Melbourne Airport

Assessment of Organochlorine Pesticides in Airside Surface Soils

REPORT

Prepared for

Australian Pacific Airports (Melbourne) Pty Ltd

Airport Management
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EXECUTIVE SUMMARY

Elgin Associates Pty Ltd (Elgin) was engaged by Australia Pacific Airports (Melbourne) Pty Ltd (APAM) to undertake an assessment of organochlorine (OC) pesticides in surface soils in Airside areas of Melbourne Airport. The assessment was undertaken in response to management recommendations made in the Melbourne Airport Stormwater Pollutant Study conducted in 2015 (SGS-Elgin, 2015).

The assessment comprised a field sampling and soil analysis program undertaken across the four stormwater sub-catchments of Arundel Creek, which included Arundel Creek Outfalls 1, 2 and 3, and the Golf Course. Sampling within these four catchments was further divided into 16 sampling sub-areas, with 15 located in Airside and one area at the Golf Club (Landside) **(Figures 1, 2 and 3)**.

Based on the results of the sampling program were the following conclusions:

- OC pesticides were detected in surface soils at eight sampling locations, including SS21, SS25, SS30, SS31, SS33, SS63, SS64 and SS91 (**Figure 6**). Five of these locations occur in the AC03 catchment (Subareas 3, 4 and 5), and three occur in the AC02 catchment (Subareas 9 and 12). Detected OC pesticides included dieldrin, which was reported at all eight sample locations. Endrin was also reported at one location (SS25). Aldrin, DDT or its breakdown products (DDE, DDD), were not detected.
- The eight locations where OC pesticides were detected were all from soils adjacent to a hardstand or roadway, such as an Apron, Taxiway or service road. Five locations (SS21, SS25, SS30, SS63, SS64) were all from soils sampled from the grassed verge, whilst the other three locations (SS31, SS33 and SS91) were sampled from a grassed swale or spoon drain also adjacent to hardstand or roadway
- The detection of OC pesticides in surface soils at several locations between the Terminal Apron and Gate 22 is consistent with historical results, which also reported OC pesticides in surface soils and street sweeper residues in this part of Airside **(Figure 5).** The likely source of these OC pesticides is the historical spraying of 'sheep dip' pesticide products in the 1980's across the Terminal Apron and nearby taxiway areas, based on anecdotal accounts from long term Airside maintenance staff.
- Assessment of the current and historical soil results against the adopted OC pesticide criteria found six results (SS25, SS30, SS63, SS64, TP05, AC03_SS05) exceeded the accepted limit/trigger value (area of environmental significance) of the Federal Airport Regulations (1997), with one result (SS21) just below this accepted limit/trigger value. These locations are in Subareas 3, 4 and 9 in the AC02 and AC03 catchments. The results did not exceed other adopted criteria, which included NEPM Health Investigation Levels for an industrial/commercial landuse.
- A conceptual site model developed in previous studies identified a complete exposure pathway for OC pesticides to impact receptors of Arundel Creek via a stormwater runoff pathway, with surface soils contaminated with OC pesticides identified as a source. The results of this sampling program have improved the understanding of the extent of this contamination, which was found to largely occur along a general north-south axis along Alpha Taxiway between the Terminal Apron and Gate 22, in Subareas 3, 4, 5 and 9. The

results of this program also indicate that remediation or management of these contaminated surface soils is required to prevent or minimise their potential to enter the Arundel Creek stormwater drainage network.

Based on the findings of the sampling program were the following recommendations:

- Geotextile coir logs and matting are immediately placed over all stormwater pits located in the subareas with surface soils impacted by OC pesticides, namely Subareas 3, 4, 5, 9 and 12. The coir logs and matting act to intercept suspended solids in stormwater runoff before entering the subsurface drainage network;
- Options to remediate the identified OC pesticide impacted soils be investigated, considering the following factors:
    - The feasibility of surface scrape excavations and/or soil capping in impacted subareas including grassed verges and spoon drains adjacent to hardstand areas;
    - The future extent of the Southern Apron Expansion, where it is understood from current Airport planning that several grassed areas between the Terminal Apron and Gate 22 are soon to be developed as hardstand pavement, and which may include impacted subareas 1-4 and 9;
    - The future footprint of the Runway Development Program, including the alignment of the proposed third runway which may run across impacted sub-areas 1-4; and
    - The potential for impacted subareas to also host protected grasslands.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANZECC	Australia and New Zealand Environment Conservation Council
APAC	Australia Pacific Airports Corporation
APAM	Australia Pacific Airports (Melbourne)
AUSRIVAS	Australian River Assessment System (a biological-based system for assessing stream condition)
DO	Dissolved oxygen
DoIRD	Department of Infrastructure and Regional Development
EC	Electrical conductivity
EPA	Environment Protection Authority
HMTV	Hardness Modified Trigger Value
Km^2	Kilometers squared
m^2	Metres squared
NATA	National Association of Testing Authorities
NTU	Nephelometric Turbidity Units
O/E	Observed/Expected Ratio
pH	Measure of the acidity or alkalinity of a solution
RBA	Rapid Bio-Assessment
SEPP	State Environment Protection Policy
SIGNAL	Stream Invertebrate Grade Number Average Level
TDS	Total Dissolved Solids
TKN	Total Kjeldahl Nitrogen
TSS	Total Suspended Solids
WoV	Waters of Victoria
WSUD	Water Sensitive Urban Design
N/A	Not Applicable

INTRODUCTION

Elgin Associates Pty Ltd (Elgin) was engaged by Australia Pacific Airports (Melbourne) Pty Ltd (APAM) to undertake an assessment of organochlorine (OC) pesticides in surface soils in Airside areas of Melbourne Airport. The assessment was undertaken in response to management recommendations made in the Melbourne Airport Stormwater Pollutant Study conducted in 2015 (SGS-Elgin, 2015).

1.1 Background

The Melbourne Airport Stormwater Pollutant Study undertaken by SGS-Elgin in 2015 identified organochlorine (OC) pesticides in the AC01, AC02 and AC03 stormwater drainage networks, and at Arundel Creek sites downstream of these three drainage network outfalls. Detected OC pesticides included dieldrin, aldrin, 4,4-DDT, 4,4-DDE and 4,4-DDD. Dieldrin was also detected in tissue of mosquitofish (*Gambusia holbrooki*) collected from Arundel Creek downstream of the AC03 outfall (site AC04a), a significant finding in that it indicated biological uptake of dieldrin in the creek at this location.

The main source areas of OC pesticides were identified (in order of priority) as the AC03, AC02 and AC01 stormwater catchments in Airside areas of the Airport, with most detections of OC pesticides reported in the AC03 drainage network. One detection of 4,4-DDD was also detected at the Melbourne Airport Golf Course, with the Golf Course catchment occurring across both Airside and Landside areas of the Airport. In Airside, the Study found OC pesticides in surface soils, pavement subgrade materials, and in sweeper residues from sweeping of the Southern Apron Extension. Whilst historical records of OC pesticide use at the Airport were not available, anecdotal accounts from long term employees indicated the use of pesticides and boom sprayers in the 1980's to control insect plagues that occurred from time to time at the Airport. Insect control has also been a part of Melbourne Airports bird management strategy to minimise bird foraging in proximity to Aircraft movements.

Based on findings from the Study, it was recommended that management/remediation of organochlorine impacted soils be undertaken to remove this source as far as practicable in the stormwater catchment areas. To further understand the extent of these impacted soils, the need for additional surface soil sampling across Airside and at the Golf Course was identified, and formed the scope of the assessment reported herein.

1.2 Project Objective

The objective of the assessment was to characterise the nature and extent of OC pesticide contamination in surface soils in Airside areas of the Airport. The results of the assessment would inform the requirements for management and/or remediation of impacted soils, and also provide additional information for the human health and ecological risk assessment recently completed for OC pesticide contamination in Arundel Creek (EnRisks, 2015).

