Marfell Park, New Plymouth, Environmental Investigation

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Taranaki Regional Council

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Limitations:

This report has been prepared on the basis of historical information and visual observations during the gathering of soil samples, drilling of auger holes and the analysis of 14 composite soil samples for a wide range of organic compounds and a suite of eight heavy metals. The information has been used to describe the ground conditions in the vicinity of the soil sample locations. The conditions away from these locations are unknown and should not be extrapolated from the results of this study without further investigation.

The information contained within this letter applies to the date of the site investigation (July 2009). With time, the site conditions or environmental guidelines could change so that the reported assessment and conclusions are no longer valid. Thus, in the future, the report should not be used without confirming the validity of the report's information at that time.

The report has been prepared for the Taranaki Regional Council, according to their instructions, for the particular objectives described in the report. The information contained in the report should not be used by anyone else or for any other purposes.

Table of Contents

Table of Tables

Appendices:

Executive Summary

Laying of stormwater pipes by contractors at the northern end of New Plymouth's Marfell Park in May 2009 encountered the remains of two crushed drums with a small amount of chemical residue. The residues were found amongst decomposed municipal waste. The Taranaki Regional Council (TRC) sampled the residues and found high concentrations of chemicals formerly used for the manufacture of phenoxy herbicides. The residues also had elevated concentrations of the dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD).

The discovery of the chemical residues raised concerns within the community that there could be general dioxin and other contamination within the landfill underlying the park. Park users were concerned that they or their children might be exposed to such contamination in their day-to-day use of the park, particularly as there was a children's playground close to the original discovery. As a result of the community concerns, the Regional Council commissioned Pattle Delamore Partners Limited to carry out a soil sampling investigation in the vicinity of the playground, a nearby BMX track and in the wider park.

The aim of the investigation was to confirm or otherwise that there is a minimal level of contamination in surface soils and therefore a minimal risk to users of the park. Assessing the risk was achieved by:

1. Determining the thickness of soil cover over the old waste
2. Sampling surface soil for laboratory analysis of chemical contaminants, with the focus on TCDD, but a variety of other contaminants was also assessed.
3. Sampling waste material in selected locations.

The park was divided into four areas for the purposes of investigation; the main park area consisting of former sports fields on the upper two levels of the park, the BMX track, the children's playground and the nearby area where the chemical residues were originally discovered. Samples were taken from 85 locations, mainly from the surface but including 30 deeper samples, and analysed as 14 composite samples to obtain an estimate of average concentrations over the areas represented by the composites. Assessing potential hotspots was not the aim the investigation.

Analysis of soil samples found only low concentrations of a wide range of organic compounds and a suite of eight metals. Concentrations of contaminants within old landfill waste samples were at the lower end of typical landfill material. There was generally little evidence of man-made contamination of surface soil in the locations sampled. A few samples had low concentrations of some pesticides, but there was a general absence of compounds historically used to manufacture the herbicide 2,4,5-T. The soil samples also had low dioxin concentrations. The composite sample with the highest dioxin concentrations was taken from the surface of the backfill in the new stormwater trench running through the playground.

Comparison of the sample analysis results with soil guideline values showed that all sampled locations present minimal risk to park users. This includes risk from dioxins. In addition, soil cover over the historic landfill material was generally found to be providing an adequate barrier to contact with the underlying waste, although additional cover in the vicinity of the “drum excavation” is recommended. Overall, the park is suitable for its current use.

While contaminant concentrations in the underlying waste were found to comply with soil guideline values, indicating minimal risk even if the material was brought to the surface, it is expected that the waste is variable from place to place. Contaminant hotpots can be expected. Accordingly, it is recommended that excavation into the waste is avoided or carefully managed.

If excavation into the waste cannot be avoided, then care should be taken to minimising spreading of waste on the surface or mixing with clean soil. Waste should be reburied under an adequate cover layer of clean soil, or, preferably, be disposed of to a landfill or other licensed facility. It is recommended that a management plan be developed to control excavation and guard against inappropriate soil disposal.

1.0 Introduction

Laying of stormwater pipes by contractors to the New Plymouth District Council (NPDC) at the northern part of Marfell Park, New Plymouth, in May 2009 encountered the remains of two crushed drums with a small amount of chemical residue about 2 m below the surface. The residues were found amongst decomposed municipal waste. The park is constructed on a closed landfill, with the location of the stormwater works close to a children's playground and a BMX track.

The Taranaki Regional Council (TRC) sampled the residues and found high concentrations of chemicals formerly used for the manufacture of phenoxy herbicides. The residues also had elevated concentrations of the dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD).

The discovery of the chemical residues raised concerns within the community that there could be general dioxin and other contamination within the landfill and that this contamination could also be affecting the surface of the park. Park users were concerned that they or their children might be exposed to such contamination in their day-to-day use of the park. As a result of the community concerns, the Regional Council commissioned Pattle Delamore Partners Limited (PDP) to carry out a soil sampling investigation in the vicinity of the playground, the BMX track and the wider park. This report describes the background to and results of the investigation.

The overall aim of the investigation was to confirm or otherwise that there is a minimal level of contamination in surface soils and therefore a minimal risk to users of the park. If contaminant levels are excessive, then a subsidiary aim was to determine ways of managing the risk. Assessing the risk was to be achieved by:

4. Determining the thickness of soil cover over the waste under the park, as a means of assessing the likelihood of waste being exposed at the surface at the particular locations.

5. Sampling surface soil for laboratory analysis of chemical contaminants to assess the current risk. The focus was on the dioxin 2,3,7,8-TCDD, but a variety of contaminants, both typical of landfills in general but also specific to the earlier discovery, were also to be assessed.

6. Sampling soil from the surface of the waste material in selected locations to assess whether the waste most likely to be exposed in future (i.e. the waste immediately under the soil cover) has significant contaminant concentrations, as a measure of the potential future risk if excavation were to occur.

The investigation was carried out at a screening level, that is, at a sufficient level of detail to provide reasonable confidence that compliance with soil guideline values would mean that further investigation is not required. In addition, the investigation was not aimed at finding hotspot locations within the waste, rather than average concentrations in areas of interest.

2.0 Background to the Investigation

On 7 May 2009, a contractor working for NPDC excavated the corroded remnants of two drums during excavation of a trench across the bottom (northern end) of Marfell Park. The trench, for a new stormwater pipe, was partially excavated through old landfill waste over a distance of about 30 m. The drum remnants were found at a depth of about 2 m.

One drum remnant had a characteristic agrichemical smell. The contractor immediately stopped work and contacted both the District and Regional councils. The Regional Council collected six samples of the residues within the drums and of surrounding soil, over a distance of about seven metres of the excavated soil. The volume of chemical residue was a few litres of caked crystalline material.

The District Council immediately removed the drum remnants, the chemical residue and approximately 80 m^3 of excavated soil and rubbish to the Colson Road Regional landfill, which is a secure landfill operated by the District Council. The excavation site was secured while the samples were analysed by AssureQuality for chlorophenols, a multi-residue screen and the dioxin2,3,7,8-TCDD[1].

One sample contained high concentrations of tetrachlorobenzene (17%) and trichlorophenol (27%). A second sample had about 3% of each of these two chemicals (see http://www.trc.govt.nz/environment/waste/marfell.htm#analyses). The other four samples, which were of the surrounding soil, were below the analytical detection limit for these compounds.

Both these chemicals are used as raw materials for the manufacture of the phenoxy herbicide 2,4,5-trichlorophenoxyacetic acid (2,4,5-T). 2,4,5-T was formerly manufactured by a predecessor of Dow AgroSciences (NZ) Limited (DAS), which has a manufacturing plant at Paritutu, New Plymouth. Discussions with DAS suggest that the residues probably came from the Paritutu plant some time between 1969, when tetrachlorobenzene (TCB) was first used at the plant to manufacture trichlorophenol (TCP), and 1974, when the company had its own secure landfill (Andrew Symes, pers.comm.). None of the samples were found to contain 2,4,5-T.

The dioxin 2,3,7,8-TCDD is a known contaminant of TCP and 2,4,5-T. The analysis of the most concentrated chemical residue was found to contain 2.9 ppm[2] TCDD, and the second chemical residue sample 0.45 ppm. The levels in the other four soil samples were 1,000 to 10,000 times lower.

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[1] The most toxic of a family of 210 polychlorinated dibenzo-p-dioxin (PCDD) and polychlorinated dibenzofuran (PCDF) congeners. Most PCDD and PCDF congeners are thought to be of no toxicological significance, however, the 17 congeners with chlorine atoms substituted in the 2,3,7,8-positions are thought to pose a risk to human and environmental health. 2,3,7,8-TCDD is commonly known simply as dioxin.

[2] ppm = parts per million by weight, or mg/kg

Small concentrations of some other organic pesticide compounds (including the organophosphate insecticide dichlofenthion) were also detected but these are not of concern at the concentrations found.

The District and Regional councils decided to carry out further investigations to determine whether the discovery of the residues was an indication that it was the location of one of the historical drum dump sites that had raised public concern in 1999/2000. A second round of investigations on Friday 29 May 2009 involved probing of the wastes and soil in the immediate vicinity of where the drum remnants were recovered. The remains of a further seven containers were found, some of which contained a crystalline residue but none had the characteristic agrichemical odours of the earlier discovery. The drum remains were recovered and removed to Colson Road landfill, along with approximately 100 cubic metres of rubbish and soil. The site was reinstated by the District Council, including capping with a layer of clean clay to at least one metre deep.

Given the public concern, the Regional Council decided to commission further investigations to determine whether park users were at risk from residues within the landfill waste. A preliminary review of the potential risks was prepared and a sampling plan (PDP, 2009) was developed in conjunction with community members, the Taranaki District Health Board and the District and Regional councils.

The sample design is described in more detail in Section 4.0.

3.0 Site Description and History

The following description has been derived from information provided by NPDC and TRC staff, the New Plymouth BMX Club, local residents and a site walkover on 19 June 2009.

Marfell Park is located on a former municipal landfill. The landfill operated from the early 1950s until 1976. It is expected to contain waste typical of the period, including domestic and industrial waste from throughout New Plymouth. It is probable some hazardous waste was disposed of in the landfill as there were few restrictions on landfill disposal when the landfill operated. Such landfill disposal was typical throughout New Zealand at the time.

The landfill was closed in 1976 and was subsequently developed into the park, which has a children's playground, skateboard park, BMX track and two former sports field areas that now have casual use.

The park (see Figure 1) has an area in excess of 6 ha and is formed on top of the landfill which filled a south to north trending gully on three levels. The depth of fill is unknown, but judging by the current topography is perhaps 20 m or more deep in the deepest parts of the upper two levels of the park. If so, the volume of landfill is expected to be at least several hundred thousand cubic metres. The park is bounded by the remnants of the gully walls which slope steeply up to Marfell School and residential properties on Endeavour Street to the west and residential properties on Cook Street to the east.

The top level of the park (Photograph 1) has an area of about 3.3 ha and the intermediate level (Photograph 2) has an area of about 1 ha. Combined, these two areas make up the majority of the park, but these areas are perhaps the least intensively used. Both are grassed areas originally developed as sports fields but no longer used for that purpose. The sports fields were developed jointly in 1977/78 by the then New Plymouth City Council and the Education Department for use by the adjacent Marfell School and as rugby fields by a local club. The landfill material was capped with imported soil and perimeter surface drains installed. Not surprisingly, the fields were a maintenance problem due to settlement and the council routinely imported truckloads of soil every year to deal with hollows that developed. The school ceased using the playing fields, except occasionally, from the mid-1980s, following a drop in the school roll.

The park was converted to soccer fields in 1991 and was also used for softball. The park was upgraded in 1995 for the then New Plymouth City Football Club but the club went out of existence and the upgraded park was not used for organised sport from that point on. The clubrooms fell into disrepair and were demolished last year.

The middle and upper levels of the park now have a slightly undulating surface as a result of further settlement and are unsuitable for sports use. They are used in a casual way by local residents and as a thoroughfare, including by children going to and from school. The local school seldom uses the park except for "Clean-up Marfell" events each term. The most regular users of the upper part of the park are probably skate boarders, who use a skate park at the southern end of the park. The skate park is constructed of

concrete on slightly higher natural ground. Being on natural ground users of the skate park are at no particular risk from soil contaminants.

The lower level of the park is very roughly triangular, narrowing towards the main entranceway off Grenville Street, and has an area of about 1.6 ha. A further entrance is up a grassed slope off Cook Street. The lower level is occupied, south to north, by a BMX track (Photograph 3) immediately below the terrace face of the intermediate level of the park, a carpark for the BMX track, a grassed area on which is located a children's playground (photographs 4 and 6), and a sealed accessway past the playground to the carpark.

While the main landfill is reported to be south of the BMX track (starting at the terrace face immediately south of the BMX track), BMX club members report that there is waste material at shallow depth below the lowest parts of the track. The majority of the BMX track has been built up with at least 1 m and typically several metres of imported fill to create the undulating gravel-surfaced track itself and grassed areas in between.

Waste was also encountered in the recently excavated stormwater pipe trench (Photograph 5) from immediately south of the carpark to partway to where the trench intersects the entrance road. This would put the northern extent of the waste somewhere within the playground. Land further north towards the park entrance, including under part of the playground, probably does not have waste material under it. It can be assumed that waste extends under the gravel-surfaced carpark. The waste under the lower part of the park is probably shallow, a few metres at most where it fills the base of the former gully, thinning towards the north.

The excavation in which the chemical residues were found is located between the children's playground and the BMX carpark. The residues were found between the base of a tree and a new manhole installed during the stormwater works (photographs 4 and 5).

4.0 Investigation Description

4.1 Sampling Strategy

The aim of the field sampling programme was to undertake a screening level assessment to determine if further investigations are required at Marfell Park. Due to the high cost of analysis of dioxin residues, only a limited number of samples could be collected. The aim of the investigation was not to find hotspot locations or to determine the spatial characteristics of any potential contamination within the waste, but rather to provide an assessment of the average exposure to site users. Therefore, the site has been divided into four main areas, with each area sampled to satisfy particular data quality objectives, as outlined in the Marfell Park Sampling Plan (PDP, 2009).

The areas are:

- the former sports field areas on the upper and middle park levels
- the BMX track
- the children's playground
- local areas where excavation is known to have been carried out, including the recent stormwater pipe excavation, a stormwater pipe installed near the BMX track and any other areas of significant excavation that have come to light before the commencement of sampling.

The sampling procedure or each of the individual areas is detailed below. The sampling was carried out on 13 – 16 July 2009.

4.2 Park Upper and Middle Levels

The upper and middle levels of the park are no longer used for organised sport, but are used informally for low intensity activities and as a thoroughfare by locals. Exposure to soil is expected to be limited and infrequent.

The intent of the investigation of the upper and middle is three-fold:

- to find average concentrations of the parameters analysed across the complete area of surface soil, being representative of a typical person's exposure
- to assess the depth of soil cover to waste
- to determine concentrations of contaminants typical of the waste, which is expected to be similar throughout the landfill

As average concentrations are of interest and for reasons of economy, a composite sampling approach was used. Because of the irregular boundaries of the upper and middle levels, a random stratified sampling approach consisting of six approximately equal areas with four random sample locations selected from each equal area was adopted (US EPA, 1996).

Random sampling locations were determined using a procedure for generating random sampling locations based on recommendations in US EPA (2002). The procedure was:

a. A random number generator was used to generate two random numbers between 0 and 1.

b. The random numbers were converted into co-ordinates by multiplying them by the width and length of the site being investigated. Because the sampling area had an irregular shape, randomly generated points falling outside of the sample area were not used.

The above process was continued until the required number of sampling points had been generated. The sample location coordinates were then uploaded into a handheld Global Positioning System (GPS) unit which was used to locate each sampling position on the ground during the fieldwork.

Generation of random sampling points is different from sampling on a grid in that the points are not arranged in a systematic fashion and therefore there can be gaps in the pattern, giving the appearance that parts of the investigation area are not represented by samples. However, given there is no expectation that the waste is arranged in other than a random fashion, statistically, any location is as good as any other location on the landfill in developing a sampling scheme that gives an average result.

At each of the sample locations a surface sample was initially collected from the top 75mm of soil material, after first removing the grass. The surface samples represent soil that a person could be exposed to during normal use of the park. Deeper samples were also collected at each location from the top of the landfill material. This was achieved using a machine auger to penetrate the soil cover and expose the top of the waste, as identified by the recovery of such things as pieces of glass, metal or plastic.

A total of 24 sample locations were sampled. The 24 surface samples were then selected for combining into four composite samples by randomly selecting six samples from each of the six sub-areas in turn, repeating the process until all 24 samples were assigned to composites. The deeper samples were similarly assigned to composite samples, using the same scheme as for the surface samples.

All composite samples were prepared in the laboratory using equal-weight sub-samples from the dried samples, using the compositing scheme supplied by PDP.

Sample locations, sub-samples and composites are shown on Figure 5, with each composite being colour-coded (each sub-sample in a particular composite has the same colour).

4.3 BMX Track Area

The BMX track area sampling was carried out on a judgemental basis[3], targeting the points of lowest elevation around the track area. The lowest points are likely to have the least cover over the landfill material and therefore represent locations where the risk to track users from contaminants is potentially greatest. Surface samples were obtained from grassed areas to the side of these low points.

The samples were collected in the same manner as the upper and middle level surface samples, firstly removing the grass and then collecting soil material from the top 75mm of soil directly beneath this. Seven sub-samples were collected to make one composite sample (SS25 – SS31 Composite).

Deeper samples of waste were not collected from the BMX track as it was expected that the deeper samples from the upper and middle sections of the park would be representative of the waste under the BMX track. However, hand auger holes were advanced to ascertain depth to the top of the landfill material. A total of six hand auger holes were advanced in the low-points of the BMX area to establish depth to the top of the landfill material.

Sample locations, sub-samples and composites are on Figure 6.

4.4 Playground Area

The children's playground is located at the northern end of the park and accounts for only a small section of the greater park area. Playground area sampling has been carried out on a judgemental basis.

Six sub-samples were collected from the playground to make one composite sample (SS1 – SS6 Composite). The sub-samples were taken from close to each of the four items of play equipment, being locations where children are more likely to be exposed, and from two locations in between.

Sample locations, sub-samples and composites are shown on Figure 7.

In addition to the soil sampling, a hand auger was used to determine the depth to the top of the waste on four east-west transects spaced out across the area. A total of 12 holes were drilled. Depth to the top of the landfill was recorded in each hole, although landfill material was not encountered in the two northern-most hand auger locations.

[3] Judgemental sampling selects locations where contaminant concentrations are expected to be highest and/or exposure of park users is expected to be greatest for the particular sub-area.

4.5 Stormwater Trench Excavations – Recent and Historic

4.5.1 Recent Stormwater Trench and "Drum Excavation"

The recently excavated stormwater trench and "drum excavation" locations were excavated by Drainage Plus Contracting Limited for NPDC in May and June 2009. It is the latter area where drum remnants and chemical contamination were first identified, and subsequently removed with about 200 m^3 of soil. At the time of the investigation the trench had been backfilled but the area in the vicinity of the old and new manhole had only been partially reinstated, with a partially backfilled hole remaining. A pile of imported clean fill was beside the excavation to be used to complete reinstatement of the area (photographs 4 and 5).

Samples from the surface of the stormwater trench backfill were collected down the middle of the trench line (pointed out on site by Scott of Drainage Plus) at equally-spaced intervals. Six sub-samples were collected to make one composite sample (SS7 – SS12 Composite). The odd bit of broken glass and plastic, assumed to be from buried waste, was observed on the surface during the excavation.

Sampling in the "drum excavation" area was approached by random selection of sample locations in the area (outlined on-site by Phil of Drainage Plus). Two soil samples were collected from each of the six sample locations; one at the surface, and one at depth. The deeper samples were collected by advancing hand auger holes to 1m below ground level, or until refusal on hard material (e.g. gravels).

One composite sample consisting of six sub-samples was formed from the surface samples (SS13/1 – SS18/1 Composite), and one composite sample was formed from the six deeper sub-samples (SS13/2 – SS18/2 Composite).

Sample locations, sub-samples and composites are shown on Figure 7.

4.5.2 Historic Stormwater Trench

An historic trench is located to the east of the BMX track area. The object of this sampling was to determine whether excavation activities at the time of the trench excavation resulted in contaminated landfill material being left on the surface. The location of the trench was pointed out by Bryan Frank of the New Plymouth BMX Club.

Six samples were collected from the surface at equally-spaced intervals down the middle of the trench line. These make up one composite sample (SS19 – SS24 Composite).

Sample locations, sub-samples and composites are shown on Figure 6.

4.6 Equipment Decontamination and Sample Protection Procedures

Prior to the collection of each sample, intensive decontamination procedures were undertaken following the guidance of the "Timber Treatment Guidelines" (MfE/MoH,

1997) to minimise the risk of cross-contamination between samples. This is important given the low detection limit for the TCDD laboratory analysis.

These decontamination procedures used the "clean hands"/"dirty hands" approach as recommended in US EPA Method 1669 (USEPA, 1995). The procedures involved one field technician scrubbing the sample collection equipment of all remaining soil with Pyroneg® laboratory detergent and tap water, and rinsing with tap water; and the other field technician rinsing with acetone, wiping down with hexane-soaked glass-wool, rinsing with acetone, rinsing with analyte-free water and finally wrapping in pre-cleaned aluminium foil until use.

The acetone, hexane, analyte-free water and glass wool were prepared and supplied by AssureQuality. As part of their quality assurance procedures, AssureQuality tested these materials to be free of dioxins.

Disposable nitrile gloves were worn during the cleaning and sampling procedures, with gloves being changed for each individual decontamination process. All field technicians wore disposable nitrile gloves and disposable Tyvek® coveralls during the collection of samples. Gloves were changed for each sample collection point while the coveralls were changed daily or more often if required.

4.7 Sample Collection, Storage, and Transport

All samples were collected in laboratory-supplied containers. In the case of samples to be subjected to dioxin analysis, the containers had undergone a rigorous cleaning process by AssureQuality.

As each sample was collected, the containers were tightly sealed, labelled and stored in dedicated cool-boxes along with ice or freezer pads. At the completion of sample collection each day, glass jars were protected with bubble-wrap and the sealed containers couriered overnight with chain-of-custody documentation to the required laboratories for testing. It was requested that samples be put on "hold cold"' until specific analyses could be specified.

4.7.1 QA/QC Samples

Each day, a rinsate blank sample was collected by rinsing one piece of field equipment using analyte-free water after the decontamination process had been completed, and collecting the rinsate in a sterile laboratory jar. These rinsate blanks were collected, stored and sent to the laboratory under the same chain-of-custody procedures and documentation as all other samples.

Rinsate blanks were placed on a 'hold cold' request pending receipt of the soil analysis results. The blanks would have been analysed if questionable results had been received, however, nothing was seen in the results to suggest cross-contamination or any other problem, and no analysis of rinsate blanks eventuated.

4.8 Health and Safety Procedures

During the investigation, health and safety measures for the protection of field technicians, contractors, and the public were implemented as per a site-specific Health and Safety Plan prepared by PDP.

Prior to any sub-surface sampling, the area was scanned by a specialist service location company (Detect Services Ltd of New Plymouth) to ensure no underground services were in the sample location.

Each sample location was barricaded off using cones, barriers, and vehicles to isolate the drill rig, contractor, and field technicians from members of the public. The safety barrier was moved with each new sampling position.

During the mechanical drilling down to the top of the landfill material, soil removed from each borehole was stored on a plastic groundsheet to minimise the impact of the drilling operations. The soil was returned to the hole on completion of sampling.

To guard against the possibility of landfill gas, continuous monitoring was conducted using a GA2000 Landfill gas meter, MiniRae Plus (for landfill gases) and a MiniRae 3000 (for volatile organic compounds). Work was to stop if short-term exposure limits (STEL) and/or workplace exposure limits (WEL) provided in the Health and Safety Plan were exceeded. In the event, no STEL or WEL was approached or exceeded. The highest readings noted for the landfill gas meter were identified at sample location C1/2 (in the Upper level of the park), where levels of ammonia reached 5 ppm (v/v) and levels of VOC reached 1.2 ppm. Values at these levels were noted again when obtaining samples from the 'drum excavation' area.

Chemicals used for decontamination procedures were decanted into squirt bottles and run-off was collected into dedicated buckets. At the completion of work each day, these chemicals were decanted into a glass bottle for disposal by the TRC laboratory, along with all other wastes from field consumables.

4.9 Laboratory Analysis

Composite samples were prepared in the laboratory. Each of the composite samples was subject to analysis for:

- TCDD screen, chlorophenols and a multi-residue pesticide screen to match the earlier analyses carried out by TRC;
- Semi-volatile organic compounds (SVOC) and a suite of total recoverable metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc) as these may be found in landfill material;

In addition, the surface and deep samples from the "drum excavation" were analysed for acid herbicides, including 2,4,5-T and 2,4-D.

It was a requirement that the organophosphate pesticide dichlofenthion and the 2,4,5-T raw material TCB be include in the analyses, as both of these compounds had been detected during the TRC sampling. Dichlofenthion is included in the multi-residue suite and TCB was added to the SVOC suite.

The analyses were specified to ensure the laboratories' quoted analytical detection limits were below (generally at least ten times below) the soil guideline values expected to be used to evaluate the laboratory results (see Section 6.2). In addition, given that an individual sub-sample in a composite can theoretically have a concentration equivalent to the reported composite concentration times the number of sub-samples in the composite, detection limits were checked to ensure that sixty times the detection limit (six being the expected number of sub-samples in each composite times a safety factor of 10 which is used to ensure the results are reliable) was below the relevant soil guideline values.

The TCDD screen and chlorophenol, SVOC and multi-residue analyses were carried out by Assure Quality in Lower Hutt. The acid herbicide and metals analyses were carried out by Hill Laboratories, Hamilton. Both of these laboratories are IANZ accredited for environmental analyses.

5.0 Investigation Results

5.1 General Observations

Landfill waste observed during investigation was completely decomposed with a soil-like appearance. Within the soil-like matrix bits of plastic, glass and other material resistant to decomposition confirmed the presence of waste. The overlying cover typically comprised of surface topsoil underlain by imported silty-clay fill material to the top of the landfill material.

A small amount of waste exists at the surface of the "drum excavation" and the new stormwater trench areas. This consists of plastics (bags, bottles, other litter), and some pieces of metal, concrete and wooden blocks. This suggests some mixing of the underlying fill with backfill material during the trench backfilling.

Landfill gas measurements during sampling in the upper and middle park levels found a general absence of landfill gas. This is consistent with decomposition of the waste being well advanced. Exceptions were location C1/2 in the Upper level of the park, where ammonia concentrations reached 5ppm and the "drum excavation" area where volatile organic compound (VOC) concentrations were recorded at 1.2ppm. Neither of these measurements is significant.

5.2 Depth of Cover Measurements

5.2.1 Upper and middle levels

Some depth to waste information was available from NPDC files from an investigation carried out in October 1994 on the upper two levels of the park. Soil borings in 12 locations on the top level and six locations on the middle level showed cover depths over the waste to be 0.4 – 0.95 m, with 0.6 – 0.8 m being typical (NZTCI, undated).

Depth to waste measurements during this investigation found similar soil cover thickness (Figure 2), typically ranging from 0.6 to 1.1 m. The least cover was 0.35 m in a single location in the southwest of the upper level.

5.2.2 Playground

The depth to landfill material for the playground area is shown on Figure 4.

In general, the depth of cover is in excess of 0.75 m and typically closer to 1 m. No waste was encountered in the two northern-most investigation holes. This is consistent with reports that the waste did not extend as far north as the park accessway in the stormwater pipe trench (Victoria McKay, NPDC, pers.comm). However, as obstructions were encountered in the northern-most auger holes, preventing further drilling, the northern extent of the waste has not been definitively determined.

The waste is shallower in the vicinity of the tree by the "drum excavation"; around 0.3 – 0.45 m. This is consistent with TRC photographs taken at the time of the drum excavation in May 2009. There are insufficient auger holes to exactly determine where the cover thins out between the playground and the “drum excavation”.

Following reinstatement of the “drum excavation” cover over the waste is expected to be at least 500 mm.

1.1.1 BMX Track

Depth to waste under the lowest parts of the BMX track had been reported to be as little as 0.2 – 0.25 m (Bryan Frank, pers comm.), however cover this thin was not found during the investigation. The least cover encountered was 0.45m (Figure 3), with cover more typically at least 0.9 m. The sub-grade for the BMX track has been excavated below the surrounding ground to provide for the thickness of the crushed limestone track. Thus the reported cover under the lowest parts of the track and the minimum depth found during this investigation is not necessarily inconsistent if a track depth of 200 – 300 mm is allowed for.

Much of the track area is built up relative to the original surface using imported soil to create the track humps and grassed areas between and surrounding the track (Photograph 3). In these areas the depth of cover is expected to be well in excess of 1 m.

5.3 Laboratory Results

5.3.1 General

The full laboratory reports are provided in the laboratory reports in Appendix D. Many of the results were below the respective analytical detection limits. Results for compounds of particular interest, and/or where concentrations were above the analytical detection limits have been summarised in tables 1 to 6 (Appendix C) against the various sample locations.

For the composite samples for the upper and middle levels of the park, the tabulations present the results as pairs of surface and deeper samples. Composites consisting of sub-samples with the suffix ‘/1’ are the surface samples while the deeper composites have sub-samples with the suffix ‘/2’.

5.3.2 Metals

Metal results are presented in Table 1. There is a general consistency within the results for each metal, with most results appearing to be typical of background concentrations. Even some of the samples collected from the surface of the landfill waste appear to be typical of background concentrations. The exceptions are deeper composites (A3/2+B4/2+C2/2+D3/2+E2/2+F6/2), (A1/2+B3/2+C6/2+D1/2+E4/2+ F5/2) and

(A6/2+B2/2+C4/2+D2/2+E5/2+F8/2) which show some elevation in one or more of lead, copper and zinc. This is not surprising as lead copper and zinc are typically elevated in landfill material, although the concentrations reported are lower than has been observed by PDP in other landfill samples. The highest concentrations were lead at 200 mg/kg and zinc at 250 mg/kg. Lead at a few hundred to a few thousand mg/kg is not unusual in old landfill material.

5.3.3 Chlorophenols

The chlorophenol analysis results are presented in Table 2, and include results for three trichlorophenol isomers. Trichlorophenol is a precursor substance for 2,4,5-T production and, in technical grade trichlorophenol, the source of dioxin contamination in 2,4,5-T.

No chlorophenols were detected in any of the samples at detection limits of 0.005 to 0.1 mg/kg.

5.3.4 TCDD Screen

The TCDD screen results are presented in Table 3. The TCDD screen consists of analysis for 2,3,7,8-TCDD and 2,3,7,8-TCDF, two of the 17 dioxin and furan congeners thought to pose a risk to human and environmental health. Dioxin contamination of TCP and 2,4,5-T is dominated by TCDF and TCDF when the potency of the various congeners is taken into account.

All but one of the soil composites had detectable TCDD and/or TCDF at concentrations generally in the range of a few to fractions of a ng/kg, with the highest concentration of 39 ng/kg[4] found in surface soil along the line of the stormwater trench. The next highest sample was less than a tenth of that from below the surface in the “drum excavation”.

Results from the main park are quite consistent, with the surface samples typically being 0.2 – 0.3 ng/kg and samples from the surface of the waste being about five to eight times higher.

The TCDD screen represents only some of the many dioxins typically present. However, analysis of soil sampling results from Paritutu (PDP, 2002) shows that the TCDD screen accounts for 70 – 90% of the TCDD Toxic Equivalence[5] (TEQ) derived from probable TCP and 2,4,5-T sources. It is not possible to determine whether the particular samples are dominated by TCDD without doing a full congener profile. However, even if the detected dioxin represents some other Dixon source, e.g. a combustion source, it is expected that the TCDD screen would represent at least 25% of the TEQ (based on calculations using

[4] A ng/kg is the same as pg/g reported in the laboratory reports. One ng/kg = one part per trillion by weight (ppt), or a millionth of one mg/kg.

[5] A method of representing the toxicity of the dioxin congener mixture relative to 2,3,7,8-TCDD.

typical dioxin profiles from combustion sources). This means that, at worst, the sample results should be multiplied by four to estimate the TEQ.

5.3.5 Pesticide Screen

The pesticide screen results for detected compounds are presented in Table 4. Most of the 248 compounds analysed for were not detected at method detection limits ranging from 0.01 to 0.1 mg/kg. Five of the 14 composites detected one or more pesticides at concentrations close to the detection limits. Compounds detected included the organochlorine insecticides DDT and dieldrin, the triazine herbicides simazine, ametryn and simetryn and the organophosphate insecticide dichlofenthion. The composite sample with the most pesticides detected was from a deeper composite from the upper and middle levels of the park. The dichlofenthion was detected in the composite from the stormwater trench surface.

5.3.6 SVOC and Tetrachlorobenzene analyses

The complete SVOC analyses have not been tabulated as they are either duplicates of other analyses or the results were non-detects. Six of the 14 composites had detectable PAHs and these are summarised in Table 5. The tetrachlorobenzene results have not been tabulated, as all results were non-detects. Tetrachlorobenzene is a precursor substance for manufacturing 2,4,5-T.

The PAH results have been presented as individual PAHs, the sum of the 16 PAHs commonly analysed and the benzo(a)pyrene equivalent concentration (BaP_{eq}) calculated from the seven carcinogenic PAHs.

The detected PAHs were, with one exception, in deeper composites, and probably associated with landfill waste. PAHs are a common contaminant in landfill waste. Concentrations of individual PAHs were typically less than 1 mg/kg with the BaP_{eq} concentration in the range 0.3 – 1.1 mg/kg.

5.3.7 Acid Herbicides

The acid herbicide results for the four playground and “drum excavation” samples are presented in Table 6. All results were non-detects at a detection limit of <0.2 mg/kg.

6.0 Environmental Assessment

6.1 Receptors and Pathways

A risk to human health or the environment can only arise if there is a hazard (e.g. contaminated soil), a receptor (people or the environment) and an exposure pathway linking the hazard and receptor. An absence of any of these components means no risk can exist.

