



1357653.18
LF25 152 SUR 26-Nov-2014
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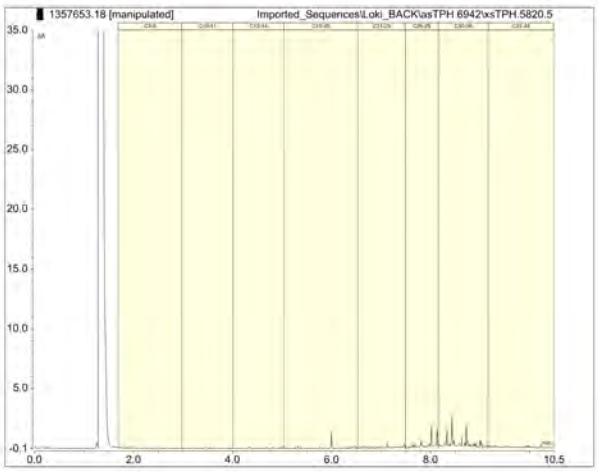
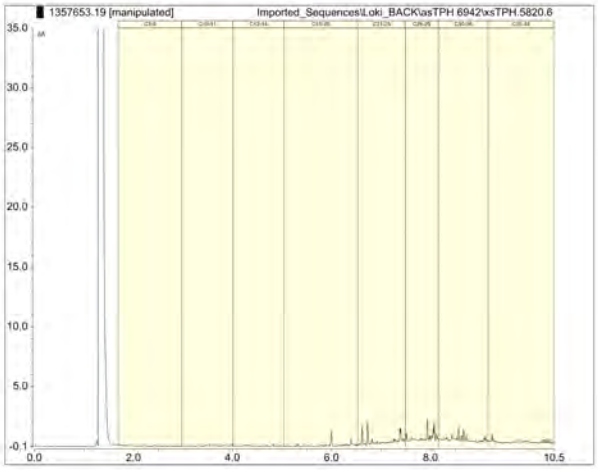
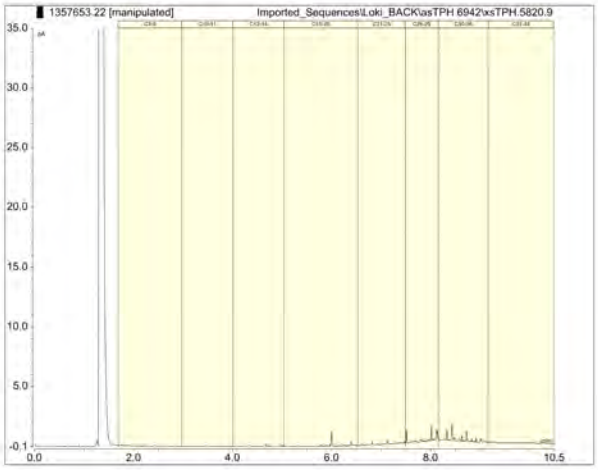


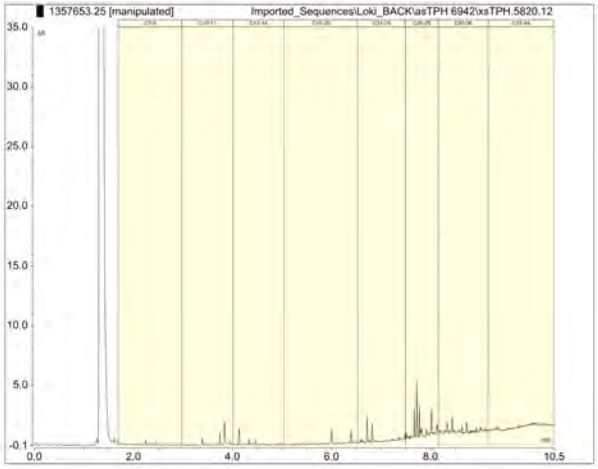
1357653.19
LF25 152 0.6 26-Nov-2014
Client Chromatogram for TPH by FID



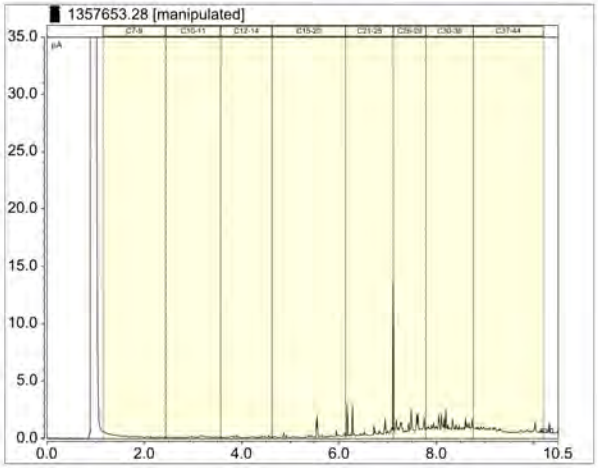
1357653.22
LF26 152 1.1 26-Nov-2014
Client Chromatogram for TPH by FID



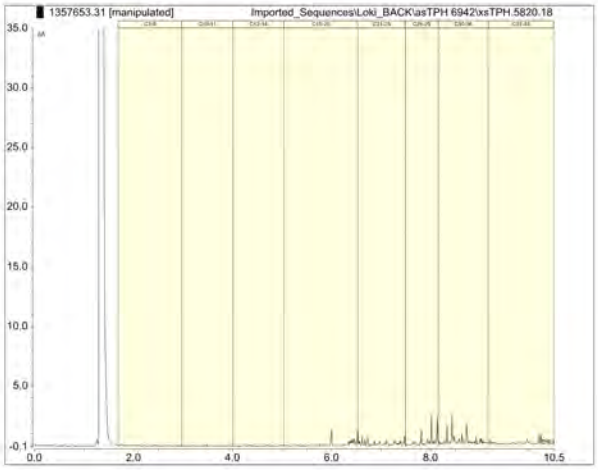
1357653.25
LF29 152 0.7 26-Nov-2014
Client Chromatogram for TPH by FID



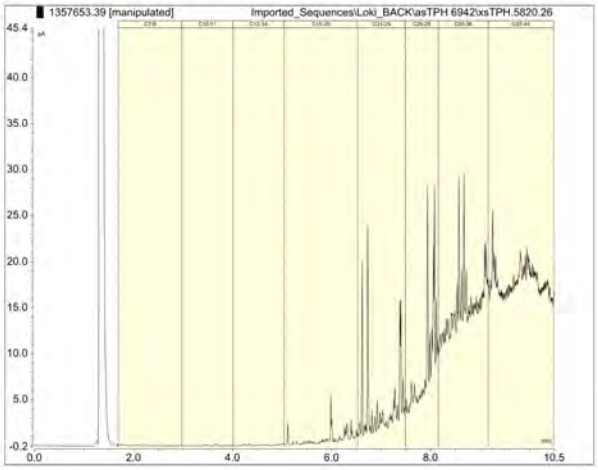
1357653.28
LF30 152 0.5 26-Nov-2014
Client Chromatogram for TPH by FID



1357653.31
LF39 152 0.5 26-Nov-2014
Client Chromatogram for TPH by FID



1357653.39
LF44 152 SUR 26-Nov-2014
Client Chromatogram for TPH by FID



Analyst's Comments

It is noted that Chrysene was higher than expected when compared to Benzo[a]anthracene in sample 1357653.28. It is possible that Benzo(l)phenanthrene is present which co-elutes with Chrysene.

#1 It should be noted that the replicate analyses performed on this sample as part of our in-house Quality Assurance procedures showed greater variation than would normally be expected. This may reflect the heterogeneity of the sample.

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 clean 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.

Sample Type: Soil

Test	Method Description	Default Detection Limit	Sample No
Environmental Solids Sample Preparation	Air dried at 35°C and sieved, <2mm fraction. Used for sample preparation. May contain a residual moisture content of 2-5%.	-	1-65
TPH Oil Industry Profile + PAHscreen	Sonication in DCM extraction, SPE cleanup, GC-FID & GC-MS analysis. Tested on as received sample. US EPA 8015B/MfE Petroleum Industry Guidelines [KBIs:5786,2805,10734;2695]	0.010 - 60 mg/kg dry wt	1-44, 65
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn	Dried sample, <2mm fraction. Nitric/Hydrochloric acid digestion, ICP-MS, screen level.	0.10 - 4 mg/kg dry wt	1-65
Organochlorine Pesticides Screening in Soil	Sonication extraction, SPE cleanup, dual column GC-ECD analysis (modified US EPA 8082).. Tested on dried sample	0.010 - 0.04 mg/kg dry wt	1-65
Polycyclic Aromatic Hydrocarbons Screening in Soil	Sonication extraction, Dilution or SPE cleanup (if required), GC-MS SIM analysis (modified US EPA 8270). Tested on as received sample. [KBIs:5786,2805,2695]	0.010 - 0.05 mg/kg dry wt	45-64
Dry Matter (Env)	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. US EPA 3550. (Free water removed before analysis).	0.10 g/100g as rcvd	1-65
Total Recoverable digestion	Nitric / hydrochloric acid digestion. US EPA 200.2.	-	1-65
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES	BaP Toxic Equivalence calculated from Benz(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 + Chrysene x 0.01 + Dibenz(a,h)anthracene x 1 + 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.	0.002 mg/kg dry wt	1-65