1.3 Scope of Work

The scope of work comprised a field sampling and soil analysis program undertaken across the four stormwater sub-catchments of Arundel Creek, which included Arundel Creek Outfalls 1, 2 and 3, and the Golf Course. Sampling within these four catchments was further divided into 16 sampling sub-areas, with 15 located in Airside and one area at the Golf Club (Landside). The extent of the sampling scope is shown on **Figures 1, 2 and 3**.

The scope of work included:

- Desktop review of historical information and sampling results of OC pesticides at the Airport;
- Targeted and discrete surface soil sampling (0-0.05m depth interval) at 121 locations across the four catchments and 16 sampling areas;
- Laboratory analysis of soil samples and QA/QC samples for a suite of OC pesticides;
- Data analysis, mapping and interpretation of results to understand the extent of soils impacted by OC pesticides in the four stormwater catchments.

SITE SETTING

2.1 Study Area Location and Description

Melbourne Airport is approximately 25 km northwest of Melbourne's CBD and approximately 110m above sea level. Airport operations and land-uses include:

- aircraft runways;
- passenger and freight terminals and terminal precinct areas;
- carparks and roads;
- aircraft maintenance workshops and hangars;
- commercial, industrial and retail precincts; and
- conservation and recreation areas.

The Airport is located on a broad plateau bordered by Moonee Ponds Creek to the east and north, residential areas and the Calder Freeway to the south, with Arundel Creek, Deep Creek and the Maribyrnong River to the west. The focus of this assessment was the four stormwater sub-catchments of the airport that drain to Arundel Creek, including drainage networks that discharge to the creek via three outfalls (AC01, AC02 and AC03) and the Golf Course catchment.

Within Airside, these four sub-catchments are located across an environment that features extensive hardstand areas, including two runways (east-west and north-south), taxiways, pavement aprons, terminal buildings and other supporting buildings and access roads. In between these hardstand areas are grassed areas, which can occur as discrete 'islands' located in between runways, taxiways and aprons, or as broader grassed areas that occur between runways and Airside boundary fences. The hardstand areas are elevated relative to the grassed areas, with each grassed area hosting features such as grassed swales, spoon drains and stormwater pits to facilitate runoff from the hardstand. The grassed areas also feature stands of native grasses, including natural grasslands listed for protection under both Federal and State legislation (Biosis 2015).

Arundel Creek itself is a tributary of the Maribyrnong River, with headwaters that originate on the Airport south of the East-West runway and in cleared grazing land to the west of the Airport. The creek then flows south of Air Services Australia (air traffic control) operations and onwards for approximately 4.5 km through rural land along the airport's western boundary before passing under Annandale Rd bridge after which the creek flows a further 0.8 km to its confluence with the Maribyrnong River. The catchment drains an area of approximately 10.5 km^2 and is part of the greater Maribyrnong catchment. The alignment of Arundel Creek and the four stormwater catchments are shown on **Figures 1-3.**

2.2 Legislative and Regulatory Framework

As Melbourne Airport is located on Commonwealth land, it is subject to Federal regulations that include the Airports (Environment Protection) Regulations 1997 (CoA 2009) made under the Airports Act 1996. State Environment Protection Policies (SEPPs) made under the Environment Protection Act 1970 also apply for waterways at and around the Airport, and these set out policies for discharges to land, atmosphere, water and groundwater. The SEPP relevant for assessing water quality of the receiving waters of Arundel Creek from Melbourne Airport is the SEPP *Waters of Victoria* (WoV 2003). Whilst not technically relevant for Commonwealth Land, the SEPP *Prevention and Management of Contamination of Land* (Land SEPP 2002) has also been considered as it sets indicators and objectives based on the National Environment Protection Measure (NEPM, 1999 amended 2013), which provides more recent soil quality objectives for contaminants that includes OC pesticides.

2.2.1 Federal Airport Regulations

The Regulations include duties to prevent or minimise the generation of soil pollution, and to take all reasonable and practicable measures to ensure there are no adverse consequences for local biota, ecosystems and habitats. For this assessment, this includes consideration of OC pesticides as pollutants in stormwater runoff and the receiving waterway of Arundel Creek, and in the terrestrial environment of Airside which also includes Airport maintenance and construction workers.