For Marfell Park, the receptors of concern are people, in particular young children. The main exposure pathway is soil ingestion. All of us ingest small amounts of soil as part of our day-to-day activities, typically through hand to mouth contact with dirty hands. Children ingest more soil than adults because children generally have more hand to mouth contact than adults. In addition, for some chemicals, particularly organic compounds such as some pesticides, a second pathway is dermal absorption. Small amounts of the contaminant can be absorbed through the skin if contaminated soil comes into contact with the skin for prolonged periods of time.

The combination of more soil ingested, generally getting dirtier and lower body weight makes children more vulnerable to exposure to contaminated soil than adults.

Occasional or limited exposure to even relatively high concentrations of contaminants typically presents no particular risk. This would be the situation for a person walking across the grassed areas of Marfell Park. Conversely, contaminants in a residential property present a much higher risk, and therefore much lower concentrations can be tolerated, as residents are typically exposed every day, may have direct contact through bare soil in gardens and may also grow vegetables in contaminated soil. A playground presents a risk intermediate between these two scenarios, with perhaps up to daily exposure for short periods of time, but little if any contact with bare soil unless conditions are wet and muddy.

To help determine whether the concentrations of contaminants detected during the investigation represent a significant risk to people, laboratory results are compared against various published soil guideline values as a “screening exercise”. Where site concentrations are below relevant guideline criteria, it can be concluded that no significant risk exists on the site, for the particular pathway(s) and receptor(s).

The soil guideline values are intended to be applied to surface soil and are therefore not strictly applicable to samples collected from below the surface, for example the deeper samples from the main park areas and in the “drum excavation”. This is because there is no or only a limited exposure pathway between the deeper soil and a person on the surface, therefore very much higher soil concentrations can be tolerated in deeper soil than at the surface. However, as a conservative first “screening”, soil guideline values intended for surface soil may be applied to deeper samples. In addition, comparison with surface soil guidelines gives a measure of the risk if the deeper soil were to be brought to the surface in future, where exposure could then occur.

6.2 Soil Guideline Values Used

Soil guideline values are derived for a small set of generic land use scenarios, typically residential, industrial and, sometimes, for recreational use. New Zealand has only a small number of generic guidelines for the most common contaminants encountered and/or some of the New Zealand values are out of date and should not be used. In the absence of New Zealand-derived guidelines, which is the case for many of the contaminants analysed for in this investigation, it is normal to use similarly calculated values from overseas. This is in accordance with the recommendations of MfE's Contaminated Land Management Guideline No. 2 (MfE, 2003).

New Zealand has suitable guidelines for a small number of contaminants in the so-called Timber Treatment Guidelines (MfE/MoH, 1997, The Gasworks Guidelines (MfE, 1997) and the Sheep-dip Guidelines (MfE, 2006). Otherwise, the United States Environmental Protection Agency's Regional Soil Screening Levels (US EPA, 2009) provide values for a wide range of contaminants. These guidelines are derived similarly to New Zealand guidelines, although somewhat more conservatively.

New Zealand has generic guidelines for recreational (parkland) use for only a very small number of contaminants and the United States not at all. Where New Zealand recreational guidelines exist these have been used. This is the case for PAHs.

In the absence of recreational guidelines the closest generic scenario is the residential scenario. This is more conservative than recreational exposure but provides an initial conservative screening. If the sampling results comply with residential soil guideline values then it can be safely concluded that the results would also comply with recreational use guidelines if they existed. If a laboratory result does not comply with a residential guideline then the next step is to derive a recreational guideline for the particular contaminant using the soil guideline derivation procedures recently developed for MfE (Proffitt *et al*, 2008). However, this proved to be unnecessary.

A complicating factor with New Zealand residential guidelines is that they include consideration of contaminant exposure through consumption of home-grown vegetables. This is clearly not appropriate for a park scenario. The New Zealand residential guidelines contained in MfE/MoH (1997) and MfE (2006) have therefore been recalculated leaving out the home-grown vegetable component. The US EPA (2009) guidelines do not consider home-grown produce and no adjustment is necessary.

Both the New Zealand and United States guidelines assume the critical receptor is a 15 kg child. This is the equivalent of about a two-year old child. The guidelines derived for a small child are protective of older children and adults.

A special case exists for dioxin. The existing New Zealand residential guideline in MfE/MoH (1997) is out of date because in 2002 the Ministry of Health adopted a maximum monthly intake value somewhat lower than previously used to derive the dioxin guideline (MoH, 2002). The US EPA soil guideline value is also not appropriate because its toxicological basis is different from the MoH recommendation. Accordingly, a site-

specific guideline for TCDD has been derived using the MoH (2002) intake recommendation of 30 pg/kg bw/month[6] and exposure parameters relevant to recreational use. This has been based on exposure parameters from the new draft MfE derivation methodology (Proffitt et al, 2008), and other parameters proposed by Cavanagh in draft advice to MfE (Cavanagh, in prep). The derived recreational guideline value is 1100 ng/kg.

The various soil guideline values used in this study are listed in the right hand-most column in the tabulated results of tables 1 to 6.

6.3 The Playground and "Drum Excavation"

All the playground and "drum excavation" composite samples complied with soil guideline values for all contaminants, where guidelines exist, generally by large factors. Even if all the contaminant existed in a single sample within a composite (i.e. after multiplying the result by the number of sub-samples within the composite, typically six) the factored results comfortably comply with guideline values.

With respect to dioxins, the sample with the highest TEQ value is from the surface of the stormwater trench, at 39 ng TEQ/kg. If its is assumed that the TCDD represents only a quarter of the TEQ (see previous discussion) and all the detected TCDD is in a single sub-sample, then an individual sub-sample might have as much as 940 ng/kg TEQ. This is less than the guideline value of 1100 ng/kg, and therefore the sample location does not present an unacceptable risk. In reality it is average concentrations that are important, as people are exposed to a variety of locations as they move from place to place, and the guideline is comfortably complied with.

Some of the pesticides do not have guidelines. This is generally because the pesticides are obsolete, little used or are insufficiently toxic to be of great concern. As noted in PDP (2009) dichlofenthion, a compound that attracted the interest of some residents, does not have a guideline. However, based on its toxicity, the detected concentrations (0.21 mg/kg) are not of concern. The low concentrations of other pesticides detected are also not of concern.

Overall, the sampling results indicate minimal risk from contaminants in the surface soils. In addition, cover to the underlying waste is generally adequate to prevent exposure to the waste. However, additional cover is recommended in the vicinity of the "drum excavation". At least 500 mm and preferably 1 m of cover is recommended in this area.

Future excavations in the area should avoid penetrating the surface cover. If this cannot be avoided, care should be taken during excavation so that waste is not spread on the surface during the work. It is preferable that trenches excavated in the old landfill material be backfilled with clean material and the waste disposed of appropriately.

[6] pg = picogram, or a millionth of a millionth of a gram

6.4 The BMX Track

The single BMX track composite sample complied with all guideline values, as did the composite sample from the historic trench beside the BMX track. The sample results indicate the surface soil presents minimal risk to track users.

The investigations suggest cover to the underlying waste is adequate over most of the track area. However, the waste is reported to be at shallow depth under the lowest parts of the track. This presents no particular risk while the track remains in place. However, care should be taken during track maintenance or redevelopment work to avoid excavating into the waste. Any waste that has to be excavated should be reburied under at least 500 mm of cover or disposed of to landfill. Waste material should not be left lying on the surface.

It is recommended that a management plan be developed in conjunction with the District Council to control future excavation works at the track.

6.5 Middle and Upper Park Levels

The composite sampling results values for the middle and upper levels of the park complied with all soil guideline values. Minimal risk is indicated for park users. In addition, the sample results for the surface of the landfill material suggest little risk to park users should this material be brought to the surface. However, it is prudent to avoid bringing waste to the surface, as contaminant concentrations are likely to be variable. Hotspots probably exist in excess of the measured concentrations.

The depth of cover over the landfill material is adequate in most locations. While additional cover is desirable in the single location where cover was found to be as little as 0.35 m (and other similar locations probably exist), the additional risk from this reduced cover is not so great that remedial work is required. The middle and upper levels of the park are suitable for their current use.

7.0 Conclusions and Recommendations

Sampling of surface and deeper soil was carried out at various locations in Marfell Park, including the little used areas of the middle and upper levels of the main park and the more intensively used BMX track and children's playground.

Analysis of the soil samples found only low concentrations of a wide range of organic contaminants and a suite of eight metals. Concentrations of contaminants within landfill material were at the lower end of typical landfill material. There was generally little evidence of anthropogenic contamination of surface soil in most locations sampled.

A few samples had low concentrations of some pesticides, but there was a general absence of compounds historically used to manufacture the herbicide 2,4,5-T.

The TCDD dioxin screen similarly returned low concentrations. The composite sample with the highest dioxin concentrations was taken from the surface of the backfill in the new stormwater trench running through the playground. The result may reflect some effects from the residues discovered during the trench excavation; however the risk to park users is minimal at the detected concentration. The peak dioxin result was below the relevant guideline.

Cover over the historic landfill material was found to be adequate in most locations. An exception was in the vicinity of the "drum excavation", where additional cover is recommended.

While contaminant concentrations in the underlying waste were found to generally comply with soil guideline values, indicating minimal risk even if the material was brought to the surface, it is expected that the waste is variable from place to place. Contaminant hotpots can be expected. Accordingly, it is recommended that excavation into the waste is avoided.

If excavation into the waste cannot be avoided, then care should be taken to minimising spreading of waste on the surface or mixing with clean soil. Waste should be reburied under an adequate cover layer of clean soil, or, preferably, disposed of to a landfill or other licensed facility.

It is recommended that a management plan be developed to control excavation and guard against inappropriate soil disposal.

Overall, the park is suitable for its current use.

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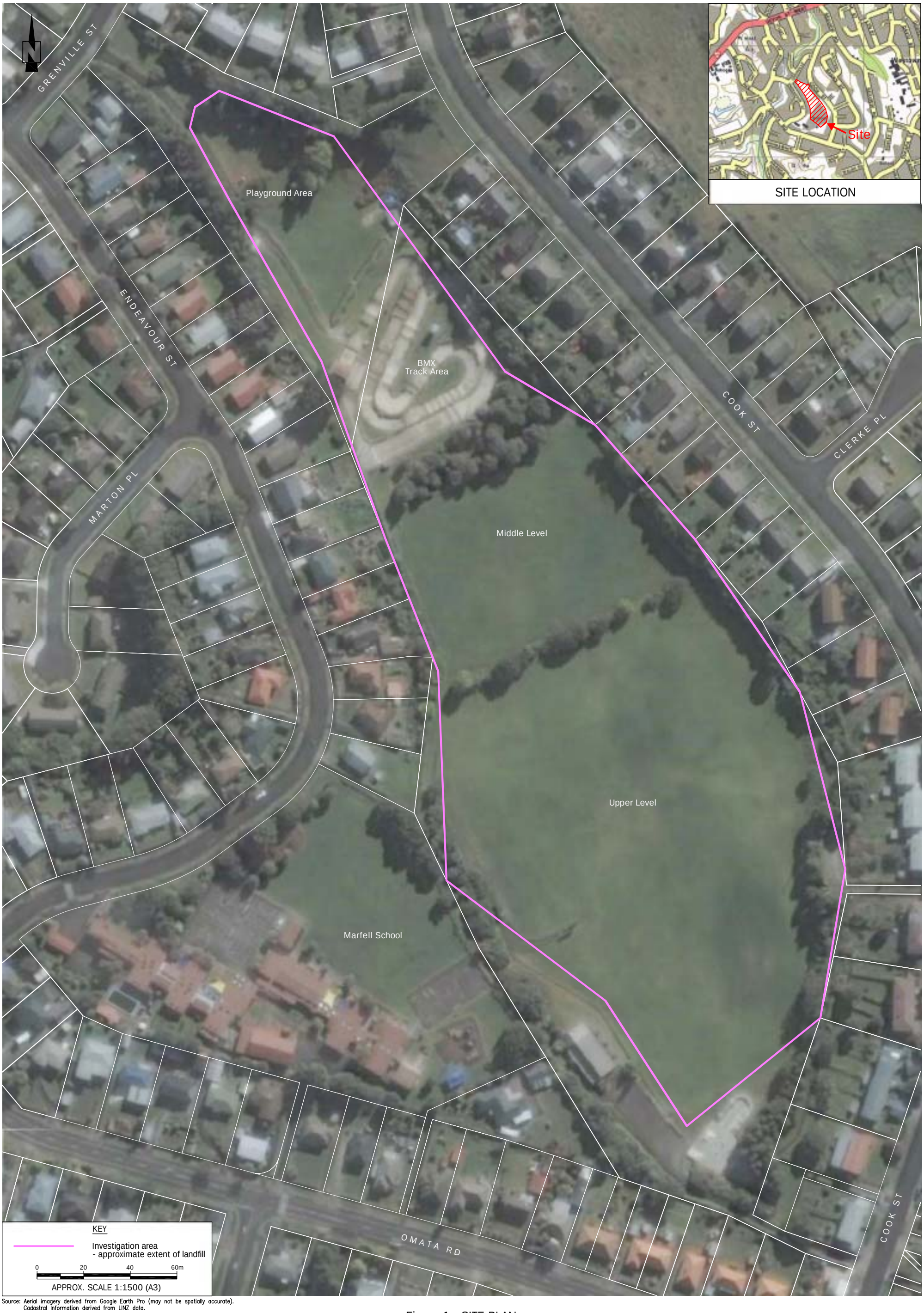
Appendix A Figures



Source: Aerial imagery derived from Google Earth Pro (may not be spatially accurate).
Cadastral information derived from LINZ data.

Figure 1 : SITE PLAN

Figure 2 : DEPTH OF COVER (UPPER & MIDDLE LEVELS)

Source: Aerial imagery derived from Google Earth Pro (may not be spatially accurate).
Cadastral information derived from LINZ data.

Figure 3 : DEPTH OF COVER (BMX TRACK AREA)

Source: Aerial imagery derived from Google Earth Pro (may not be spatially accurate).
Cadastral information derived from LINZ data.

Figure 4 : DEPTH OF COVER (PLAYGROUND AREA)

Figure 5 : SAMPLE LOCATIONS (UPPER & MIDDLE LEVELS)

W01772101D001.dwg [W0177210l001.jpg] Aug-09

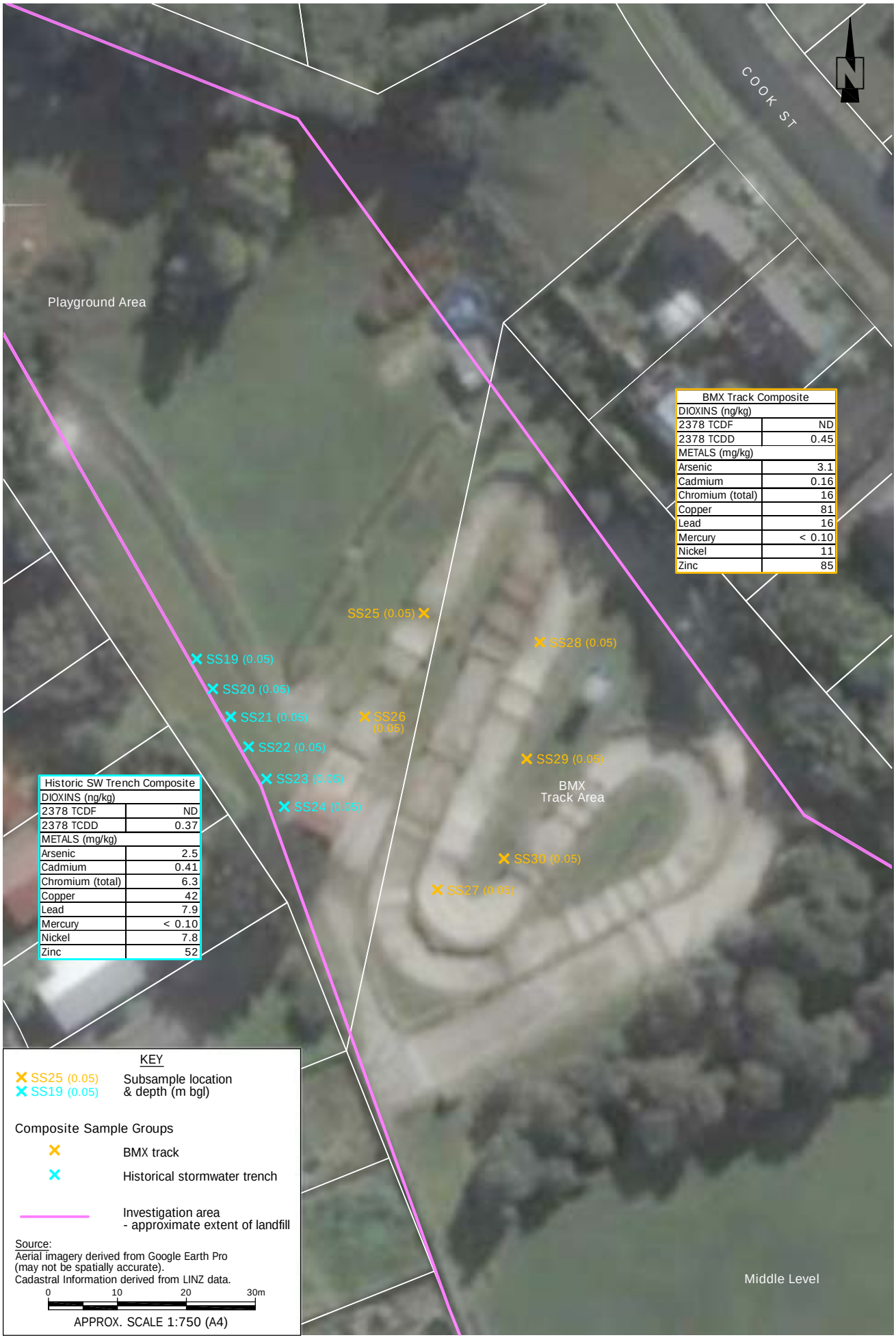


Figure 6 : SAMPLE LOCATIONS AND PARTIAL RESULTS (BMX TRACK AREA)

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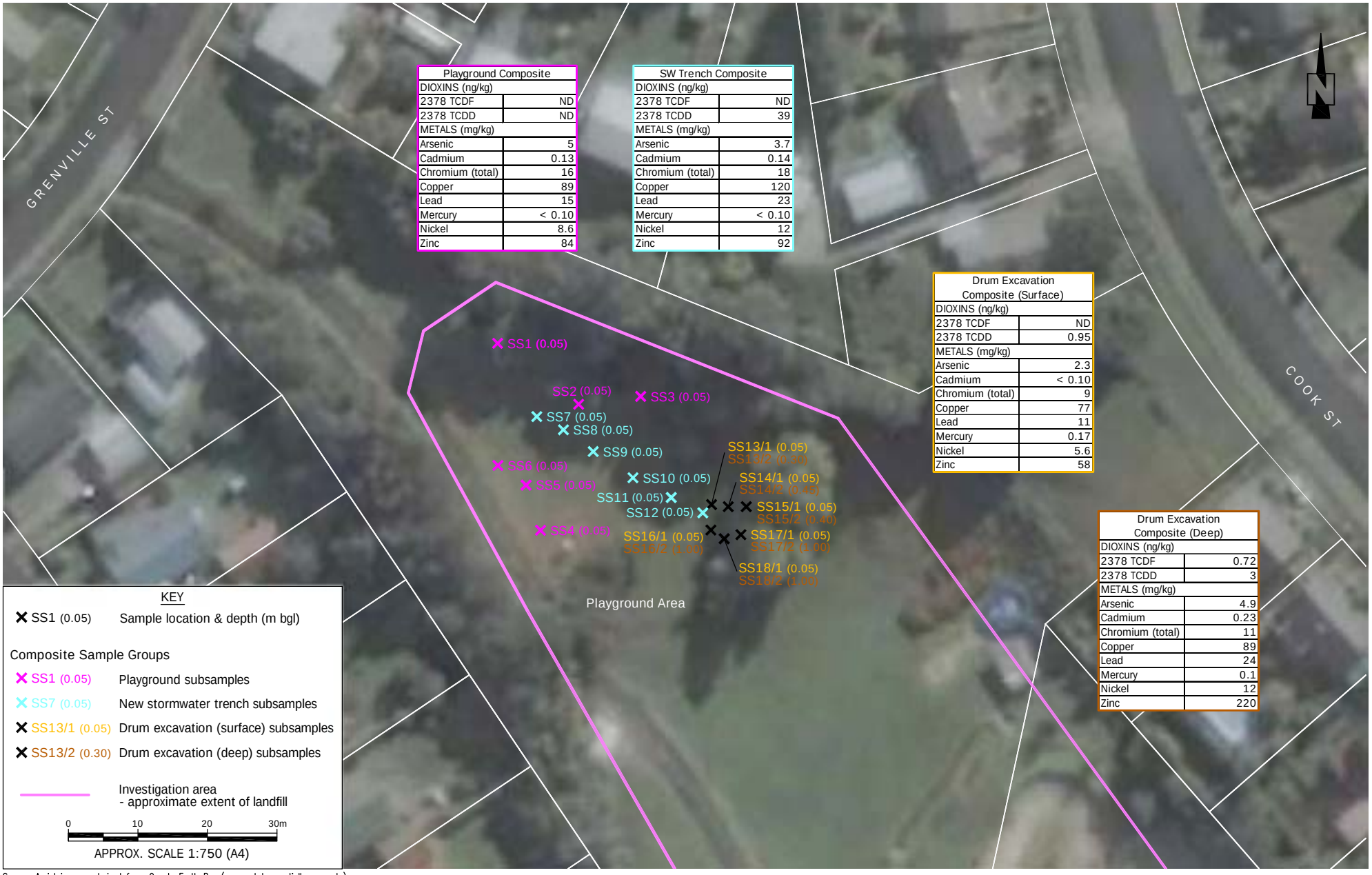

Playground Composite	
DIOXINS (ng/kg)	
2378 TCDF	ND
2378 TCDD	ND
METALS (mg/kg)	
Arsenic	5
Cadmium	0.13
Chromium (total)	16
Copper	89
Lead	15
Mercury	< 0.10
Nickel	8.6
Zinc	84

SW Trench Composite	
DIOXINS (ng/kg)	
2378 TCDF	ND
2378 TCDD	39
METALS (mg/kg)	
Arsenic	3.7
Cadmium	0.14
Chromium (total)	18
Copper	120
Lead	23
Mercury	< 0.10
Nickel	12
Zinc	92

Drum Excavation Composite (Surface)	
DIOXINS (ng/kg)	
2378 TCDF	ND
2378 TCDD	0.95
METALS (mg/kg)	
Arsenic	2.3
Cadmium	< 0.10
Chromium (total)	9
Copper	77
Lead	11
Mercury	0.17
Nickel	5.6
Zinc	58

Drum Excavation Composite (Deep)	
DIOXINS (ng/kg)	
2378 TCDF	0.72
2378 TCDD	3
METALS (mg/kg)	
Arsenic	4.9
Cadmium	0.23
Chromium (total)	11
Copper	89
Lead	24
Mercury	0.1
Nickel	12
Zinc	220

KEY

SS1 (0.05) Sample location & depth (m bgl)

Composite Sample Groups

SS1 (0.05) Playground subsamples

SS7 (0.05) New stormwater trench subsamples

SS13/1 (0.05) Drum excavation (surface) subsamples

SS13/2 (0.30) Drum excavation (deep) subsamples

Investigation area
- approximate extent of landfill

0 10 20 30m

APPROX. SCALE 1:750 (A4)

Source: Aerial imagery derived from Google Earth Pro (may not be spatially accurate).
Cadastral information derived from LINZ data.

Figure 7 : SAMPLE LOCATIONS & PARTIAL RESULTS (PLAYGROUND AREA)

W01772101D001.dwg [W01772101I001.jpg] Aug-09

Appendix B Photographs

Photograph 1: Marfell Park upper level looking southeast. Scatepark is in the right distance

Photograph 2: Marfell Park middle level looking south and southwest. Slightly higher land to left is unfilled natural ground

Photograph 3: Marfell Park lower level – BMX track looking west and north

Photograph 4: Marfell Park lower level looking north towards playground in middle distance with excavation area in foreground. Drum remnants were found between tree and manhole.

Photograph 5: Looking up stormwater trench through playground to “drum excavation”

Photograph 6: Playground equipment. Stormwater trench in foreground

Appendix C Results Tables

Table 1: Soil Sample Results – Total Recoverable Metals (mg/kg)

Sample Name	Playground Composite	SW Trench Composite	Drum Excavation Composite (Surface)	Drum Excavation Composite (Deep)	Historic SW Trench Composite	BMX Track Composite	A3/1 + B4/1 C2/1 + D3/1 E2/1 + F6/1 (Composite)	A3/2 + B4/2 C2/2 + D3/2 E2/2 + F6/2 (Composite)	A11/1 + B5/1 C1/1 + D6/1 E3/1 + F3/1 (Composite)	A11/2 + B5/2 C1/2 + D6/2 E3/2 + F3/2 (Composite)	A1/1 + B3/1 C6/1 + D1/1 E4/1 + F5/1 (Composite)	A1/2 + B3/2 C6/2 + D1/2 E4/2 + F5/2 (Composite)	A6/1 + B2/1 C4/1 + D2/1 E5/1 + F8/1 (Composite)	A6/2 + B2/2 C4/2 + D2/2 E5/2 + F8/2 (Composite)	**Residential Soil Guidelines**
Laboratory Reference	709708.9	709709	709709	709709	709709	709708.9	709708.91	709709	709708.92	709709	709708.93	709708.97	709708.9	709709	
Date	15 July, 2009				16 July, 2009		13 & 14 July, 2009								
Sample Location	Playground	SW Trench	Drum Excavation		Historic SW Trench	BMX Track	Upper and Middle Levels								
Sub-sample Depth (m bgl)[1]	0 - 0.075	0 - 0.075	0 - 0.075	0.35 - 1.0	0 - 0.075	0 - 0.075	0 - 0.075	0.35 - 0.90	0 - 0.075	0.70 - 1.00	0 - 0.075	0.60 - 0.95	0 - 0.075	0.80 - 1.10	
Arsenic	5.0	3.7	2.3	4.9	2.5	3.1	3.1	4.8	2.8	3.5	3.0	3.4	2.9	3.1	95[2]
Cadmium	0.13	0.14	< 0.10	0.23	0.41	0.16	0.3	0.28	0.25	0.12	0.31	0.27	0.39	0.19	70[3]
Chromium (total)	16	18	9.0	11	6.3	16	13	24	12	18	11	15	12	18	115,000[2,4]
Copper	89	120	77	89	42	81	87	99	78	98	78	95	85	110	7,800[2]
Lead	15	23	11	24	7.9	16	15	200	18	43	15	45	18	23	400[3]
Mercury	< 0.10	< 0.10	0.17	0.1	< 0.10	< 0.10	< 0.10	0.7	0.25	0.15	0.13	0.11	0.12	< 0.10	23[3]
Nickel	8.6	12	5.6	12	7.8	11	7.5	12	6.6	11	6.7	7.6	7.5	13	1,500[3]
Zinc	84	92	58	220	52	85	68	190	69	90	62	250	84	110	23,000[3]

Notes:

1. Deeper samples were taken over a range of depths depending on when waste was first encountered in the particular hole
2. Criteria from the *Health and Environmental Guidelines for Selected Timber Treatment Chemicals* recalculated to exclude the produce consumption pathway (MfE/MoH, 1997)
3. Criteria from the USEPA Regional Screening Levels (USEPA, 2009)
4. Value for Chromium III

Table 2: Soil Sample Results - Chlorophenols (mg/kg)

Sample Name	Playground Composite	SW Trench Composite	Drum Excavation Composite (Surface)	Drum Excavation Composite (Deep)	Historic SW Trench Composite	BMX Track Composite	A3/1 + B4/1 C2/1 + D3/1 E2/1 + F6/1 (Composite)	A3/2 + B4/2 C2/2 + D3/2 E2/2 + F6/2 (Composite)	A11/1 + B5/1 C1/1 + D6/1 E3/1 + F3/1 (Composite)	A11/2 + B5/2 C1/2 + D6/2 E3/2 + F3/2 (Composite)	A1/1 + B3/1 C6/1 + D1/1 E4/1 + F5/1 (Composite)	A1/2 + B3/2 C6/2 + D1/2 E4/2 + F5/2 (Composite)	A6/1 + B2/1 C4/1 + D2/1 E5/1 + F8/1 (Composite)	A6/2 + B2/2 C4/2 + D2/2 E5/2 + F8/2 (Composite)	Laboratory Blank	**Residential Guideline Values [1]**
Laboratory Reference	58715-9	58715-10	58715-11	58715-14	58715-12	58715-13	58715-1	58715-5	58715-2	58715-6	58715-3	58715-7	58715-4	58715-8	57815-Blank	
Date	15 July, 2009				16 July, 2009		13 & 14 July, 2009								-	
Sample Location	Playground	SW Trench	Drum Excavation		Historic SW Trench	BMX Track	Upper and Middle Levels								-	
Sub-sample Depth (m bgl)[2]	0 - 0.075	0 - 0.075	0 - 0.075	0.35 - 1.0	0 - 0.075	0 - 0.075	0 - 0.075	0.35 - 0.90	0 - 0.075	0.70 - 1.0	0 - 0.075	0.60 - 0.95	0 - 0.075	0.80 - 1.10	-	
Phenol	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	18,000
2-Chlorophenol	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	390
2,6-Dichlorophenol	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
2,4-Dichlorophenol	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	180
2,4,6-Trichlorophenol	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	440 [3]
2,4,5-Trichlorophenol	< 0.05	0.48	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	6,100
3,4,5-Trichlorophenol	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
2,3,4,6-Tetrachlorophenol	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	1,800
Pentachlorophenol	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	30 [3]

Note:
1. Criteria from the US EPA Regional Screening Levels (US EPA, 2009)
2. Deeper samples were taken over a range of depths depending on when waste was first encountered in the particular hole
3. Values for carcinogens from US EPA (2009) have been multiplied by 10 due to the carcinogenic risk factor used in New Zealand being 1 in 100,000 compared with 1 in 1,000,000 in the United States

Table 3: Soil Sample Results – TCDD Screen (ng/kg)

Sample Name	Playground Composite	SW Trench Composite	Drum Excavation Composite (Surface)	Drum Excavation Composite (Deep)	Historic SW Trench Composite	BMX Track Composite	A3/1 + B4/1 C2/1 + D3/1 E2/1 + F6/1 (Composite)	A3/2 + B4/2 C2/2 + D3/2 E2/2 + F6/2 (Composite)	A11/1 + B5/1 C1/1 + D6/1 E3/1 + F3/1 (Composite)	A11/2 + B5/2 C1/2 + D6/2 E3/2 + F3/2 (Composite)	A1/1 + B3/1 C6/1 + D1/1 E4/1 + F5/1 (Composite)	A1/2 + B3/2 C6/2 + D1/2 E4/2 + F5/2 (Composite)	A6/1 + B2/1 C4/1 + D2/1 E5/1 + F8/1 (Composite)	A6/2 + B2/2 C4/2 + D2/2 E5/2 + F8/2 (Composite)	Laboratory Blank	**Site-Specific Parkland Guideline Value [1]**
Laboratory Reference	58715-9	58715-10	58715-11	58715-14	58715-12	58715-13	58715-1	58715-5	58715-2	58715-6	58715-3	58715-7	58715-4	58715-8	57815-Blank	
Date	15 July, 2009				16 July, 2009		13 & 14 July, 2009								-	
Sample Location	Playground	SW Trench	Drum Excavation		Historic SW Trench	BMX Track	Upper and Middle Levels								-	
Sub-sample Depth (m bgl)[2]	0 - 0.075	0 - 0.075	0 - 0.075	0.35 - 1.0	0 - 0.075	0 - 0.075	0 - 0.075	0.35 - 0.90	0 - 0.075	0.70 - 1.0	0 - 0.075	0.60 - 0.95	0 - 0.075	0.80 - 1.10	-	
2378 TCDF	ND[3]	ND	ND	0.72	ND	ND	ND	0.37	0.32	0.59	0.36	0.36	0.34	0.68	ND	-
2378 TCDD	ND	39	0.95	3.0	0.37	0.45	0.23	1.4	0.27	1.7	0.31	1.5	0.23	2.3	ND	-
WHO (2005) TEQ [4]	ND	39	0.95	3.1	0.37	0.45	0.23	1.4	0.30	1.8	0.35	1.5	0.26	2.4	ND	1100

Note:

1. Derived following the method of Proffitt *et al.* (2008) using an Interim Monthly Maximum Intake of 30 pg/kg bw (MoH, 2002) and background intake and dermal absorption factor from Cavanagh (in prep).
2. Deeper samples were taken over a range of depths depending on when waste was first encountered in the particular hole
3. ND = non-dectect
4. TCDD Toxic Equivalence calculated using the Toxic Equivalency Factors from Van den Berg *et al.* (2006)

Table 4: Soil Sample Results - Pesticides (mg/kg)

Sample Name	Playground Composite	SW Trench Composite	Drum Excavation Composite (Surface)	Drum Excavation Composite (Deep)	Historic SW Trench Composite	BMX Track Composite	A3/1 + B4/1 C2/1 + D3/1 E2/1 + F6/1 (Composite)	A3/2 + B4/2 C2/2 + D3/2 E2/2 + F6/2 (Composite)	A11/1 + B5/1 C1/1 + D6/1 E3/1 + F3/1 (Composite)	A11/2 + B5/2 C1/2 + D6/2 E3/2 + F3/2 (Composite)	A1/1 + B3/1 C6/1 + D1/1 E4/1 + F5/1 (Composite)	A1/2 + B3/2 C6/2 + D1/2 E4/2 + F5/2 (Composite)	A6/1 + B2/1 C4/1 + D2/1 E5/1 + F8/1 (Composite)	A6/2 + B2/2 C4/2 + D2/2 E5/2 + F8/2 (Composite)	**Residential Guideline Values**
Laboratory Reference	58715-9	58715-10	58715-11	58715-14	58715-12	58715-13	58715-1	58715-5	58715-2	58715-6	58715-3	58715-7	58715-4	58715-8	
Date	15 July, 2009				16 July, 2009		13 & 14 July, 2009								
Sample Location	Playground	SW Trench	Drum Excavation		Historic SW Trench	BMX Track	Upper and Middle Levels								
Sub-sample Depth (m bgl)[1]	0 - 0.075	0 - 0.075	0 - 0.075	0.35 - 1.0	0 - 0.075	0 - 0.075	0 - 0.075	0.35 - 0.90	0 - 0.075	0.70 - 1.0	0 - 0.075	0.60 - 0.95	0 - 0.075	0.80 - 1.10	
Total DDT [2]	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	0.042	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	70 [3]
Dichlofenthion	-	0.21	-	-	-	-	-	-	-	-	-	-	-	-	- [4]
Dieldrin	-	-	-	0.094	-	-	-	-	-	-	-	-	-	-	12 [3]
Diphenylamine	-	-	-	-	-	-	-	0.018	-	0.061	-	-	-	-	1,500 [5]
Piperonyl Butoxide	-	-	-	-	-	-	-	0.012	-	-	-	-	-	-	- [4]
Simazine	-	0.055	-	-	-	-	-	0.040	-	-	-	-	-	-	40 [5,6]
Ametryn	-	-	-	-	-	-	-	0.028	-	0.024	-	0.014	-	-	550 [5]
Simetryn	-	-	-	-	-	-	-	0.047	-	-	-	-	-	-	- [4]