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

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

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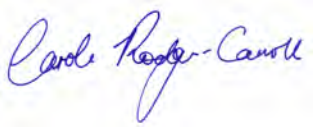

Carole Rodgers-Carroll BA, NZCS
Client Services Manager - Environmental Division

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Web www.hill-labs.co.nz

ANALYSIS REPORT

Client:	Focus Environmental Services Limited	**Lab No:**	1357659	SPv1
Contact:	Scott Rhodes	**Date Registered:**	28-Nov-2014	
	C/- Focus Environmental Services Limited	**Date Reported:**	11-Dec-2014	
	PO Box 11455	**Quote No:**	65118	
	Ellerslie	**Order No:**		
	AUCKLAND 1542	**Client Reference:**	Park Estate	
		Submitted By:	David O'Reilly	

Sample Type: Soil

Sample Name:		BP01 152 27-Nov-2014	SS01 144 27-Nov-2014	SS02 144 27-Nov-2014	SS03 144 27-Nov-2014	SS04 144 27-Nov-2014
Lab Number:		1357659.1	1357659.2	1357659.3	1357659.4	1357659.5
Individual Tests						
Dry Matter	g/100g as rcvd	71	72	-	56	65
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.08	0.24	-	< 0.19	< 0.09
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	220	5	2	3	3
Total Recoverable Cadmium	mg/kg dry wt	0.43	0.36	< 0.10	0.32	0.43
Total Recoverable Chromium	mg/kg dry wt	140	15	11	24	19
Total Recoverable Copper	mg/kg dry wt	240	21	11	23	22
Total Recoverable Lead	mg/kg dry wt	136	44	23	21	31
Total Recoverable Nickel	mg/kg dry wt	32	9	8	41	31
Total Recoverable Zinc	mg/kg dry wt	350	80	28	82	150
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
beta-BHC	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	-	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDE	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDE	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDT	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDT	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
Dieldrin	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan I	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan II	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
Endrin aldehyde	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt	-	< 0.010	< 0.010	< 0.010	< 0.010

823 365 laboratory

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The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked *, which are not accredited.

Sample Type: Soil						
Sample Name:		BP01 152 27-Nov-2014	SS01 144 27-Nov-2014	SS02 144 27-Nov-2014	SS03 144 27-Nov-2014	SS04 144 27-Nov-2014
Lab Number:		1357659.1	1357659.2	1357659.3	1357659.4	1357659.5
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.04	< 0.03	-	< 0.08	< 0.04
Acenaphthylene	mg/kg dry wt	< 0.04	0.06	-	< 0.08	< 0.04
Anthracene	mg/kg dry wt	< 0.04	0.03	-	< 0.08	< 0.04
Benzo[a]anthracene	mg/kg dry wt	< 0.04	0.10	-	< 0.08	< 0.04
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.04	0.15	-	< 0.08	< 0.04
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.04	0.20	-	< 0.08	< 0.04
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.04	0.16	-	< 0.08	< 0.04
Benzo[k]fluoranthene	mg/kg dry wt	< 0.04	0.09	-	< 0.08	< 0.04
Chrysene	mg/kg dry wt	< 0.04	0.11	-	< 0.08	< 0.04
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.04	0.03	-	< 0.08	< 0.04
Fluoranthene	mg/kg dry wt	< 0.04	0.20	-	< 0.08	< 0.04
Fluorene	mg/kg dry wt	< 0.04	< 0.03	-	< 0.08	< 0.04
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.04	0.15	-	< 0.08	< 0.04
Naphthalene	mg/kg dry wt	< 0.16	< 0.15	-	< 0.4	< 0.18
Phenanthrene	mg/kg dry wt	< 0.04	0.05	-	< 0.08	< 0.04
Pyrene	mg/kg dry wt	< 0.04	0.24	-	< 0.08	< 0.04
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	-	< 9	-	-	-
C10 - C14	mg/kg dry wt	-	< 20	-	-	-
C15 - C36	mg/kg dry wt	-	< 40	-	-	-
Total hydrocarbons (C7 - C36)	mg/kg dry wt	-	< 70	-	-	-

Sample Name:		SS05 144 27-Nov-2014	SS06 144 27-Nov-2014	SS07 144 27-Nov-2014	SS08 144 27-Nov-2014	SS09 144 27-Nov-2014
Lab Number:		1357659.6	1357659.7	1357659.8	1357659.9	1357659.10
Individual Tests						
Dry Matter	g/100g as rcvd	82	65	64	78	77
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.07	< 0.08	0.24	< 0.07	< 0.08
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	3	3	6	3	3
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.37	0.30	0.14	0.19
Total Recoverable Chromium	mg/kg dry wt	12	12	20	10	9
Total Recoverable Copper	mg/kg dry wt	15	19	19	14	13
Total Recoverable Lead	mg/kg dry wt	32	22	28	37	33
Total Recoverable Nickel	mg/kg dry wt	5	28	14	5	4
Total Recoverable Zinc	mg/kg dry wt	39	77	142	52	31
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dieldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Sample Type: Soil						
Sample Name:		SS05 144 27-Nov-2014	SS06 144 27-Nov-2014	SS07 144 27-Nov-2014	SS08 144 27-Nov-2014	SS09 144 27-Nov-2014
Lab Number:		1357659.6	1357659.7	1357659.8	1357659.9	1357659.10
Organochlorine Pesticides Screening in Soil						
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.03	< 0.04	< 0.04	< 0.03	< 0.03
Acenaphthylene	mg/kg dry wt	< 0.03	< 0.04	0.06	< 0.03	< 0.03
Anthracene	mg/kg dry wt	< 0.03	< 0.04	< 0.04	< 0.03	< 0.03
Benzo[a]anthracene	mg/kg dry wt	< 0.03	< 0.04	0.07	< 0.03	< 0.03
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.03	< 0.04	0.16	< 0.03	< 0.03
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.03	< 0.04	0.16	< 0.03	< 0.03
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.03	< 0.04	0.15	< 0.03	< 0.03
Benzo[k]fluoranthene	mg/kg dry wt	< 0.03	< 0.04	0.07	< 0.03	< 0.03
Chrysene	mg/kg dry wt	< 0.03	< 0.04	0.08	< 0.03	< 0.03
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.03	< 0.04	< 0.04	< 0.03	< 0.03
Fluoranthene	mg/kg dry wt	< 0.03	< 0.04	0.14	< 0.03	< 0.03
Fluorene	mg/kg dry wt	< 0.03	< 0.04	< 0.04	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.03	< 0.04	0.18	< 0.03	< 0.03
Naphthalene	mg/kg dry wt	< 0.14	< 0.17	< 0.17	< 0.14	< 0.15
Phenanthrene	mg/kg dry wt	< 0.03	< 0.04	0.04	< 0.03	< 0.03
Pyrene	mg/kg dry wt	< 0.03	< 0.04	0.16	< 0.03	< 0.03

Sample Name:		SS01 152 27-Nov-2014	SS02 152 27-Nov-2014	SS03 152 27-Nov-2014	SS04 152 27-Nov-2014	AH01 200 0.15 27-Nov-2014
Lab Number:		1357659.11	1357659.12	1357659.13	1357659.14	1357659.15
Individual Tests						
Dry Matter	g/100g as rcvd	72	68	85	54	74
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.08	< 0.09	< 0.07	< 0.10	< 0.07
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	23	8	9	8	6
Total Recoverable Cadmium	mg/kg dry wt	0.54	0.53	0.61	0.66	0.56
Total Recoverable Chromium	mg/kg dry wt	34	19	20	19	15
Total Recoverable Copper	mg/kg dry wt	44	26	36	33	11
Total Recoverable Lead	mg/kg dry wt	23	37	36	168	12.8
Total Recoverable Nickel	mg/kg dry wt	9	8	10	9	4
Total Recoverable Zinc	mg/kg dry wt	270	280	320	390	56
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Sample Type: Soil						
Sample Name:		SS01 152 27-Nov-2014	SS02 152 27-Nov-2014	SS03 152 27-Nov-2014	SS04 152 27-Nov-2014	AH01 200 0.15 27-Nov-2014
Lab Number:		1357659.11	1357659.12	1357659.13	1357659.14	1357659.15
Organochlorine Pesticides Screening in Soil						
4,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dieldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	< 0.05	< 0.03
Acenaphthylene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	< 0.05	< 0.03
Anthracene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	< 0.05	< 0.03
Benzo[a]anthracene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	< 0.05	< 0.03
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.04	< 0.04	< 0.03	< 0.05	< 0.03
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	< 0.05	< 0.03
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	< 0.05	< 0.03
Benzo[k]fluoranthene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	< 0.05	< 0.03
Chrysene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	< 0.05	< 0.03
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	< 0.05	< 0.03
Fluoranthene	mg/kg dry wt	< 0.04	< 0.04	0.03	< 0.05	< 0.03
Fluorene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	< 0.05	< 0.03
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	< 0.05	< 0.03
Naphthalene	mg/kg dry wt	< 0.16	< 0.17	< 0.14	< 0.3	< 0.15
Phenanthrene	mg/kg dry wt	< 0.04	< 0.04	< 0.03	< 0.05	< 0.03
Pyrene	mg/kg dry wt	< 0.04	< 0.04	0.03	< 0.05	< 0.03