Schedule 3 of the Regulations include accepted limits/trigger values for soil pollution for both 'areas of the Airport generally' and 'areas of environmental significance'. 'Areas of environmental significance' at Melbourne Airport have been described as Matters of National Environmental Significance (MNES), with current MNES at the Airport mapped by Biosis (2017). Relevant to this assessment are MNES that include:

- Natural Temperate Grassland of Victorian Volcanic Plain, which occur in several areas across Airside including sub-areas targeted in this assessment; and

- Growling Grass Frog Habitat, which occurs along reaches of Arundel Creek, which in turn receives stormwater from drainage catchments in Airside that have been targeted in this assessment as potential source areas of OC pesticides.

Therefore, the accepted limits/trigger values for both 'areas of the Airport generally' and 'areas of environmental significance' have been adopted as OC pesticide soil criteria for this assessment, as summarised in **Table 1** below:

Table 1 – Federal Regulations (1997) - Soil Pollution Accepted Limits/Trigger Values for OC Pesticides

Substance	Accepted Limit/Trigger Value (areas of Airport generally) mg/kg	Accepted Limit/Trigger Value (areas of environmental significance) mg/kg
Aldrin	20 (as sum of dieldrin and aldrin)	0.05
Dieldrin	20 (as sum of dieldrin and aldrin)	0.2
DDT	1000	0.97

2.3 Beneficial Uses of Arundel Creek and Airport Land

2.3.1 Arundel Creek

Surface waters in Victoria, including both fresh and marine environments, and their catchments are protected under the SEPP *Waters of Victoria* (GoV 2003) and its schedules. According to SEPP *WoV* (GoV 2003), Arundel Creek is located within the 'Cleared Hills and Coastal Plains' segment. For this segment, the SEPP identifies the following beneficial uses to be protected:

- Slightly to moderately modified aquatic ecosystems;
- Water suitable for primary and secondary contact recreation, and aesthetic enjoyment;
- Water suitable for agriculture, industrial and commercial use;
- Water suitable for human consumption after treatment;
- Indigenous and non-indigenous cultural and spiritual values;
- Water suitable for consumption of fish, crustacean and molluscs for recreational or commercial purposes.

To protect these beneficial uses, SEPP *WoV* (GoV 2003) outlines environmental quality indicators and objectives to be attained. These are based on *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC 2000) unless specific objectives are described in the SEPP, in which case, the SEPP objectives take precedence over the ANZECC (2000) guidelines.

2.3.2 Airport Land

The Regulations (1997) defines *beneficial use to mean 'a* use conducive to public health, safety, aesthetic enjoyment or other benefit'. The Land SEPP (2002) provides further guidance on protection of beneficial uses that would apply for the Airport site under a Commercial/Industrial land use for Airside, and a Recreational/Open space land use for the Golf Course. The Land SEPP identifies the following beneficial uses to be protected for these land uses:

- Maintenance of Ecosystems – Modified for Open Space/Recreational, Highly Modified for Commercial/Industrial;
- Human Health;
- Buildings and Structures; and
- Aesthetics – for Open Space/Recreational and Commercial.

The Land SEPP sets indicators and objectives for protection of these beneficial uses, which is largely based on values provided in the National Environment Protection Measure – Assessment of Site Contamination (1999, amended 2013). A summary of health and ecological investigation levels for OC pesticides in the NEPM (2013) are included in **Table 2**:

Table 2 – NEPM (2013) – Health and Ecological Investigation Levels for OC Pesticides

Substance	**Health Investigation Level mg/kg**		**Ecological Investigation Level mg/kg**	
	Open Space/ Recreational	**Commercial/ Industrial**	**Open Space/ Recreational**	**Commercial/ Industrial**
DDT + DDE +DDD	400	3600	-	-
Aldrin + Dieldrin	10	45	-	-
DDT (fresh)	-	-	170	370
Chlordane	70	530	-	-
Endosulfan	340	2000	-	-
Endrin	20	100	-	-
Heptachlor	10	50	-	-
HCB	10	80	-	-
Methoxychlor	400	2500	-	-
Mirex	20	100	-	-
Toxaphene	30	160	-	-