Notes:
1. Deeper samples were taken over a range of depths depending on when waste was first encountered in the particular hole
2. Total DDT includes the sum of DDD, DDE, and DDT. If the concentration of these parameters is below the laboratory levels of detection, a value of half of the detection limit is used
3. Criteria from *Identifying, Investigating, and Managing Risks Associated with Former Sheep-Dip Sites: A Guide for Local Authorities*, MfE (2006).
4. No guideline value available
5. Criteria from the US EPA Regional Screening Levels (US EPA, 2009)
6. Values for carcinogens from US EPA (2009) have been multiplied by 10 due to the carcinogenic risk factor used in New Zealand being 1 in 100,000 compared with 1 in 1,000,000 in the United States

Table 5: Soil Sample Results – Polycyclic Aromatic Hydrocarbons (mg/kg)

Sample Name		Playground Composite	SW Trench Composite	Drum Excavation Composite (Surface)	Drum Excavation Composite (Deep)	Historic SW Trench Composite	BMX Track Composite	A3/1 + B4/1 C2/1 + D3/1 E2/1 + F6/1 (Composite)	A3/2 + B4/2 C2/2 + D3/2 E2/2 + F6/2 (Composite)	A11/1 + B5/1 C1/1 + D6/1 E3/1 + F3/1 (Composite)	A11/2 + B5/2 C1/2 + D6/2 E3/2 + F3/2 (Composite)	A1/1 + B3/1 C6/1 + D1/1 E4/1 + F5/1 (Composite)	A1/2 + B3/2 C6/2 + D1/2 E4/2 + F5/2 (Composite)	A6/1 + B2/1 C4/1 + D2/1 E5/1 + F8/1 (Composite)	A6/2 + B2/2 C4/2 + D2/2 E5/2 + F8/2 (Composite)	**Parklands Soil Guidelines [1]**
Laboratory Reference		709708.9	709709	709709	709709	709709	709708.9	709708.91	709709	709708.92	709709	709708.93	709708.97	709708.9	709709	
Sample Location		Playground	SW Trench	Drum Excavation		Historic SW Trench	BMX Track	Upper and Middle Levels								
Sub-sample Depth (m bgl)[1]		0.05	0.05	0.05	0.35 - 1.0	0.05	0.05	0.05	0.35 - 0.90	0.05	0.70 - 1.00	0.05	0.60 - 0.95	0.05	0.80 - 1.10	
Analyte	BaP TEF [3]															
Acenaphthene		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	36,000
Acenaphthylene		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	18,000
Anthracene		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.18	< 0.1	0.23	< 0.1	0.32	< 0.1	0.31	180,000
Benzo[a]anthracene	0.1	< 0.1	< 0.1	< 0.1	0.12	< 0.1	< 0.1	< 0.1	0.35	0.15	0.68	< 0.1	0.52	< 0.1	0.83	-
Benzo[a]pyrene (BaP)	1	< 0.1	< 0.1	< 0.1	0.15	< 0.1	< 0.1	< 0.1	0.34	0.14	0.85	< 0.1	0.53	< 0.1	0.77	-
Benzo[b]fluoranthene	0.1	< 0.1	< 0.1	< 0.1	0.12	< 0.1	< 0.1	< 0.1	0.28	0.11	0.61	< 0.1	0.45	< 0.1	0.62	-
Benzo[g,h,i]perylene		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.21	< 0.2	0.56	< 0.2	0.3	< 0.2	0.46	-
Benzo[k]fluoranthene	0.01	< 0.1	< 0.1	< 0.1	0.14	< 0.1	< 0.1	< 0.1	0.28	0.11	0.6	< 0.1	0.4	< 0.1	0.65	-
Chrysene	0.001	< 0.1	< 0.1	< 0.1	0.14	< 0.1	< 0.1	< 0.1	0.33	0.14	0.67	< 0.1	0.5	< 0.1	0.8	-
Dibenzo[a,h]anthracene	1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-
Fluoranthene		< 0.2	< 0.2	< 0.2	0.34	< 0.2	< 0.2	< 0.2	0.96	0.35	1.7	< 0.2	1.5	< 0.2	2.5	24,000
Fluorene		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.11	< 0.1	0.2	< 0.1	0.12	24,000
Indeno[1,2,3-c,d]pyrene	0.1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.23	< 0.2	0.58	< 0.2	0.33	< 0.2	0.5	-
Naphthalene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2,400
Phenanthrene		< 0.1	< 0.1	< 0.1	0.19	< 0.1	< 0.1	< 0.1	0.59	0.17	0.95	< 0.1	1.2	< 0.1	1.2	18,000
Pyrene		< 0.2	< 0.2	< 0.2	0.34	< 0.2	< 0.2	< 0.2	0.84	0.36	1.7	< 0.2	1.3	< 0.2	2.3	18,000
BaP equivalence [3,4]		-	-	-	***0.29***	-	-	-	***0.53***	***0.28***	***1.14***	-	***0.76***	-	***1.07***	2.7

Notes:

1. Criteria from the *Guidelines for Assessing and Managing Contaminated Gasworks Sites in New Zealand* (MfE, 1997)
2. Deeper samples were taken over a range of depths depending on when waste was first encountered in the particular hole
3. Benzo(a)pyrene equivalence calculated from the seven carcinogenic PAHs by multiplying each concentration by relevant toxic equivalence factor and summing the results.
4. Half detection limit used for calculations in cases where results are below the detection limit

Table 6: Soil Sample Results – Acid Herbicides (mg/kg)

Sample Name	Playground Composite	SW Trench Composite	Drum Excavation Composite (Surface)	Drum Excavation Composite (Deep)	**Residential Guideline Values** [1]
Laboratory Reference	58715-9	58715-10	58715-11	58715-14	
Date	15 July, 2009				
Sample Location	Playground	SW Trench	Drum Excavation		
Sub-sample Depth (m bgl)[2]	0 - 0.075	0 - 0.075	0 - 0.075	0.35 - 1.0	
Bentazone	< 0.2	< 0.2	< 0.2	< 0.2	1,800
Acifluorfen	< 0.2	< 0.2	< 0.2	< 0.2	-
Bromoxynil	< 0.2	< 0.2	< 0.2	< 0.2	1,200
Clopyralid	< 0.2	< 0.2	< 0.2	< 0.2	-
Dicamba	< 0.2	< 0.2	< 0.2	< 0.2	1,800
2,4-D	< 0.2	< 0.2	< 0.2	< 0.2	690
2,4-DB	< 0.2	< 0.2	< 0.2	< 0.2	490
Dichlorprop	< 0.2	< 0.2	< 0.2	< 0.2	-
Endothal	< 0.2	< 0.2	< 0.2	< 0.2	1,200
Fluazifop	< 0.2	< 0.2	< 0.2	< 0.2	-
Fluroxypyr	< 0.2	< 0.2	< 0.2	< 0.2	-
Haloxyfop	< 0.2	< 0.2	< 0.2	< 0.2	3.1
MCPA	< 0.2	< 0.2	< 0.2	< 0.2	31
MCPB	< 0.2	< 0.2	< 0.2	< 0.2	610
Mecoprop	< 0.2	< 0.2	< 0.2	< 0.2	-
Oryzalin	< 0.4	< 0.4	< 0.4	< 0.4	3,100
Picloram	< 0.2	< 0.2	< 0.2	< 0.2	4,300
Quizalofop	< 0.2	< 0.2	< 0.2	< 0.2	-
2,4,5-TP	< 0.2	< 0.2	< 0.2	< 0.2	-
2,4,5-T	< 0.2	< 0.2	< 0.2	< 0.2	610
Triclopyr	< 0.2	< 0.2	< 0.2	< 0.2	-

Notes:
1. Criteria from the US EPA Regional Screening Levels (US EPA, 2009)
2. Deeper samples were taken over a range of depths depending on when waste was first encountered in the particular hole
- No guideline value available

Appendix D Laboratory Reports

Hill Laboratories
BETTER TESTING BETTER RESULTS

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ANALYSIS REPORT

Client:	Pattle Delamore Partners Ltd	**Lab No:**	709708	SPv1
Contact:	R Lidgard	**Date Registered:**	17-Jul-2009	
	Pattle Delamore Partners	**Date Reported:**	28-Jul-2009	
	PO Box 9528, Newmarket	**Quote No:**		
	AUCKLAND	**Order No:**		
		Client Reference:	WO1772101	
		Submitted By:	R Lidgard	

Sample Type: Soil

Sample Name:	SS1 PLAY + SS2 PLAY + SS3 PLAY + SS4 PLAY + SS5 PLAY + SS6 PLAY (Composite)	SS7 + SS8 + SS9 + SS10 + SS11 + SS12 (Composite)	SS13/1 + SS14/1 + SS15/1 + SS16/1 + SS17/1 + SS18/1 (Composite)	SS19/1 + SS20/1 + SS21/1 + SS22/1 + SS23/1 + SS24/1 (Composite)	SS25 + SS26 + SS27 + SS28 + SS29 + SS30 + SS31 (Composite)
Lab Number:	709708.86	709708.87	709708.88	709708.89	709708.90
Individual Tests					
Dry Matter g/100g as rcvd	49	57	54	-	-
Heavy metals, screen As,Cd,Cr,Cu,Ni,Pb,Zn,Hg					
Total Recoverable Arsenic mg/kg dry wt	5.0	3.7	2.3	2.5	3.1
Total Recoverable Cadmium mg/kg dry wt	0.13	0.14	< 0.10	0.41	0.16
Total Recoverable Chromium mg/kg dry wt	16	18	9.0	6.3	16
Total Recoverable Copper mg/kg dry wt	89	120	77	42	81
Total Recoverable Lead mg/kg dry wt	15	23	11	7.9	16
Total Recoverable Mercury mg/kg dry wt	< 0.10	< 0.10	0.17	< 0.10	< 0.10
Total Recoverable Nickel mg/kg dry wt	8.6	12	5.6	7.8	11
Total Recoverable Zinc mg/kg dry wt	84	92	58	52	85
Acid Herbicides Screen in Soil by LCMSMS					
Bentazone mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
Acifluorfen mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
Bromoxynil mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
Clopyralid mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
Dicamba mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
2,4-Dichlorophenoxyacetic acid (24D) mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
2,4-Dichlorophenoxybutyric acid (24DB) mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
Dichlorprop mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
Endothal mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
Fluazifop mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
Fluroxypyr mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
Haloxyfop mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
MCPA mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
MCPB mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
Mecoprop mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
Oryzalin mg/kg dry wt	< 0.4	< 0.4	< 0.4	-	-
Pentachlorophenol (PCP) mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
Picloram mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
Quizalofop mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
2,3,4,6-Tetrachlorophenol* mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-

Sample Type: Soil						
Sample Name:		SS1 PLAY + SS2 PLAY + SS3 PLAY + SS4 PLAY + SS5 PLAY + SS6 PLAY (Composite)	SS7 + SS8 + SS9 + SS10 + SS11 + SS12 (Composite)	SS13/1 + SS14/1 + SS15/1 + SS16/1 + SS17/1 + SS18/1 (Composite)	SS19/1 + SS20/1 + SS21/1 + SS22/1 + SS23/1 + SS24/1 (Composite)	SS25 + SS26 + SS27 + SS28 + SS29 + SS30 + SS31 (Composite)
Lab Number:		709708.86	709708.87	709708.88	709708.89	709708.90
Acid Herbicides Screen in Soil by LCMSMS						
2,4,5-trichlorophenoxpropionic acid (245TP,Fenoprop, Silvex)	mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
2,4,5-Trichlorophenoxyacetic acid (245T)	mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-
Triclopyr	mg/kg dry wt	< 0.2	< 0.2	< 0.2	-	-

Sample Name:		A3/1 + B4/1 C2/1 + D3/1 + E2/1 + F6/1 (Composite)	A11/1 + B5/1 + C1/1 + D6/1 + E3/1 + F3/1 (Composite)	A1/1 + B3/1 + C6/1 + D1/1 + E4/1 + F5/1 (Composite)	A6/1 + B2/1 + C4/1 + D2/1 + E5/1 + F8/1 (Composite)	A3/2 + B4/2 + C2/2 + D3/2 + E2/2 + F3/2 (Composite)
Lab Number:		709708.91	709708.92	709708.93	709708.94	709708.95
Heavy metals, screen As,Cd,Cr,Cu,Ni,Pb,Zn,Hg						
Total Recoverable Arsenic	mg/kg dry wt	3.1	2.8	3.0	2.9	4.8
Total Recoverable Cadmium	mg/kg dry wt	0.30	0.25	0.31	0.39	0.28
Total Recoverable Chromium	mg/kg dry wt	13	12	11	12	24
Total Recoverable Copper	mg/kg dry wt	87	78	78	85	99
Total Recoverable Lead	mg/kg dry wt	15	18	15	18	200
Total Recoverable Mercury	mg/kg dry wt	< 0.10	0.25	0.13	0.12	0.70
Total Recoverable Nickel	mg/kg dry wt	7.5	6.6	6.7	7.5	12
Total Recoverable Zinc	mg/kg dry wt	68	69	62	84	190

Sample Name:		A11/2 + B5/2 + C1/2 + D6/2 + E3/2 + F3/2 (Composite)	A1/2 + B3/2 + C6/2 + D1/2 + E4/2 + F5/2 9Composite)	A6/2 + B2/2 C4/2 + D2/2 + E5/2 + F8/2 (Duplicate)	SS13/2 + SS14/2 + SS15/2 + SS16/2 + SS17/2 + SS18/2 (Composite)	
Lab Number:		709708.96	709708.97	709708.98	709708.99	
Individual Tests						
Dry Matter	g/100g as rcvd	-	-	-	58	-
Heavy metals, screen As,Cd,Cr,Cu,Ni,Pb,Zn,Hg						
Total Recoverable Arsenic	mg/kg dry wt	3.5	3.4	3.1	4.9	-
Total Recoverable Cadmium	mg/kg dry wt	0.12	0.27	0.19	0.23	-
Total Recoverable Chromium	mg/kg dry wt	18	15	18	11	-
Total Recoverable Copper	mg/kg dry wt	98	95	110	89	-
Total Recoverable Lead	mg/kg dry wt	43	45	23	24	-
Total Recoverable Mercury	mg/kg dry wt	0.15	0.11	< 0.10	0.10	-
Total Recoverable Nickel	mg/kg dry wt	11	7.6	13	12	-
Total Recoverable Zinc	mg/kg dry wt	90	250	110	220	-
Acid Herbicides Screen in Soil by LCMSMS						
Bentazone	mg/kg dry wt	-	-	-	< 0.2	-
Acifluorfen	mg/kg dry wt	-	-	-	< 0.2	-
Bromoxynil	mg/kg dry wt	-	-	-	< 0.2	-
Clopyralid	mg/kg dry wt	-	-	-	< 0.2	-
Dicamba	mg/kg dry wt	-	-	-	< 0.2	-
2,4-Dichlorophenoxyacetic acid (24D)	mg/kg dry wt	-	-	-	< 0.2	-
2,4-Dichlorophenoxybutyric acid (24DB)	mg/kg dry wt	-	-	-	< 0.2	-
Dichlorprop	mg/kg dry wt	-	-	-	< 0.2	-
Endothal	mg/kg dry wt	-	-	-	< 0.2	-
Fluazifop	mg/kg dry wt	-	-	-	< 0.2	-
Fluroxypyr	mg/kg dry wt	-	-	-	< 0.2	-
Haloxyfop	mg/kg dry wt	-	-	-	< 0.2	-
MCPA	mg/kg dry wt	-	-	-	< 0.2	-
MCPB	mg/kg dry wt	-	-	-	< 0.2	-

Sample Type: Soil						
Sample Name:		A11/2 + B5/2 + C1/2 + D6/2 + E3/2 + F3/2 (Composite)	A1/2 + B3/2 + C6/2 + D1/2 + E4/2 + F5/2 9Composite)	A6/2 + B2/2 C4/2 + D2/2 + E5/2 + F8/2 (Duplicate)	SS13/2 + SS14/2 + SS15/2 + SS16/2 + SS17/2 + SS18/2 (Composite)	
Lab Number:		709708.96	709708.97	709708.98	709708.99	
Acid Herbicides Screen in Soil by LCMSMS						
Mecoprop	mg/kg dry wt	-	-	-	< 0.2	-
Oryzalin	mg/kg dry wt	-	-	-	< 0.4	-
Pentachlorophenol (PCP)	mg/kg dry wt	-	-	-	< 0.2	-
Picloram	mg/kg dry wt	-	-	-	< 0.2	-
Quizalofop	mg/kg dry wt	-	-	-	< 0.2	-
2,3,4,6-Tetrachlorophenol*	mg/kg dry wt	-	-	-	< 0.2	-
2,4,5-trichlorophenoxypropionic acid (245TP,Fenoprop, Silvex)	mg/kg dry wt	-	-	-	< 0.2	-
2,4,5-Trichlorophenoxyacetic acid (245T)	mg/kg dry wt	-	-	-	< 0.2	-
Triclopyr	mg/kg dry wt	-	-	-	< 0.2	-

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**	**Samples**
Environmental Solids Sample Preparation	Air dried at 35°C and sieved, <2mm fraction.	-	86-99
Heavy metals, screen As,Cd,Cr,Cu,Ni,Pb,Zn,Hg	Dried sample, <2mm fraction. Nitric/Hydrochloric acid digestion, ICP-MS, screen level.	-	86-99
Acid Herbicides Screen in Soil by LCMSMS*	Solvent extraction with sonication, dilution, analysis by LCMSMS with online SPE	-	86-88, 99
Dry Matter (Env)	Dried at 103°C (removes 3-5% more water than air dry) for 18hr, gravimetry.	0.10 g/100g as rcvd	86-88, 99
Total Recoverable digestion	Nitric / hydrochloric acid digestion. US EPA 200.2.	-	86-99
Composite Environmental Solid Samples*	Individual sample fractions mixed together to form a composite fraction.	-	1-80, 82-85

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.

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

1C Quadrant Drive, Gracefield
P.O. Box 31 242, Lower Hutt
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Certificate of Analysis

Date Issued: 17 Aug 2009

Client: Pattle Delamore Partners Ltd
P O Box 6136
Wellington

Attention: Rod Lidgard

Date Received: 20 Jul 2009

AsureQuality Lab. Reference: 58715

Sample Type(s): Soil

Analysis: **Chlorophenols**

Method:
The sample was acetylated and extracted into hexane. The solvent extract was analysed by gas chromatography - mass spectrometry.

Results are reported to two significant figures in milligrams per kilogram (mg/kg), equivalent to ppm, on a dry weight basis. Detection limits are reported to one significant figure.

Unless requested, original samples will be disposed of eight weeks from the date of this report.

Comments:

A. R Lister

Andrea Lister
Analyst
AsureQuality Limited

Results: Chlorophenols

Sample Identification: 1A3/1; B4/1; C2/1;D3/1;E2/1;F6/1- Composite 1

Laboratory Reference: 58715-1 Date Received: 20 Jul 2009

Date Extracted: 29 Jul 2009 Date Analysed: 29 Jul 2009

Chlorophenol	Conc.¥ (mg/kg)	
phenol	<	0.2
2-chlorophenol	<	0.05
2,6-dichlorophenol	<	0.05
2,4-dichlorophenol	<	0.05
2,4,6-trichlorophenol	<	0.05
2,4,5-trichlorophenol	<	0.05
3,4,5-trichlorophenol	<	0.05
2,3,4,6-tetrachlorophenol	<	0.05
pentachlorophenol	<	0.1

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: MC Data Analyst: AL Authorised: Andrea Lister

Results: Chlorophenols

Sample Identification: 2A11/1; B5/1; C1/1; D6/1; E3/1; F3/1 - Composite 2

Laboratory Reference: 58715-2 Date Received: 20 Jul 2009

Date Extracted: 29 Jul 2009 Date Analysed: 29 Jul 2009

Chlorophenol	Conc.¥ (mg/kg)	
phenol	<	0.2
2-chlorophenol	<	0.05
2,6-dichlorophenol	<	0.05
2,4-dichlorophenol	<	0.05
2,4,6-trichlorophenol	<	0.05
2,4,5-trichlorophenol	<	0.05
3,4,5-trichlorophenol	<	0.05
2,3,4,6-tetrachlorophenol	<	0.05
pentachlorophenol	<	0.1

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: MC Data Analyst: AL Authorised: Andrea Lister

Results: Chlorophenols

Sample Identification: 3A1/1; B3/1; C6/1; D1/1; E4/1; F5/1 - Composite 3

Laboratory Reference: 58715-3 Date Received: 20 Jul 2009

Date Extracted: 29 Jul 2009 Date Analysed: 29 Jul 2009

Chlorophenol	Conc.¥ (mg/kg)	
phenol	<	0.2
2-chlorophenol	<	0.05
2,6-dichlorophenol	<	0.05
2,4-dichlorophenol	<	0.05
2,4,6-trichlorophenol	<	0.05
2,4,5-trichlorophenol	<	0.05
3,4,5-trichlorophenol	<	0.05
2,3,4,6-tetrachlorophenol	<	0.05
pentachlorophenol	<	0.1

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: MC Data Analyst: AL Authorised: Andrea Lister

Results: Chlorophenols

Sample Identification: 4A6/1; B2/1; C4/1; D2/1; E5/1; F8/1 - Composite 4

Laboratory Reference: 58715-4 Date Received: 20 Jul 2009

Date Extracted: 29 Jul 2009 Date Analysed: 29 Jul 2009

Chlorophenol	Conc.¥ (mg/kg)	
phenol	<	0.2
2-chlorophenol	<	0.05
2,6-dichlorophenol	<	0.05
2,4-dichlorophenol	<	0.05
2,4,6-trichlorophenol	<	0.05
2,4,5-trichlorophenol	<	0.05
3,4,5-trichlorophenol	<	0.05
2,3,4,6-tetrachlorophenol	<	0.05
pentachlorophenol	<	0.1

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: MC Data Analyst: AL Authorised: Andrea Lister

Results: Chlorophenols

Sample Identification: 5A3/2; B4/2; C2/2; D3/2; E2/2; F6/2 - Composite 5

Laboratory Reference: 58715-5 Date Received: 20 Jul 2009

Date Extracted: 29 Jul 2009 Date Analysed: 29 Jul 2009

Chlorophenol	Conc.¥ (mg/kg)	
phenol	<	0.2
2-chlorophenol	<	0.05
2,6-dichlorophenol	<	0.05
2,4-dichlorophenol	<	0.05
2,4,6-trichlorophenol	<	0.05
2,4,5-trichlorophenol	<	0.05
3,4,5-trichlorophenol	<	0.05
2,3,4,6-tetrachlorophenol	<	0.05
pentachlorophenol	<	0.1

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: MC Data Analyst: AL Authorised: Andrea Lister

Results: Chlorophenols

Sample Identification: 6A11/2; B5/2; C1/2; D6/2; E3/2; F3/2 - Composite 6

Laboratory Reference: 58715-6 Date Received: 20 Jul 2009

Date Extracted: 29 Jul 2009 Date Analysed: 29 Jul 2009

Chlorophenol	Conc.¥ (mg/kg)	
phenol	<	0.2
2-chlorophenol	<	0.05
2,6-dichlorophenol	<	0.05
2,4-dichlorophenol	<	0.05
2,4,6-trichlorophenol	<	0.05
2,4,5-trichlorophenol	<	0.05
3,4,5-trichlorophenol	<	0.05
2,3,4,6-tetrachlorophenol	<	0.05
pentachlorophenol	<	0.1

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: MC Data Analyst: AL Authorised: Andrea Lister

Results: Chlorophenols

Sample Identification: 7A1/2; B3/2; C6/2; D1/2; E4/2; F5/2 - Composite 7

Laboratory Reference: 58715-7 Date Received: 20 Jul 2009

Date Extracted: 29 Jul 2009 Date Analysed: 29 Jul 2009

Chlorophenol	Conc.¥ (mg/kg)	
phenol	<	0.2
2-chlorophenol	<	0.05
2,6-dichlorophenol	<	0.05
2,4-dichlorophenol	<	0.05
2,4,6-trichlorophenol	<	0.05
2,4,5-trichlorophenol	<	0.05
3,4,5-trichlorophenol	<	0.05
2,3,4,6-tetrachlorophenol	<	0.05
pentachlorophenol	<	0.1

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: MC Data Analyst: AL Authorised: Andrea Lister

Results: Chlorophenols

Sample Identification: 8A6/2; B2/2; C4/2; D2/2; E5/2; F8/2 - Composite 8

Laboratory Reference: 58715-8 Date Received: 20 Jul 2009

Date Extracted: 29 Jul 2009 Date Analysed: 29 Jul 2009

Chlorophenol	Conc.¥ (mg/kg)	
phenol	<	0.2
2-chlorophenol	<	0.05
2,6-dichlorophenol	<	0.05
2,4-dichlorophenol	<	0.05
2,4,6-trichlorophenol	<	0.05
2,4,5-trichlorophenol	<	0.05
3,4,5-trichlorophenol	<	0.05
2,3,4,6-tetrachlorophenol	<	0.05
pentachlorophenol	<	0.1

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: MC Data Analyst: AL Authorised: Andrea Lister

Results: Chlorophenols

Sample Identification: 9SS1 - SS6 - Composite 9

Laboratory Reference: 58715-9 Date Received: 20 Jul 2009

Date Extracted: 29 Jul 2009 Date Analysed: 29 Jul 2009

Chlorophenol	Conc.¥ (mg/kg)	
phenol	<	0.2
2-chlorophenol	<	0.05
2,6-dichlorophenol	<	0.05
2,4-dichlorophenol	<	0.05
2,4,6-trichlorophenol	<	0.05
2,4,5-trichlorophenol	<	0.05
3,4,5-trichlorophenol	<	0.05
2,3,4,6-tetrachlorophenol	<	0.05
pentachlorophenol	<	0.1

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: MC Data Analyst: AL Authorised: Andrea Lister

Results: Chlorophenols

Sample Identification: 10SS7 -SS12 - Composite 10

Laboratory Reference: 58715-10 Date Received: 20 Jul 2009

Date Extracted: 29 Jul 2009 Date Analysed: 29 Jul 2009

Chlorophenol	Conc.¥ (mg/kg)	
phenol	<	0.2
2-chlorophenol	<	0.05
2,6-dichlorophenol	<	0.05
2,4-dichlorophenol	<	0.05
2,4,6-trichlorophenol	<	0.05
2,4,5-trichlorophenol		**0.48**
3,4,5-trichlorophenol	<	0.05
2,3,4,6-tetrachlorophenol	<	0.05
pentachlorophenol	<	0.1

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: MC Data Analyst: AL Authorised: Andrea Lister

Results: Chlorophenols

Sample Identification: 11SS13/1-SS18/1 - Composite 11

Laboratory Reference: 58715-11 Date Received: 20 Jul 2009

Date Extracted: 29 Jul 2009 Date Analysed: 29 Jul 2009

Chlorophenol	Conc.¥ (mg/kg)	
phenol	<	0.2
2-chlorophenol	<	0.05
2,6-dichlorophenol	<	0.05
2,4-dichlorophenol	<	0.05
2,4,6-trichlorophenol	<	0.05
2,4,5-trichlorophenol	<	0.05
3,4,5-trichlorophenol	<	0.05
2,3,4,6-tetrachlorophenol	<	0.05
pentachlorophenol	<	0.1

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: MC Data Analyst: AL Authorised: Andrea Lister

Results: Chlorophenols

Sample Identification: 12SS19 - SS24 - Composite 12

Laboratory Reference: 58715-12 Date Received: 20 Jul 2009

Date Extracted: 29 Jul 2009 Date Analysed: 29 Jul 2009

Chlorophenol	Conc.¥ (mg/kg)	
phenol	<	0.2
2-chlorophenol	<	0.05
2,6-dichlorophenol	<	0.05
2,4-dichlorophenol	<	0.05
2,4,6-trichlorophenol	<	0.05
2,4,5-trichlorophenol	<	0.05
3,4,5-trichlorophenol	<	0.05
2,3,4,6-tetrachlorophenol	<	0.05
pentachlorophenol	<	0.1

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: MC Data Analyst: AL Authorised: Andrea Lister

Results: Chlorophenols

Sample Identification: 13SS25 - SS31 - Composite 13

Laboratory Reference: 58715-13 Date Received: 20 Jul 2009

Date Extracted: 29 Jul 2009 Date Analysed: 29 Jul 2009

Chlorophenol	Conc.¥ (mg/kg)	
phenol	<	0.2
2-chlorophenol	<	0.05
2,6-dichlorophenol	<	0.05
2,4-dichlorophenol	<	0.05
2,4,6-trichlorophenol	<	0.05
2,4,5-trichlorophenol	<	0.05
3,4,5-trichlorophenol	<	0.05
2,3,4,6-tetrachlorophenol	<	0.05
pentachlorophenol	<	0.1

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: MC Data Analyst: AL Authorised: Andrea Lister

Results: Chlorophenols

Sample Identification: 14 SS13/2 - SS 18/2, Composite 14

Laboratory Reference: 58715-14 Date Received: 20 Jul 2009

Date Extracted: 29 Jul 2009 Date Analysed: 29 Jul 2009

Chlorophenol	Conc.¥ (mg/kg)	
phenol	<	0.2
2-chlorophenol	<	0.05
2,6-dichlorophenol	<	0.05
2,4-dichlorophenol	<	0.05
2,4,6-trichlorophenol	<	0.05
2,4,5-trichlorophenol	<	0.05
3,4,5-trichlorophenol	<	0.05
2,3,4,6-tetrachlorophenol	<	0.05
pentachlorophenol	<	0.1

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: MC Data Analyst: AL Authorised: Andrea Lister

Results: Chlorophenols

Sample Identification: Laboratory Blank
Laboratory Reference: 58715/BLANK-
Date Received: Not applicable
Date Extracted: 29 Jul 2009
Date Analysed: 29 Jul 2009

Chlorophenol	Conc.¥ (mg/kg)	
phenol	<	0.2
2-chlorophenol	<	0.05
2,6-dichlorophenol	<	0.05
2,4-dichlorophenol	<	0.05
2,4,6-trichlorophenol	<	0.05
2,4,5-trichlorophenol	<	0.05
3,4,5-trichlorophenol	<	0.05
2,3,4,6-tetrachlorophenol	<	0.05
pentachlorophenol	<	0.1

¥ = Results are calculated using the average weight of samples in this batch.
< = Less than limit of detection.

Lab Analyst: MC Data Analyst: AL Authorised: Andrea Lister

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P.O. Box 31 242, Lower Hutt
Wellington, New Zealand

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F 64 4 5708176
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Certificate of Analysis

Date Issued: 17 Aug 2009

Client: Pattle Delamore Partners Ltd
P O Box 6136
Wellington

Attention: Rod Lidgard

Date Received: 20 Jul 2009

AsureQuality Lab. Reference: 58715

Sample Type(s): Soil

Analysis: **Semi Volatile Organic Contaminants**

Method:

The sample was extracted with organic solvent and the extract analysed by gas chromatography - mass spectrometry. Non-target compounds are identified by a mass spectral library search and where possible quantified against an authentic standard.

Results are reported to two significant figures in milligrams per kilogram (mg/kg), equivalent to ppm, on a dry weight basis. Detection limits are reported to one significant figure.

Unless requested, original samples will be disposed of eight weeks from the date of this report.