Sample Name:		AH01 200 0.3 27-Nov-2014	AH02 200 0.5 27-Nov-2014	AH03 200 0.5 27-Nov-2014	AH04 200 0.15 27-Nov-2014	AH05 200 0.15 27-Nov-2014
Lab Number:		1357659.16	1357659.17	1357659.18	1357659.19	1357659.20
Individual Tests						
Dry Matter	g/100g as rcvd	73	88	81	78	80
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.08	< 0.06	0.26	< 0.07	< 0.07
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	5	8	6	5	5
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.15	0.21	0.52	0.40
Total Recoverable Chromium	mg/kg dry wt	12	23	23	12	9
Total Recoverable Copper	mg/kg dry wt	4	25	23	7	7
Total Recoverable Lead	mg/kg dry wt	12.3	17.5	16.9	9.9	10.0
Total Recoverable Nickel	mg/kg dry wt	3	20	27	3	2
Total Recoverable Zinc	mg/kg dry wt	19	95	80	37	34
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Sample Type: Soil						
Sample Name:		AH01 200 0.3 27-Nov-2014	AH02 200 0.5 27-Nov-2014	AH03 200 0.5 27-Nov-2014	AH04 200 0.15 27-Nov-2014	AH05 200 0.15 27-Nov-2014
Lab Number:		1357659.16	1357659.17	1357659.18	1357659.19	1357659.20
Organochlorine Pesticides Screening in Soil						
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dieldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	mg/kg dry wt	< 0.03	< 0.03	0.04	< 0.03	< 0.03
Benzo[a]anthracene	mg/kg dry wt	< 0.03	< 0.03	0.11	< 0.03	< 0.03
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.03	< 0.03	0.17	< 0.03	< 0.03
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.03	< 0.03	0.21	< 0.03	< 0.03
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.03	< 0.03	0.11	< 0.03	< 0.03
Benzo[k]fluoranthene	mg/kg dry wt	< 0.03	< 0.03	0.10	< 0.03	< 0.03
Chrysene	mg/kg dry wt	< 0.03	< 0.03	0.11	< 0.03	< 0.03
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.03	< 0.03	0.03	< 0.03	< 0.03
Fluoranthene	mg/kg dry wt	< 0.03	< 0.03	0.28	< 0.03	< 0.03
Fluorene	mg/kg dry wt	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.03	< 0.03	0.17	< 0.03	< 0.03
Naphthalene	mg/kg dry wt	< 0.15	< 0.13	< 0.14	< 0.14	< 0.14
Phenanthrene	mg/kg dry wt	< 0.03	< 0.03	0.10	< 0.03	< 0.03
Pyrene	mg/kg dry wt	< 0.03	< 0.03	0.26	< 0.03	< 0.03

Sample Name:		AH05 200 0.5 27-Nov-2014	AH06 200 0.15 27-Nov-2014	AH06 200 0.5 27-Nov-2014	AH07 200 0.15 27-Nov-2014	SP01 200 27-Nov-2014
Lab Number:		1357659.21	1357659.22	1357659.23	1357659.24	1357659.25
Individual Tests						
Dry Matter	g/100g as rcvd	75	79	65	77	81
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.07	< 0.07	< 0.09	< 0.07	< 0.07
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	5	4	4	5	3
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.22	< 0.10	0.57	0.14
Total Recoverable Chromium	mg/kg dry wt	10	8	12	10	30
Total Recoverable Copper	mg/kg dry wt	5	5	5	7	18
Total Recoverable Lead	mg/kg dry wt	9.8	17.4	13.3	10.5	19.3
Total Recoverable Nickel	mg/kg dry wt	2	2	4	2	20
Total Recoverable Zinc	mg/kg dry wt	27	26	34	35	66
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Sample Type: Soil						
Sample Name:		AH05 200 0.5 27-Nov-2014	AH06 200 0.15 27-Nov-2014	AH06 200 0.5 27-Nov-2014	AH07 200 0.15 27-Nov-2014	SP01 200 27-Nov-2014
Lab Number:		1357659.21	1357659.22	1357659.23	1357659.24	1357659.25
Organochlorine Pesticides Screening in Soil						
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dieldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03
Acenaphthylene	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03
Anthracene	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03
Benzo[a]anthracene	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	0.03
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	0.03
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	0.03
Benzo[k]fluoranthene	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03
Chrysene	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03
Fluoranthene	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	0.04
Fluorene	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	0.03
Naphthalene	mg/kg dry wt	< 0.15	< 0.14	< 0.17	< 0.15	< 0.14
Phenanthrene	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03
Pyrene	mg/kg dry wt	< 0.03	< 0.03	< 0.04	< 0.03	0.04

Sample Name:		BP01 252 27-Nov-2014	BP02-1 252 27-Nov-2014	BP02-2 252 27-Nov-2014	BP02-3 252 27-Nov-2014	BP02-4 252 27-Nov-2014
Lab Number:		1357659.26	1357659.27	1357659.28	1357659.29	1357659.30
Individual Tests						
Dry Matter	g/100g as rcvd	63	78	74	75	73
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.09	0.07	< 0.07	0.15	< 0.08
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	22	45	220	900	76
Total Recoverable Cadmium	mg/kg dry wt	0.41	0.71	5.2	1.21	1.01
Total Recoverable Chromium	mg/kg dry wt	20	39	158	370	38
Total Recoverable Copper	mg/kg dry wt	64	49	890	420	74
Total Recoverable Lead	mg/kg dry wt	195	44	570	58	42
Total Recoverable Nickel	mg/kg dry wt	7	11	35	8	6

Sample Type: Soil						
Sample Name:		BP01 252 27-Nov-2014	BP02-1 252 27-Nov-2014	BP02-2 252 27-Nov-2014	BP02-3 252 27-Nov-2014	BP02-4 252 27-Nov-2014
Lab Number:		1357659.26	1357659.27	1357659.28	1357659.29	1357659.30
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Zinc	mg/kg dry wt	370	181	2,700	300	136
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.04	< 0.03	< 0.03	0.03	< 0.03
Acenaphthylene	mg/kg dry wt	< 0.04	< 0.03	< 0.03	0.07	< 0.03
Anthracene	mg/kg dry wt	< 0.04	< 0.03	< 0.03	0.14	< 0.03
Benzo[a]anthracene	mg/kg dry wt	< 0.04	0.03	< 0.03	0.11	< 0.03
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.04	0.05	< 0.03	0.06	< 0.03
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.04	0.06	< 0.03	0.14	< 0.03
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.04	0.04	< 0.03	0.05	< 0.03
Benzo[k]fluoranthene	mg/kg dry wt	< 0.04	< 0.03	< 0.03	0.04	< 0.03
Chrysene	mg/kg dry wt	< 0.04	0.04	< 0.03	0.15	< 0.03
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.04	< 0.03	< 0.03	0.04	< 0.03
Fluoranthene	mg/kg dry wt	< 0.04	0.05	< 0.03	0.30	< 0.03
Fluorene	mg/kg dry wt	< 0.04	< 0.03	< 0.03	0.22	< 0.03
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.04	0.04	< 0.03	0.07	< 0.03
Naphthalene	mg/kg dry wt	< 0.18	< 0.15	< 0.15	0.45	< 0.15
Phenanthrene	mg/kg dry wt	< 0.04	< 0.03	< 0.03	1.73	< 0.03
Pyrene	mg/kg dry wt	< 0.04	0.06	< 0.03	0.25	< 0.03

Sample Name:		DS01 200 27-Nov-2014	DS02 200 27-Nov-2014	DS03 200 27-Nov-2014	DS04 200 27-Nov-2014	DS05 200 27-Nov-2014
Lab Number:		1357659.31	1357659.32	1357659.33	1357659.34	1357659.35
Individual Tests						
Dry Matter	g/100g as rcvd	81	68	69	81	59
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.07	< 0.09	< 0.08	0.14	0.22
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	7	130	150	13	55
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	0.48	0.58	0.64	0.29
Total Recoverable Chromium	mg/kg dry wt	13	88	153	18	30
Total Recoverable Copper	mg/kg dry wt	14	200	122	29	48
Total Recoverable Lead	mg/kg dry wt	410	340	60	158	45
Total Recoverable Nickel	mg/kg dry wt	4	11	12	8	14
Total Recoverable Zinc	mg/kg dry wt	130	2,200	850	490	164
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dieldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Sample Type: Soil						
Sample Name:		DS01 200 27-Nov-2014	DS02 200 27-Nov-2014	DS03 200 27-Nov-2014	DS04 200 27-Nov-2014	DS05 200 27-Nov-2014
Lab Number:		1357659.31	1357659.32	1357659.33	1357659.34	1357659.35
Organochlorine Pesticides Screening in Soil						
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.03	< 0.04	< 0.04	< 0.03	< 0.04
Acenaphthylene	mg/kg dry wt	< 0.03	< 0.04	< 0.04	< 0.03	< 0.04
Anthracene	mg/kg dry wt	< 0.03	< 0.04	0.04	< 0.03	< 0.04
Benzo[a]anthracene	mg/kg dry wt	< 0.03	< 0.04	< 0.04	0.06	0.09
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.03	< 0.04	< 0.04	0.09	0.14
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.03	< 0.04	0.04	0.10	0.14
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.03	< 0.04	< 0.04	0.09	0.12
Benzo[k]fluoranthene	mg/kg dry wt	< 0.03	< 0.04	< 0.04	0.05	0.08
Chrysene	mg/kg dry wt	< 0.03	< 0.04	< 0.04	0.07	0.08
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.03	< 0.04	< 0.04	< 0.03	< 0.04
Fluoranthene	mg/kg dry wt	< 0.03	< 0.04	0.03	0.14	0.14
Fluorene	mg/kg dry wt	< 0.03	< 0.04	< 0.04	< 0.03	< 0.04
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.03	< 0.04	< 0.04	0.06	0.10
Naphthalene	mg/kg dry wt	< 0.14	< 0.17	< 0.16	< 0.13	< 0.19
Phenanthrene	mg/kg dry wt	< 0.03	< 0.04	< 0.04	0.05	0.04
Pyrene	mg/kg dry wt	< 0.03	< 0.04	0.03	0.15	0.17