Comments:

Jayanthi Ranasinghe
Analyst
AsureQuality Limited

Results: Semi Volatile Organic Contaminants

Sample Identification: 1A3/1; B4/1; C2/1;D3/1;E2/1;F6/1- Composite 1

Laboratory Reference: 58715-1 Date Received: 20 Jul 2009

Date Extracted: 31 Jul 2009 Date Analysed: 11 Aug 2009

Analyte	Conc. ¥ (mg/kg)	Analyte	Conc. ¥ (mg/kg)
Organochlorine Pesticides		**Organophosphorus Pesticides**	
hexachlorobenzene	< 0.1	Diazinon	< 0.1
gamma-BHC (lindane)	< 0.1	Pirimiphos methyl	< 0.2
heptachlor	< 0.1	Chlorpyriphos	< 0.2
aldrin	< 0.1	Azinphos methyl	< 0.8
heptachlor epoxide	< 0.1	**Plasticisers**	
Procymidone	< 0.2	dimethyl phthalate	< 2
Alpha-chlordane	< 0.1	diethyl phthalate	< 2
Gamma-chlordane	< 0.1	di-n-butyl phthalate	< 2
pp-DDE	< 0.1	benzyl butyl phthalate	< 2
dieldrin	< 0.1	di(2-ethylhexyl) adipate	< 2
pp-DDD	< 0.1	di(2-ethylhexyl) phthalate	< 2
pp-DDT	< 0.2	**Polychlorinated Biphenyls**	
Methoxychlor	< 0.2	PCB congener #8	< 0.1
Cis permethrin	< 0.2	PCB congener #28	< 0.1
Trans permethrin	< 0.2	PCB congener #101	< 0.1
alpha-BHC	< 0.1	PCB congener #138	< 0.1
beta-BHC	< 0.1	PCB congener #183	< 0.1
Delta-BHC	< 0.1	**Polycyclic Aromatic Hydrocarbons**	
endosulfan I	< 0.1	naphthalene	< 1
endosulfan II	< 0.1	acenaphthylene	< 0.1
Endosulfan sulfate	< 0.1	acenaphthene	< 0.1
endrin	< 0.1	fluorene	< 0.1
Endrin aldehyde	< 0.1	phenanthrene	< 0.1
Endrin ketone	< 0.1	anthracene	< 0.1
Organonitrogen Herbicides		fluoranthene	< 0.2
Trifluralin	< 0.2	pyrene	< 0.2
Simazine	< 0.1	benz[a]anthracene	< 0.1
Atrazine	< 0.1	chrysene	< 0.1
Terbuthylazine	< 0.2	benzo[b]fluoranthene	< 0.1
Propanil	< 0.1	benzo[k]fluoranthene	< 0.1
Alachlor	< 0.2	benzo[a]pyrene	< 0.1
Metolachlor	< 0.1	indeno[1,2,3-c,d]pyrene	< 0.2
Pendimethalin	< 0.2	dibenz[a,h]anthracene	< 0.2
Molinate	< 0.1	benzo[g,h,i]perylene	< 0.2
Propazine	< 0.1		
Hexazinone	< 0.1		
Metalaxyl	< 0.1		
Cyanazine	< 0.1		
Oxadiazon	< 0.1		
Metribuzin	< 0.1		
Bromacil	< 0.4		
Oryzalin	< 10		

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JR Authorised: Jayanthi Ranasinghe

Results: Semi Volatile Organic Contaminants

Sample Identification: 2A11/1; B5/1; C1/1; D6/1; E3/1; F3/1 - Composite 2

Laboratory Reference: 58715-2 Date Received: 20 Jul 2009

Date Extracted: 31 Jul 2009 Date Analysed: 11 Aug 2009

Analyte	Conc. ¥ (mg/kg)	Analyte	Conc. ¥ (mg/kg)
Organochlorine Pesticides		**Organophosphorus Pesticides**	
hexachlorobenzene	< 0.1	Diazinon	< 0.1
gamma-BHC (lindane)	< 0.1	Pirimiphos methyl	< 0.2
heptachlor	< 0.1	Chlorpyriphos	< 0.2
aldrin	< 0.1	Azinphos methyl	< 0.8
heptachlor epoxide	< 0.1	**Plasticisers**	
Procymidone	< 0.2	dimethyl phthalate	< 2
Alpha-chlordane	< 0.1	diethyl phthalate	< 2
Gamma-chlordane	< 0.1	di-n-butyl phthalate	< 2
pp-DDE	< 0.1	benzyl butyl phthalate	< 2
dieldrin	< 0.1	di(2-ethylhexyl) adipate	< 2
pp-DDD	< 0.1	di(2-ethylhexyl) phthalate	< 2
pp-DDT	< 0.2	**Polychlorinated Biphenyls**	
Methoxychlor	< 0.2	PCB congener #8	< 0.1
Cis permethrin	< 0.2	PCB congener #28	< 0.1
Trans permethrin	< 0.2	PCB congener #101	< 0.1
alpha-BHC	< 0.1	PCB congener #138	< 0.1
beta-BHC	< 0.1	PCB congener #183	< 0.1
Delta-BHC	< 0.1	**Polycyclic Aromatic Hydrocarbons**	
endosulfan I	< 0.1	naphthalene	< 1
endosulfan II	< 0.1	acenaphthylene	< 0.1
Endosulfan sulfate	< 0.1	acenaphthene	< 0.1
endrin	< 0.1	fluorene	< 0.1
Endrin aldehyde	< 0.1	phenanthrene	**0.17**
Endrin ketone	< 0.1	anthracene	< 0.1
Organonitrogen Herbicides		fluoranthene	**0.35**
Trifluralin	< 0.2	pyrene	**0.36**
Simazine	< 0.1	benz[a]anthracene	**0.15**
Atrazine	< 0.1	chrysene	**0.14**
Terbuthylazine	< 0.2	benzo[b]fluoranthene	**0.11**
Propanil	< 0.1	benzo[k]fluoranthene	**0.11**
Alachlor	< 0.2	benzo[a]pyrene	**0.14**
Metolachlor	< 0.1	indeno[1,2,3-c,d]pyrene	< 0.2
Pendimethalin	< 0.2	dibenz[a,h]anthracene	< 0.2
Molinate	< 0.1	benzo[g,h,i]perylene	< 0.2
Propazine	< 0.1		
Hexazinone	< 0.1		
Metalaxyl	< 0.1		
Cyanazine	< 0.1		
Oxadiazon	< 0.1		
Metribuzin	< 0.1		
Bromacil	< 0.4		
Oryzalin	< 10		

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: CG Authorised: Jayanthi Ranasinghe

Results: Semi Volatile Organic Contaminants

Sample Identification: 3A1/1; B3/1; C6/1; D1/1; E4/1; F5/1 - Composite 3

Laboratory Reference: 58715-3 Date Received: 20 Jul 2009

Date Extracted: 31 Jul 2009 Date Analysed: 11 Aug 2009

Analyte	Conc. ¥ (mg/kg)	Analyte	Conc. ¥ (mg/kg)
Organochlorine Pesticides		**Organophosphorus Pesticides**	
hexachlorobenzene	< 0.1	Diazinon	< 0.1
gamma-BHC (lindane)	< 0.1	Pirimiphos methyl	< 0.2
heptachlor	< 0.1	Chlorpyriphos	< 0.2
aldrin	< 0.1	Azinphos methyl	< 0.8
heptachlor epoxide	< 0.1	**Plasticisers**	
Procymidone	< 0.2	dimethyl phthalate	< 2
Alpha-chlordane	< 0.1	diethyl phthalate	< 2
Gamma-chlordane	< 0.1	di-n-butyl phthalate	< 2
pp-DDE	< 0.1	benzyl butyl phthalate	< 2
dieldrin	< 0.1	di(2-ethylhexyl) adipate	< 2
pp-DDD	< 0.1	di(2-ethylhexyl) phthalate	< 2
pp-DDT	< 0.2	**Polychlorinated Biphenyls**	
Methoxychlor	< 0.2	PCB congener #8	< 0.1
Cis permethrin	< 0.2	PCB congener #28	< 0.1
Trans permethrin	< 0.2	PCB congener #101	< 0.1
alpha-BHC	< 0.1	PCB congener #138	< 0.1
beta-BHC	< 0.1	PCB congener #183	< 0.1
Delta-BHC	< 0.1	**Polycyclic Aromatic Hydrocarbons**	
endosulfan I	< 0.1	naphthalene	< 1
endosulfan II	< 0.1	acenaphthylene	< 0.1
Endosulfan sulfate	< 0.1	acenaphthene	< 0.1
endrin	< 0.1	fluorene	< 0.1
Endrin aldehyde	< 0.1	phenanthrene	< 0.1
Endrin ketone	< 0.1	anthracene	< 0.1
Organonitrogen Herbicides		fluoranthene	< 0.2
Trifluralin	< 0.2	pyrene	< 0.2
Simazine	< 0.1	benz[a]anthracene	< 0.1
Atrazine	< 0.1	chrysene	< 0.1
Terbuthylazine	< 0.2	benzo[b]fluoranthene	< 0.1
Propanil	< 0.1	benzo[k]fluoranthene	< 0.1
Alachlor	< 0.2	benzo[a]pyrene	< 0.1
Metolachlor	< 0.1	indeno[1,2,3-c,d]pyrene	< 0.2
Pendimethalin	< 0.2	dibenz[a,h]anthracene	< 0.2
Molinate	< 0.1	benzo[g,h,i]perylene	< 0.2
Propazine	< 0.1		
Hexazinone	< 0.1		
Metalaxyl	< 0.1		
Cyanazine	< 0.1		
Oxadiazon	< 0.1		
Metribuzin	< 0.1		
Bromacil	< 0.4		
Oryzalin	< 10		

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JR Authorised: Jayanthi Ranasinghe

Results: Semi Volatile Organic Contaminants

Sample Identification: 4A6/1; B2/1; C4/1; D2/1; E5/1; F8/1 - Composite 4

Laboratory Reference: 58715-4 Date Received: 20 Jul 2009

Date Extracted: 31 Jul 2009 Date Analysed: 11 Aug 2009

Analyte	Conc. ¥ (mg/kg)	Analyte	Conc. ¥ (mg/kg)
Organochlorine Pesticides		**Organophosphorus Pesticides**	
hexachlorobenzene	< 0.1	Diazinon	< 0.1
gamma-BHC (lindane)	< 0.1	Pirimiphos methyl	< 0.2
heptachlor	< 0.1	Chlorpyriphos	< 0.2
aldrin	< 0.1	Azinphos methyl	< 0.8
heptachlor epoxide	< 0.1	**Plasticisers**	
Procymidone	< 0.2	dimethyl phthalate	< 2
Alpha-chlordane	< 0.1	diethyl phthalate	< 2
Gamma-chlordane	< 0.1	di-n-butyl phthalate	< 2
pp-DDE	< 0.1	benzyl butyl phthalate	< 2
dieldrin	< 0.1	di(2-ethylhexyl) adipate	< 2
pp-DDD	< 0.1	di(2-ethylhexyl) phthalate	< 2
pp-DDT	< 0.2	**Polychlorinated Biphenyls**	
Methoxychlor	< 0.2	PCB congener #8	< 0.1
Cis permethrin	< 0.2	PCB congener #28	< 0.1
Trans permethrin	< 0.2	PCB congener #101	< 0.1
alpha-BHC	< 0.1	PCB congener #138	< 0.1
beta-BHC	< 0.1	PCB congener #183	< 0.1
Delta-BHC	< 0.1	**Polycyclic Aromatic Hydrocarbons**	
endosulfan I	< 0.1	naphthalene	< 1
endosulfan II	< 0.1	acenaphthylene	< 0.1
Endosulfan sulfate	< 0.1	acenaphthene	< 0.1
endrin	< 0.1	fluorene	< 0.1
Endrin aldehyde	< 0.1	phenanthrene	< 0.1
Endrin ketone	< 0.1	anthracene	< 0.1
Organonitrogen Herbicides		fluoranthene	< 0.2
Trifluralin	< 0.2	pyrene	< 0.2
Simazine	< 0.1	benz[a]anthracene	< 0.1
Atrazine	< 0.1	chrysene	< 0.1
Terbuthylazine	< 0.2	benzo[b]fluoranthene	< 0.1
Propanil	< 0.1	benzo[k]fluoranthene	< 0.1
Alachlor	< 0.2	benzo[a]pyrene	< 0.1
Metolachlor	< 0.1	indeno[1,2,3-c,d]pyrene	< 0.2
Pendimethalin	< 0.2	dibenz[a,h]anthracene	< 0.2
Molinate	< 0.1	benzo[g,h,i]perylene	< 0.2
Propazine	< 0.1		
Hexazinone	< 0.1		
Metalaxyl	< 0.1		
Cyanazine	< 0.1		
Oxadiazon	< 0.1		
Metribuzin	< 0.1		
Bromacil	< 0.4		
Oryzalin	< 10		

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JR Authorised: Jayanthi Ranasinghe

Results: Semi Volatile Organic Contaminants

Sample Identification: 5A3/2; B4/2; C2/2; D3/2; E2/2; F6/2 - Composite 5

Laboratory Reference: 58715-5 Date Received: 20 Jul 2009

Date Extracted: 31 Jul 2009 Date Analysed: 11 Aug 2009

Analyte	Conc. ¥ (mg/kg)	Analyte	Conc. ¥ (mg/kg)
Organochlorine Pesticides		**Organophosphorus Pesticides**	
hexachlorobenzene	< 0.1	Diazinon	< 0.1
gamma-BHC (lindane)	< 0.1	Pirimiphos methyl	< 0.2
heptachlor	< 0.1	Chlorpyriphos	< 0.2
aldrin	< 0.1	Azinphos methyl	< 0.8
heptachlor epoxide	< 0.1	**Plasticisers**	
Procymidone	< 0.2	dimethyl phthalate	< 2
Alpha-chlordane	< 0.1	diethyl phthalate	< 2
Gamma-chlordane	< 0.1	di-n-butyl phthalate	< 2
pp-DDE	< 0.1	benzyl butyl phthalate	< 2
dieldrin	< 0.1	di(2-ethylhexyl) adipate	< 2
pp-DDD	< 0.1	di(2-ethylhexyl) phthalate	< 2
pp-DDT	< 0.2	**Polychlorinated Biphenyls**	
Methoxychlor	< 0.2	PCB congener #8	< 0.1
Cis permethrin	< 0.2	PCB congener #28	< 0.1
Trans permethrin	< 0.2	PCB congener #101	< 0.1
alpha-BHC	< 0.1	PCB congener #138	< 0.1
beta-BHC	< 0.1	PCB congener #183	< 0.1
Delta-BHC	< 0.1	**Polycyclic Aromatic Hydrocarbons**	
endosulfan I	< 0.1	naphthalene	< 1
endosulfan II	< 0.1	acenaphthylene	< 0.1
Endosulfan sulfate	< 0.1	acenaphthene	< 0.2
endrin	< 0.1	fluorene	< 0.1
Endrin aldehyde	< 0.1	phenanthrene	**0.59**
Endrin ketone	< 0.1	anthracene	**0.18**
Organonitrogen Herbicides		fluoranthene	**0.96**
Trifluralin	< 0.2	pyrene	**0.84**
Simazine	< 0.1	benz[a]anthracene	**0.35**
Atrazine	< 0.1	chrysene	**0.33**
Terbuthylazine	< 0.2	benzo[b]fluoranthene	**0.28**
Propanil	< 0.1	benzo[k]fluoranthene	**0.28**
Alachlor	< 0.2	benzo[a]pyrene	**0.34**
Metolachlor	< 0.1	indeno[1,2,3-c,d]pyrene	**0.23**
Pendimethalin	< 0.2	dibenz[a,h]anthracene	< 0.2
Molinate	< 0.1	benzo[g,h,i]perylene	**0.21**
Propazine	< 0.1		
Hexazinone	< 0.1		
Metalaxyl	< 0.1		
Cyanazine	< 0.1		
Oxadiazon	< 0.1		
Metribuzin	< 0.1		
Bromacil	< 0.4		
Oryzalin	< 10		

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: CG Authorised: Jayanthi Ranasinghe

Results: Semi Volatile Organic Contaminants

Sample Identification: 6A11/2; B5/2; C1/2; D6/2; E3/2; F3/2 - Composite 6

Laboratory Reference: 58715-6 Date Received: 20 Jul 2009

Date Extracted: 31 Jul 2009 Date Analysed: 11 Aug 2009

Analyte	Conc. ¥ (mg/kg)	Analyte	Conc. ¥ (mg/kg)
Organochlorine Pesticides		**Organophosphorus Pesticides**	
hexachlorobenzene	< 0.1	Diazinon	< 0.1
gamma-BHC (lindane)	< 0.1	Pirimiphos methyl	< 0.2
heptachlor	< 0.1	Chlorpyriphos	< 0.2
aldrin	< 0.1	Azinphos methyl	< 0.8
heptachlor epoxide	< 0.1	**Plasticisers**	
Procymidone	< 0.2	dimethyl phthalate	< 2
Alpha-chlordane	< 0.1	diethyl phthalate	< 2
Gamma-chlordane	< 0.1	di-n-butyl phthalate	< 2
pp-DDE	< 0.1	benzyl butyl phthalate	< 2
dieldrin	< 0.1	di(2-ethylhexyl) adipate	< 2
pp-DDD	< 0.1	di(2-ethylhexyl) phthalate	< 2
pp-DDT	< 0.2	**Polychlorinated Biphenyls**	
Methoxychlor	< 0.2	PCB congener #8	< 0.1
Cis permethrin	< 0.2	PCB congener #28	< 0.1
Trans permethrin	< 0.2	PCB congener #101	< 0.1
alpha-BHC	< 0.1	PCB congener #138	< 0.1
beta-BHC	< 0.1	PCB congener #183	< 0.1
Delta-BHC	< 0.1	**Polycyclic Aromatic Hydrocarbons**	
endosulfan I	< 0.1	naphthalene	< 1
endosulfan II	< 0.1	acenaphthylene	< 0.2
Endosulfan sulfate	< 0.1	acenaphthene	< 0.2
endrin	< 0.1	fluorene	**0.11**
Endrin aldehyde	< 0.1	phenanthrene	**0.95**
Endrin ketone	< 0.1	anthracene	**0.23**
Organonitrogen Herbicides		fluoranthene	**1.7**
Trifluralin	< 0.2	pyrene	**1.7**
Simazine	< 0.1	benz[a]anthracene	**0.68**
Atrazine	< 0.1	chrysene	**0.67**
Terbuthylazine	< 0.2	benzo[b]fluoranthene	**0.61**
Propanil	< 0.1	benzo[k]fluoranthene	**0.60**
Alachlor	< 0.2	benzo[a]pyrene	**0.85**
Metolachlor	< 0.1	indeno[1,2,3-c,d]pyrene	**0.58**
Pendimethalin	< 0.2	dibenz[a,h]anthracene	< 0.2
Molinate	< 0.1	benzo[g,h,i]perylene	**0.56**
Propazine	< 0.1		
Hexazinone	< 0.1		
Metalaxyl	< 0.1		
Cyanazine	< 0.1		
Oxadiazon	< 0.1		
Metribuzin	< 0.1		
Bromacil	< 0.4		
Oryzalin	< 10		

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: JR Data Analyst: CG Authorised: Jayanthi Ranasinghe

Results: Semi Volatile Organic Contaminants

Sample Identification: 7A1/2; B3/2; C6/2; D1/2; E4/2; F5/2 - Composite 7

Laboratory Reference: 58715-7 Date Received: 20 Jul 2009

Date Extracted: 31 Jul 2009 Date Analysed: 11 Aug 2009

Analyte	Conc. ¥ (mg/kg)	Analyte	Conc. ¥ (mg/kg)
Organochlorine Pesticides		**Organophosphorus Pesticides**	
hexachlorobenzene	< 0.1	Diazinon	< 0.1
gamma-BHC (lindane)	< 0.1	Pirimiphos methyl	< 0.2
heptachlor	< 0.1	Chlorpyriphos	< 0.2
aldrin	< 0.1	Azinphos methyl	< 0.8
heptachlor epoxide	< 0.1	**Plasticisers**	
Procymidone	< 0.2	dimethyl phthalate	< 2
Alpha-chlordane	< 0.1	diethyl phthalate	< 2
Gamma-chlordane	< 0.1	di-n-butyl phthalate	< 2
pp-DDE	< 0.1	benzyl butyl phthalate	< 2
dieldrin	< 0.1	di(2-ethylhexyl) adipate	< 2
pp-DDD	< 0.1	di(2-ethylhexyl) phthalate	< 2
pp-DDT	< 0.2	**Polychlorinated Biphenyls**	
Methoxychlor	< 0.2	PCB congener #8	< 0.1
Cis permethrin	< 0.2	PCB congener #28	< 0.1
Trans permethrin	< 0.2	PCB congener #101	< 0.1
alpha-BHC	< 0.1	PCB congener #138	< 0.1
beta-BHC	< 0.1	PCB congener #183	< 0.1
Delta-BHC	< 0.1	**Polycyclic Aromatic Hydrocarbons**	
endosulfan I	< 0.1	naphthalene	< 1
endosulfan II	< 0.1	acenaphthylene	< 0.1
Endosulfan sulfate	< 0.1	acenaphthene	< 0.3
endrin	< 0.1	fluorene	**0.20**
Endrin aldehyde	< 0.1	phenanthrene	**1.2**
Endrin ketone	< 0.1	anthracene	**0.32**
Organonitrogen Herbicides		fluoranthene	**1.5**
Trifluralin	< 0.2	pyrene	**1.3**
Simazine	< 0.1	benz[a]anthracene	**0.52**
Atrazine	< 0.1	chrysene	**0.50**
Terbuthylazine	< 0.2	benzo[b]fluoranthene	**0.45**
Propanil	< 0.1	benzo[k]fluoranthene	**0.40**
Alachlor	< 0.2	benzo[a]pyrene	**0.53**
Metolachlor	< 0.1	indeno[1,2,3-c,d]pyrene	**0.33**
Pendimethalin	< 0.2	dibenz[a,h]anthracene	< 0.2
Molinate	< 0.1	benzo[g,h,i]perylene	**0.30**
Propazine	< 0.1		
Hexazinone	< 0.1		
Metalaxyl	< 0.1		
Cyanazine	< 0.1		
Oxadiazon	< 0.1		
Metribuzin	< 0.1		
Bromacil	< 0.4		
Oryzalin	< 10		

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: CG Authorised: Jayanthi Ranasinghe

Results: Semi Volatile Organic Contaminants

Sample Identification: 8A6/2; B2/2; C4/2; D2/2; E5/2; F8/2 - Composite 8

Laboratory Reference: 58715-8 Date Received: 20 Jul 2009

Date Extracted: 31 Jul 2009 Date Analysed: 11 Aug 2009

Analyte	Conc. ¥ (mg/kg)	Analyte	Conc. ¥ (mg/kg)
Organochlorine Pesticides		**Organophosphorus Pesticides**	
hexachlorobenzene	< 0.1	Diazinon	< 0.1
gamma-BHC (lindane)	< 0.1	Pirimiphos methyl	< 0.2
heptachlor	< 0.1	Chlorpyriphos	< 0.2
aldrin	< 0.1	Azinphos methyl	< 0.8
heptachlor epoxide	< 0.1	**Plasticisers**	
Procymidone	< 0.2	dimethyl phthalate	< 2
Alpha-chlordane	< 0.1	diethyl phthalate	< 2
Gamma-chlordane	< 0.1	di-n-butyl phthalate	< 2
pp-DDE	< 0.1	benzyl butyl phthalate	< 2
dieldrin	< 0.1	di(2-ethylhexyl) adipate	< 2
pp-DDD	< 0.1	di(2-ethylhexyl) phthalate	< 2
pp-DDT	< 0.2	**Polychlorinated Biphenyls**	
Methoxychlor	< 0.2	PCB congener #8	< 0.1
Cis permethrin	< 0.2	PCB congener #28	< 0.1
Trans permethrin	< 0.2	PCB congener #101	< 0.2
alpha-BHC	< 0.1	PCB congener #138	< 0.1
beta-BHC	< 0.1	PCB congener #183	< 0.1
Delta-BHC	< 0.1	**Polycyclic Aromatic Hydrocarbons**	
endosulfan I	< 0.1	naphthalene	< 1
endosulfan II	< 0.1	acenaphthylene	< 0.2
Endosulfan sulfate	< 0.1	acenaphthene	< 0.1
endrin	< 0.1	fluorene	**0.12**
Endrin aldehyde	< 0.1	phenanthrene	**1.2**
Endrin ketone	< 0.1	anthracene	**0.31**
Organonitrogen Herbicides		fluoranthene	**2.5**
Trifluralin	< 0.2	pyrene	**2.3**
Simazine	< 0.1	benz[a]anthracene	**0.83**
Atrazine	< 0.1	chrysene	**0.80**
Terbuthylazine	< 0.2	benzo[b]fluoranthene	**0.62**
Propanil	< 0.1	benzo[k]fluoranthene	**0.65**
Alachlor	< 0.2	benzo[a]pyrene	**0.77**
Metolachlor	< 0.1	indeno[1,2,3-c,d]pyrene	**0.50**
Pendimethalin	< 0.2	dibenz[a,h]anthracene	< 0.2
Molinate	< 0.1	benzo[g,h,i]perylene	**0.46**
Propazine	< 0.1		
Hexazinone	< 0.1		
Metalaxyl	< 0.1		
Cyanazine	< 0.1		
Oxadiazon	< 0.1		
Metribuzin	< 0.1		
Bromacil	< 0.4		
Oryzalin	< 10		

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: CG Authorised: Jayanthi Ranasinghe

Results: Semi Volatile Organic Contaminants

Sample Identification: 9SS1 - SS6 - Composite 9

Laboratory Reference: 58715-9 Date Received: 20 Jul 2009

Date Extracted: 31 Jul 2009 Date Analysed: 11 Aug 2009

Analyte	Conc. ¥ (mg/kg)	Analyte	Conc. ¥ (mg/kg)
Organochlorine Pesticides		**Organophosphorus Pesticides**	
hexachlorobenzene	< 0.1	Diazinon	< 0.1
gamma-BHC (lindane)	< 0.1	Pirimiphos methyl	< 0.2
heptachlor	< 0.1	Chlorpyriphos	< 0.2
aldrin	< 0.1	Azinphos methyl	< 0.8
heptachlor epoxide	< 0.1	**Plasticisers**	
Procymidone	< 0.2	dimethyl phthalate	< 2
Alpha-chlordane	< 0.1	diethyl phthalate	< 2
Gamma-chlordane	< 0.1	di-n-butyl phthalate	< 2
pp-DDE	< 0.1	benzyl butyl phthalate	< 2
dieldrin	< 0.1	di(2-ethylhexyl) adipate	< 2
pp-DDD	< 0.1	di(2-ethylhexyl) phthalate	< 2
pp-DDT	< 0.2	**Polychlorinated Biphenyls**	
Methoxychlor	< 0.2	PCB congener #8	< 0.1
Cis permethrin	< 0.2	PCB congener #28	< 0.1
Trans permethrin	< 0.2	PCB congener #101	< 0.1
alpha-BHC	< 0.1	PCB congener #138	< 0.1
beta-BHC	< 0.1	PCB congener #183	< 0.1
Delta-BHC	< 0.1	**Polycyclic Aromatic Hydrocarbons**	
endosulfan I	< 0.1	naphthalene	< 1
endosulfan II	< 0.1	acenaphthylene	< 0.1
Endosulfan sulfate	< 0.1	acenaphthene	< 0.1
endrin	< 0.1	fluorene	< 0.1
Endrin aldehyde	< 0.1	phenanthrene	< 0.1
Endrin ketone	< 0.1	anthracene	< 0.1
Organonitrogen Herbicides		fluoranthene	< 0.2
Trifluralin	< 0.2	pyrene	< 0.2
Simazine	< 0.1	benz[a]anthracene	< 0.1
Atrazine	< 0.1	chrysene	< 0.1
Terbuthylazine	< 0.2	benzo[b]fluoranthene	< 0.1
Propanil	< 0.1	benzo[k]fluoranthene	< 0.1
Alachlor	< 0.2	benzo[a]pyrene	< 0.1
Metolachlor	< 0.1	indeno[1,2,3-c,d]pyrene	< 0.2
Pendimethalin	< 0.2	dibenz[a,h]anthracene	< 0.2
Molinate	< 0.1	benzo[g,h,i]perylene	< 0.2
Propazine	< 0.1		
Hexazinone	< 0.1		
Metalaxyl	< 0.1		
Cyanazine	< 0.1		
Oxadiazon	< 0.1		
Metribuzin	< 0.1		
Bromacil	< 0.4		
Oryzalin	< 10		

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JR Authorised: Jayanthi Ranasinghe

Results: Semi Volatile Organic Contaminants

Sample Identification: 10SS7 -SS12 - Composite 10

Laboratory Reference: 58715-10 Date Received: 20 Jul 2009

Date Extracted: 31 Jul 2009 Date Analysed: 11 Aug 2009

Analyte	Conc. ¥ (mg/kg)	Analyte	Conc. ¥ (mg/kg)
Organochlorine Pesticides		**Organophosphorus Pesticides**	
hexachlorobenzene	< 0.1	Diazinon	< 0.1
gamma-BHC (lindane)	< 0.1	Pirimiphos methyl	< 0.2
heptachlor	< 0.1	Chlorpyriphos	< 0.2
aldrin	< 0.1	Azinphos methyl	< 0.8
heptachlor epoxide	< 0.1	**Plasticisers**	
Procymidone	< 0.2	dimethyl phthalate	< 2
Alpha-chlordane	< 0.1	diethyl phthalate	< 2
Gamma-chlordane	< 0.1	di-n-butyl phthalate	< 2
pp-DDE	< 0.1	benzyl butyl phthalate	< 2
dieldrin	< 0.1	di(2-ethylhexyl) adipate	< 2
pp-DDD	< 0.1	di(2-ethylhexyl) phthalate	< 2
pp-DDT	< 0.2	**Polychlorinated Biphenyls**	
Methoxychlor	< 0.2	PCB congener #8	< 0.1
Cis permethrin	< 0.2	PCB congener #28	< 0.1
Trans permethrin	< 0.2	PCB congener #101	< 0.1
alpha-BHC	< 0.1	PCB congener #138	< 0.1
beta-BHC	< 0.1	PCB congener #183	< 0.1
Delta-BHC	< 0.1	**Polycyclic Aromatic Hydrocarbons**	
endosulfan I	< 0.1	naphthalene	< 1
endosulfan II	< 0.1	acenaphthylene	< 0.1
Endosulfan sulfate	< 0.1	acenaphthene	< 0.1
endrin	< 0.1	fluorene	< 0.1
Endrin aldehyde	< 0.1	phenanthrene	< 0.1
Endrin ketone	< 0.1	anthracene	< 0.1
Organonitrogen Herbicides		fluoranthene	< 0.2
Trifluralin	< 0.2	pyrene	< 0.2
Simazine	< 0.1	benz[a]anthracene	< 0.1
Atrazine	< 0.1	chrysene	< 0.1
Terbuthylazine	< 0.2	benzo[b]fluoranthene	< 0.1
Propanil	< 0.1	benzo[k]fluoranthene	< 0.1
Alachlor	< 0.2	benzo[a]pyrene	< 0.1
Metolachlor	< 0.1	indeno[1,2,3-c,d]pyrene	< 0.2
Pendimethalin	< 0.2	dibenz[a,h]anthracene	< 0.2
Molinate	< 0.1	benzo[g,h,i]perylene	< 0.2
Propazine	< 0.1		
Hexazinone	< 0.1		
Metalaxyl	< 0.1		
Cyanazine	< 0.1		
Oxadiazon	< 0.1		
Metribuzin	< 0.1		
Bromacil	< 0.4		
Oryzalin	< 10		

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JR Authorised: Jayanthi Ranasinghe

Results: Semi Volatile Organic Contaminants

Sample Identification: 11SS13/1-SS18/1 - Composite 11

Laboratory Reference: 58715-11 Date Received: 20 Jul 2009

Date Extracted: 31 Jul 2009 Date Analysed: 11 Aug 2009

Analyte	Conc. ¥ (mg/kg)	Analyte	Conc. ¥ (mg/kg)
Organochlorine Pesticides		**Organophosphorus Pesticides**	
hexachlorobenzene	< 0.1	Diazinon	< 0.1
gamma-BHC (lindane)	< 0.1	Pirimiphos methyl	< 0.2
heptachlor	< 0.1	Chlorpyriphos	< 0.2
aldrin	< 0.1	Azinphos methyl	< 0.8
heptachlor epoxide	< 0.1	**Plasticisers**	
Procymidone	< 0.2	dimethyl phthalate	< 2
Alpha-chlordane	< 0.1	diethyl phthalate	< 2
Gamma-chlordane	< 0.1	di-n-butyl phthalate	< 2
pp-DDE	< 0.1	benzyl butyl phthalate	< 2
dieldrin	< 0.1	di(2-ethylhexyl) adipate	< 2
pp-DDD	< 0.1	di(2-ethylhexyl) phthalate	< 2
pp-DDT	< 0.2	**Polychlorinated Biphenyls**	
Methoxychlor	< 0.2	PCB congener #8	< 0.1
Cis permethrin	< 0.2	PCB congener #28	< 0.1
Trans permethrin	< 0.2	PCB congener #101	< 0.1
alpha-BHC	< 0.1	PCB congener #138	< 0.1
beta-BHC	< 0.1	PCB congener #183	< 0.1
Delta-BHC	< 0.1	**Polycyclic Aromatic Hydrocarbons**	
endosulfan I	< 0.1	naphthalene	< 1
endosulfan II	< 0.1	acenaphthylene	< 0.1
Endosulfan sulfate	< 0.1	acenaphthene	< 0.1
endrin	< 0.1	fluorene	< 0.1
Endrin aldehyde	< 0.1	phenanthrene	< 0.1
Endrin ketone	< 0.1	anthracene	< 0.1
Organonitrogen Herbicides		fluoranthene	< 0.2
Trifluralin	< 0.2	pyrene	< 0.2
Simazine	< 0.1	benz[a]anthracene	< 0.1
Atrazine	< 0.1	chrysene	< 0.1
Terbuthylazine	< 0.2	benzo[b]fluoranthene	< 0.1
Propanil	< 0.1	benzo[k]fluoranthene	< 0.1
Alachlor	< 0.2	benzo[a]pyrene	< 0.1
Metolachlor	< 0.1	indeno[1,2,3-c,d]pyrene	< 0.2
Pendimethalin	< 0.2	dibenz[a,h]anthracene	< 0.2
Molinate	< 0.1	benzo[g,h,i]perylene	< 0.2
Propazine	< 0.1		
Hexazinone	< 0.1		
Metalaxyl	< 0.1		
Cyanazine	< 0.1		
Oxadiazon	< 0.1		
Metribuzin	< 0.1		
Bromacil	< 0.4		
Oryzalin	< 10		

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JR Authorised: Jayanthi Ranasinghe

Results: Semi Volatile Organic Contaminants

Sample Identification: 12SS19 - SS24 - Composite 12

Laboratory Reference: 58715-12 Date Received: 20 Jul 2009

Date Extracted: 31 Jul 2009 Date Analysed: 11 Aug 2009

Analyte	Conc. ¥ (mg/kg)	Analyte	Conc. ¥ (mg/kg)
Organochlorine Pesticides		**Organophosphorus Pesticides**	
hexachlorobenzene	< 0.1	Diazinon	< 0.1
gamma-BHC (lindane)	< 0.1	Pirimiphos methyl	< 0.2
heptachlor	< 0.1	Chlorpyriphos	< 0.2
aldrin	< 0.1	Azinphos methyl	< 0.8
heptachlor epoxide	< 0.1	**Plasticisers**	
Procymidone	< 0.2	dimethyl phthalate	< 2
Alpha-chlordane	< 0.1	diethyl phthalate	< 2
Gamma-chlordane	< 0.1	di-n-butyl phthalate	< 2
pp-DDE	< 0.1	benzyl butyl phthalate	< 2
dieldrin	< 0.1	di(2-ethylhexyl) adipate	< 2
pp-DDD	< 0.1	di(2-ethylhexyl) phthalate	< 2
pp-DDT	< 0.2	**Polychlorinated Biphenyls**	
Methoxychlor	< 0.2	PCB congener #8	< 0.1
Cis permethrin	< 0.2	PCB congener #28	< 0.1
Trans permethrin	< 0.2	PCB congener #101	< 0.1
alpha-BHC	< 0.1	PCB congener #138	< 0.1
beta-BHC	< 0.1	PCB congener #183	< 0.1
Delta-BHC	< 0.1	**Polycyclic Aromatic Hydrocarbons**	
endosulfan I	< 0.1	naphthalene	< 1
endosulfan II	< 0.1	acenaphthylene	< 0.1
Endosulfan sulfate	< 0.1	acenaphthene	< 0.1
endrin	< 0.1	fluorene	< 0.1
Endrin aldehyde	< 0.1	phenanthrene	< 0.1
Endrin ketone	< 0.1	anthracene	< 0.1
Organonitrogen Herbicides		fluoranthene	< 0.2
Trifluralin	< 0.2	pyrene	< 0.2
Simazine	< 0.1	benz[a]anthracene	< 0.1
Atrazine	< 0.1	chrysene	< 0.1
Terbuthylazine	< 0.2	benzo[b]fluoranthene	< 0.1
Propanil	< 0.1	benzo[k]fluoranthene	< 0.1
Alachlor	< 0.2	benzo[a]pyrene	< 0.1
Metolachlor	< 0.1	indeno[1,2,3-c,d]pyrene	< 0.2
Pendimethalin	< 0.2	dibenz[a,h]anthracene	< 0.2
Molinate	< 0.1	benzo[g,h,i]perylene	< 0.2
Propazine	< 0.1		
Hexazinone	< 0.1		
Metalaxyl	< 0.1		
Cyanazine	< 0.1		
Oxadiazon	< 0.1		
Metribuzin	< 0.1		
Bromacil	< 0.4		
Oryzalin	< 10		

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JR Authorised: Jayanthi Ranasinghe

Results: Semi Volatile Organic Contaminants

Sample Identification: 13SS25 - SS31 - Composite 13

Laboratory Reference: 58715-13 Date Received: 20 Jul 2009

Date Extracted: 31 Jul 2009 Date Analysed: 11 Aug 2009

Analyte	Conc. ¥ (mg/kg)	Analyte	Conc. ¥ (mg/kg)
Organochlorine Pesticides		**Organophosphorus Pesticides**	
hexachlorobenzene	< 0.1	Diazinon	< 0.1
gamma-BHC (lindane)	< 0.1	Pirimiphos methyl	< 0.2
heptachlor	< 0.1	Chlorpyriphos	< 0.2
aldrin	< 0.1	Azinphos methyl	< 0.8
heptachlor epoxide	< 0.1	**Plasticisers**	
Procymidone	< 0.2	dimethyl phthalate	< 2
Alpha-chlordane	< 0.1	diethyl phthalate	< 2
Gamma-chlordane	< 0.1	di-n-butyl phthalate	< 2
pp-DDE	< 0.1	benzyl butyl phthalate	< 2
dieldrin	< 0.1	di(2-ethylhexyl) adipate	< 2
pp-DDD	< 0.1	di(2-ethylhexyl) phthalate	< 2
pp-DDT	< 0.2	**Polychlorinated Biphenyls**	
Methoxychlor	< 0.2	PCB congener #8	< 0.1
Cis permethrin	< 0.2	PCB congener #28	< 0.1
Trans permethrin	< 0.2	PCB congener #101	< 0.1
alpha-BHC	< 0.1	PCB congener #138	< 0.1
beta-BHC	< 0.1	PCB congener #183	< 0.1
Delta-BHC	< 0.1	**Polycyclic Aromatic Hydrocarbons**	
endosulfan I	< 0.1	naphthalene	< 1
endosulfan II	< 0.1	acenaphthylene	< 0.1
Endosulfan sulfate	< 0.1	acenaphthene	< 0.1
endrin	< 0.1	fluorene	< 0.1
Endrin aldehyde	< 0.1	phenanthrene	< 0.1
Endrin ketone	< 0.1	anthracene	< 0.1
Organonitrogen Herbicides		fluoranthene	< 0.2
Trifluralin	< 0.2	pyrene	< 0.2
Simazine	< 0.1	benz[a]anthracene	< 0.1
Atrazine	< 0.1	chrysene	< 0.1
Terbuthylazine	< 0.2	benzo[b]fluoranthene	< 0.1
Propanil	< 0.1	benzo[k]fluoranthene	< 0.1
Alachlor	< 0.2	benzo[a]pyrene	< 0.1
Metolachlor	< 0.1	indeno[1,2,3-c,d]pyrene	< 0.2
Pendimethalin	< 0.2	dibenz[a,h]anthracene	< 0.2
Molinate	< 0.1	benzo[g,h,i]perylene	< 0.2
Propazine	< 0.1		
Hexazinone	< 0.1		
Metalaxyl	< 0.1		
Cyanazine	< 0.1		
Oxadiazon	< 0.1		
Metribuzin	< 0.1		
Bromacil	< 0.4		
Oryzalin	< 10		

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JR Authorised: Jayanthi Ranasinghe

Results: Semi Volatile Organic Contaminants

Sample Identification: 14 SS13/2 - SS 18/2, Composite 14

Laboratory Reference: 58715-14 Date Received: 20 Jul 2009

Date Extracted: 31 Jul 2009 Date Analysed: 11 Aug 2009

Analyte	Conc. ¥ (mg/kg)	Analyte	Conc. ¥ (mg/kg)
Organochlorine Pesticides		**Organophosphorus Pesticides**	
hexachlorobenzene	< 0.1	Diazinon	< 0.1
gamma-BHC (lindane)	< 0.1	Pirimiphos methyl	< 0.2
heptachlor	< 0.1	Chlorpyriphos	< 0.2
aldrin	< 0.1	Azinphos methyl	< 0.8
heptachlor epoxide	< 0.1	**Plasticisers**	
Procymidone	< 0.2	dimethyl phthalate	< 2
Alpha-chlordane	< 0.1	diethyl phthalate	< 2
Gamma-chlordane	< 0.1	di-n-butyl phthalate	< 2
pp-DDE	< 0.1	benzyl butyl phthalate	< 2
dieldrin	< 0.2	di(2-ethylhexyl) adipate	< 2
pp-DDD	< 0.1	di(2-ethylhexyl) phthalate	< 2
pp-DDT	< 0.2	**Polychlorinated Biphenyls**	
Methoxychlor	< 0.2	PCB congener #8	< 0.1
Cis permethrin	< 0.2	PCB congener #28	< 0.1
Trans permethrin	< 0.2	PCB congener #101	< 0.1
alpha-BHC	< 0.1	PCB congener #138	< 0.1
beta-BHC	< 0.1	PCB congener #183	< 0.1
Delta-BHC	< 0.1	**Polycyclic Aromatic Hydrocarbons**	
endosulfan I	< 0.1	naphthalene	< 1
endosulfan II	< 0.1	acenaphthylene	< 0.1
Endosulfan sulfate	< 0.1	acenaphthene	< 0.1
endrin	< 0.1	fluorene	< 0.1
Endrin aldehyde	< 0.1	phenanthrene	**0.19**
Endrin ketone	< 0.1	anthracene	< 0.1
Organonitrogen Herbicides		fluoranthene	**0.34**
Trifluralin	< 0.2	pyrene	**0.34**
Simazine	< 0.1	benz[a]anthracene	**0.12**
Atrazine	< 0.1	chrysene	**0.14**
Terbuthylazine	< 0.2	benzo[b]fluoranthene	**0.12**
Propanil	< 0.1	benzo[k]fluoranthene	**0.14**
Alachlor	< 0.2	benzo[a]pyrene	**0.15**
Metolachlor	< 0.1	indeno[1,2,3-c,d]pyrene	< 0.2
Pendimethalin	< 0.2	dibenz[a,h]anthracene	< 0.2
Molinate	< 0.1	benzo[g,h,i]perylene	< 0.2
Propazine	< 0.1		
Hexazinone	< 0.1		
Metalaxyl	< 0.1		
Cyanazine	< 0.1		
Oxadiazon	< 0.1		
Metribuzin	< 0.1		
Bromacil	< 0.4		
Oryzalin	< 10		

¥ = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: CG Authorised: Jayanthi Ranasinghe

Results: Semi Volatile Organic Contaminants

Sample Identification: Laboratory Blank

Laboratory Reference: 58715/BLANK-A

Date Received: Not applicable

Date Extracted: 31 Jul 2009

Date Analysed: 11 Aug 2009

Analyte	Conc. ¥ (mg/kg)	Analyte	Conc. ¥ (mg/kg)
Organochlorine Pesticides		**Organophosphorus Pesticides**	
hexachlorobenzene	< 0.1	Diazinon	< 0.1
gamma-BHC (lindane)	< 0.1	Pirimiphos methyl	< 0.2
heptachlor	< 0.1	Chlorpyriphos	< 0.2
aldrin	< 0.1	Azinphos methyl	< 0.8
heptachlor epoxide	< 0.1	**Plasticisers**	
Procymidone	< 0.2	dimethyl phthalate	< 2
Alpha-chlordane	< 0.1	diethyl phthalate	< 2
Gamma-chlordane	< 0.1	di-n-butyl phthalate	< 2
pp-DDE	< 0.1	benzyl butyl phthalate	< 2
dieldrin	< 0.1	di(2-ethylhexyl) adipate	< 2
pp-DDD	< 0.1	di(2-ethylhexyl) phthalate	< 2
pp-DDT	< 0.2	**Polychlorinated Biphenyls**	
Methoxychlor	< 0.2	PCB congener #8	< 0.1
Cis permethrin	< 0.2	PCB congener #28	< 0.1
Trans permethrin	< 0.2	PCB congener #101	< 0.1
alpha-BHC	< 0.1	PCB congener #138	< 0.1
beta-BHC	< 0.1	PCB congener #183	< 0.1
Delta-BHC	< 0.1	**Polycyclic Aromatic Hydrocarbons**	
endosulfan I	< 0.1	naphthalene	< 1
endosulfan II	< 0.1	acenaphthylene	< 0.1
Endosulfan sulfate	< 0.1	acenaphthene	< 0.1
endrin	< 0.1	fluorene	< 0.1
Endrin aldehyde	< 0.1	phenanthrene	< 0.1
Endrin ketone	< 0.1	anthracene	< 0.1
Organonitrogen Herbicides		fluoranthene	< 0.2
Trifluralin	< 0.2	pyrene	< 0.2
Simazine	< 0.1	benz[a]anthracene	< 0.1
Atrazine	< 0.1	chrysene	< 0.1
Terbuthylazine	< 0.2	benzo[b]fluoranthene	< 0.1
Propanil	< 0.1	benzo[k]fluoranthene	< 0.1
Alachlor	< 0.2	benzo[a]pyrene	< 0.1
Metolachlor	< 0.1	indeno[1,2,3-c,d]pyrene	< 0.2
Pendimethalin	< 0.2	dibenz[a,h]anthracene	< 0.2
Molinate	< 0.1	benzo[g,h,i]perylene	< 0.2
Propazine	< 0.1		
Hexazinone	< 0.1		
Metalaxyl	< 0.1		
Cyanazine	< 0.1		
Oxadiazon	< 0.1		
Metribuzin	< 0.1		
Bromacil	< 0.4		
Oryzalin	< 10		

¥ = Results are calculated using the average weight of samples in this batch.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JR Authorised: Jayanthi Ranasinghe

1C Quadrant Drive, Gracefield
P.O. Box 31 242, Lower Hutt
Wellington, New Zealand

T 64 4 5708800
F 64 4 5708176
W www.asurequality.com

Certificate of Analysis

Date Issued: 17 Aug 2009

Client: Pattle Delamore Partners Ltd
P O Box 6136
Wellington

Attention: Rod Lidgard

Date Received: 20 Jul 2009

AsureQuality Lab. Reference: 58715

Sample Type(s): Soil

Analysis: **TCDD Screen**

Method: Based on USEPA Method 1613B (Isotope Dilution)

Results are reported in picograms per gram (pg/g), equivalent to ppt, on a dry weight basis to three significant figures. The DL value is reported to three significant figures.

Unless requested, original samples will be disposed of eight weeks from the date of this report.

Comments:

Phil Bridgen
Team Leader - Dioxins
AsureQuality Limited

Results: 2378 TCDF and 2378 TCDD

Laboratory Reference: **58715-1**

Sample Identification: **1A3/1; B4/1; C2/1;D3/1;E2/1;F6/1- Composite 1**

Date Received: 20 Jul 2009 Date Analysed: 31 Jul 2009

Date Extracted: 27 Jul 2009

Analyte	Conc.¥ (pg/g)	DL	EMPC	^{13}C%RE	LCL-UCL	Qualifiers
2378 TCDF	ND	0.3		98	24 - 169	
2378 TCDD	0.23			106	25 - 164	
37Cl4 TCDD				104	35 - 197	

¥ = Results are reported on a dry weight basis

ND = Not Detected

DL: Sample Specific Estimated Detection Limit

EMPC: Estimated Maximum Possible Concentration

^{13}C %RE: Labelled Compound Recovery

LCL-UCL: Lower Control Limit - Upper Control Limit

Lab Analyst: ML Data Analyst: NE Authorised: Phil Bridgen

Results: 2378 TCDF and 2378 TCDD

Laboratory Reference: **58715-2**

Sample Identification: **2A11/1; B5/1; C1/1; D6/1; E3/1; F3/1 - Composite 2**

Date Received: 20 Jul 2009 Date Analysed: 31 Jul 2009

Date Extracted: 27 Jul 2009

Analyte	Conc.¥ (pg/g)	DL	EMPC	^{13}C%RE	LCL-UCL	Qualifiers
2378 TCDF	0.32			91	24 - 169	
2378 TCDD	0.27			96	25 - 164	
37Cl4 TCDD				95	35 - 197	

¥ = Results are reported on a dry weight basis

DL: Sample Specific Estimated Detection Limit

EMPC: Estimated Maximum Possible Concentration

^{13}C %RE: Labelled Compound Recovery

LCL-UCL: Lower Control Limit - Upper Control Limit

Lab Analyst: ML Data Analyst: NE Authorised: Phil Bridgen

Results: 2378 TCDF and 2378 TCDD

Laboratory Reference: **58715-3**

Sample Identification: **3A1/1; B3/1; C6/1; D1/1; E4/1; F5/1 - Composite 3**

Date Received: 20 Jul 2009 Date Analysed: 31 Jul 2009

Date Extracted: 27 Jul 2009

Analyte	Conc.¥ (pg/g)	DL	EMPC	^{13}C%RE	LCL-UCL	Qualifiers
2378 TCDF	0.36			96	24 - 169	
2378 TCDD	0.31			100	25 - 164	
37Cl4 TCDD				96	35 - 197	

¥ = Results are reported on a dry weight basis

DL: Sample Specific Estimated Detection Limit

EMPC: Estimated Maximum Possible Concentration

^{13}C %RE: Labelled Compound Recovery

LCL-UCL: Lower Control Limit - Upper Control Limit

Lab Analyst: ML Data Analyst: NE Authorised: Phil Bridgen

Results: 2378 TCDF and 2378 TCDD

Laboratory Reference: **58715-4**

Sample Identification: **4A6/1; B2/1; C4/1; D2/1; E5/1; F8/1 - Composite 4**

Date Received: 20 Jul 2009 Date Analysed: 03 Aug 2009

Date Extracted: 27 Jul 2009

Analyte	Conc.¥ (pg/g)	DL	EMPC	^{13}C%RE	LCL-UCL	Qualifiers
2378 TCDF	0.34			92	24 - 169	
2378 TCDD	0.23			97	25 - 164	
37Cl4 TCDD				91	35 - 197	

¥ = Results are reported on a dry weight basis

DL: Sample Specific Estimated Detection Limit

EMPC: Estimated Maximum Possible Concentration

^{13}C %RE: Labelled Compound Recovery

LCL-UCL: Lower Control Limit - Upper Control Limit

Lab Analyst: ML Data Analyst: NE Authorised: Phil Bridgen

Results: 2378 TCDF and 2378 TCDD

Laboratory Reference: **58715-5**

Sample Identification: **5A3/2; B4/2; C2/2; D3/2; E2/2; F6/2 - Composite 5**

Date Received: 20 Jul 2009 Date Analysed: 31 Jul 2009

Date Extracted: 27 Jul 2009

Analyte	Conc.¥ (pg/g)	DL	EMPC	^{13}C%RE	LCL-UCL	Qualifiers
2378 TCDF	0.37			90	24 - 169	
2378 TCDD	1.4			99	25 - 164	
37Cl4 TCDD				94	35 - 197	

¥ = Results are reported on a dry weight basis

DL: Sample Specific Estimated Detection Limit

EMPC: Estimated Maximum Possible Concentration

^{13}C %RE: Labelled Compound Recovery

LCL-UCL: Lower Control Limit - Upper Control Limit

Lab Analyst: ML Data Analyst: NE Authorised: Phil Bridgen

Results: 2378 TCDF and 2378 TCDD

Laboratory Reference: **58715-6**

Sample Identification: **6A11/2; B5/2; C1/2; D6/2; E3/2; F3/2 - Composite 6**

Date Received: 20 Jul 2009 Date Analysed: 31 Jul 2009

Date Extracted: 27 Jul 2009

Analyte	Conc.¥ (pg/g)	DL	EMPC	^{13}C%RE	LCL-UCL	Qualifiers
2378 TCDF	0.59			92	24 - 169	
2378 TCDD	1.7			102	25 - 164	
37Cl4 TCDD				96	35 - 197	

¥ = Results are reported on a dry weight basis

DL: Sample Specific Estimated Detection Limit

EMPC: Estimated Maximum Possible Concentration

^{13}C %RE: Labelled Compound Recovery

LCL-UCL: Lower Control Limit - Upper Control Limit

Lab Analyst: ML Data Analyst: NE Authorised: Phil Bridgen

Results: 2378 TCDF and 2378 TCDD

Laboratory Reference: **58715-7**

Sample Identification: **7A1/2; B3/2; C6/2; D1/2; E4/2; F5/2 - Composite 7**

Date Received: 20 Jul 2009 Date Analysed: 31 Jul 2009

Date Extracted: 27 Jul 2009

Analyte	Conc.¥ (pg/g)	DL	EMPC	^{13}C%RE	LCL-UCL	Qualifiers
2378 TCDF	0.36			93	24 - 169	
2378 TCDD	1.5			99	25 - 164	
37Cl4 TCDD				90	35 - 197	

¥ = Results are reported on a dry weight basis

DL: Sample Specific Estimated Detection Limit
EMPC: Estimated Maximum Possible Concentration
^{13}C %RE: Labelled Compound Recovery
LCL-UCL: Lower Control Limit - Upper Control Limit

Lab Analyst: ML Data Analyst: NE Authorised: Phil Bridgen

Results: 2378 TCDF and 2378 TCDD

Laboratory Reference: **58715-8**

Sample Identification: **8A6/2; B2/2; C4/2; D2/2; E5/2; F8/2 - Composite 8**

Date Received: 20 Jul 2009 Date Analysed: 31 Jul 2009

Date Extracted: 27 Jul 2009

Analyte	Conc.¥ (pg/g)	DL	EMPC	^{13}C%RE	LCL-UCL	Qualifiers
2378 TCDF	0.68			88	24 - 169	
2378 TCDD	2.3			102	25 - 164	
37Cl4 TCDD				96	35 - 197	

¥ = Results are reported on a dry weight basis

DL: Sample Specific Estimated Detection Limit
EMPC: Estimated Maximum Possible Concentration
^{13}C %RE: Labelled Compound Recovery
LCL-UCL: Lower Control Limit - Upper Control Limit

Lab Analyst: ML Data Analyst: NE Authorised: Phil Bridgen

Results: 2378 TCDF and 2378 TCDD

Laboratory Reference: **58715-9**

Sample Identification: **9SS1 - SS6 - Composite 9**

Date Received: 20 Jul 2009 Date Analysed: 31 Jul 2009

Date Extracted: 27 Jul 2009

Analyte	Conc.¥ (pg/g)	DL	EMPC	^{13}C%RE	LCL-UCL	Qualifiers
2378 TCDF	ND	0.2		88	24 - 169	
2378 TCDD	ND	0.3		99	25 - 164	
37Cl4 TCDD				95	35 - 197	

¥ = Results are reported on a dry weight basis

ND = Not Detected

DL: Sample Specific Estimated Detection Limit

EMPC: Estimated Maximum Possible Concentration

^{13}C %RE: Labelled Compound Recovery

LCL-UCL: Lower Control Limit - Upper Control Limit

Lab Analyst: ML Data Analyst: NE Authorised: Phil Bridgen

Results: 2378 TCDF and 2378 TCDD

Laboratory Reference: **58715-10**

Sample Identification: **10SS7 -SS12 - Composite 10**

Date Received: 20 Jul 2009 Date Analysed: 31 Jul 2009

Date Extracted: 27 Jul 2009

Analyte	Conc.¥ (pg/g)	DL	EMPC	^{13}C%RE	LCL-UCL	Qualifiers
2378 TCDF	ND	0.2		86	24 - 169	
2378 TCDD	39			96	25 - 164	
37Cl4 TCDD				93	35 - 197	

¥ = Results are reported on a dry weight basis

ND = Not Detected

DL: Sample Specific Estimated Detection Limit

EMPC: Estimated Maximum Possible Concentration

^{13}C %RE: Labelled Compound Recovery

LCL-UCL: Lower Control Limit - Upper Control Limit

Lab Analyst: ML Data Analyst: NE Authorised: Phil Bridgen

Results: 2378 TCDF and 2378 TCDD

Laboratory Reference: **58715-11**

Sample Identification: **11SS13/1-SS18/1 - Composite 11**

Date Received: 20 Jul 2009 Date Analysed: 31 Jul 2009

Date Extracted: 27 Jul 2009

Analyte	Conc.¥ (pg/g)	DL	EMPC	^{13}C%RE	LCL-UCL	Qualifiers
2378 TCDF	ND	0.2		85	24 - 169	
2378 TCDD	0.95			97	25 - 164	
37Cl4 TCDD				95	35 - 197	

¥ = Results are reported on a dry weight basis

ND = Not Detected

DL: Sample Specific Estimated Detection Limit

EMPC: Estimated Maximum Possible Concentration

^{13}C %RE: Labelled Compound Recovery

LCL-UCL: Lower Control Limit - Upper Control Limit

Lab Analyst: ML Data Analyst: NE Authorised: Phil Bridgen

Results: 2378 TCDF and 2378 TCDD

Laboratory Reference: **58715-12**

Sample Identification: **12SS19 - SS24 - Composite 12**

Date Received: 20 Jul 2009 Date Analysed: 31 Jul 2009

Date Extracted: 27 Jul 2009

Analyte	Conc.¥ (pg/g)	DL	EMPC	^{13}C%RE	LCL-UCL	Qualifiers
2378 TCDF	ND	0.1		87	24 - 169	
2378 TCDD	0.37			98	25 - 164	
37Cl4 TCDD				91	35 - 197	

¥ = Results are reported on a dry weight basis

ND = Not Detected

DL: Sample Specific Estimated Detection Limit

EMPC: Estimated Maximum Possible Concentration

^{13}C %RE: Labelled Compound Recovery

LCL-UCL: Lower Control Limit - Upper Control Limit

Lab Analyst: ML Data Analyst: NE Authorised: Phil Bridgen

Results: 2378 TCDF and 2378 TCDD

Laboratory Reference: **58715-13**

Sample Identification: **13SS25 - SS31 - Composite 13**

Date Received: 20 Jul 2009 Date Analysed: 31 Jul 2009

Date Extracted: 27 Jul 2009

Analyte	Conc.¥ (pg/g)	DL	EMPC	^{13}C%RE	LCL-UCL	Qualifiers
2378 TCDF	ND	0.2		84	24 - 169	
2378 TCDD	0.45			95	25 - 164	
37Cl4 TCDD				89	35 - 197	

¥ = Results are reported on a dry weight basis

ND = Not Detected

DL: Sample Specific Estimated Detection Limit

EMPC: Estimated Maximum Possible Concentration

^{13}C %RE: Labelled Compound Recovery

LCL-UCL: Lower Control Limit - Upper Control Limit

Lab Analyst: ML Data Analyst: NE Authorised: Phil Bridgen

Results: 2378 TCDF and 2378 TCDD

Laboratory Reference: **58715-14**

Sample Identification: **14 SS13/2 - SS 18/2, Composite 14**

Date Received: 20 Jul 2009 Date Analysed: 31 Jul 2009

Date Extracted: 27 Jul 2009

Analyte	Conc.¥ (pg/g)	DL	EMPC	^{13}C%RE	LCL-UCL	Qualifiers
2378 TCDF	0.72			93	24 - 169	
2378 TCDD	3.0			100	25 - 164	
37Cl4 TCDD				94	35 - 197	

¥ = Results are reported on a dry weight basis

DL: Sample Specific Estimated Detection Limit

EMPC: Estimated Maximum Possible Concentration

^{13}C %RE: Labelled Compound Recovery

LCL-UCL: Lower Control Limit - Upper Control Limit

Lab Analyst: ML Data Analyst: NE Authorised: Phil Bridgen

Results: 2378 TCDF and 2378 TCDD

Laboratory Reference: **58715/BLANK-A**

Sample Identification: **Laboratory Blank**

Date Received: Not applicable

Date Analysed: 31 Jul 2009

Date Extracted: 27 Jul 2009

Analyte	Conc.¥ (pg/g)	DL	EMPC	^{13}C%RE	LCL-UCL	Qualifiers
2378 TCDF	ND	0.2		114	24 - 169	
2378 TCDD	ND	0.3		99	25 - 164	
37Cl4 TCDD				98	35 - 197	

¥ = Results are calculated using the average weight of samples in this batch

ND = Not Detected

DL: Sample Specific Estimated Detection Limit

EMPC: Estimated Maximum Possible Concentration

^{13}C %RE: Labelled Compound Recovery

LCL-UCL: Lower Control Limit - Upper Control Limit

Lab Analyst: MC Data Analyst: NE Authorised: Phil Bridgen

1C Quadrant Drive, Gracefield
P.O. Box 31 242, Lower Hutt
Wellington, New Zealand

T 64 4 5708800
F 64 4 5708176
W www.asurequality.com

Certificate of Analysis

Date Issued:	17 Aug 2009
Client:	Pattle Delamore Partners Ltd P O Box 6136 Wellington
Attention:	Rod Lidgard
Date Received:	20 Jul 2009
AsureQuality Lab. Reference:	58715
Sample Type(s):	Soil
Analysis:	**Multiresidue - Soil**
Method:	FSO-02

The sample was extracted and further purified using gel permeation chromatography. Measurement was performed using gas chromatography - mass spectrometry.

Results are reported to two significant figures in milligrams per kilogram (mg/kg), equivalent to ppm, on a dry weight basis. Detection limits are reported to one significant figure and may depend on the nature of the matrix.

Unless requested, original samples will be disposed of eight weeks from the date of this report.

Comments:

Koos Hoogenboom
Senior Scientist - Pesticides
AsureQuality Limited

Results: Pesticides in Soil

Laboratory Reference: 58715-1
Sample Identification: 1A3/1; B4/1; C2/1;D3/1;E2/1;F6/1- Composit

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Acetochlor	ND	0.01
Alachlor	ND	0.01
Aldrin	ND	0.01
Atrazine	ND	0.01
Azaconazole	ND	0.01
Azinphos-methyl	ND	0.1
Azoxystrobin	ND	0.01
Benalaxyl	ND	0.01
Bendiocarb	ND	0.01
Benodanil	ND	0.01
BHC (alpha)	ND	0.01
BHC (beta)	ND	0.01
BHC (delta)	ND	0.01
Bifenthrin	ND	0.01
Binapacryl	ND	0.01
Bitertanol	ND	0.01
Bromacil	ND	0.01
Bromophos-ethyl	ND	0.01
Bromophos	ND	0.01
Bromopropylate	ND	0.01
Bupirimate	ND	0.01
Buprofezin	ND	0.01
Captan	ND	0.01
Carbaryl	ND	0.01
Carbofuran	ND	0.01
Carboxin	ND	0.01
Chlordane (cis)	ND	0.01
Chlordane (trans)	ND	0.01
Chlorfenvinphos	ND	0.01
Chlorobenzilate	ND	0.01
Chlorothalonil	ND	0.01
Chlorpropham	ND	0.01
Chlorpyrifos	ND	0.01
Chlorthal-dimethyl	ND	0.01
Chlozolinate	ND	0.01
Chlorpyrifos-methyl	ND	0.01
Clomazone	ND	0.01
Coumafos	ND	0.01
Cyanazine	ND	0.01
Cyfluthrin	ND	0.02
Cyhalothrin	ND	0.01
Cypermethrin	ND	0.03
Cyproconazole	ND	0.01
Cyprodinil	ND	0.01
DDD (o,p')	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-1
Sample Identification: 1A3/1; B4/1; C2/1;D3/1;E2/1;F6/1- Composit

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
DDD (p,p')	ND	0.01
DDE (o,p')	ND	0.01
DDE (p,p')	ND	0.01
DDT (o,p')	ND	0.01
DDT (p,p')	ND	0.01
Deltamethrin	ND	0.01
Demeton-s-methyl	ND	0.01
Diazinon	ND	0.01
Dichlobenil	ND	0.01
Dichlofenthion	ND	0.01
Dichlofluanid	ND	0.01
Dichlorvos	ND	0.01
Dichloran	ND	0.01
Dicofol	ND	0.01
Dicrotophos	ND	0.01
Dieldrin	ND	0.01
Diflufenican	ND	0.01
Difenoconazole	ND	0.01
Dimethoate	ND	0.01
Dimethomorph	ND	0.01
Dimethenamid	ND	0.01
Diphenamid	ND	0.01
Diphenylamine	ND	0.01
Disulfoton	ND	0.01
Endosulfan (alpha)	ND	0.01
Endosulfan (beta)	ND	0.01
Endosulfan sulphate	ND	0.01
Endrin	ND	0.01
EPN	ND	0.01
Epoxiconazole	ND	0.01
EPTC	ND	0.01
Ethiofencarb	ND	0.01
Ethion	ND	0.01
Ethoprofos	ND	0.01
Ethoxyquin	ND	0.01
Etridiazole	ND	0.01
Etrimfos	ND	0.01
Famphur	ND	0.01
Fenamiphos	ND	0.01
Fenarimol	ND	0.01
Fenchlorphos	ND	0.01
Fenitrothion	ND	0.01
Fenpiclonil	ND	0.01
Fenpropimorph	ND	0.01
Fenpropathrin	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-1
Sample Identification: 1A3/1; B4/1; C2/1;D3/1;E2/1;F6/1- Composit

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Fensulfothion	ND	0.01
Fenthion	ND	0.01
Fenvalerate	ND	0.01
Fenoxaprop-ethyl	ND	0.01
Fenoxycarb	ND	0.02
Fipronil	ND	0.01
Flamprop-methyl	ND	0.01
Fluazinam	ND	0.1
Fluazifop-p-butyl	ND	0.01
Fludioxonil	ND	0.01
Flusilazole	ND	0.01
Flutriafol	ND	0.01
Fluvalinate	ND	0.02
Folpet	ND	0.02
Furalaxyl	ND	0.01
Furathiocarb	ND	0.01
Haloxyfop-etotyl	ND	0.01
Haloxyfop-methyl	ND	0.01
Hexachlorobenzene	ND	0.01
Heptachlor	ND	0.01
Heptachlor-epoxide	ND	0.01
Heptenophos	ND	0.01
Hexaconazole	ND	0.01
Hexazinone	ND	0.01
Indoxacarb	ND	0.01
Iodofenphos	ND	0.01
Iprodione	ND	0.01
Isofenphos	ND	0.01
Kresoxim-methyl	ND	0.01
Lindane	ND	0.01
Linuron	ND	0.01
Malathion	ND	0.01
Metalaxyl	ND	0.01
Methacrifos	ND	0.01
Methiocarb	ND	0.01
Methidathion	ND	0.01
Metolachlor	ND	0.01
Metribuzin	ND	0.01
Mevinphos	ND	0.01
Monocrotophos	ND	0.01
Myclobutanil	ND	0.01
Napropamide	ND	0.01
Nitrofen	ND	0.01
Nitrothal-isopropyl	ND	0.01
Norflurazon	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-1
Sample Identification: 1A3/1; B4/1; C2/1;D3/1;E2/1;F6/1- Composit

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Omethoate	ND	0.1
Oxadiazon	ND	0.01
Oxyfluorfen	ND	0.01
Paclobutrazol	ND	0.01
Parathion-methyl	ND	0.01
Parathion	ND	0.01
Penconazole	ND	0.01
Pendimethalin	ND	0.01
Permethrin	ND	0.01
Phorate	ND	0.01
Phorate sulphone	ND	0.05
Phorate sulphoxide	ND	0.05
Phosalone	ND	0.01
Phosmet	ND	0.01
Phosphamidon	ND	0.01
Piperonyl butoxide	ND	0.01
Pirimicarb	ND	0.01
Pirimiphos-methyl	ND	0.01
Prochloraz	ND	0.05
Procymidone	ND	0.01
Prometryn	ND	0.01
Propachlor	ND	0.01
Propargite	ND	0.01
Propazine	ND	0.01
Propetamphos	ND	0.01
Propham	ND	0.01
Propiconazole	ND	0.01
Propoxur	ND	0.01
Propyzamide	ND	0.01
Prothiofos	ND	0.01
Pyrazophos	ND	0.01
Pyrimethanil	ND	0.01
Pyriproxyfen	ND	0.01
Quintozene	ND	0.01
Quinalphos	ND	0.01
Quizalofop-ethyl	ND	0.01
Simazine	ND	0.01
Tebuconazole	ND	0.01
Tebufenpyrad	ND	0.01
Terbacil	ND	0.01
Terbufos	ND	0.01
Terbumeton	ND	0.01
Terbutylazine	ND	0.01
Terbutryn	ND	0.01
Tetrachlorvinphos	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-1
Sample Identification: 1A3/1; B4/1; C2/1;D3/1;E2/1;F6/1- Composit

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Tetradifon	ND	0.01
Tolclofos-methyl	ND	0.01
Tolylfluanid	ND	0.01
Tralkoxydim	ND	0.01
Triadimefon	ND	0.01
Triadimenol	ND	0.01
Triallate	ND	0.01
Triazophos	ND	0.01
Trifloxystrobin	ND	0.01
Trifluralin	ND	0.01
Vinclozolin	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-2
Sample Identification: 2A11/1; B5/1; C1/1; D6/1; E3/1; F3/1 - Comp