Sample Name:		DS06 200 27-Nov-2014	DS01 252 27-Nov-2014	DS02 252 27-Nov-2014	DS03 252 27-Nov-2014	DS04 252 27-Nov-2014
Lab Number:		1357659.36	1357659.37	1357659.38	1357659.39	1357659.40
Individual Tests						
Dry Matter	g/100g as rcvd	57	40	70	68	59
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	0.12	< 0.3	< 0.08	< 0.08	< 0.09
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	84	8	7	14	11
Total Recoverable Cadmium	mg/kg dry wt	0.72	0.40	0.25	0.57	0.29
Total Recoverable Chromium	mg/kg dry wt	90	26	20	85	33
Total Recoverable Copper	mg/kg dry wt	111	82	44	40	27
Total Recoverable Lead	mg/kg dry wt	75	13.0	11.6	39	30
Total Recoverable Nickel	mg/kg dry wt	9	8	11	27	13
Total Recoverable Zinc	mg/kg dry wt	990	390	177	2,200	240
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
2,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
4,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Sample Type: Soil						
Sample Name:		DS06 200 27-Nov-2014	DS01 252 27-Nov-2014	DS02 252 27-Nov-2014	DS03 252 27-Nov-2014	DS04 252 27-Nov-2014
Lab Number:		1357659.36	1357659.37	1357659.38	1357659.39	1357659.40
Organochlorine Pesticides Screening in Soil						
Dieldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.04	< 0.11	< 0.04	< 0.04	< 0.04
Acenaphthylene	mg/kg dry wt	< 0.04	< 0.11	< 0.04	< 0.04	< 0.04
Anthracene	mg/kg dry wt	0.10	< 0.11	< 0.04	< 0.04	< 0.04
Benzo[a]anthracene	mg/kg dry wt	0.05	< 0.11	< 0.04	< 0.04	< 0.04
Benzo[a]pyrene (BAP)	mg/kg dry wt	0.09	< 0.11	< 0.04	< 0.04	< 0.04
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	0.14	< 0.11	< 0.04	< 0.04	< 0.04
Benzo[g,h,i]perylene	mg/kg dry wt	0.08	< 0.11	< 0.04	< 0.04	< 0.04
Benzo[k]fluoranthene	mg/kg dry wt	0.06	< 0.11	< 0.04	< 0.04	< 0.04
Chrysene	mg/kg dry wt	0.06	< 0.11	< 0.04	< 0.04	< 0.04
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.04	< 0.11	< 0.04	< 0.04	< 0.04
Fluoranthene	mg/kg dry wt	0.11	< 0.11	< 0.04	< 0.04	< 0.04
Fluorene	mg/kg dry wt	< 0.04	< 0.11	< 0.04	< 0.04	< 0.04
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	0.08	< 0.11	< 0.04	< 0.04	< 0.04
Naphthalene	mg/kg dry wt	< 0.19	< 0.6	< 0.16	< 0.16	< 0.19
Phenanthrene	mg/kg dry wt	0.05	< 0.11	< 0.04	< 0.04	< 0.04
Pyrene	mg/kg dry wt	0.12	< 0.11	< 0.04	< 0.04	< 0.04

Sample Name:		DS05 252 27-Nov-2014	DS06 252 27-Nov-2014	DS07 252 27-Nov-2014	DS08 252 27-Nov-2014	HC01 200 27-Nov-2014
Lab Number:		1357659.41	1357659.42	1357659.43	1357659.44	1357659.45
Individual Tests						
Dry Matter	g/100g as rcvd	51	93	35	98	56
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	0.13	0.06	< 0.16	< 0.6	< 1.0
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	10	16	19	-	30
Total Recoverable Cadmium	mg/kg dry wt	0.74	0.38	0.49	-	0.65
Total Recoverable Chromium	mg/kg dry wt	19	54	25	-	32
Total Recoverable Copper	mg/kg dry wt	47	51	80	-	84
Total Recoverable Lead	mg/kg dry wt	67	70	24	-	69
Total Recoverable Nickel	mg/kg dry wt	7	37	8	-	11
Total Recoverable Zinc	mg/kg dry wt	780	400	370	-	450
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	< 0.04	-	-
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-

Sample Type: Soil						
Sample Name:		DS05 252 27-Nov-2014	DS06 252 27-Nov-2014	DS07 252 27-Nov-2014	DS08 252 27-Nov-2014	HC01 200 27-Nov-2014
Lab Number:		1357659.41	1357659.42	1357659.43	1357659.44	1357659.45
Organochlorine Pesticides Screening in Soil						
4,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
4,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
2,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
4,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
Dieldrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
Endrin	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
Endrin aldehyde	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	< 0.010	-	-
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.05	< 0.03	< 0.07	< 0.3	0.7
Acenaphthylene	mg/kg dry wt	< 0.05	< 0.03	< 0.07	< 0.3	< 0.4
Anthracene	mg/kg dry wt	< 0.05	< 0.03	< 0.07	< 0.3	< 0.4
Benzo[a]anthracene	mg/kg dry wt	0.06	< 0.03	< 0.07	< 0.3	< 0.4
Benzo[a]pyrene (BAP)	mg/kg dry wt	0.07	0.03	< 0.07	< 0.3	< 0.4
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	0.11	0.04	< 0.07	< 0.3	< 0.4
Benzo[g,h,i]perylene	mg/kg dry wt	0.09	0.03	< 0.07	< 0.3	< 0.4
Benzo[k]fluoranthene	mg/kg dry wt	0.05	< 0.03	< 0.07	< 0.3	< 0.4
Chrysene	mg/kg dry wt	0.07	< 0.03	< 0.07	< 0.3	< 0.4
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.05	< 0.03	< 0.07	< 0.3	< 0.4
Fluoranthene	mg/kg dry wt	0.17	0.04	< 0.07	< 0.3	0.9
Fluorene	mg/kg dry wt	< 0.05	< 0.03	< 0.07	< 0.3	1.8
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	0.07	0.02	< 0.07	< 0.3	< 0.4
Naphthalene	mg/kg dry wt	< 0.3	< 0.12	< 0.4	< 1.1	< 2
Phenanthrene	mg/kg dry wt	0.08	< 0.03	< 0.07	< 0.3	1.5
Pyrene	mg/kg dry wt	0.16	0.05	< 0.07	0.2	55
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	-	-	-	-	24
C10 - C14	mg/kg dry wt	-	-	-	-	3,300
C15 - C36	mg/kg dry wt	-	-	-	-	46,000
Total hydrocarbons (C7 - C36)	mg/kg dry wt	-	-	-	-	49,000

Sample Name:		HC02 200 27-Nov-2014	HC03 200 27-Nov-2014	HC04 200 27-Nov-2014	HC05 200 0.3m 27-Nov-2014	BP01 200 27-Nov-2014
Lab Number:		1357659.46	1357659.47	1357659.48	1357659.49	1357659.50
Individual Tests						
Dry Matter	g/100g as rcvd	70	91	81	80	72
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.8	< 0.6	< 0.7	< 0.7	< 0.08
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	58	33	55	16	21
Total Recoverable Cadmium	mg/kg dry wt	0.68	0.25	0.58	0.33	0.48
Total Recoverable Chromium	mg/kg dry wt	60	26	41	16	21
Total Recoverable Copper	mg/kg dry wt	81	29	74	25	240
Total Recoverable Lead	mg/kg dry wt	65	28	45	40	1,630
Total Recoverable Nickel	mg/kg dry wt	11	12	10	12	9
Total Recoverable Zinc	mg/kg dry wt	930	163	280	112	1,540
Polycyclic Aromatic Hydrocarbons Screening in Soil						