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Acetochlor	ND	0.01
Alachlor	ND	0.01
Aldrin	ND	0.01
Atrazine	ND	0.01
Azaconazole	ND	0.01
Azinphos-methyl	ND	0.1
Azoxystrobin	ND	0.01
Benalaxyl	ND	0.01
Bendiocarb	ND	0.01
Benodanil	ND	0.01
BHC (alpha)	ND	0.01
BHC (beta)	ND	0.01
BHC (delta)	ND	0.01
Bifenthrin	ND	0.01
Binapacryl	ND	0.01
Bitertanol	ND	0.01
Bromacil	ND	0.01
Bromophos-ethyl	ND	0.01
Bromophos	ND	0.01
Bromopropylate	ND	0.01
Bupirimate	ND	0.01
Buprofezin	ND	0.01
Captan	ND	0.01
Carbaryl	ND	0.01
Carbofuran	ND	0.01
Carboxin	ND	0.01
Chlordane (cis)	ND	0.01
Chlordane (trans)	ND	0.01
Chlorfenvinphos	ND	0.01
Chlorobenzilate	ND	0.01
Chlorothalonil	ND	0.01
Chlorpropham	ND	0.01
Chlorpyrifos	ND	0.01
Chlorthal-dimethyl	ND	0.01
Chlozolinate	ND	0.01
Chlorpyrifos-methyl	ND	0.01
Clomazone	ND	0.01
Coumafos	ND	0.01
Cyanazine	ND	0.01
Cyfluthrin	ND	0.02
Cyhalothrin	ND	0.01
Cypermethrin	ND	0.03
Cyproconazole	ND	0.01
Cyprodinil	ND	0.01
DDD (o,p')	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-2
Sample Identification: 2A11/1; B5/1; C1/1; D6/1; E3/1; F3/1 - Comp

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
DDD (p,p')	ND	0.01
DDE (o,p')	ND	0.01
DDE (p,p')	ND	0.01
DDT (o,p')	ND	0.01
DDT (p,p')	ND	0.01
Deltamethrin	ND	0.01
Demeton-s-methyl	ND	0.01
Diazinon	ND	0.01
Dichlobenil	ND	0.01
Dichlofenthion	ND	0.01
Dichlofluanid	ND	0.01
Dichlorvos	ND	0.01
Dichloran	ND	0.01
Dicofol	ND	0.01
Dicrotophos	ND	0.01
Dieldrin	ND	0.01
Diflufenican	ND	0.01
Difenoconazole	ND	0.01
Dimethoate	ND	0.01
Dimethomorph	ND	0.01
Dimethenamid	ND	0.01
Diphenamid	ND	0.01
Diphenylamine	ND	0.01
Disulfoton	ND	0.01
Endosulfan (alpha)	ND	0.01
Endosulfan (beta)	ND	0.01
Endosulfan sulphate	ND	0.01
Endrin	ND	0.01
EPN	ND	0.01
Epoxiconazole	ND	0.01
EPTC	ND	0.01
Ethiofencarb	ND	0.01
Ethion	ND	0.01
Ethoprofos	ND	0.01
Ethoxyquin	ND	0.01
Etridiazole	ND	0.01
Etrimfos	ND	0.01
Famphur	ND	0.01
Fenamiphos	ND	0.01
Fenarimol	ND	0.01
Fenchlorphos	ND	0.01
Fenitrothion	ND	0.01
Fenpiclonil	ND	0.01
Fenpropimorph	ND	0.01
Fenpropathrin	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-2
Sample Identification: 2A11/1; B5/1; C1/1; D6/1; E3/1; F3/1 - Comp

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Fensulfothion	ND	0.01
Fenthion	ND	0.01
Fenvalerate	ND	0.01
Fenoxaprop-ethyl	ND	0.01
Fenoxycarb	ND	0.02
Fipronil	ND	0.01
Flamprop-methyl	ND	0.01
Fluazinam	ND	0.1
Fluazifop-p-butyl	ND	0.01
Fludioxonil	ND	0.01
Flusilazole	ND	0.01
Flutriafol	ND	0.01
Fluvalinate	ND	0.02
Folpet	ND	0.02
Furalaxyl	ND	0.01
Furathiocarb	ND	0.01
Haloxyfop-etotyl	ND	0.01
Haloxyfop-methyl	ND	0.01
Hexachlorobenzene	ND	0.01
Heptachlor	ND	0.01
Heptachlor-epoxide	ND	0.01
Heptenophos	ND	0.01
Hexaconazole	ND	0.01
Hexazinone	ND	0.01
Indoxacarb	ND	0.01
Iodofenphos	ND	0.01
Iprodione	ND	0.01
Isofenphos	ND	0.01
Kresoxim-methyl	ND	0.01
Lindane	ND	0.01
Linuron	ND	0.01
Malathion	ND	0.01
Metalaxyl	ND	0.01
Methacrifos	ND	0.01
Methiocarb	ND	0.01
Methidathion	ND	0.01
Metolachlor	ND	0.01
Metribuzin	ND	0.01
Mevinphos	ND	0.01
Monocrotophos	ND	0.01
Myclobutanil	ND	0.01
Napropamide	ND	0.01
Nitrofen	ND	0.01
Nitrothal-isopropyl	ND	0.01
Norflurazon	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-2
Sample Identification: 2A11/1; B5/1; C1/1; D6/1; E3/1; F3/1 - Comp

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Omethoate	ND	0.1
Oxadiazon	ND	0.01
Oxyfluorfen	ND	0.01
Paclobutrazol	ND	0.01
Parathion-methyl	ND	0.01
Parathion	ND	0.01
Penconazole	ND	0.01
Pendimethalin	ND	0.01
Permethrin	ND	0.01
Phorate	ND	0.01
Phorate sulphone	ND	0.05
Phorate sulphoxide	ND	0.05
Phosalone	ND	0.01
Phosmet	ND	0.01
Phosphamidon	ND	0.01
Piperonyl butoxide	ND	0.01
Pirimicarb	ND	0.01
Pirimiphos-methyl	ND	0.01
Prochloraz	ND	0.05
Procymidone	ND	0.01
Prometryn	ND	0.01
Propachlor	ND	0.01
Propargite	ND	0.01
Propazine	ND	0.01
Propetamphos	ND	0.01
Propham	ND	0.01
Propiconazole	ND	0.01
Propoxur	ND	0.01
Propyzamide	ND	0.01
Prothiofos	ND	0.01
Pyrazophos	ND	0.01
Pyrimethanil	ND	0.01
Pyriproxyfen	ND	0.01
Quintozene	ND	0.01
Quinalphos	ND	0.01
Quizalofop-ethyl	ND	0.01
Simazine	ND	0.01
Tebuconazole	ND	0.01
Tebufenpyrad	ND	0.01
Terbacil	ND	0.01
Terbufos	ND	0.01
Terbumeton	ND	0.01
Terbutylazine	ND	0.01
Terbutryn	ND	0.01
Tetrachlorvinphos	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-2
Sample Identification: 2A11/1; B5/1; C1/1; D6/1; E3/1; F3/1 - Comp

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Tetradifon	ND	0.01
Tolclofos-methyl	ND	0.01
Tolylfluanid	ND	0.01
Tralkoxydim	ND	0.01
Triadimefon	ND	0.01
Triadimenol	ND	0.01
Triallate	ND	0.01
Triazophos	ND	0.01
Trifloxystrobin	ND	0.01
Trifluralin	ND	0.01
Vinclozolin	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-3
Sample Identification: 3A1/1; B3/1; C6/1; D1/1; E4/1; F5/1 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Acetochlor	ND	0.01
Alachlor	ND	0.01
Aldrin	ND	0.01
Atrazine	ND	0.01
Azaconazole	ND	0.01
Azinphos-methyl	ND	0.1
Azoxystrobin	ND	0.01
Benalaxyl	ND	0.01
Bendiocarb	ND	0.01
Benodanil	ND	0.01
BHC (alpha)	ND	0.01
BHC (beta)	ND	0.01
BHC (delta)	ND	0.01
Bifenthrin	ND	0.01
Binapacryl	ND	0.01
Bitertanol	ND	0.01
Bromacil	ND	0.01
Bromophos-ethyl	ND	0.01
Bromophos	ND	0.01
Bromopropylate	ND	0.01
Bupirimate	ND	0.01
Buprofezin	ND	0.01
Captan	ND	0.01
Carbaryl	ND	0.01
Carbofuran	ND	0.01
Carboxin	ND	0.01
Chlordane (cis)	ND	0.01
Chlordane (trans)	ND	0.01
Chlorfenvinphos	ND	0.01
Chlorobenzilate	ND	0.01
Chlorothalonil	ND	0.01
Chlorpropham	ND	0.01
Chlorpyrifos	ND	0.01
Chlorthal-dimethyl	ND	0.01
Chlozolinate	ND	0.01
Chlorpyrifos-methyl	ND	0.01
Clomazone	ND	0.01
Coumafos	ND	0.01
Cyanazine	ND	0.01
Cyfluthrin	ND	0.02
Cyhalothrin	ND	0.01
Cypermethrin	ND	0.03
Cyproconazole	ND	0.01
Cyprodinil	ND	0.01
DDD (o,p')	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-3
Sample Identification: 3A1/1; B3/1; C6/1; D1/1; E4/1; F5/1 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
DDD (p,p')	ND	0.01
DDE (o,p')	ND	0.01
DDE (p,p')	ND	0.01
DDT (o,p')	ND	0.01
DDT (p,p')	ND	0.01
Deltamethrin	ND	0.01
Demeton-s-methyl	ND	0.01
Diazinon	ND	0.01
Dichlobenil	ND	0.01
Dichlofenthion	ND	0.01
Dichlofluanid	ND	0.01
Dichlorvos	ND	0.01
Dichloran	ND	0.01
Dicofol	ND	0.01
Dicrotophos	ND	0.01
Dieldrin	ND	0.01
Diflufenican	ND	0.01
Difenoconazole	ND	0.01
Dimethoate	ND	0.01
Dimethomorph	ND	0.01
Dimethenamid	ND	0.01
Diphenamid	ND	0.01
Diphenylamine	ND	0.01
Disulfoton	ND	0.01
Endosulfan (alpha)	ND	0.01
Endosulfan (beta)	ND	0.01
Endosulfan sulphate	ND	0.01
Endrin	ND	0.01
EPN	ND	0.01
Epoxiconazole	ND	0.01
EPTC	ND	0.01
Ethiofencarb	ND	0.01
Ethion	ND	0.01
Ethoprofos	ND	0.01
Ethoxyquin	ND	0.01
Etridiazole	ND	0.01
Etrimfos	ND	0.01
Famphur	ND	0.01
Fenamiphos	ND	0.01
Fenarimol	ND	0.01
Fenchlorphos	ND	0.01
Fenitrothion	ND	0.01
Fenpiclonil	ND	0.01
Fenpropimorph	ND	0.01
Fenpropathrin	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-3
Sample Identification: 3A1/1; B3/1; C6/1; D1/1; E4/1; F5/1 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Fensulfothion	ND	0.01
Fenthion	ND	0.01
Fenvalerate	ND	0.01
Fenoxaprop-ethyl	ND	0.01
Fenoxycarb	ND	0.02
Fipronil	ND	0.01
Flamprop-methyl	ND	0.01
Fluazinam	ND	0.1
Fluazifop-p-butyl	ND	0.01
Fludioxonil	ND	0.01
Flusilazole	ND	0.01
Flutriafol	ND	0.01
Fluvalinate	ND	0.02
Folpet	ND	0.02
Furalaxyl	ND	0.01
Furathiocarb	ND	0.01
Haloxyfop-etotyl	ND	0.01
Haloxyfop-methyl	ND	0.01
Hexachlorobenzene	ND	0.01
Heptachlor	ND	0.01
Heptachlor-epoxide	ND	0.01
Heptenophos	ND	0.01
Hexaconazole	ND	0.01
Hexazinone	ND	0.01
Indoxacarb	ND	0.01
Iodofenphos	ND	0.01
Iprodione	ND	0.01
Isofenphos	ND	0.01
Kresoxim-methyl	ND	0.01
Lindane	ND	0.01
Linuron	ND	0.01
Malathion	ND	0.01
Metalaxyl	ND	0.01
Methacrifos	ND	0.01
Methiocarb	ND	0.01
Methidathion	ND	0.01
Metolachlor	ND	0.01
Metribuzin	ND	0.01
Mevinphos	ND	0.01
Monocrotophos	ND	0.01
Myclobutanil	ND	0.01
Napropamide	ND	0.01
Nitrofen	ND	0.01
Nitrothal-isopropyl	ND	0.01
Norflurazon	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-3
Sample Identification: 3A1/1; B3/1; C6/1; D1/1; E4/1; F5/1 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Omethoate	ND	0.1
Oxadiazon	ND	0.01
Oxyfluorfen	ND	0.01
Paclobutrazol	ND	0.01
Parathion-methyl	ND	0.01
Parathion	ND	0.01
Penconazole	ND	0.01
Pendimethalin	ND	0.01
Permethrin	ND	0.01
Phorate	ND	0.01
Phorate sulphone	ND	0.05
Phorate sulphoxide	ND	0.05
Phosalone	ND	0.01
Phosmet	ND	0.01
Phosphamidon	ND	0.01
Piperonyl butoxide	ND	0.01
Pirimicarb	ND	0.01
Pirimiphos-methyl	ND	0.01
Prochloraz	ND	0.05
Procymidone	ND	0.01
Prometryn	ND	0.01
Propachlor	ND	0.01
Propargite	ND	0.01
Propazine	ND	0.01
Propetamphos	ND	0.01
Propham	ND	0.01
Propiconazole	ND	0.01
Propoxur	ND	0.01
Propyzamide	ND	0.01
Prothiofos	ND	0.01
Pyrazophos	ND	0.01
Pyrimethanil	ND	0.01
Pyriproxyfen	ND	0.01
Quintozene	ND	0.01
Quinalphos	ND	0.01
Quizalofop-ethyl	ND	0.01
Simazine	ND	0.01
Tebuconazole	ND	0.01
Tebufenpyrad	ND	0.01
Terbacil	ND	0.01
Terbufos	ND	0.01
Terbumeton	ND	0.01
Terbutylazine	ND	0.01
Terbutryn	ND	0.01
Tetrachlorvinphos	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-3
Sample Identification: 3A1/1; B3/1; C6/1; D1/1; E4/1; F5/1 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Tetradifon	ND	0.01
Tolclofos-methyl	ND	0.01
Tolylfluanid	ND	0.01
Tralkoxydim	ND	0.01
Triadimefon	ND	0.01
Triadimenol	ND	0.01
Triallate	ND	0.01
Triazophos	ND	0.01
Trifloxystrobin	ND	0.01
Trifluralin	ND	0.01
Vinclozolin	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-4
Sample Identification: 4A6/1; B2/1; C4/1; D2/1; E5/1; F8/1 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Acetochlor	ND	0.01
Alachlor	ND	0.01
Aldrin	ND	0.01
Atrazine	ND	0.01
Azaconazole	ND	0.01
Azinphos-methyl	ND	0.1
Azoxystrobin	ND	0.01
Benalaxyl	ND	0.01
Bendiocarb	ND	0.01
Benodanil	ND	0.01
BHC (alpha)	ND	0.01
BHC (beta)	ND	0.01
BHC (delta)	ND	0.01
Bifenthrin	ND	0.01
Binapacryl	ND	0.01
Bitertanol	ND	0.01
Bromacil	ND	0.01
Bromophos-ethyl	ND	0.01
Bromophos	ND	0.01
Bromopropylate	ND	0.01
Bupirimate	ND	0.01
Buprofezin	ND	0.01
Captan	ND	0.01
Carbaryl	ND	0.01
Carbofuran	ND	0.01
Carboxin	ND	0.01
Chlordane (cis)	ND	0.01
Chlordane (trans)	ND	0.01
Chlorfenvinphos	ND	0.01
Chlorobenzilate	ND	0.01
Chlorothalonil	ND	0.01
Chlorpropham	ND	0.01
Chlorpyrifos	ND	0.01
Chlorthal-dimethyl	ND	0.01
Chlozolinate	ND	0.01
Chlorpyrifos-methyl	ND	0.01
Clomazone	ND	0.01
Coumafos	ND	0.01
Cyanazine	ND	0.01
Cyfluthrin	ND	0.02
Cyhalothrin	ND	0.01
Cypermethrin	ND	0.03
Cyproconazole	ND	0.01
Cyprodinil	ND	0.01
DDD (o,p')	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-4
Sample Identification: 4A6/1; B2/1; C4/1; D2/1; E5/1; F8/1 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
DDD (p,p')	ND	0.01
DDE (o,p')	ND	0.01
DDE (p,p')	ND	0.01
DDT (o,p')	ND	0.01
DDT (p,p')	ND	0.01
Deltamethrin	ND	0.01
Demeton-s-methyl	ND	0.01
Diazinon	ND	0.01
Dichlobenil	ND	0.01
Dichlofenthion	ND	0.01
Dichlofluanid	ND	0.01
Dichlorvos	ND	0.01
Dichloran	ND	0.01
Dicofol	ND	0.01
Dicrotophos	ND	0.01
Dieldrin	ND	0.01
Diflufenican	ND	0.01
Difenoconazole	ND	0.01
Dimethoate	ND	0.01
Dimethomorph	ND	0.01
Dimethenamid	ND	0.01
Diphenamid	ND	0.01
Diphenylamine	ND	0.01
Disulfoton	ND	0.01
Endosulfan (alpha)	ND	0.01
Endosulfan (beta)	ND	0.01
Endosulfan sulphate	ND	0.01
Endrin	ND	0.01
EPN	ND	0.01
Epoxiconazole	ND	0.01
EPTC	ND	0.01
Ethiofencarb	ND	0.01
Ethion	ND	0.01
Ethoprofos	ND	0.01
Ethoxyquin	ND	0.01
Etridiazole	ND	0.01
Etrimfos	ND	0.01
Famphur	ND	0.01
Fenamiphos	ND	0.01
Fenarimol	ND	0.01
Fenchlorphos	ND	0.01
Fenitrothion	ND	0.01
Fenpiclonil	ND	0.01
Fenpropimorph	ND	0.01
Fenpropathrin	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-4
Sample Identification: 4A6/1; B2/1; C4/1; D2/1; E5/1; F8/1 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Fensulfothion	ND	0.01
Fenthion	ND	0.01
Fenvalerate	ND	0.01
Fenoxaprop-ethyl	ND	0.01
Fenoxycarb	ND	0.02
Fipronil	ND	0.01
Flamprop-methyl	ND	0.01
Fluazinam	ND	0.1
Fluazifop-p-butyl	ND	0.01
Fludioxonil	ND	0.01
Flusilazole	ND	0.01
Flutriafol	ND	0.01
Fluvalinate	ND	0.02
Folpet	ND	0.02
Furalaxyl	ND	0.01
Furathiocarb	ND	0.01
Haloxyfop-etotyl	ND	0.01
Haloxyfop-methyl	ND	0.01
Hexachlorobenzene	ND	0.01
Heptachlor	ND	0.01
Heptachlor-epoxide	ND	0.01
Heptenophos	ND	0.01
Hexaconazole	ND	0.01
Hexazinone	ND	0.01
Indoxacarb	ND	0.01
Iodofenphos	ND	0.01
Iprodione	ND	0.01
Isofenphos	ND	0.01
Kresoxim-methyl	ND	0.01
Lindane	ND	0.01
Linuron	ND	0.01
Malathion	ND	0.01
Metalaxyl	ND	0.01
Methacrifos	ND	0.01
Methiocarb	ND	0.01
Methidathion	ND	0.01
Metolachlor	ND	0.01
Metribuzin	ND	0.01
Mevinphos	ND	0.01
Monocrotophos	ND	0.01
Myclobutanil	ND	0.01
Napropamide	ND	0.01
Nitrofen	ND	0.01
Nitrothal-isopropyl	ND	0.01
Norflurazon	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-4
Sample Identification: 4A6/1; B2/1; C4/1; D2/1; E5/1; F8/1 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Omethoate	ND	0.1
Oxadiazon	ND	0.01
Oxyfluorfen	ND	0.01
Paclobutrazol	ND	0.01
Parathion-methyl	ND	0.01
Parathion	ND	0.01
Penconazole	ND	0.01
Pendimethalin	ND	0.01
Permethrin	ND	0.01
Phorate	ND	0.01
Phorate sulphone	ND	0.05
Phorate sulphoxide	ND	0.05
Phosalone	ND	0.01
Phosmet	ND	0.01
Phosphamidon	ND	0.01
Piperonyl butoxide	ND	0.01
Pirimicarb	ND	0.01
Pirimiphos-methyl	ND	0.01
Prochloraz	ND	0.05
Procymidone	ND	0.01
Prometryn	ND	0.01
Propachlor	ND	0.01
Propargite	ND	0.01
Propazine	ND	0.01
Propetamphos	ND	0.01
Propham	ND	0.01
Propiconazole	ND	0.01
Propoxur	ND	0.01
Propyzamide	ND	0.01
Prothiofos	ND	0.01
Pyrazophos	ND	0.01
Pyrimethanil	ND	0.01
Pyriproxyfen	ND	0.01
Quintozene	ND	0.01
Quinalphos	ND	0.01
Quizalofop-ethyl	ND	0.01
Simazine	ND	0.01
Tebuconazole	ND	0.01
Tebufenpyrad	ND	0.01
Terbacil	ND	0.01
Terbufos	ND	0.01
Terbumeton	ND	0.01
Terbutylazine	ND	0.01
Terbutryn	ND	0.01
Tetrachlorvinphos	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-4
Sample Identification: 4A6/1; B2/1; C4/1; D2/1; E5/1; F8/1 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Tetradifon	ND	0.01
Tolclofos-methyl	ND	0.01
Tolylfluanid	ND	0.01
Tralkoxydim	ND	0.01
Triadimefon	ND	0.01
Triadimenol	ND	0.01
Triallate	ND	0.01
Triazophos	ND	0.01
Trifloxystrobin	ND	0.01
Trifluralin	ND	0.01
Vinclozolin	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-5
Sample Identification: 5A3/2; B4/2; C2/2; D3/2; E2/2; F6/2 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Acetochlor	ND	0.01
Alachlor	ND	0.01
Aldrin	ND	0.01
Atrazine	ND	0.01
Azaconazole	ND	0.01
Azinphos-methyl	ND	0.1
Azoxystrobin	ND	0.01
Benalaxyl	ND	0.01
Bendiocarb	ND	0.01
Benodanil	ND	0.01
BHC (alpha)	ND	0.01
BHC (beta)	ND	0.01
BHC (delta)	ND	0.01
Bifenthrin	ND	0.01
Binapacryl	ND	0.01
Bitertanol	ND	0.01
Bromacil	ND	0.01
Bromophos-ethyl	ND	0.01
Bromophos	ND	0.01
Bromopropylate	ND	0.01
Bupirimate	ND	0.01
Buprofezin	ND	0.01
Captan	ND	0.01
Carbaryl	ND	0.01
Carbofuran	ND	0.01
Carboxin	ND	0.01
Chlordane (cis)	ND	0.01
Chlordane (trans)	ND	0.01
Chlorfenvinphos	ND	0.01
Chlorobenzilate	ND	0.01
Chlorothalonil	ND	0.01
Chlorpropham	ND	0.01
Chlorpyrifos	ND	0.01
Chlorthal-dimethyl	ND	0.01
Chlozolinate	ND	0.01
Chlorpyrifos-methyl	ND	0.01
Clomazone	ND	0.01
Coumafos	ND	0.01
Cyanazine	ND	0.01
Cyfluthrin	ND	0.02
Cyhalothrin	ND	0.01
Cypermethrin	ND	0.03
Cyproconazole	ND	0.01
Cyprodinil	ND	0.01
DDD (o,p')	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-5
Sample Identification: 5A3/2; B4/2; C2/2; D3/2; E2/2; F6/2 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
DDD (p,p')	**0.017**	0.01
DDE (o,p')	ND	0.01
DDE (p,p')	ND	0.01
DDT (o,p')	ND	0.01
DDT (p,p')	ND	0.01
Deltamethrin	ND	0.01
Demeton-s-methyl	ND	0.01
Diazinon	ND	0.01
Dichlobenil	ND	0.01
Dichlofenthion	ND	0.01
Dichlofluanid	ND	0.01
Dichlorvos	ND	0.01
Dichloran	ND	0.01
Dicofol	ND	0.01
Dicrotophos	ND	0.01
Dieldrin	ND	0.01
Diflufenican	ND	0.01
Difenoconazole	ND	0.01
Dimethoate	ND	0.01
Dimethomorph	ND	0.01
Dimethenamid	ND	0.01
Diphenamid	ND	0.01
Diphenylamine	**0.018**	0.01
Disulfoton	ND	0.01
Endosulfan (alpha)	ND	0.01
Endosulfan (beta)	ND	0.01
Endosulfan sulphate	ND	0.01
Endrin	ND	0.01
EPN	ND	0.01
Epoxiconazole	ND	0.01
EPTC	ND	0.01
Ethiofencarb	ND	0.01
Ethion	ND	0.01
Ethoprofos	ND	0.01
Ethoxyquin	ND	0.01
Etridiazole	ND	0.01
Etrimfos	ND	0.01
Famphur	ND	0.01
Fenamiphos	ND	0.01
Fenarimol	ND	0.01
Fenchlorphos	ND	0.01
Fenitrothion	ND	0.01
Fenpiclonil	ND	0.01
Fenpropimorph	ND	0.01
Fenpropathrin	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-5
Sample Identification: 5A3/2; B4/2; C2/2; D3/2; E2/2; F6/2 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Fensulfothion	ND	0.01
Fenthion	ND	0.01
Fenvalerate	ND	0.01
Fenoxaprop-ethyl	ND	0.01
Fenoxycarb	ND	0.02
Fipronil	ND	0.01
Flamprop-methyl	ND	0.01
Fluazinam	ND	0.1
Fluazifop-p-butyl	ND	0.01
Fludioxonil	ND	0.01
Flusilazole	ND	0.01
Flutriafol	ND	0.01
Fluvalinate	ND	0.02
Folpet	ND	0.02
Furalaxyl	ND	0.01
Furathiocarb	ND	0.01
Haloxyfop-etotyl	ND	0.01
Haloxyfop-methyl	ND	0.01
Hexachlorobenzene	ND	0.01
Heptachlor	ND	0.01
Heptachlor-epoxide	ND	0.01
Heptenophos	ND	0.01
Hexaconazole	ND	0.01
Hexazinone	ND	0.01
Indoxacarb	ND	0.01
Iodofenphos	ND	0.01
Iprodione	ND	0.01
Isofenphos	ND	0.01
Kresoxim-methyl	ND	0.01
Lindane	ND	0.01
Linuron	ND	0.01
Malathion	ND	0.01
Metalaxyl	ND	0.01
Methacrifos	ND	0.01
Methiocarb	ND	0.01
Methidathion	ND	0.01
Metolachlor	ND	0.01
Metribuzin	ND	0.01
Mevinphos	ND	0.01
Monocrotophos	ND	0.01
Myclobutanil	ND	0.01
Napropamide	ND	0.01
Nitrofen	ND	0.01
Nitrothal-isopropyl	ND	0.01
Norflurazon	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-5
Sample Identification: 5A3/2; B4/2; C2/2; D3/2; E2/2; F6/2 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Omethoate	ND	0.1
Oxadiazon	ND	0.01
Oxyfluorfen	ND	0.01
Paclobutrazol	ND	0.01
Parathion-methyl	ND	0.01
Parathion	ND	0.01
Penconazole	ND	0.01
Pendimethalin	ND	0.01
Permethrin	ND	0.01
Phorate	ND	0.01
Phorate sulphone	ND	0.05
Phorate sulphoxide	ND	0.05
Phosalone	ND	0.01
Phosmet	ND	0.01
Phosphamidon	ND	0.01
Piperonyl butoxide	**0.012**	0.01
Pirimicarb	ND	0.01
Pirimiphos-methyl	ND	0.01
Prochloraz	ND	0.05
Procymidone	ND	0.01
Prometryn	ND	0.01
Propachlor	ND	0.01
Propargite	ND	0.01
Propazine	ND	0.01
Propetamphos	ND	0.01
Propham	ND	0.01
Propiconazole	ND	0.01
Propoxur	ND	0.01
Propyzamide	ND	0.01
Prothiofos	ND	0.01
Pyrazophos	ND	0.01
Pyrimethanil	ND	0.01
Pyriproxyfen	ND	0.01
Quintozene	ND	0.01
Quinalphos	ND	0.01
Quizalofop-ethyl	ND	0.01
Simazine	**0.040**	0.01
Tebuconazole	ND	0.01
Tebufenpyrad	ND	0.01
Terbacil	ND	0.01
Terbufos	ND	0.01
Terbumeton	ND	0.01
Terbutylazine	ND	0.01
Terbutryn	ND	0.01
Tetrachlorvinphos	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-5
Sample Identification: 5A3/2; B4/2; C2/2; D3/2; E2/2; F6/2 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Tetradifon	ND	0.01
Tolclofos-methyl	ND	0.01
Tolylfluanid	ND	0.01
Tralkoxydim	ND	0.01
Triadimefon	ND	0.01
Triadimenol	ND	0.01
Triallate	ND	0.01
Triazophos	ND	0.01
Trifloxystrobin	ND	0.01
Trifluralin	ND	0.01
Vinclozolin	ND	0.01
Ametryn	**0.028**	0.010
Simetryn	**0.047**	0.010

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-6
Sample Identification: 6A11/2; B5/2; C1/2; D6/2; E3/2; F3/2 - Comp

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Acetochlor	ND	0.01
Alachlor	ND	0.01
Aldrin	ND	0.01
Atrazine	ND	0.01
Azaconazole	ND	0.01
Azinphos-methyl	ND	0.1
Azoxystrobin	ND	0.01
Benalaxyl	ND	0.01
Bendiocarb	ND	0.01
Benodanil	ND	0.01
BHC (alpha)	ND	0.01
BHC (beta)	ND	0.01
BHC (delta)	ND	0.01
Bifenthrin	ND	0.01
Binapacryl	ND	0.01
Bitertanol	ND	0.01
Bromacil	ND	0.01
Bromophos-ethyl	ND	0.01
Bromophos	ND	0.01
Bromopropylate	ND	0.01
Bupirimate	ND	0.01
Buprofezin	ND	0.01
Captan	ND	0.01
Carbaryl	ND	0.01
Carbofuran	ND	0.01
Carboxin	ND	0.01
Chlordane (cis)	ND	0.01
Chlordane (trans)	ND	0.01
Chlorfenvinphos	ND	0.01
Chlorobenzilate	ND	0.01
Chlorothalonil	ND	0.01
Chlorpropham	ND	0.01
Chlorpyrifos	ND	0.01
Chlorthal-dimethyl	ND	0.01
Chlozolinate	ND	0.01
Chlorpyrifos-methyl	ND	0.01
Clomazone	ND	0.01
Coumafos	ND	0.01
Cyanazine	ND	0.01
Cyfluthrin	ND	0.02
Cyhalothrin	ND	0.01
Cypermethrin	ND	0.03
Cyproconazole	ND	0.01
Cyprodinil	ND	0.01
DDD (o,p')	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-6
Sample Identification: 6A11/2; B5/2; C1/2; D6/2; E3/2; F3/2 - Comp

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
DDD (p,p')	ND	0.01
DDE (o,p')	ND	0.01
DDE (p,p')	ND	0.01
DDT (o,p')	ND	0.01
DDT (p,p')	ND	0.01
Deltamethrin	ND	0.01
Demeton-s-methyl	ND	0.01
Diazinon	ND	0.01
Dichlobenil	ND	0.01
Dichlofenthion	ND	0.01
Dichlofluanid	ND	0.01
Dichlorvos	ND	0.01
Dichloran	ND	0.01
Dicofol	ND	0.01
Dicrotophos	ND	0.01
Dieldrin	ND	0.01
Diflufenican	ND	0.01
Difenoconazole	ND	0.01
Dimethoate	ND	0.01
Dimethomorph	ND	0.01
Dimethenamid	ND	0.01
Diphenamid	ND	0.01
Diphenylamine	**0.061**	0.01
Disulfoton	ND	0.01
Endosulfan (alpha)	ND	0.01
Endosulfan (beta)	ND	0.01
Endosulfan sulphate	ND	0.01
Endrin	ND	0.01
EPN	ND	0.01
Epoxiconazole	ND	0.01
EPTC	ND	0.01
Ethiofencarb	ND	0.01
Ethion	ND	0.01
Ethoprofos	ND	0.01
Ethoxyquin	ND	0.01
Etridiazole	ND	0.01
Etrimfos	ND	0.01
Famphur	ND	0.01
Fenamiphos	ND	0.01
Fenarimol	ND	0.01
Fenchlorphos	ND	0.01
Fenitrothion	ND	0.01
Fenpiclonil	ND	0.01
Fenpropimorph	ND	0.01
Fenpropathrin	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-6
Sample Identification: 6A11/2; B5/2; C1/2; D6/2; E3/2; F3/2 - Comp

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Fensulfothion	ND	0.01
Fenthion	ND	0.01
Fenvalerate	ND	0.01
Fenoxaprop-ethyl	ND	0.01
Fenoxycarb	ND	0.02
Fipronil	ND	0.01
Flamprop-methyl	ND	0.01
Fluazinam	ND	0.1
Fluazifop-p-butyl	ND	0.01
Fludioxonil	ND	0.01
Flusilazole	ND	0.01
Flutriafol	ND	0.01
Fluvalinate	ND	0.02
Folpet	ND	0.02
Furalaxyl	ND	0.01
Furathiocarb	ND	0.01
Haloxyfop-etotyl	ND	0.01
Haloxyfop-methyl	ND	0.01
Hexachlorobenzene	ND	0.01
Heptachlor	ND	0.01
Heptachlor-epoxide	ND	0.01
Heptenophos	ND	0.01
Hexaconazole	ND	0.01
Hexazinone	ND	0.01
Indoxacarb	ND	0.01
Iodofenphos	ND	0.01
Iprodione	ND	0.01
Isofenphos	ND	0.01
Kresoxim-methyl	ND	0.01
Lindane	ND	0.01
Linuron	ND	0.01
Malathion	ND	0.01
Metalaxyl	ND	0.01
Methacrifos	ND	0.01
Methiocarb	ND	0.01
Methidathion	ND	0.01
Metolachlor	ND	0.01
Metribuzin	ND	0.01
Mevinphos	ND	0.01
Monocrotophos	ND	0.01
Myclobutanil	ND	0.01
Napropamide	ND	0.01
Nitrofen	ND	0.01
Nitrothal-isopropyl	ND	0.01
Norflurazon	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-6
Sample Identification: 6A11/2; B5/2; C1/2; D6/2; E3/2; F3/2 - Comp