Sample Type: Soil						
Sample Name:		HC02 200 27-Nov-2014	HC03 200 27-Nov-2014	HC04 200 27-Nov-2014	HC05 200 0.3m 27-Nov-2014	BP01 200 27-Nov-2014
Lab Number:		1357659.46	1357659.47	1357659.48	1357659.49	1357659.50
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	1.2	1.3	0.5	0.7	< 0.04
Acenaphthylene	mg/kg dry wt	< 0.4	< 0.3	< 0.3	< 0.3	< 0.04
Anthracene	mg/kg dry wt	< 0.4	< 0.3	< 0.3	< 0.3	< 0.04
Benzo[a]anthracene	mg/kg dry wt	< 0.4	< 0.3	< 0.3	< 0.3	0.04
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.4	< 0.3	< 0.3	< 0.3	0.05
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.4	< 0.3	< 0.3	< 0.3	0.08
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.4	< 0.3	< 0.3	< 0.3	0.05
Benzo[k]fluoranthene	mg/kg dry wt	< 0.4	< 0.3	< 0.3	< 0.3	0.03
Chrysene	mg/kg dry wt	< 0.4	< 0.3	< 0.3	< 0.3	0.04
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.4	< 0.3	< 0.3	< 0.3	< 0.04
Fluoranthene	mg/kg dry wt	1.1	0.3	0.6	< 0.3	0.06
Fluorene	mg/kg dry wt	3.7	3.0	1.1	1.6	< 0.04
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.4	< 0.3	< 0.3	< 0.3	0.04
Naphthalene	mg/kg dry wt	< 1.6	< 1.3	< 1.4	2.1	< 0.16
Phenanthrene	mg/kg dry wt	3.7	4.3	0.7	2.3	< 0.04
Pyrene	mg/kg dry wt	27	9.6	18.6	3.9	0.09
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	32	34	14	51	-
C10 - C14	mg/kg dry wt	3,600	2,300	1,620	1,360	-
C15 - C36	mg/kg dry wt	38,000	12,300	17,300	5,900	-
Total hydrocarbons (C7 - C36)	mg/kg dry wt	41,000	14,600	18,900	7,300	-

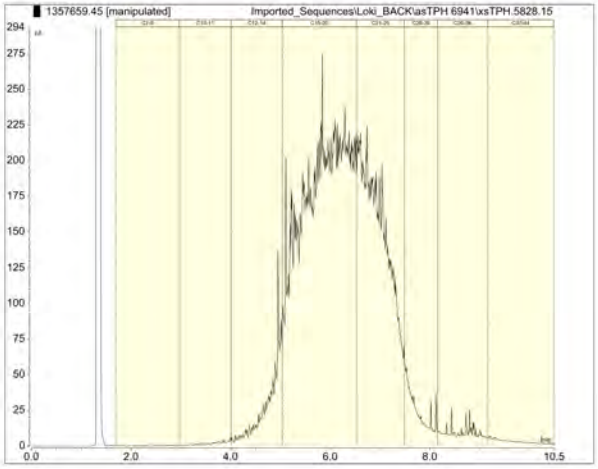
Sample Name:		BP02 200 27-Nov-2014	BP03-1 200 27-Nov-2014	BP03-2 200 27-Nov-2014	BP04-1 200 27-Nov-2014	BP04-2 200 27-Nov-2014
Lab Number:		1357659.51	1357659.52	1357659.53	1357659.54	1357659.55
Individual Tests						
Dry Matter	g/100g as rcvd	69	76	76	65	76
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.08	< 0.07	0.17	0.41	< 0.07
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	57	165	191	330 #1	1,230
Total Recoverable Cadmium	mg/kg dry wt	0.48	0.64	1.47	0.81	0.88
Total Recoverable Chromium	mg/kg dry wt	29	125	168	89	370
Total Recoverable Copper	mg/kg dry wt	59	154	200	169 #1	2,900
Total Recoverable Lead	mg/kg dry wt	43	92	169	158 #1	700
Total Recoverable Nickel	mg/kg dry wt	9	14	28	10	21
Total Recoverable Zinc	mg/kg dry wt	1,000	2,700	3,700	1,830	7,300
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.04	< 0.03	< 0.03	< 0.04	< 0.03
Acenaphthylene	mg/kg dry wt	< 0.04	< 0.03	0.03	0.07	< 0.03
Anthracene	mg/kg dry wt	< 0.04	< 0.03	0.06	0.22	< 0.03
Benzo[a]anthracene	mg/kg dry wt	< 0.04	< 0.03	0.06	0.30	< 0.03
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.04	< 0.03	0.09	0.26	< 0.03
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.04	< 0.03	0.19	0.33	< 0.03
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.04	< 0.03	0.13	0.17	< 0.03
Benzo[k]fluoranthene	mg/kg dry wt	< 0.04	< 0.03	0.07	0.13	< 0.03
Chrysene	mg/kg dry wt	< 0.04	< 0.03	0.09	0.27	< 0.03
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.04	< 0.03	0.04	0.05	< 0.03
Fluoranthene	mg/kg dry wt	< 0.04	< 0.03	0.11	0.71	< 0.03
Fluorene	mg/kg dry wt	< 0.04	< 0.03	< 0.03	0.08	< 0.03
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.04	< 0.03	0.11	0.17	< 0.03
Naphthalene	mg/kg dry wt	< 0.16	< 0.14	< 0.15	< 0.17	0.29
Phenanthrene	mg/kg dry wt	< 0.04	< 0.03	< 0.03	0.20	< 0.03
Pyrene	mg/kg dry wt	< 0.04	< 0.03	0.12	0.81	< 0.03

Sample Type: Soil						
Sample Name:		BP05 200 27-Nov-2014	BP06 200 27-Nov-2014	BP07-1 200 27-Nov-2014	BP07-2 200 27-Nov-2014	BP07-3 200 27-Nov-2014
Lab Number:		1357659.56	1357659.57	1357659.58	1357659.59	1357659.60
Individual Tests						
Dry Matter	g/100g as rcvd	85	69	80	84	89
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	0.07	< 0.08	0.42	< 0.07	< 0.06
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	1,700	880	54	960	13
Total Recoverable Cadmium	mg/kg dry wt	1.70	0.55	2.0	0.68	0.33
Total Recoverable Chromium	mg/kg dry wt	230	132	33	171	18
Total Recoverable Copper	mg/kg dry wt	1,850	640	88	1,890	30
Total Recoverable Lead	mg/kg dry wt	510	2,000	410	640	166
Total Recoverable Nickel	mg/kg dry wt	56	13	13	36	22
Total Recoverable Zinc	mg/kg dry wt	9,900	1,660	1,720	1,040	186
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.03	< 0.04	< 0.03	< 0.03	< 0.03
Acenaphthylene	mg/kg dry wt	< 0.03	< 0.04	0.04	< 0.03	< 0.03
Anthracene	mg/kg dry wt	< 0.03	< 0.04	0.14	< 0.03	< 0.03
Benzo[a]anthracene	mg/kg dry wt	0.04	< 0.04	0.21	< 0.03	< 0.03
Benzo[a]pyrene (BAP)	mg/kg dry wt	0.04	< 0.04	0.26	< 0.03	< 0.03
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	0.06	< 0.04	0.42	< 0.03	0.04
Benzo[g,h,i]perylene	mg/kg dry wt	0.04	< 0.04	0.36	< 0.03	0.10
Benzo[k]fluoranthene	mg/kg dry wt	0.03	< 0.04	0.17	< 0.03	< 0.03
Chrysene	mg/kg dry wt	0.04	< 0.04	0.29	< 0.03	< 0.03
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.03	< 0.04	0.04	< 0.03	< 0.03
Fluoranthene	mg/kg dry wt	0.10	< 0.04	0.70	0.05	0.04
Fluorene	mg/kg dry wt	0.03	< 0.04	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	0.03	< 0.04	0.26	< 0.03	0.07
Naphthalene	mg/kg dry wt	< 0.13	< 0.16	< 0.14	< 0.13	< 0.13
Phenanthrene	mg/kg dry wt	0.13	< 0.04	0.28	0.06	0.03
Pyrene	mg/kg dry wt	0.10	< 0.04	0.65	0.06	0.05

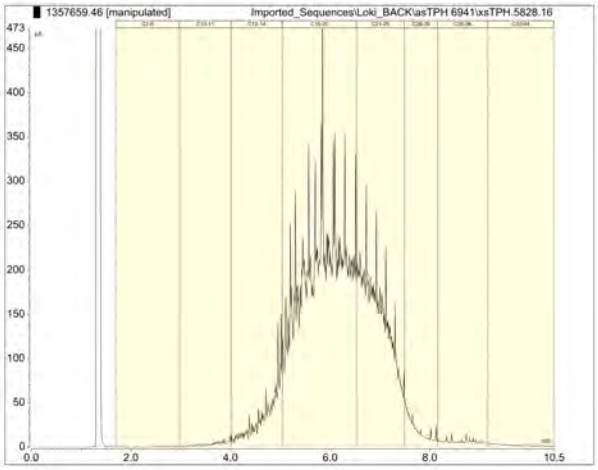
Sample Name:		BP07-4 200 27-Nov-2014				
Lab Number:		1357659.61				
Individual Tests						
Dry Matter	g/100g as rcvd	76	-	-	-	-
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	0.19	-	-	-	-
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Recoverable Arsenic	mg/kg dry wt	42	-	-	-	-
Total Recoverable Cadmium	mg/kg dry wt	1.90	-	-	-	-
Total Recoverable Chromium	mg/kg dry wt	47	-	-	-	-
Total Recoverable Copper	mg/kg dry wt	71	-	-	-	-
Total Recoverable Lead	mg/kg dry wt	370	-	-	-	-
Total Recoverable Nickel	mg/kg dry wt	11	-	-	-	-
Total Recoverable Zinc	mg/kg dry wt	2,400	-	-	-	-
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.03	-	-	-	-
Acenaphthylene	mg/kg dry wt	< 0.03	-	-	-	-
Anthracene	mg/kg dry wt	< 0.03	-	-	-	-
Benzo[a]anthracene	mg/kg dry wt	0.08	-	-	-	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	0.12	-	-	-	-
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	0.18	-	-	-	-
Benzo[g,h,i]perylene	mg/kg dry wt	0.12	-	-	-	-
Benzo[k]fluoranthene	mg/kg dry wt	0.07	-	-	-	-
Chrysene	mg/kg dry wt	0.10	-	-	-	-
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.03	-	-	-	-

Sample Type: Soil							
Sample Name:		BP07-4 200 27-Nov-2014					
Lab Number:		1357659.61					
Polycyclic Aromatic Hydrocarbons Screening in Soil							
Fluoranthene	mg/kg dry wt	0.16	-	-	-	-	
Fluorene	mg/kg dry wt	< 0.03	-	-	-	-	
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	0.11	-	-	-	-	
Naphthalene	mg/kg dry wt	< 0.15	-	-	-	-	
Phenanthrene	mg/kg dry wt	0.08	-	-	-	-	
Pyrene	mg/kg dry wt	0.16	-	-	-	-	

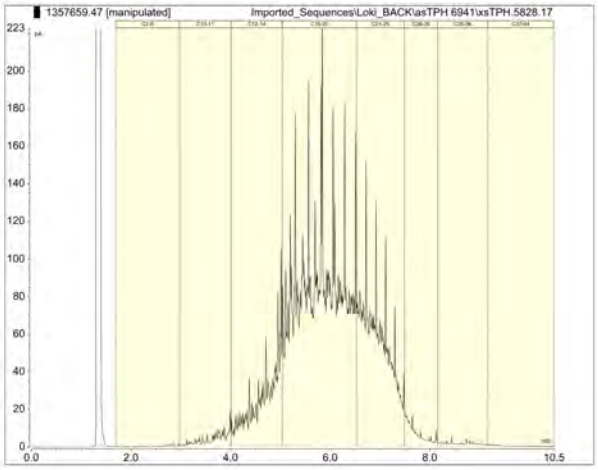
1357659.45
HC01 200 27-Nov-2014
Client Chromatogram for TPH by FID



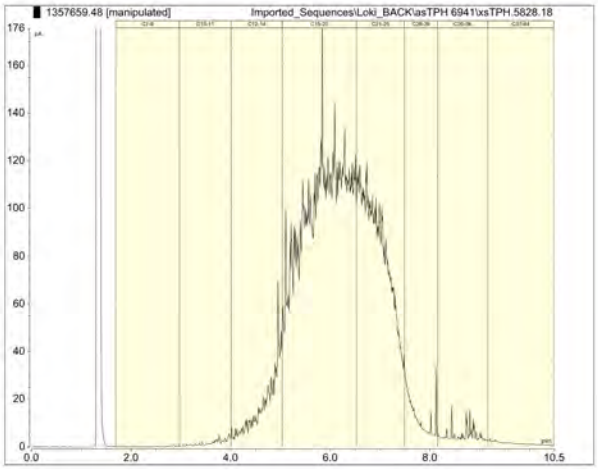
1357659.46
HC02 200 27-Nov-2014
Client Chromatogram for TPH by FID



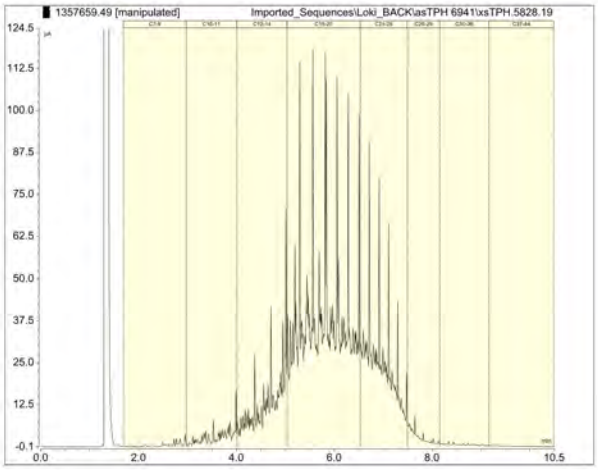
1357659.47
HC03 200 27-Nov-2014
Client Chromatogram for TPH by FID



1357659.48
HC04 200 27-Nov-2014
Client Chromatogram for TPH by FID



1357659.49
HC05 200 0.3m 27-Nov-2014
Client Chromatogram for TPH by FID



Analyst's Comments

Carbon particulates were observed in the matrix of samples 1357659.55 and .57 and this has absorbed most of the System Monitoring Compound in the PAH analysis, whereby the recovery for Anthracene-d10 was 21% and 31% respectively. Therefore the results presented for these analytes may not represent the actual concentration in the sample.

#1 It should be noted that the replicate analyses performed on this sample as part of our in-house Quality Assurance procedures showed greater variation than would normally be expected. This may reflect the heterogeneity of the sample.

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 clean 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.

Sample Type: Soil

Test	Method Description	Default Detection Limit	Sample No
Environmental Solids Sample Preparation	Air dried at 35°C and sieved, <2mm fraction. Used for sample preparation. May contain a residual moisture content of 2-5%.	-	1-43, 45-61
TPH Oil Industry Profile + PAHscreen	Sonication in DCM extraction, SPE cleanup, GC-FID & GC-MS analysis. Tested on as received sample. US EPA 8015B/MfE Petroleum Industry Guidelines [KBIs:5786,2805,10734;2695]	0.010 - 60 mg/kg dry wt	2, 45-49
Heavy metal screen level As,Cd,Cr,Cu,Ni,Pb,Zn	Dried sample, <2mm fraction. Nitric/Hydrochloric acid digestion, ICP-MS, screen level.	0.10 - 4 mg/kg dry wt	1-43, 45-61
Organochlorine Pesticides Screening in Soil	Sonication extraction, SPE cleanup, dual column GC-ECD analysis (modified US EPA 8082).. Tested on dried sample	0.010 - 0.04 mg/kg dry wt	2-25, 31-43
Polycyclic Aromatic Hydrocarbons Screening in Soil	Sonication extraction, Dilution or SPE cleanup (if required), GC-MS SIM analysis (modified US EPA 8270). Tested on as received sample. [KBIs:5786,2805,2695]	0.010 - 0.05 mg/kg dry wt	1, 4-44, 50-61
Dry Matter (Env)	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. US EPA 3550. (Free water removed before analysis).	0.10 g/100g as rcvd	1-2, 4-61
Total Recoverable digestion	Nitric / hydrochloric acid digestion. US EPA 200.2.	-	1-43, 45-61
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES	BaP Toxic Equivalence calculated from Benz(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 + Chrysene x 0.01 + Dibenz(a,h)anthracene x 1 + 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.	0.002 mg/kg dry wt	1-2, 4-61

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

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

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Ara Heron BSc (Tech)
Client Services Manager - Environmental Division

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ANALYSIS REPORT

Client:	Focus Environmental Services Limited	**Lab No:**	1386812	SPv1
Contact:	David O'Reilly	**Date Registered:**	19-Feb-2015	
	C/- Focus Environmental Services Limited	**Date Reported:**	27-Feb-2015	
	PO Box 11455	**Quote No:**	66020	
	Ellerslie	**Order No:**		
	AUCKLAND 1542	**Client Reference:**	0015.013	
		Submitted By:	Scott Rhodes	

Sample Type: Aqueous

Sample Name:		MW1 East 18-Feb-2015 2:45 pm	MW3 North 18-Feb-2015 2:15 pm	MW2 South 18-Feb-2015 3:15 pm	MW4 West 18-Feb-2015 1:40 pm	
Lab Number:		1386812.1	1386812.2	1386812.3	1386812.4	
Individual Tests						
pH	pH Units	6.3	7.3	6.0	6.4	-
Total Alkalinity	g/m³ as $CaCO_3$	14.6	143	36	130	-
Electrical Conductivity (EC)	mS/m	14.2	44.0	26.4	428	-
Total Boron	g/m³	< 0.053	0.029	0.028	0.40	-
Total Iron	g/m³	31	2.2	10.3	10.2	-
Total Manganese	g/m³	0.45	0.135	0.104	0.49	-
Total Ammoniacal-N	g/m³	0.012	0.146	0.026	0.030	-
Chemical Oxygen Demand (COD)	g O_2/m³	28	8	16	34	-
Heavy metals, totals, trace As,Cd,Cr,Cu,Ni,Pb,Zn						
Total Arsenic	g/m³	< 0.011	< 0.0011	0.0115	< 0.0053	-
Total Cadmium	g/m³	< 0.00053	< 0.000053	< 0.000053	< 0.00027	-
Total Chromium	g/m³	0.024	< 0.00053	0.0149	< 0.0027	-
Total Copper	g/m³	0.039	0.00058	0.0148	< 0.0027	-
Total Lead	g/m³	0.020	0.00012	0.0107	0.0046	-
Total Nickel	g/m³	0.0162	< 0.00053	0.0132	< 0.0027	-
Total Zinc	g/m³	0.084	0.0028	0.057	0.0085	-

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 clean 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.