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Omethoate	ND	0.1
Oxadiazon	ND	0.01
Oxyfluorfen	ND	0.01
Paclobutrazol	ND	0.01
Parathion-methyl	ND	0.01
Parathion	ND	0.01
Penconazole	ND	0.01
Pendimethalin	ND	0.01
Permethrin	ND	0.01
Phorate	ND	0.01
Phorate sulphone	ND	0.05
Phorate sulphoxide	ND	0.05
Phosalone	ND	0.01
Phosmet	ND	0.01
Phosphamidon	ND	0.01
Piperonyl butoxide	ND	0.01
Pirimicarb	ND	0.01
Pirimiphos-methyl	ND	0.01
Prochloraz	ND	0.05
Procymidone	ND	0.01
Prometryn	ND	0.01
Propachlor	ND	0.01
Propargite	ND	0.01
Propazine	ND	0.01
Propetamphos	ND	0.01
Propham	ND	0.01
Propiconazole	ND	0.01
Propoxur	ND	0.01
Propyzamide	ND	0.01
Prothiofos	ND	0.01
Pyrazophos	ND	0.01
Pyrimethanil	ND	0.01
Pyriproxyfen	ND	0.01
Quintozene	ND	0.01
Quinalphos	ND	0.01
Quizalofop-ethyl	ND	0.01
Simazine	ND	0.01
Tebuconazole	ND	0.01
Tebufenpyrad	ND	0.01
Terbacil	ND	0.01
Terbufos	ND	0.01
Terbumeton	ND	0.01
Terbutylazine	ND	0.01
Terbutryn	ND	0.01
Tetrachlorvinphos	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-6
Sample Identification: 6A11/2; B5/2; C1/2; D6/2; E3/2; F3/2 - Comp

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Tetradifon	ND	0.01
Tolclofos-methyl	ND	0.01
Tolylfluanid	ND	0.01
Tralkoxydim	ND	0.01
Triadimefon	ND	0.01
Triadimenol	ND	0.01
Triallate	ND	0.01
Triazophos	ND	0.01
Trifloxystrobin	ND	0.01
Trifluralin	ND	0.01
Vinclozolin	ND	0.01
Ametryn	**0.024**	0.010

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-7
Sample Identification: 7A1/2; B3/2; C6/2; D1/2; E4/2; F5/2 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Acetochlor	ND	0.01
Alachlor	ND	0.01
Aldrin	ND	0.01
Atrazine	ND	0.01
Azaconazole	ND	0.01
Azinphos-methyl	ND	0.1
Azoxystrobin	ND	0.01
Benalaxyl	ND	0.01
Bendiocarb	ND	0.01
Benodanil	ND	0.01
BHC (alpha)	ND	0.01
BHC (beta)	ND	0.01
BHC (delta)	ND	0.01
Bifenthrin	ND	0.01
Binapacryl	ND	0.01
Bitertanol	ND	0.01
Bromacil	ND	0.01
Bromophos-ethyl	ND	0.01
Bromophos	ND	0.01
Bromopropylate	ND	0.01
Bupirimate	ND	0.01
Buprofezin	ND	0.01
Captan	ND	0.01
Carbaryl	ND	0.01
Carbofuran	ND	0.01
Carboxin	ND	0.01
Chlordane (cis)	ND	0.01
Chlordane (trans)	ND	0.01
Chlorfenvinphos	ND	0.01
Chlorobenzilate	ND	0.01
Chlorothalonil	ND	0.01
Chlorpropham	ND	0.01
Chlorpyrifos	ND	0.01
Chlorthal-dimethyl	ND	0.01
Chlozolinate	ND	0.01
Chlorpyrifos-methyl	ND	0.01
Clomazone	ND	0.01
Coumafos	ND	0.01
Cyanazine	ND	0.01
Cyfluthrin	ND	0.02
Cyhalothrin	ND	0.01
Cypermethrin	ND	0.03
Cyproconazole	ND	0.01
Cyprodinil	ND	0.01
DDD (o,p')	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-7
Sample Identification: 7A1/2; B3/2; C6/2; D1/2; E4/2; F5/2 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
DDD (p,p')	ND	0.01
DDE (o,p')	ND	0.01
DDE (p,p')	ND	0.01
DDT (o,p')	ND	0.01
DDT (p,p')	ND	0.01
Deltamethrin	ND	0.01
Demeton-s-methyl	ND	0.01
Diazinon	ND	0.01
Dichlobenil	ND	0.01
Dichlofenthion	ND	0.01
Dichlofluanid	ND	0.01
Dichlorvos	ND	0.01
Dichloran	ND	0.01
Dicofol	ND	0.01
Dicrotophos	ND	0.01
Dieldrin	ND	0.01
Diflufenican	ND	0.01
Difenoconazole	ND	0.01
Dimethoate	ND	0.01
Dimethomorph	ND	0.01
Dimethenamid	ND	0.01
Diphenamid	ND	0.01
Diphenylamine	ND	0.01
Disulfoton	ND	0.01
Endosulfan (alpha)	ND	0.01
Endosulfan (beta)	ND	0.01
Endosulfan sulphate	ND	0.01
Endrin	ND	0.01
EPN	ND	0.01
Epoxiconazole	ND	0.01
EPTC	ND	0.01
Ethiofencarb	ND	0.01
Ethion	ND	0.01
Ethoprofos	ND	0.01
Ethoxyquin	ND	0.01
Etridiazole	ND	0.01
Etrimfos	ND	0.01
Famphur	ND	0.01
Fenamiphos	ND	0.01
Fenarimol	ND	0.01
Fenchlorphos	ND	0.01
Fenitrothion	ND	0.01
Fenpiclonil	ND	0.01
Fenpropimorph	ND	0.01
Fenpropathrin	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-7
Sample Identification: 7A1/2; B3/2; C6/2; D1/2; E4/2; F5/2 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Fensulfothion	ND	0.01
Fenthion	ND	0.01
Fenvalerate	ND	0.01
Fenoxaprop-ethyl	ND	0.01
Fenoxycarb	ND	0.02
Fipronil	ND	0.01
Flamprop-methyl	ND	0.01
Fluazinam	ND	0.1
Fluazifop-p-butyl	ND	0.01
Fludioxonil	ND	0.01
Flusilazole	ND	0.01
Flutriafol	ND	0.01
Fluvalinate	ND	0.02
Folpet	ND	0.02
Furalaxyl	ND	0.01
Furathiocarb	ND	0.01
Haloxyfop-etotyl	ND	0.01
Haloxyfop-methyl	ND	0.01
Hexachlorobenzene	ND	0.01
Heptachlor	ND	0.01
Heptachlor-epoxide	ND	0.01
Heptenophos	ND	0.01
Hexaconazole	ND	0.01
Hexazinone	ND	0.01
Indoxacarb	ND	0.01
Iodofenphos	ND	0.01
Iprodione	ND	0.01
Isofenphos	ND	0.01
Kresoxim-methyl	ND	0.01
Lindane	ND	0.01
Linuron	ND	0.01
Malathion	ND	0.01
Metalaxyl	ND	0.01
Methacrifos	ND	0.01
Methiocarb	ND	0.01
Methidathion	ND	0.01
Metolachlor	ND	0.01
Metribuzin	ND	0.01
Mevinphos	ND	0.01
Monocrotophos	ND	0.01
Myclobutanil	ND	0.01
Napropamide	ND	0.01
Nitrofen	ND	0.01
Nitrothal-isopropyl	ND	0.01
Norflurazon	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-7
Sample Identification: 7A1/2; B3/2; C6/2; D1/2; E4/2; F5/2 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Omethoate	ND	0.1
Oxadiazon	ND	0.01
Oxyfluorfen	ND	0.01
Paclobutrazol	ND	0.01
Parathion-methyl	ND	0.01
Parathion	ND	0.01
Penconazole	ND	0.01
Pendimethalin	ND	0.01
Permethrin	ND	0.01
Phorate	ND	0.01
Phorate sulphone	ND	0.05
Phorate sulphoxide	ND	0.05
Phosalone	ND	0.01
Phosmet	ND	0.01
Phosphamidon	ND	0.01
Piperonyl butoxide	ND	0.01
Pirimicarb	ND	0.01
Pirimiphos-methyl	ND	0.01
Prochloraz	ND	0.05
Procymidone	ND	0.01
Prometryn	ND	0.01
Propachlor	ND	0.01
Propargite	ND	0.01
Propazine	ND	0.01
Propetamphos	ND	0.01
Propham	ND	0.01
Propiconazole	ND	0.01
Propoxur	ND	0.01
Propyzamide	ND	0.01
Prothiofos	ND	0.01
Pyrazophos	ND	0.01
Pyrimethanil	ND	0.01
Pyriproxyfen	ND	0.01
Quintozene	ND	0.01
Quinalphos	ND	0.01
Quizalofop-ethyl	ND	0.01
Simazine	ND	0.01
Tebuconazole	ND	0.01
Tebufenpyrad	ND	0.01
Terbacil	ND	0.01
Terbufos	ND	0.01
Terbumeton	ND	0.01
Terbutylazine	ND	0.01
Terbutryn	ND	0.01
Tetrachlorvinphos	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-7
Sample Identification: 7A1/2; B3/2; C6/2; D1/2; E4/2; F5/2 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Tetradifon	ND	0.01
Tolclofos-methyl	ND	0.01
Tolylfluanid	ND	0.01
Tralkoxydim	ND	0.01
Triadimefon	ND	0.01
Triadimenol	ND	0.01
Triallate	ND	0.01
Triazophos	ND	0.01
Trifloxystrobin	ND	0.01
Trifluralin	ND	0.01
Vinclozolin	ND	0.01
Ametryn	**0.014**	0.010

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-8
Sample Identification: 8A6/2; B2/2; C4/2; D2/2; E5/2; F8/2 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Acetochlor	ND	0.01
Alachlor	ND	0.01
Aldrin	ND	0.01
Atrazine	ND	0.01
Azaconazole	ND	0.01
Azinphos-methyl	ND	0.1
Azoxystrobin	ND	0.01
Benalaxyl	ND	0.01
Bendiocarb	ND	0.01
Benodanil	ND	0.01
BHC (alpha)	ND	0.01
BHC (beta)	ND	0.01
BHC (delta)	ND	0.01
Bifenthrin	ND	0.01
Binapacryl	ND	0.01
Bitertanol	ND	0.01
Bromacil	ND	0.01
Bromophos-ethyl	ND	0.01
Bromophos	ND	0.01
Bromopropylate	ND	0.01
Bupirimate	ND	0.01
Buprofezin	ND	0.01
Captan	ND	0.01
Carbaryl	ND	0.01
Carbofuran	ND	0.01
Carboxin	ND	0.01
Chlordane (cis)	ND	0.01
Chlordane (trans)	ND	0.01
Chlorfenvinphos	ND	0.01
Chlorobenzilate	ND	0.01
Chlorothalonil	ND	0.01
Chlorpropham	ND	0.01
Chlorpyrifos	ND	0.01
Chlorthal-dimethyl	ND	0.01
Chlozolinate	ND	0.01
Chlorpyrifos-methyl	ND	0.01
Clomazone	ND	0.01
Coumafos	ND	0.01
Cyanazine	ND	0.01
Cyfluthrin	ND	0.02
Cyhalothrin	ND	0.01
Cypermethrin	ND	0.03
Cyproconazole	ND	0.01
Cyprodinil	ND	0.01
DDD (o,p')	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-8
Sample Identification: 8A6/2; B2/2; C4/2; D2/2; E5/2; F8/2 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
DDD (p,p')	ND	0.01
DDE (o,p')	ND	0.01
DDE (p,p')	ND	0.01
DDT (o,p')	ND	0.01
DDT (p,p')	ND	0.01
Deltamethrin	ND	0.01
Demeton-s-methyl	ND	0.01
Diazinon	ND	0.01
Dichlobenil	ND	0.01
Dichlofenthion	ND	0.01
Dichlofluanid	ND	0.01
Dichlorvos	ND	0.01
Dichloran	ND	0.01
Dicofol	ND	0.01
Dicrotophos	ND	0.01
Dieldrin	ND	0.01
Diflufenican	ND	0.01
Difenoconazole	ND	0.01
Dimethoate	ND	0.01
Dimethomorph	ND	0.01
Dimethenamid	ND	0.01
Diphenamid	ND	0.01
Diphenylamine	ND	0.01
Disulfoton	ND	0.01
Endosulfan (alpha)	ND	0.01
Endosulfan (beta)	ND	0.01
Endosulfan sulphate	ND	0.01
Endrin	ND	0.01
EPN	ND	0.01
Epoxiconazole	ND	0.01
EPTC	ND	0.01
Ethiofencarb	ND	0.01
Ethion	ND	0.01
Ethoprofos	ND	0.01
Ethoxyquin	ND	0.01
Etridiazole	ND	0.01
Etrimfos	ND	0.01
Famphur	ND	0.01
Fenamiphos	ND	0.01
Fenarimol	ND	0.01
Fenchlorphos	ND	0.01
Fenitrothion	ND	0.01
Fenpiclonil	ND	0.01
Fenpropimorph	ND	0.01
Fenpropathrin	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-8
Sample Identification: 8A6/2; B2/2; C4/2; D2/2; E5/2; F8/2 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Fensulfothion	ND	0.01
Fenthion	ND	0.01
Fenvalerate	ND	0.01
Fenoxaprop-ethyl	ND	0.01
Fenoxycarb	ND	0.02
Fipronil	ND	0.01
Flamprop-methyl	ND	0.01
Fluazinam	ND	0.1
Fluazifop-p-butyl	ND	0.01
Fludioxonil	ND	0.01
Flusilazole	ND	0.01
Flutriafol	ND	0.01
Fluvalinate	ND	0.02
Folpet	ND	0.02
Furalaxyl	ND	0.01
Furathiocarb	ND	0.01
Haloxyfop-etotyl	ND	0.01
Haloxyfop-methyl	ND	0.01
Hexachlorobenzene	ND	0.01
Heptachlor	ND	0.01
Heptachlor-epoxide	ND	0.01
Heptenophos	ND	0.01
Hexaconazole	ND	0.01
Hexazinone	ND	0.01
Indoxacarb	ND	0.01
Iodofenphos	ND	0.01
Iprodione	ND	0.01
Isofenphos	ND	0.01
Kresoxim-methyl	ND	0.01
Lindane	ND	0.01
Linuron	ND	0.01
Malathion	ND	0.01
Metalaxyl	ND	0.01
Methacrifos	ND	0.01
Methiocarb	ND	0.01
Methidathion	ND	0.01
Metolachlor	ND	0.01
Metribuzin	ND	0.01
Mevinphos	ND	0.01
Monocrotophos	ND	0.01
Myclobutanil	ND	0.01
Napropamide	ND	0.01
Nitrofen	ND	0.01
Nitrothal-isopropyl	ND	0.01
Norflurazon	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-8
Sample Identification: 8A6/2; B2/2; C4/2; D2/2; E5/2; F8/2 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Omethoate	ND	0.1
Oxadiazon	ND	0.01
Oxyfluorfen	ND	0.01
Paclobutrazol	ND	0.01
Parathion-methyl	ND	0.01
Parathion	ND	0.01
Penconazole	ND	0.01
Pendimethalin	ND	0.01
Permethrin	ND	0.01
Phorate	ND	0.01
Phorate sulphone	ND	0.05
Phorate sulphoxide	ND	0.05
Phosalone	ND	0.01
Phosmet	ND	0.01
Phosphamidon	ND	0.01
Piperonyl butoxide	ND	0.01
Pirimicarb	ND	0.01
Pirimiphos-methyl	ND	0.01
Prochloraz	ND	0.05
Procymidone	ND	0.01
Prometryn	ND	0.01
Propachlor	ND	0.01
Propargite	ND	0.01
Propazine	ND	0.01
Propetamphos	ND	0.01
Propham	ND	0.01
Propiconazole	ND	0.01
Propoxur	ND	0.01
Propyzamide	ND	0.01
Prothiofos	ND	0.01
Pyrazophos	ND	0.01
Pyrimethanil	ND	0.01
Pyriproxyfen	ND	0.01
Quintozene	ND	0.01
Quinalphos	ND	0.01
Quizalofop-ethyl	ND	0.01
Simazine	ND	0.01
Tebuconazole	ND	0.01
Tebufenpyrad	ND	0.01
Terbacil	ND	0.01
Terbufos	ND	0.01
Terbumeton	ND	0.01
Terbutylazine	ND	0.01
Terbutryn	ND	0.01
Tetrachlorvinphos	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-8
Sample Identification: 8A6/2; B2/2; C4/2; D2/2; E5/2; F8/2 - Compc

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Tetradifon	ND	0.01
Tolclofos-methyl	ND	0.01
Tolylfluanid	ND	0.01
Tralkoxydim	ND	0.01
Triadimefon	ND	0.01
Triadimenol	ND	0.01
Triallate	ND	0.01
Triazophos	ND	0.01
Trifloxystrobin	ND	0.01
Trifluralin	ND	0.01
Vinclozolin	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-9
Sample Identification: 9SS1 - SS6 - Composite 9

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Acetochlor	ND	0.01
Alachlor	ND	0.01
Aldrin	ND	0.01
Atrazine	ND	0.01
Azaconazole	ND	0.01
Azinphos-methyl	ND	0.1
Azoxystrobin	ND	0.01
Benalaxyl	ND	0.01
Bendiocarb	ND	0.01
Benodanil	ND	0.01
BHC (alpha)	ND	0.01
BHC (beta)	ND	0.01
BHC (delta)	ND	0.01
Bifenthrin	ND	0.01
Binapacryl	ND	0.01
Bitertanol	ND	0.01
Bromacil	ND	0.01
Bromophos-ethyl	ND	0.01
Bromophos	ND	0.01
Bromopropylate	ND	0.01
Bupirimate	ND	0.01
Buprofezin	ND	0.01
Captan	ND	0.01
Carbaryl	ND	0.01
Carbofuran	ND	0.01
Carboxin	ND	0.01
Chlordane (cis)	ND	0.01
Chlordane (trans)	ND	0.01
Chlorfenvinphos	ND	0.01
Chlorobenzilate	ND	0.01
Chlorothalonil	ND	0.01
Chlorpropham	ND	0.01
Chlorpyrifos	ND	0.01
Chlorthal-dimethyl	ND	0.01
Chlozolinate	ND	0.01
Chlorpyrifos-methyl	ND	0.01
Clomazone	ND	0.01
Coumafos	ND	0.01
Cyanazine	ND	0.01
Cyfluthrin	ND	0.02
Cyhalothrin	ND	0.01
Cypermethrin	ND	0.03
Cyproconazole	ND	0.01
Cyprodinil	ND	0.01
DDD (o,p')	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-9
Sample Identification: 9SS1 - SS6 - Composite 9

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
DDD (p,p')	ND	0.01
DDE (o,p')	ND	0.01
DDE (p,p')	ND	0.01
DDT (o,p')	ND	0.01
DDT (p,p')	ND	0.01
Deltamethrin	ND	0.01
Demeton-s-methyl	ND	0.01
Diazinon	ND	0.01
Dichlobenil	ND	0.01
Dichlofenthion	ND	0.01
Dichlofluanid	ND	0.01
Dichlorvos	ND	0.01
Dichloran	ND	0.01
Dicofol	ND	0.01
Dicrotophos	ND	0.01
Dieldrin	ND	0.01
Diflufenican	ND	0.01
Difenoconazole	ND	0.01
Dimethoate	ND	0.01
Dimethomorph	ND	0.01
Dimethenamid	ND	0.01
Diphenamid	ND	0.01
Diphenylamine	ND	0.01
Disulfoton	ND	0.01
Endosulfan (alpha)	ND	0.01
Endosulfan (beta)	ND	0.01
Endosulfan sulphate	ND	0.01
Endrin	ND	0.01
EPN	ND	0.01
Epoxiconazole	ND	0.01
EPTC	ND	0.01
Ethiofencarb	ND	0.01
Ethion	ND	0.01
Ethoprofos	ND	0.01
Ethoxyquin	ND	0.01
Etridiazole	ND	0.01
Etrimfos	ND	0.01
Famphur	ND	0.01
Fenamiphos	ND	0.01
Fenarimol	ND	0.01
Fenchlorphos	ND	0.01
Fenitrothion	ND	0.01
Fenpiclonil	ND	0.01
Fenpropimorph	ND	0.01
Fenpropathrin	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-9
Sample Identification: 9SS1 - SS6 - Composite 9

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Fensulfothion	ND	0.01
Fenthion	ND	0.01
Fenvalerate	ND	0.01
Fenoxaprop-ethyl	ND	0.01
Fenoxycarb	ND	0.02
Fipronil	ND	0.01
Flamprop-methyl	ND	0.01
Fluazinam	ND	0.1
Fluazifop-p-butyl	ND	0.01
Fludioxonil	ND	0.01
Flusilazole	ND	0.01
Flutriafol	ND	0.01
Fluvalinate	ND	0.02
Folpet	ND	0.02
Furalaxyl	ND	0.01
Furathiocarb	ND	0.01
Haloxyfop-etotyl	ND	0.01
Haloxyfop-methyl	ND	0.01
Hexachlorobenzene	ND	0.01
Heptachlor	ND	0.01
Heptachlor-epoxide	ND	0.01
Heptenophos	ND	0.01
Hexaconazole	ND	0.01
Hexazinone	ND	0.01
Indoxacarb	ND	0.01
Iodofenphos	ND	0.01
Iprodione	ND	0.01
Isofenphos	ND	0.01
Kresoxim-methyl	ND	0.01
Lindane	ND	0.01
Linuron	ND	0.01
Malathion	ND	0.01
Metalaxyl	ND	0.01
Methacrifos	ND	0.01
Methiocarb	ND	0.01
Methidathion	ND	0.01
Metolachlor	ND	0.01
Metribuzin	ND	0.01
Mevinphos	ND	0.01
Monocrotophos	ND	0.01
Myclobutanil	ND	0.01
Napropamide	ND	0.01
Nitrofen	ND	0.01
Nitrothal-isopropyl	ND	0.01
Norflurazon	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-9
Sample Identification: 9SS1 - SS6 - Composite 9

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Omethoate	ND	0.1
Oxadiazon	ND	0.01
Oxyfluorfen	ND	0.01
Paclobutrazol	ND	0.01
Parathion-methyl	ND	0.01
Parathion	ND	0.01
Penconazole	ND	0.01
Pendimethalin	ND	0.01
Permethrin	ND	0.01
Phorate	ND	0.01
Phorate sulphone	ND	0.05
Phorate sulphoxide	ND	0.05
Phosalone	ND	0.01
Phosmet	ND	0.01
Phosphamidon	ND	0.01
Piperonyl butoxide	ND	0.01
Pirimicarb	ND	0.01
Pirimiphos-methyl	ND	0.01
Prochloraz	ND	0.05
Procymidone	ND	0.01
Prometryn	ND	0.01
Propachlor	ND	0.01
Propargite	ND	0.01
Propazine	ND	0.01
Propetamphos	ND	0.01
Propham	ND	0.01
Propiconazole	ND	0.01
Propoxur	ND	0.01
Propyzamide	ND	0.01
Prothiofos	ND	0.01
Pyrazophos	ND	0.01
Pyrimethanil	ND	0.01
Pyriproxyfen	ND	0.01
Quintozene	ND	0.01
Quinalphos	ND	0.01
Quizalofop-ethyl	ND	0.01
Simazine	ND	0.01
Tebuconazole	ND	0.01
Tebufenpyrad	ND	0.01
Terbacil	ND	0.01
Terbufos	ND	0.01
Terbumeton	ND	0.01
Terbutylazine	ND	0.01
Terbutryn	ND	0.01
Tetrachlorvinphos	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-9
Sample Identification: 9SS1 - SS6 - Composite 9

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Tetradifon	ND	0.01
Tolclofos-methyl	ND	0.01
Tolylfluanid	ND	0.01
Tralkoxydim	ND	0.01
Triadimefon	ND	0.01
Triadimenol	ND	0.01
Triallate	ND	0.01
Triazophos	ND	0.01
Trifloxystrobin	ND	0.01
Trifluralin	ND	0.01
Vinclozolin	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-10
Sample Identification: 10SS7 -SS12 - Composite 10

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Acetochlor	ND	0.01
Alachlor	ND	0.01
Aldrin	ND	0.01
Atrazine	ND	0.01
Azaconazole	ND	0.01
Azinphos-methyl	ND	0.1
Azoxystrobin	ND	0.01
Benalaxyl	ND	0.01
Bendiocarb	ND	0.01
Benodanil	ND	0.01
BHC (alpha)	ND	0.01
BHC (beta)	ND	0.01
BHC (delta)	ND	0.01
Bifenthrin	ND	0.01
Binapacryl	ND	0.01
Bitertanol	ND	0.01
Bromacil	ND	0.01
Bromophos-ethyl	ND	0.01
Bromophos	ND	0.01
Bromopropylate	ND	0.01
Bupirimate	ND	0.01
Buprofezin	ND	0.01
Captan	ND	0.01
Carbaryl	ND	0.01
Carbofuran	ND	0.01
Carboxin	ND	0.01
Chlordane (cis)	ND	0.01
Chlordane (trans)	ND	0.01
Chlorfenvinphos	ND	0.01
Chlorobenzilate	ND	0.01
Chlorothalonil	ND	0.01
Chlorpropham	ND	0.01
Chlorpyrifos	ND	0.01
Chlorthal-dimethyl	ND	0.01
Chlozolinate	ND	0.01
Chlorpyrifos-methyl	ND	0.01
Clomazone	ND	0.01
Coumafos	ND	0.01
Cyanazine	ND	0.01
Cyfluthrin	ND	0.02
Cyhalothrin	ND	0.01
Cypermethrin	ND	0.03
Cyproconazole	ND	0.01
Cyprodinil	ND	0.01
DDD (o,p')	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-10
Sample Identification: 10SS7 -SS12 - Composite 10

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
DDD (p,p')	ND	0.01
DDE (o,p')	ND	0.01
DDE (p,p')	ND	0.01
DDT (o,p')	ND	0.01
DDT (p,p')	ND	0.01
Deltamethrin	ND	0.01
Demeton-s-methyl	ND	0.01
Diazinon	ND	0.01
Dichlobenil	ND	0.01
Dichlofenthion	**0.21**	0.01
Dichlofluanid	ND	0.01
Dichlorvos	ND	0.01
Dichloran	ND	0.01
Dicofol	ND	0.01
Dicrotophos	ND	0.01
Dieldrin	ND	0.01
Diflufenican	ND	0.01
Difenoconazole	ND	0.01
Dimethoate	ND	0.01
Dimethomorph	ND	0.01
Dimethenamid	ND	0.01
Diphenamid	ND	0.01
Diphenylamine	ND	0.01
Disulfoton	ND	0.01
Endosulfan (alpha)	ND	0.01
Endosulfan (beta)	ND	0.01
Endosulfan sulphate	ND	0.01
Endrin	ND	0.01
EPN	ND	0.01
Epoxiconazole	ND	0.01
EPTC	ND	0.01
Ethiofencarb	ND	0.01
Ethion	ND	0.01
Ethoprofos	ND	0.01
Ethoxyquin	ND	0.01
Etridiazole	ND	0.01
Etrimfos	ND	0.01
Famphur	ND	0.01
Fenamiphos	ND	0.01
Fenarimol	ND	0.01
Fenchlorphos	ND	0.01
Fenitrothion	ND	0.01
Fenpiclonil	ND	0.01
Fenpropimorph	ND	0.01
Fenpropathrin	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-10
Sample Identification: 10SS7 -SS12 - Composite 10

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Fensulfothion	ND	0.01
Fenthion	ND	0.01
Fenvalerate	ND	0.01
Fenoxaprop-ethyl	ND	0.01
Fenoxycarb	ND	0.02
Fipronil	ND	0.01
Flamprop-methyl	ND	0.01
Fluazinam	ND	0.1
Fluazifop-p-butyl	ND	0.01
Fludioxonil	ND	0.01
Flusilazole	ND	0.01
Flutriafol	ND	0.01
Fluvalinate	ND	0.02
Folpet	ND	0.02
Furalaxyl	ND	0.01
Furathiocarb	ND	0.01
Haloxyfop-etotyl	ND	0.01
Haloxyfop-methyl	ND	0.01
Hexachlorobenzene	ND	0.01
Heptachlor	ND	0.01
Heptachlor-epoxide	ND	0.01
Heptenophos	ND	0.01
Hexaconazole	ND	0.01
Hexazinone	ND	0.01
Indoxacarb	ND	0.01
Iodofenphos	ND	0.01
Iprodione	ND	0.01
Isofenphos	ND	0.01
Kresoxim-methyl	ND	0.01
Lindane	ND	0.01
Linuron	ND	0.01
Malathion	ND	0.01
Metalaxyl	ND	0.01
Methacrifos	ND	0.01
Methiocarb	ND	0.01
Methidathion	ND	0.01
Metolachlor	ND	0.01
Metribuzin	ND	0.01
Mevinphos	ND	0.01
Monocrotophos	ND	0.01
Myclobutanil	ND	0.01
Napropamide	ND	0.01
Nitrofen	ND	0.01
Nitrothal-isopropyl	ND	0.01
Norflurazon	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-10
Sample Identification: 10SS7 -SS12 - Composite 10

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Omethoate	ND	0.1
Oxadiazon	ND	0.01
Oxyfluorfen	ND	0.01
Paclobutrazol	ND	0.01
Parathion-methyl	ND	0.01
Parathion	ND	0.01
Penconazole	ND	0.01
Pendimethalin	ND	0.01
Permethrin	ND	0.01
Phorate	ND	0.01
Phorate sulphone	ND	0.05
Phorate sulphoxide	ND	0.05
Phosalone	ND	0.01
Phosmet	ND	0.01
Phosphamidon	ND	0.01
Piperonyl butoxide	ND	0.01
Pirimicarb	ND	0.01
Pirimiphos-methyl	ND	0.01
Prochloraz	ND	0.05
Procymidone	ND	0.01
Prometryn	ND	0.01
Propachlor	ND	0.01
Propargite	ND	0.01
Propazine	ND	0.01
Propetamphos	ND	0.01
Propham	ND	0.01
Propiconazole	ND	0.01
Propoxur	ND	0.01
Propyzamide	ND	0.01
Prothiofos	ND	0.01
Pyrazophos	ND	0.01
Pyrimethanil	ND	0.01
Pyriproxyfen	ND	0.01
Quintozene	ND	0.01
Quinalphos	ND	0.01
Quizalofop-ethyl	ND	0.01
Simazine	**0.055**	0.01
Tebuconazole	ND	0.01
Tebufenpyrad	ND	0.01
Terbacil	ND	0.01
Terbufos	ND	0.01
Terbumeton	ND	0.01
Terbutylazine	ND	0.01
Terbutryn	ND	0.01
Tetrachlorvinphos	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-10
Sample Identification: 10SS7 -SS12 - Composite 10

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Tetradifon	ND	0.01
Tolclofos-methyl	ND	0.01
Tolylfluanid	ND	0.01
Tralkoxydim	ND	0.01
Triadimefon	ND	0.01
Triadimenol	ND	0.01
Triallate	ND	0.01
Triazophos	ND	0.01
Trifloxystrobin	ND	0.01
Trifluralin	ND	0.01
Vinclozolin	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-11
Sample Identification: 11SS13/1-SS18/1 - Composite 11

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Acetochlor	ND	0.01
Alachlor	ND	0.01
Aldrin	ND	0.01
Atrazine	ND	0.01
Azaconazole	ND	0.01
Azinphos-methyl	ND	0.1
Azoxystrobin	ND	0.01
Benalaxyl	ND	0.01
Bendiocarb	ND	0.01
Benodanil	ND	0.01
BHC (alpha)	ND	0.01
BHC (beta)	ND	0.01
BHC (delta)	ND	0.01
Bifenthrin	ND	0.01
Binapacryl	ND	0.01
Bitertanol	ND	0.01
Bromacil	ND	0.01
Bromophos-ethyl	ND	0.01
Bromophos	ND	0.01
Bromopropylate	ND	0.01
Bupirimate	ND	0.01
Buprofezin	ND	0.01
Captan	ND	0.01
Carbaryl	ND	0.01
Carbofuran	ND	0.01
Carboxin	ND	0.01
Chlordane (cis)	ND	0.01
Chlordane (trans)	ND	0.01
Chlorfenvinphos	ND	0.01
Chlorobenzilate	ND	0.01
Chlorothalonil	ND	0.01
Chlorpropham	ND	0.01
Chlorpyrifos	ND	0.01
Chlorthal-dimethyl	ND	0.01
Chlozolinate	ND	0.01
Chlorpyrifos-methyl	ND	0.01
Clomazone	ND	0.01
Coumafos	ND	0.01
Cyanazine	ND	0.01
Cyfluthrin	ND	0.02
Cyhalothrin	ND	0.01
Cypermethrin	ND	0.03
Cyproconazole	ND	0.01
Cyprodinil	ND	0.01
DDD (o,p')	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-11
Sample Identification: 11SS13/1-SS18/1 - Composite 11

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
DDD (p,p')	ND	0.01
DDE (o,p')	ND	0.01
DDE (p,p')	ND	0.01
DDT (o,p')	ND	0.01
DDT (p,p')	ND	0.01
Deltamethrin	ND	0.01
Demeton-s-methyl	ND	0.01
Diazinon	ND	0.01
Dichlobenil	ND	0.01
Dichlofenthion	ND	0.01
Dichlofluanid	ND	0.01
Dichlorvos	ND	0.01
Dichloran	ND	0.01
Dicofol	ND	0.01
Dicrotophos	ND	0.01
Dieldrin	ND	0.01
Diflufenican	ND	0.01
Difenoconazole	ND	0.01
Dimethoate	ND	0.01
Dimethomorph	ND	0.01
Dimethenamid	ND	0.01
Diphenamid	ND	0.01
Diphenylamine	ND	0.01
Disulfoton	ND	0.01
Endosulfan (alpha)	ND	0.01
Endosulfan (beta)	ND	0.01
Endosulfan sulphate	ND	0.01
Endrin	ND	0.01
EPN	ND	0.01
Epoxiconazole	ND	0.01
EPTC	ND	0.01
Ethiofencarb	ND	0.01
Ethion	ND	0.01
Ethoprofos	ND	0.01
Ethoxyquin	ND	0.01
Etridiazole	ND	0.01
Etrimfos	ND	0.01
Famphur	ND	0.01
Fenamiphos	ND	0.01
Fenarimol	ND	0.01
Fenchlorphos	ND	0.01
Fenitrothion	ND	0.01
Fenpiclonil	ND	0.01
Fenpropimorph	ND	0.01
Fenpropathrin	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-11
Sample Identification: 11SS13/1-SS18/1 - Composite 11