Sample Type: Aqueous

Test	Method Description	Default Detection Limit	Sample No
Heavy metals, totals, trace As,Cd,Cr,Cu,Ni,Pb,Zn	Nitric acid digestion, ICP-MS, trace level	0.000053 - 0.0011 g/m³	1-4
Filtration, Unpreserved	Sample filtration through 0.45µm membrane filter.	-	1-4
Total Digestion	Boiling nitric acid digestion. APHA 3030 E 22nd ed. 2012 (modified).	-	1-4
pH	pH meter. APHA 4500-H^+ B 22nd ed. 2012.	0.1 pH Units	1-4
Total Alkalinity	Titration to pH 4.5 (M-alkalinity), autotitrator. APHA 2320 B (Modified for alk <20) 22nd ed. 2012.	1.0 g/m³ as $CaCO_3$	1-4
Electrical Conductivity (EC)	Conductivity meter, 25°C. APHA 2510 B 22nd ed. 2012.	0.1 mS/m	1-4
Total Boron	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 22nd ed. 2012.	0.0053 g/m³	1-4
Total Iron	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 22nd ed. 2012.	0.021 g/m³	1-4
Total Manganese	Nitric acid digestion, ICP-MS, trace level. APHA 3125 B 22nd ed. 2012 / US EPA 200.8.	0.00053 g/m³	1-4

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

Sample Type: Aqueous			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Total Ammoniacal-N	Filtered sample. Phenol/hypochlorite colorimetry. Discrete Analyser. (NH_4-N = NH_4+-N + NH_3-N). APHA 4500-NH_3 F (modified from manual analysis) 22nd ed. 2012.	0.010 g/m^3	1-4
Chemical Oxygen Demand (COD), trace level	Dichromate/sulphuric acid digestion in Hach tubes, colorimetry. Trace Level method. APHA 5220 D 22nd ed. 2012.	6 g O_2/m^3	1-4

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

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

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Martin Cowell - BSc
Client Services Manager - Environmental Division

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Web www.hill-labs.co.nz

ANALYSIS REPORT

Client:	Focus Environmental Services Limited	**Lab No:**	1401318	SPv1
Contact:	Scott Rhodes	**Date Registered:**	21-Mar-2015	
	C/- Focus Environmental Services Limited	**Date Reported:**	30-Mar-2015	
	PO Box 11455	**Quote No:**	66020	
	Ellerslie	**Order No:**		
	AUCKLAND 1542	**Client Reference:**	Park Estate	
		Submitted By:	Scott Rhodes	

Sample Type: Aqueous

Sample Name:		East 20-Mar-2015	West 20-Mar-2015	North 20-Mar-2015	South 20-Mar-2015	
Lab Number:		1401318.1	1401318.2	1401318.3	1401318.4	
Individual Tests						
pH	pH Units	5.9	6.4	7.2	5.9	-
Total Alkalinity	g/m³ as $CaCO_3$	11.7	125	146	30	-
Electrical Conductivity (EC)	mS/m	13.7	489	43.5	25.6	-
Dissolved Boron	g/m³	0.025	0.43	0.033	0.027	-
Dissolved Iron	g/m³	< 0.02	8.6	< 0.02	< 0.02	-
Dissolved Manganese	g/m³	0.120	0.27	0.127	0.053	-
Total Ammoniacal-N	g/m³	< 0.010	0.048	0.175	0.027	-
Chemical Oxygen Demand (COD)	g O_2/m³	8	40	< 6	14	-
Heavy metals, dissolved, trace As,Cd,Cr,Cu,Ni,Pb,Zn						
Dissolved Arsenic	g/m³	< 0.0010	< 0.005	< 0.0010	< 0.0010	-
Dissolved Cadmium	g/m³	< 0.00005	< 0.0003	< 0.00005	< 0.00005	-
Dissolved Chromium	g/m³	< 0.0005	< 0.003	< 0.0005	< 0.0005	-
Dissolved Copper	g/m³	0.0007	< 0.003	< 0.0005	< 0.0005	-
Dissolved Lead	g/m³	< 0.00010	< 0.0005	< 0.00010	< 0.00010	-
Dissolved Nickel	g/m³	0.0009	< 0.003	< 0.0005	0.0009	-
Dissolved Zinc	g/m³	0.0157	0.010	0.0021	0.021	-

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 clean 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.

Sample Type: Aqueous

Test	Method Description	Default Detection Limit	Sample No
Heavy metals, dissolved, trace As,Cd,Cr,Cu,Ni,Pb,Zn	0.45µm filtration, ICP-MS, trace level. APHA 3125 B 21st ed. 2005.	0.00005 - 0.0010 g/m³	1-4
Filtration, Unpreserved	Sample filtration through 0.45µm membrane filter.	-	1-4
pH	pH meter. APHA 4500-H^+ B 22nd ed. 2012.	0.1 pH Units	1-4
Total Alkalinity	Titration to pH 4.5 (M-alkalinity), autotitrator. APHA 2320 B (Modified for alk <20) 22nd ed. 2012.	1.0 g/m³ as $CaCO_3$	1-4
Electrical Conductivity (EC)	Conductivity meter, 25°C. APHA 2510 B 22nd ed. 2012.	0.1 mS/m	1-4
Filtration for dissolved metals analysis	Sample filtration through 0.45µm membrane filter and preservation with nitric acid. APHA 3030 B 22nd ed. 2012.	-	1-4
Dissolved Boron	Filtered sample, ICP-MS, trace level. APHA 3125 B 22nd ed. 2012.	0.005 g/m³	1-4
Dissolved Iron	Filtered sample, ICP-MS, trace level. APHA 3125 B 22nd ed. 2012.	0.02 g/m³	1-4
Dissolved Manganese	Filtered sample, ICP-MS, trace level. APHA 3125 B 22nd ed. 2012.	0.0005 g/m³	1-4
Total Ammoniacal-N	Filtered sample. Phenol/hypochlorite colorimetry. Discrete Analyser. (NH_4-N = NH_4+-N + NH_3-N). APHA 4500-NH_3 F (modified from manual analysis) 22nd ed. 2012.	0.010 g/m³	1-4

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

Sample Type: Aqueous			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Chemical Oxygen Demand (COD), trace level	Dichromate/sulphuric acid digestion in Hach tubes, colorimetry. Trace Level method. APHA 5220 D 22nd ed. 2012.	6 g O_2/m^3	1-4

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

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

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

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

Appendix D – XRF Screening Results

XRF Heavy Metals Screening

FOCUS ENVIRONMENTAL SERVICES LTD

Site: 152 Park Estate Road, Hingaia							
Date: 16/12/15				**Operator:** SR			
Sample	As	Cd	Cr	Cu	Pb	Ni	Zn
LF02 1.0	*29*	0	61	84	54	***1558***	**861**
LF02 1.8	0	11	1	13	52	14	7
LF02 SUR	2	4	49	2	39	*78*	165
LF03 1.0	4	38	92	*91*	**122**	*230*	325
LF03 1.9	3	9	20	2	56	30	16
LF03 SUR	1	5	49	3	73	*70*	**499**
LF04 1.0	*14*	4	53	*93*	96	*94*	275
LF04 2.0	1.3	2	13	8	33	18	16
LF04 SUR	0	0	47	13	45	48	76
LF06 0.8	6	9	45	3	30	60	115
LF06 1.6	1	24	53	40	**122**	18	38
LF06 SUR	6	36	113	37	**166**	49	79
LF07 0.3	4	2	45	5	71	9	17
LF07 SUR	1	7	32	11	56	21	19
LF08 0.3	1	13	38	2	9	14	7
LF08 0.5	5	11	35	1	51	23	29
LF08 SUR	2	9	28	9	35	41	61
LF10 0.5	*19*	3	38	16	32	*193*	169
LF10 1.1	4	7	37	16	31	14	1
LF10 SUR	2	21	53	6	66	15	11
LF11 0.4	*12*	14	45	18	11	31	17
LF11 0.9	1.5	7	35	1	37	11	19
LF11 SUR	3	22	50	29	**162**	*228*	54
LF12 0.5	6	8	45	8	61	44	14
LF12 0.8	1.6	5	39	1	28	12	29
LF12 SUR	1	9	*138*	27	**146**	51	48
LF14 0.4	1.3	10	60	5	46	18	9
LF14 SUR	1	1	39	7	82	37	108
LF15 0.6	11	1	50	17	55	64	200
LF15 0.8	1	2	13	4	33	11	14
LF15 SUR	8	8	45	15	48	40	30
LF16 0.6	7	6	47	26	**113**	***300***	**412**
LF16 1.1	0.3	0	24	0	20	7	13