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Fensulfothion	ND	0.01
Fenthion	ND	0.01
Fenvalerate	ND	0.01
Fenoxaprop-ethyl	ND	0.01
Fenoxycarb	ND	0.02
Fipronil	ND	0.01
Flamprop-methyl	ND	0.01
Fluazinam	ND	0.1
Fluazifop-p-butyl	ND	0.01
Fludioxonil	ND	0.01
Flusilazole	ND	0.01
Flutriafol	ND	0.01
Fluvalinate	ND	0.02
Folpet	ND	0.02
Furalaxyl	ND	0.01
Furathiocarb	ND	0.01
Haloxyfop-etotyl	ND	0.01
Haloxyfop-methyl	ND	0.01
Hexachlorobenzene	ND	0.01
Heptachlor	ND	0.01
Heptachlor-epoxide	ND	0.01
Heptenophos	ND	0.01
Hexaconazole	ND	0.01
Hexazinone	ND	0.01
Indoxacarb	ND	0.01
Iodofenphos	ND	0.01
Iprodione	ND	0.01
Isofenphos	ND	0.01
Kresoxim-methyl	ND	0.01
Lindane	ND	0.01
Linuron	ND	0.01
Malathion	ND	0.01
Metalaxyl	ND	0.01
Methacrifos	ND	0.01
Methiocarb	ND	0.01
Methidathion	ND	0.01
Metolachlor	ND	0.01
Metribuzin	ND	0.01
Mevinphos	ND	0.01
Monocrotophos	ND	0.01
Myclobutanil	ND	0.01
Napropamide	ND	0.01
Nitrofen	ND	0.01
Nitrothal-isopropyl	ND	0.01
Norflurazon	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-11
Sample Identification: 11SS13/1-SS18/1 - Composite 11

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Omethoate	ND	0.1
Oxadiazon	ND	0.01
Oxyfluorfen	ND	0.01
Paclobutrazol	ND	0.01
Parathion-methyl	ND	0.01
Parathion	ND	0.01
Penconazole	ND	0.01
Pendimethalin	ND	0.01
Permethrin	ND	0.01
Phorate	ND	0.01
Phorate sulphone	ND	0.05
Phorate sulphoxide	ND	0.05
Phosalone	ND	0.01
Phosmet	ND	0.01
Phosphamidon	ND	0.01
Piperonyl butoxide	ND	0.01
Pirimicarb	ND	0.01
Pirimiphos-methyl	ND	0.01
Prochloraz	ND	0.05
Procymidone	ND	0.01
Prometryn	ND	0.01
Propachlor	ND	0.01
Propargite	ND	0.01
Propazine	ND	0.01
Propetamphos	ND	0.01
Propham	ND	0.01
Propiconazole	ND	0.01
Propoxur	ND	0.01
Propyzamide	ND	0.01
Prothiofos	ND	0.01
Pyrazophos	ND	0.01
Pyrimethanil	ND	0.01
Pyriproxyfen	ND	0.01
Quintozene	ND	0.01
Quinalphos	ND	0.01
Quizalofop-ethyl	ND	0.01
Simazine	ND	0.01
Tebuconazole	ND	0.01
Tebufenpyrad	ND	0.01
Terbacil	ND	0.01
Terbufos	ND	0.01
Terbumeton	ND	0.01
Terbutylazine	ND	0.01
Terbutryn	ND	0.01
Tetrachlorvinphos	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-11
Sample Identification: 11SS13/1-SS18/1 - Composite 11

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Tetradifon	ND	0.01
Tolclofos-methyl	ND	0.01
Tolylfluanid	ND	0.01
Tralkoxydim	ND	0.01
Triadimefon	ND	0.01
Triadimenol	ND	0.01
Triallate	ND	0.01
Triazophos	ND	0.01
Trifloxystrobin	ND	0.01
Trifluralin	ND	0.01
Vinclozolin	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-12
Sample Identification: 12SS19 - SS24 - Composite 12

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Acetochlor	ND	0.01
Alachlor	ND	0.01
Aldrin	ND	0.01
Atrazine	ND	0.01
Azaconazole	ND	0.01
Azinphos-methyl	ND	0.1
Azoxystrobin	ND	0.01
Benalaxyl	ND	0.01
Bendiocarb	ND	0.01
Benodanil	ND	0.01
BHC (alpha)	ND	0.01
BHC (beta)	ND	0.01
BHC (delta)	ND	0.01
Bifenthrin	ND	0.01
Binapacryl	ND	0.01
Bitertanol	ND	0.01
Bromacil	ND	0.01
Bromophos-ethyl	ND	0.01
Bromophos	ND	0.01
Bromopropylate	ND	0.01
Bupirimate	ND	0.01
Buprofezin	ND	0.01
Captan	ND	0.01
Carbaryl	ND	0.01
Carbofuran	ND	0.01
Carboxin	ND	0.01
Chlordane (cis)	ND	0.01
Chlordane (trans)	ND	0.01
Chlorfenvinphos	ND	0.01
Chlorobenzilate	ND	0.01
Chlorothalonil	ND	0.01
Chlorpropham	ND	0.01
Chlorpyrifos	ND	0.01
Chlorthal-dimethyl	ND	0.01
Chlozolinate	ND	0.01
Chlorpyrifos-methyl	ND	0.01
Clomazone	ND	0.01
Coumafos	ND	0.01
Cyanazine	ND	0.01
Cyfluthrin	ND	0.02
Cyhalothrin	ND	0.01
Cypermethrin	ND	0.03
Cyproconazole	ND	0.01
Cyprodinil	ND	0.01
DDD (o,p')	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-12
Sample Identification: 12SS19 - SS24 - Composite 12

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
DDD (p,p')	ND	0.01
DDE (o,p')	ND	0.01
DDE (p,p')	ND	0.01
DDT (o,p')	ND	0.01
DDT (p,p')	ND	0.01
Deltamethrin	ND	0.01
Demeton-s-methyl	ND	0.01
Diazinon	ND	0.01
Dichlobenil	ND	0.01
Dichlofenthion	ND	0.01
Dichlofluanid	ND	0.01
Dichlorvos	ND	0.01
Dichloran	ND	0.01
Dicofol	ND	0.01
Dicrotophos	ND	0.01
Dieldrin	ND	0.01
Diflufenican	ND	0.01
Difenoconazole	ND	0.01
Dimethoate	ND	0.01
Dimethomorph	ND	0.01
Dimethenamid	ND	0.01
Diphenamid	ND	0.01
Diphenylamine	ND	0.01
Disulfoton	ND	0.01
Endosulfan (alpha)	ND	0.01
Endosulfan (beta)	ND	0.01
Endosulfan sulphate	ND	0.01
Endrin	ND	0.01
EPN	ND	0.01
Epoxiconazole	ND	0.01
EPTC	ND	0.01
Ethiofencarb	ND	0.01
Ethion	ND	0.01
Ethoprofos	ND	0.01
Ethoxyquin	ND	0.01
Etridiazole	ND	0.01
Etrimfos	ND	0.01
Famphur	ND	0.01
Fenamiphos	ND	0.01
Fenarimol	ND	0.01
Fenchlorphos	ND	0.01
Fenitrothion	ND	0.01
Fenpiclonil	ND	0.01
Fenpropimorph	ND	0.01
Fenpropathrin	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-12
Sample Identification: 12SS19 - SS24 - Composite 12

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Fensulfothion	ND	0.01
Fenthion	ND	0.01
Fenvalerate	ND	0.01
Fenoxaprop-ethyl	ND	0.01
Fenoxycarb	ND	0.02
Fipronil	ND	0.01
Flamprop-methyl	ND	0.01
Fluazinam	ND	0.1
Fluazifop-p-butyl	ND	0.01
Fludioxonil	ND	0.01
Flusilazole	ND	0.01
Flutriafol	ND	0.01
Fluvalinate	ND	0.02
Folpet	ND	0.02
Furalaxyl	ND	0.01
Furathiocarb	ND	0.01
Haloxyfop-etotyl	ND	0.01
Haloxyfop-methyl	ND	0.01
Hexachlorobenzene	ND	0.01
Heptachlor	ND	0.01
Heptachlor-epoxide	ND	0.01
Heptenophos	ND	0.01
Hexaconazole	ND	0.01
Hexazinone	ND	0.01
Indoxacarb	ND	0.01
Iodofenphos	ND	0.01
Iprodione	ND	0.01
Isofenphos	ND	0.01
Kresoxim-methyl	ND	0.01
Lindane	ND	0.01
Linuron	ND	0.01
Malathion	ND	0.01
Metalaxyl	ND	0.01
Methacrifos	ND	0.01
Methiocarb	ND	0.01
Methidathion	ND	0.01
Metolachlor	ND	0.01
Metribuzin	ND	0.01
Mevinphos	ND	0.01
Monocrotophos	ND	0.01
Myclobutanil	ND	0.01
Napropamide	ND	0.01
Nitrofen	ND	0.01
Nitrothal-isopropyl	ND	0.01
Norflurazon	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-12
Sample Identification: 12SS19 - SS24 - Composite 12

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Omethoate	ND	0.1
Oxadiazon	ND	0.01
Oxyfluorfen	ND	0.01
Paclobutrazol	ND	0.01
Parathion-methyl	ND	0.01
Parathion	ND	0.01
Penconazole	ND	0.01
Pendimethalin	ND	0.01
Permethrin	ND	0.01
Phorate	ND	0.01
Phorate sulphone	ND	0.05
Phorate sulphoxide	ND	0.05
Phosalone	ND	0.01
Phosmet	ND	0.01
Phosphamidon	ND	0.01
Piperonyl butoxide	ND	0.01
Pirimicarb	ND	0.01
Pirimiphos-methyl	ND	0.01
Prochloraz	ND	0.05
Procymidone	ND	0.01
Prometryn	ND	0.01
Propachlor	ND	0.01
Propargite	ND	0.01
Propazine	ND	0.01
Propetamphos	ND	0.01
Propham	ND	0.01
Propiconazole	ND	0.01
Propoxur	ND	0.01
Propyzamide	ND	0.01
Prothiofos	ND	0.01
Pyrazophos	ND	0.01
Pyrimethanil	ND	0.01
Pyriproxyfen	ND	0.01
Quintozene	ND	0.01
Quinalphos	ND	0.01
Quizalofop-ethyl	ND	0.01
Simazine	ND	0.01
Tebuconazole	ND	0.01
Tebufenpyrad	ND	0.01
Terbacil	ND	0.01
Terbufos	ND	0.01
Terbumeton	ND	0.01
Terbutylazine	ND	0.01
Terbutryn	ND	0.01
Tetrachlorvinphos	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-12
Sample Identification: 12SS19 - SS24 - Composite 12

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Tetradifon	ND	0.01
Tolclofos-methyl	ND	0.01
Tolylfluanid	ND	0.01
Tralkoxydim	ND	0.01
Triadimefon	ND	0.01
Triadimenol	ND	0.01
Triallate	ND	0.01
Triazophos	ND	0.01
Trifloxystrobin	ND	0.01
Trifluralin	ND	0.01
Vinclozolin	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-13
Sample Identification: 13SS25 - SS31 - Composite 13

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Acetochlor	ND	0.01
Alachlor	ND	0.01
Aldrin	ND	0.01
Atrazine	ND	0.01
Azaconazole	ND	0.01
Azinphos-methyl	ND	0.1
Azoxystrobin	ND	0.01
Benalaxyl	ND	0.01
Bendiocarb	ND	0.01
Benodanil	ND	0.01
BHC (alpha)	ND	0.01
BHC (beta)	ND	0.01
BHC (delta)	ND	0.01
Bifenthrin	ND	0.01
Binapacryl	ND	0.01
Bitertanol	ND	0.01
Bromacil	ND	0.01
Bromophos-ethyl	ND	0.01
Bromophos	ND	0.01
Bromopropylate	ND	0.01
Bupirimate	ND	0.01
Buprofezin	ND	0.01
Captan	ND	0.01
Carbaryl	ND	0.01
Carbofuran	ND	0.01
Carboxin	ND	0.01
Chlordane (cis)	ND	0.01
Chlordane (trans)	ND	0.01
Chlorfenvinphos	ND	0.01
Chlorobenzilate	ND	0.01
Chlorothalonil	ND	0.01
Chlorpropham	ND	0.01
Chlorpyrifos	ND	0.01
Chlorthal-dimethyl	ND	0.01
Chlozolinate	ND	0.01
Chlorpyrifos-methyl	ND	0.01
Clomazone	ND	0.01
Coumafos	ND	0.01
Cyanazine	ND	0.01
Cyfluthrin	ND	0.02
Cyhalothrin	ND	0.01
Cypermethrin	ND	0.03
Cyproconazole	ND	0.01
Cyprodinil	ND	0.01
DDD (o,p')	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-13
Sample Identification: 13SS25 - SS31 - Composite 13

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
DDD (p,p')	ND	0.01
DDE (o,p')	ND	0.01
DDE (p,p')	ND	0.01
DDT (o,p')	ND	0.01
DDT (p,p')	ND	0.01
Deltamethrin	ND	0.01
Demeton-s-methyl	ND	0.01
Diazinon	ND	0.01
Dichlobenil	ND	0.01
Dichlofenthion	ND	0.01
Dichlofluanid	ND	0.01
Dichlorvos	ND	0.01
Dichloran	ND	0.01
Dicofol	ND	0.01
Dicrotophos	ND	0.01
Dieldrin	ND	0.01
Diflufenican	ND	0.01
Difenoconazole	ND	0.01
Dimethoate	ND	0.01
Dimethomorph	ND	0.01
Dimethenamid	ND	0.01
Diphenamid	ND	0.01
Diphenylamine	ND	0.01
Disulfoton	ND	0.01
Endosulfan (alpha)	ND	0.01
Endosulfan (beta)	ND	0.01
Endosulfan sulphate	ND	0.01
Endrin	ND	0.01
EPN	ND	0.01
Epoxiconazole	ND	0.01
EPTC	ND	0.01
Ethiofencarb	ND	0.01
Ethion	ND	0.01
Ethoprofos	ND	0.01
Ethoxyquin	ND	0.01
Etridiazole	ND	0.01
Etrimfos	ND	0.01
Famphur	ND	0.01
Fenamiphos	ND	0.01
Fenarimol	ND	0.01
Fenchlorphos	ND	0.01
Fenitrothion	ND	0.01
Fenpiclonil	ND	0.01
Fenpropimorph	ND	0.01
Fenpropathrin	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-13
Sample Identification: 13SS25 - SS31 - Composite 13

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Fensulfothion	ND	0.01
Fenthion	ND	0.01
Fenvalerate	ND	0.01
Fenoxaprop-ethyl	ND	0.01
Fenoxycarb	ND	0.02
Fipronil	ND	0.01
Flamprop-methyl	ND	0.01
Fluazinam	ND	0.1
Fluazifop-p-butyl	ND	0.01
Fludioxonil	ND	0.01
Flusilazole	ND	0.01
Flutriafol	ND	0.01
Fluvalinate	ND	0.02
Folpet	ND	0.02
Furalaxyl	ND	0.01
Furathiocarb	ND	0.01
Haloxyfop-etotyl	ND	0.01
Haloxyfop-methyl	ND	0.01
Hexachlorobenzene	ND	0.01
Heptachlor	ND	0.01
Heptachlor-epoxide	ND	0.01
Heptenophos	ND	0.01
Hexaconazole	ND	0.01
Hexazinone	ND	0.01
Indoxacarb	ND	0.01
Iodofenphos	ND	0.01
Iprodione	ND	0.01
Isofenphos	ND	0.01
Kresoxim-methyl	ND	0.01
Lindane	ND	0.01
Linuron	ND	0.01
Malathion	ND	0.01
Metalaxyl	ND	0.01
Methacrifos	ND	0.01
Methiocarb	ND	0.01
Methidathion	ND	0.01
Metolachlor	ND	0.01
Metribuzin	ND	0.01
Mevinphos	ND	0.01
Monocrotophos	ND	0.01
Myclobutanil	ND	0.01
Napropamide	ND	0.01
Nitrofen	ND	0.01
Nitrothal-isopropyl	ND	0.01
Norflurazon	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-13
Sample Identification: 13SS25 - SS31 - Composite 13

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Omethoate	ND	0.1
Oxadiazon	ND	0.01
Oxyfluorfen	ND	0.01
Paclobutrazol	ND	0.01
Parathion-methyl	ND	0.01
Parathion	ND	0.01
Penconazole	ND	0.01
Pendimethalin	ND	0.01
Permethrin	ND	0.01
Phorate	ND	0.01
Phorate sulphone	ND	0.05
Phorate sulphoxide	ND	0.05
Phosalone	ND	0.01
Phosmet	ND	0.01
Phosphamidon	ND	0.01
Piperonyl butoxide	ND	0.01
Pirimicarb	ND	0.01
Pirimiphos-methyl	ND	0.01
Prochloraz	ND	0.05
Procymidone	ND	0.01
Prometryn	ND	0.01
Propachlor	ND	0.01
Propargite	ND	0.01
Propazine	ND	0.01
Propetamphos	ND	0.01
Propham	ND	0.01
Propiconazole	ND	0.01
Propoxur	ND	0.01
Propyzamide	ND	0.01
Prothiofos	ND	0.01
Pyrazophos	ND	0.01
Pyrimethanil	ND	0.01
Pyriproxyfen	ND	0.01
Quintozene	ND	0.01
Quinalphos	ND	0.01
Quizalofop-ethyl	ND	0.01
Simazine	ND	0.01
Tebuconazole	ND	0.01
Tebufenpyrad	ND	0.01
Terbacil	ND	0.01
Terbufos	ND	0.01
Terbumeton	ND	0.01
Terbutylazine	ND	0.01
Terbutryn	ND	0.01
Tetrachlorvinphos	ND	0.01

¥ = Results are reported on a dry weight basis.

ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-13
Sample Identification: 13SS25 - SS31 - Composite 13

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Tetradifon	ND	0.01
Tolclofos-methyl	ND	0.01
Tolylfluanid	ND	0.01
Tralkoxydim	ND	0.01
Triadimefon	ND	0.01
Triadimenol	ND	0.01
Triallate	ND	0.01
Triazophos	ND	0.01
Trifloxystrobin	ND	0.01
Trifluralin	ND	0.01
Vinclozolin	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-14
Sample Identification: 14 SS13/2 - SS 18/2, Composite 14

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Acetochlor	ND	0.01
Alachlor	ND	0.01
Aldrin	ND	0.01
Atrazine	ND	0.01
Azaconazole	ND	0.01
Azinphos-methyl	ND	0.1
Azoxystrobin	ND	0.01
Benalaxyl	ND	0.01
Bendiocarb	ND	0.01
Benodanil	ND	0.01
BHC (alpha)	ND	0.01
BHC (beta)	ND	0.01
BHC (delta)	ND	0.01
Bifenthrin	ND	0.01
Binapacryl	ND	0.01
Bitertanol	ND	0.01
Bromacil	ND	0.01
Bromophos-ethyl	ND	0.01
Bromophos	ND	0.01
Bromopropylate	ND	0.01
Bupirimate	ND	0.01
Buprofezin	ND	0.01
Captan	ND	0.01
Carbaryl	ND	0.01
Carbofuran	ND	0.01
Carboxin	ND	0.01
Chlordane (cis)	ND	0.01
Chlordane (trans)	ND	0.01
Chlorfenvinphos	ND	0.01
Chlorobenzilate	ND	0.01
Chlorothalonil	ND	0.01
Chlorpropham	ND	0.01
Chlorpyrifos	ND	0.01
Chlorthal-dimethyl	ND	0.01
Chlozolinate	ND	0.01
Chlorpyrifos-methyl	ND	0.01
Clomazone	ND	0.01
Coumafos	ND	0.01
Cyanazine	ND	0.01
Cyfluthrin	ND	0.02
Cyhalothrin	ND	0.01
Cypermethrin	ND	0.03
Cyproconazole	ND	0.01
Cyprodinil	ND	0.01
DDD (o,p')	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-14
Sample Identification: 14 SS13/2 - SS 18/2, Composite 14

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
DDD (p,p')	ND	0.01
DDE (o,p')	ND	0.01
DDE (p,p')	ND	0.01
DDT (o,p')	ND	0.01
DDT (p,p')	ND	0.01
Deltamethrin	ND	0.01
Demeton-s-methyl	ND	0.01
Diazinon	ND	0.01
Dichlobenil	ND	0.01
Dichlofenthion	ND	0.01
Dichlofluanid	ND	0.01
Dichlorvos	ND	0.01
Dichloran	ND	0.01
Dicofol	ND	0.01
Dicrotophos	ND	0.01
Dieldrin	**0.094**	0.01
Diflufenican	ND	0.01
Difenoconazole	ND	0.01
Dimethoate	ND	0.01
Dimethomorph	ND	0.01
Dimethenamid	ND	0.01
Diphenamid	ND	0.01
Diphenylamine	ND	0.01
Disulfoton	ND	0.01
Endosulfan (alpha)	ND	0.01
Endosulfan (beta)	ND	0.01
Endosulfan sulphate	ND	0.01
Endrin	ND	0.01
EPN	ND	0.01
Epoxiconazole	ND	0.01
EPTC	ND	0.01
Ethiofencarb	ND	0.01
Ethion	ND	0.01
Ethoprofos	ND	0.01
Ethoxyquin	ND	0.01
Etridiazole	ND	0.01
Etrimfos	ND	0.01
Famphur	ND	0.01
Fenamiphos	ND	0.01
Fenarimol	ND	0.01
Fenchlorphos	ND	0.01
Fenitrothion	ND	0.01
Fenpiclonil	ND	0.01
Fenpropimorph	ND	0.01
Fenpropathrin	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-14
Sample Identification: 14 SS13/2 - SS 18/2, Composite 14

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Fensulfothion	ND	0.01
Fenthion	ND	0.01
Fenvalerate	ND	0.01
Fenoxaprop-ethyl	ND	0.01
Fenoxycarb	ND	0.02
Fipronil	ND	0.01
Flamprop-methyl	ND	0.01
Fluazinam	ND	0.1
Fluazifop-p-butyl	ND	0.01
Fludioxonil	ND	0.01
Flusilazole	ND	0.01
Flutriafol	ND	0.01
Fluvalinate	ND	0.02
Folpet	ND	0.02
Furalaxyl	ND	0.01
Furathiocarb	ND	0.01
Haloxyfop-etotyl	ND	0.01
Haloxyfop-methyl	ND	0.01
Hexachlorobenzene	ND	0.01
Heptachlor	ND	0.01
Heptachlor-epoxide	ND	0.01
Heptenophos	ND	0.01
Hexaconazole	ND	0.01
Hexazinone	ND	0.01
Indoxacarb	ND	0.01
Iodofenphos	ND	0.01
Iprodione	ND	0.01
Isofenphos	ND	0.01
Kresoxim-methyl	ND	0.01
Lindane	ND	0.01
Linuron	ND	0.01
Malathion	ND	0.01
Metalaxyl	ND	0.01
Methacrifos	ND	0.01
Methiocarb	ND	0.01
Methidathion	ND	0.01
Metolachlor	ND	0.01
Metribuzin	ND	0.01
Mevinphos	ND	0.01
Monocrotophos	ND	0.01
Myclobutanil	ND	0.01
Napropamide	ND	0.01
Nitrofen	ND	0.01
Nitrothal-isopropyl	ND	0.01
Norflurazon	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-14
Sample Identification: 14 SS13/2 - SS 18/2, Composite 14

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Omethoate	ND	0.1
Oxadiazon	ND	0.01
Oxyfluorfen	ND	0.01
Paclobutrazol	ND	0.01
Parathion-methyl	ND	0.01
Parathion	ND	0.01
Penconazole	ND	0.01
Pendimethalin	ND	0.01
Permethrin	ND	0.01
Phorate	ND	0.01
Phorate sulphone	ND	0.05
Phorate sulphoxide	ND	0.05
Phosalone	ND	0.01
Phosmet	ND	0.01
Phosphamidon	ND	0.01
Piperonyl butoxide	ND	0.01
Pirimicarb	ND	0.01
Pirimiphos-methyl	ND	0.01
Prochloraz	ND	0.05
Procymidone	ND	0.01
Prometryn	ND	0.01
Propachlor	ND	0.01
Propargite	ND	0.01
Propazine	ND	0.01
Propetamphos	ND	0.01
Propham	ND	0.01
Propiconazole	ND	0.01
Propoxur	ND	0.01
Propyzamide	ND	0.01
Prothiofos	ND	0.01
Pyrazophos	ND	0.01
Pyrimethanil	ND	0.01
Pyriproxyfen	ND	0.01
Quintozene	ND	0.01
Quinalphos	ND	0.01
Quizalofop-ethyl	ND	0.01
Simazine	ND	0.01
Tebuconazole	ND	0.01
Tebufenpyrad	ND	0.01
Terbacil	ND	0.01
Terbufos	ND	0.01
Terbumeton	ND	0.01
Terbutylazine	ND	0.01
Terbutryn	ND	0.01
Tetrachlorvinphos	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

Results: Pesticides in Soil

Laboratory Reference: 58715-14
Sample Identification: 14 SS13/2 - SS 18/2, Composite 14

Date Received: 20 Jul 2009
Date Extracted: 28 Jul 2009
Date Analysed: 03 Aug 2009

Compounds	Result ¥ (mg/kg)	MDL *
Tetradifon	ND	0.01
Tolclofos-methyl	ND	0.01
Tolylfluanid	ND	0.01
Tralkoxydim	ND	0.01
Triadimefon	ND	0.01
Triadimenol	ND	0.01
Triallate	ND	0.01
Triazophos	ND	0.01
Trifloxystrobin	ND	0.01
Trifluralin	ND	0.01
Vinclozolin	ND	0.01

¥ = Results are reported on a dry weight basis.
ND = Not Detected * = Method Detection Limit

Lab Analyst: KH Data Analyst: SP Authorised: Koos Hoogenboom

AsureQuality

1C Quadrant Drive, Gracefield
PO Box 31 242, Lower Hutt
Wellington, New Zealand

T 64 4 5708600
F 64 4 5708176
W www.asurequality.com

Certificate of Analysis

Date Issued: 10-Aug-09

Client: Pattle Delamore Partners Ltd
Level 4, PDP House
235 Broadway
Newmarket
AUCKLAND

Attention: Rod Lidgard

Date Received: 20-Jul-09

AsureQuality Lab. Reference: 58715

Sample Type: Soil

Analysis: **Tetrachlorobenzenes**

Method:

The sample was extracted with organic solvent and the extract analysed by gas chromatography - mass spectrometry.

Results are reported to two significant figures in milligrams per kilogram (mg/kg), equivalent to ppm, on a dry weight basis. Detection limits are reported to one significant figure.

Unless requested, samples will be disposed of eight weeks from the date of this report.

Comments:

J. Fry
Scientist
AsureQuality Limited

Results: Tetrachlorobenzenes

Sample Identification: Composite 1

Laboratory Reference: 58715-1 Date Received: 20-Jul-09

Date Extracted: 31-Jul-09 Date Analysed: 31-Jul-09

Analyte	Conc.† (mg/kg)
1,2,3,5 + 1,2,4,5-tetrachlorobenzene	< 1
1,2,3,4-tetrachlorobenzene	< 1

† = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JF Authorised: Joanne Fry

Results: Tetrachlorobenzenes

Sample Identification: Composite 2

Laboratory Reference: 58715-2 Date Received: 20-Jul-09

Date Extracted: 31-Jul-09 Date Analysed: 31-Jul-09

Analyte	Conc.† (mg/kg)
1,2,3,5 + 1,2,4,5-tetrachlorobenzene	< 1
1,2,3,4-tetrachlorobenzene	< 1

† = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JF Authorised: Joanne Fry

Results: Tetrachlorobenzenes

Sample Identification: Composite 3

Laboratory Reference: 58715-3 Date Received: 20-Jul-09

Date Extracted: 31-Jul-09 Date Analysed: 31-Jul-09

Analyte	Conc.† (mg/kg)
1,2,3,5 + 1,2,4,5-tetrachlorobenzene	< 1
1,2,3,4-tetrachlorobenzene	< 1

† = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JF Authorised: Joanne Fry

Results: Tetrachlorobenzenes

Sample Identification: Composite 4

Laboratory Reference: 58715-4 Date Received: 20-Jul-09

Date Extracted: 31-Jul-09 Date Analysed: 31-Jul-09

Analyte	Conc.† (mg/kg)
1,2,3,5 + 1,2,4,5-tetrachlorobenzene	< 1
1,2,3,4-tetrachlorobenzene	< 1

† = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JF Authorised: Joanne Fry

Results: Tetrachlorobenzenes

Sample Identification: Composite 5

Laboratory Reference: 58715-5 Date Received: 20-Jul-09

Date Extracted: 31-Jul-09 Date Analysed: 31-Jul-09

Analyte	Conc.† (mg/kg)
1,2,3,5 + 1,2,4,5-tetrachlorobenzene	< 1
1,2,3,4-tetrachlorobenzene	< 1

† = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JF Authorised: Joanne Fry

Results: Tetrachlorobenzenes

Sample Identification: Composite 6

Laboratory Reference: 58715-6 Date Received: 20-Jul-09

Date Extracted: 31-Jul-09 Date Analysed: 31-Jul-09

Analyte	Conc.† (mg/kg)
1,2,3,5 + 1,2,4,5-tetrachlorobenzene	< 1
1,2,3,4-tetrachlorobenzene	< 1

† = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JF Authorised: Joanne Fry

Results: Tetrachlorobenzenes

Sample Identification: Composite 7

Laboratory Reference: 58715-7 Date Received: 20-Jul-09

Date Extracted: 31-Jul-09 Date Analysed: 31-Jul-09

Analyte	Conc.† (mg/kg)
1,2,3,5 + 1,2,4,5-tetrachlorobenzene	< 1
1,2,3,4-tetrachlorobenzene	< 1

† = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JF Authorised: Joanne Fry

Results: Tetrachlorobenzenes

Sample Identification: Composite 8

Laboratory Reference: 58715-8 Date Received: 20-Jul-09

Date Extracted: 31-Jul-09 Date Analysed: 31-Jul-09

Analyte	Conc.† (mg/kg)
1,2,3,5 + 1,2,4,5-tetrachlorobenzene	< 1
1,2,3,4-tetrachlorobenzene	< 1

† = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JF Authorised: Joanne Fry

Results: Tetrachlorobenzenes

Sample Identification: Composite 9

Laboratory Reference: 58715-9 Date Received: 20-Jul-09

Date Extracted: 31-Jul-09 Date Analysed: 31-Jul-09

Analyte	Conc.† (mg/kg)
1,2,3,5 + 1,2,4,5-tetrachlorobenzene	< 1
1,2,3,4-tetrachlorobenzene	< 1

† = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JF Authorised: Joanne Fry

Results: Tetrachlorobenzenes

Sample Identification: Composite 10

Laboratory Reference: 58715-10 Date Received: 20-Jul-09

Date Extracted: 31-Jul-09 Date Analysed: 31-Jul-09

Analyte	Conc.† (mg/kg)
1,2,3,5 + 1,2,4,5-tetrachlorobenzene	< 3
1,2,3,4-tetrachlorobenzene	< 1

† = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JF Authorised: Joanne Fry

Results: Tetrachlorobenzenes

Sample Identification: Composite 11

Laboratory Reference: 58715-11 Date Received: 20-Jul-09

Date Extracted: 31-Jul-09 Date Analysed: 31-Jul-09

Analyte	Conc.† (mg/kg)
1,2,3,5 + 1,2,4,5-tetrachlorobenzene	< 1
1,2,3,4-tetrachlorobenzene	< 1

† = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JF Authorised: Joanne Fry

Results: Tetrachlorobenzenes

Sample Identification: Composite 12

Laboratory Reference: 58715-12 Date Received: 20-Jul-09

Date Extracted: 31-Jul-09 Date Analysed: 31-Jul-09

Analyte	Conc.† (mg/kg)
1,2,3,5 + 1,2,4,5-tetrachlorobenzene	< 1
1,2,3,4-tetrachlorobenzene	< 1

† = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JF Authorised: Joanne Fry

Results: Tetrachlorobenzenes

Sample Identification: Composite 13

Laboratory Reference: 58715-13 Date Received: 20-Jul-09

Date Extracted: 31-Jul-09 Date Analysed: 31-Jul-09

Analyte	Conc.† (mg/kg)
1,2,3,5 + 1,2,4,5-tetrachlorobenzene	< 1
1,2,3,4-tetrachlorobenzene	< 1

† = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JF Authorised: Joanne Fry

Results: Tetrachlorobenzenes

Sample Identification: Composite 14

Laboratory Reference: 58715-14 Date Received: 20-Jul-09

Date Extracted: 31-Jul-09 Date Analysed: 31-Jul-09

Analyte	Conc.† (mg/kg)
1,2,3,5 + 1,2,4,5-tetrachlorobenzene	< 1
1,2,3,4-tetrachlorobenzene	< 1

† = Results are reported on a dry weight basis.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JF Authorised: Joanne Fry

Results: Tetrachlorobenzenes

Sample Identification: Laboratory Blank

Laboratory Reference: 58715 BLANK | Date Received: Not applicable

Date Extracted: 31-Jul-09 | Date Analysed: 31-Jul-09

Analyte	Conc.† (mg/kg)
1,2,3,5 + 1,2,4,5-tetrachlorobenzene	< 1
1,2,3,4-tetrachlorobenzene	< 1

† = Results are calculated using the average weight of samples in this batch.

< = Less than limit of detection.

Lab Analyst: VK Data Analyst: JF Authorised: Joanne Fry