XRF Heavy Metals Screening

FOCUS
ENVIRONMENTAL SERVICES LTD

LF16 SUR	8	12	69	2	97	32	31
LF17 0.5	5	6	55	40	36	***287***	***631***
LF17 1.1	1	14	2	4	25	7	24
LF17 SUR	10	4	62	8	**112**	50	133
LF19 0.6	0.9	8	33	9	40	14	7
LF19 0.9	8	10	97	2	**110**	*130*	376
LF19 1.7	0.2	7	19	0	18	13.6	21
LF19 SUR	6	16	34	16	**118**	18	18
LF20 0.7	*21*	16	83	*176*	59	*94*	***818***
LF20 1.9	1.9	1	21	4	22	27	54
LF20 SUR	0	0	69	17	70	30	13
LF21 0.5	***31***	18	56	38	**191**	*90*	21
LF21 1.4	0	16	110	4	**278**	15	133
LF21 SUR	8	14	*137*	24	**220**	16	134
LF22 0.8	11	3	49	52	99	*169*	210
LF22 1.0	5	28	*132*	39	**220**	16	126
LF22 SUR	8	4	32	4	86	71	92
LF23 1.2	7	40	85	22	**171**	*130*	61
LF23 1.7	3.7	2	17	2	39	11	7
LF23 SUR	2	45	120	43	**271**	40	158
LF27 2.2	5	4	68	24	**151**	32	51
LF27 SUR	***80***	8	63	23	**184**	***310***	28
LF28 0.9	10	0	93	27	68	*105*	78
LF28 1.0	*14*	10	84	36	**105**	***401***	298
LF28 1.7	4	6	113	3	86	23	50
LF28 SUR	2.6	2	33	21	8	23	45
LF31 0.5	6	2	74	7	75	61	66
LF31 1.5	4	52	64	43	47	15	138
LF31 SUR	9	13	121	2	**139**	***446***	20
LF32 0.7	***39***	31	115	***518***	**315**	***736***	153
LF32 1.0	1	3	42	11	58	13	2
LF32 SUR	*12*	0	87	27	**226**	*106*	14
LF33 0.6	*12*	11	92	43	**122**	*163*	263
LF33 1.0	*12*	6	42	16	45	7	4
LF33 SUR	2	4	*138*	*153*	**291**	15	265
LF34 1.1	*16*	4	70	2	**106**	*128*	122

XRF Heavy Metals Screening

FOCUS ENVIRONMENTAL SERVICES LTD

LF34 SUR	1	1	103	40	**184**	74	25
LF35 1.0	***48***	11	95	38	30	*143*	287
LF35 1.5	3	6	39	13	91	7	23
LF35 SUR	8	2	104	29	**226**	*99*	11
LF36 0.8	*13*	16	110	17	**208**	***348***	**626**
LF37 0.5	*12*	27	77	13	80	*121*	190
LF38 0.5	4	24	65	6	**107**	48	51
LF38 1.3	***49***	3	77	21	52	*245*	**404**
LF38 SUR	2	8	93	23	**172**	54	6
LF45 0.3	5	3	33	3	99	13	19
LF45 SUR	*22*	24	***503***	*208*	**119**	***658***	**702**
LH34 1.0	7	4	37	12	90	24	14
LH36 2.2	0	5	31	8	73	10	2
LH36 SUR	1.5	1	36	4	26	21	24
LH37 2.0	1.1	3	26	5	16	13	28
LH37 SUR	3	28	43	3	74	22	22
LH42 2.5	4	18	112	73	94	21	166
LH42 SUR	5	17	*135*	25	**141**	28	38
LH48 1.8	3	10	45	15	**109**	6	182
LH48 SUR	2	3	104	*168*	*77*	***259***	202

Note: Results in red exceed the Soil Contaminant Standards for health ($SCS_{(health)}$) for Residential land use. Results in **Bold** exceed the discharge criteria as outlined in the Auckland Council Regional Plan: Air, Land and Water and the Proposed Auckland Unitary Plan. Results in *Italics* exceed the maximum Auckland background concentrations for volcanic soils outlined in the Auckland Regional Council Technical Publication No.153, Oct 2001 Reprinted April 2002 ISSN 1175 205X.

Appendix E – Borehole logs

BORING LOG

Drill Rig:	Standard	Date Drilled:	19/02/15	Logged By:	
Boring Dia:	0.1 Meters	Boring Number:	MW1	SR	

Sample	Blow Counts	Completion	Depth Meters	Lithology	Description
			0		Topsoil
					Sandy silt
					Yellow clay
					Sandy silt
					Grey silts with yellow inclusions
			1		
					Grey sandy silts with minor yellow inclusions

Completion Notes:

Site:

Detailed Site Investigation
152 Park Estate Road
Auckland,

Project No.: 0344.002

BORING LOG

Drill Rig:	Standard	Date Drilled:	19/02/15	Logged By:	
Boring Dia:	0.1 Meters	Boring Number:	MW1	SR	

Sample	Blow Counts	Completion	Depth Meters	Lithology	Description
			2		
			3		Stiff grey sandy silts
					Stiff grey sandy silts becoming dark

Completion Notes:

Site:

Detailed Site Investigation
152 Park Estate Road
Auckland,

BORING LOG

Drill Rig:	Standard	Date Drilled:	19/02/15	Logged By:	
Boring Dia:	0.1 Meters	Boring Number:	MW1	SR	

Sample	Blow Counts	Completion	Depth Meters	Lithology	Description
			4		
			5		Sandstone with embedded gravel

Completion Notes:

Site:

Detailed Site Investigation
152 Park Estate Road
Auckland,

BORING LOG

Drill Rig:	Standard	Date Drilled:	19/02/15	Logged By:	
Boring Dia:	0.1 Meters	Boring Number:	MW2	SR	

Sample	Blow Counts	Completion	Depth Meters	Lithology	Description
			0		Topsoil with some clay content
					Yellow clay
			1		Grey silty clays with orange inclusions
					Grey silts becoming brown

Completion Notes:

Site:

Detailed Site Investigation
152 Park Estate Road
Auckland,

Project No.: 0344.002

BORING LOG

Drill Rig:	Standard	Date Drilled:	19/02/15	Logged By:	
Boring Dia:	0.1 Meters	Boring Number:	MW2	SR	

Sample	Blow Counts	Completion	Depth Meters	Lithology	Description
			2		Dark brown silts with black organic inclusions
			3		Dark brown silts becoming grey
					Stiff grey silts

Completion Notes:

Site:

Detailed Site Investigation
152 Park Estate Road
Auckland,

Project No.: 0344.002

BORING LOG

Drill Rig:	Standard	Date Drilled:	19/02/15	Logged By:	
Boring Dia:	0.1 Meters	Boring Number:	MW2	SR	

Sample	Blow Counts	Completion	Depth Meters	Lithology	Description
			4		
			5		

Completion Notes:

Site:

Detailed Site Investigation
152 Park Estate Road
Auckland,

BORING LOG

Drill Rig:	Standard	Date Drilled:	19/02/15	Logged By:	
Boring Dia:	0.1 Meters	Boring Number:	MW3	SR	

Sample	Blow Counts	Completion	Depth Meters	Lithology	Description
			0		Topsoil with some clay content
					Yellow/orange clay
			1		Grey silts
					Light grey silts

Completion Notes:

Site:

Detailed Site Investigation
152 Park Estate Road
Auckland,

Project No.: 0344.002

BORING LOG

Drill Rig:	Standard	Date Drilled:	19/02/15	Logged By:	
Boring Dia:	0.1 Meters	Boring Number:	MW3	SR	

Sample	Blow Counts	Completion	Depth Meters	Lithology	Description
			2		Dense grey silts
			3		

Completion Notes:

Site:

Detailed Site Investigation
152 Park Estate Road
Auckland,

Project No.: 0344.002

BORING LOG

Drill Rig:	Standard	Date Drilled:	19/02/15	Logged By:	
Boring Dia:	0.1 Meters	Boring Number:	MW3		SR

Sample	Blow Counts	Completion	Depth Meters	Lithology	Description
			4		
			5		Grey sedimentary silts

Completion Notes:

Site:

Detailed Site Investigation
152 Park Estate Road
Auckland,

Project No.: 0344.002

BORING LOG

Drill Rig:	Standard	Date Drilled:	19/02/15	Logged By:	
Boring Dia:	0.1 Meters	Boring Number:	MW4		SR

Sample	Blow Counts	Completion	Depth Meters	Lithology	Description
			0		Fill material including refuse
			1		Fill mixed with grey silts

Completion Notes:

Site:

Detailed Site Investigation
152 Park Estate Road
Auckland,

Project No.: 0344.002

BORING LOG

Drill Rig:	Standard	Date Drilled:	19/02/15	Logged By:	
Boring Dia:	0.1 Meters	Boring Number:	MW4	SR	

Sample	Blow Counts	Completion	Depth Meters	Lithology	Description
			2		
					Grey silts
			3		Fine grey silt

Completion Notes:

Site:

Detailed Site Investigation
152 Park Estate Road
Auckland,

Project No.: 0344.002

BORING LOG

Drill Rig:	Standard	Date Drilled:	19/02/15	Logged By:	
Boring Dia:	0.1 Meters	Boring Number:	MW4		SR

Sample	Blow Counts	Completion	Depth Meters	Lithology	Description
			4		
			5		

Completion Notes:

Site:

Detailed Site Investigation
152 Park Estate Road
Auckland,