2.4 Summary of Historical OC Pesticide Use at the Airport

Records on historical pesticide use at the Airport are not known to exist, following searches conducted by APAM environment and maintenance staff as part of the Stormwater Pollutant Study in 2014-15 (SGS-Elgin, 2015). Interviews with long term APAM assets and maintenance staff provided anecdotes that pesticide products used at the airport had changed over the years. From the interviews and sampling results in 2015 that reported OC pesticides in soils at Airside, it was concluded that organochlorine pesticides have historically been used at the Airport, which was not unexpected given their widespread use in Australia prior to being deregistered in 1988.

The Wildlife Hazard Management Plan (WHMP, Steele 2014) prepared to support Melbourne Airport's management program aims to minimise, as far as possible, the risk of damaging wildlife strikes to aircraft at the Airport. The WHMP is relevant for this project in that it includes information on use of pesticides along runways to reduce insect numbers in these areas of Airside. The WHMP includes an action (Action 38) for the use of pesticides to reduce invertebrates immediately alongside runways and taxiways, and noted that pesticides had been applied along a length of runway since 2006 as a trial and that this had been successful in reducing magpie numbers in the treated area. The WHMP recommended expansion of application areas to cover all 'runway strips', with application every 6 to 8 weeks, weather permitting. Pesticides that have been documented for use under this action are synthetic pyrethroids (Elgin-SGS, 2015). It is not known whether OC pesticides could also have been historically used for this purpose, noting that the cited date of 2006 is approximately 20 years after OC pesticides were deregistered for use in Australia.

Anecdotes on the historical use of pesticides at the Airport was provided in interviews with long term Airside maintenance staff (pers. comm. June 2015), which included historical accounts of spraying 'sheep dip' pesticide products to control cricket plagues in the 1980's. The product was sprayed by boom method across the Terminal Apron area, with spraying also on nearby taxiway areas. It is noted that sheep dip products from this era had active constituents that included organochlorine pesticides such as dieldrin and DDT.

A literature search in 2015 on civil construction methods in the 1960's found that historical practices in Australia and overseas included the placement of dieldrin beneath concrete slabs and building foundations to provide a pest barrier. In some instances, a dieldrin emulsion was also added to the concrete mix prior to pouring (ACI, 2005; Allen et al, 1964). Whilst there are no records to indicate whether dieldrin may have been used in construction of the Airport in the 1960's, dieldrin was detected on two occasions in subgrade material beneath concrete pavements, by SGS-Elgin in 2015 and by ESP in 2013 as part of the PUGS Replacement project.

2.5 Summary of Historical OC Pesticide Soil Results

Historical OC pesticide soil sampling results available for review as part of this assessment are relatively recent, from the period 2013-2015, and are shown on **Figures 4 and 5**. The results are documented in further detail in SGS-Elgin (2015) and summarised below.

2.5.1 Gate 22 Surface Soils (Prensa, 2014)

Surface soil sampling was undertaken by Prensa (2014) in vicinity of Gate 22, which is located adjacent to the southern end of the north-south runway in the AC03 drainage catchment. Dieldrin was detected in fill materials at depths of 0.1m and 0.15m, with concentrations ranging from 0.7 to 1.3 mg/kg.

2.5.2 Southern Apron Extension Street Sweeper Residues (Prensa 2014)

Sampling of street sweeper residues from pavements swept in the Southern Apron Extension was undertaken by Prensa on three occasions in 2014. The sweeper residues were sampled from project specific residue washout and dryout bays setup near Gate 9 in the southern part of Airside. Soil samples were collected for offsite disposal to landfill, whilst liquid residues were collected at the bays into portable tanks and disposed offsite by a liquid waste contractor (*pers. comm.* R. Medley, June 2015). Dieldrin was detected in the majority (63%) of soil samples, ranging in concentration from 0.08-1.95 mg/kg. 4,4-DDE was also detected in two of the 30 samples, ranging from 0.64-0.95 mg/kg.

2.5.3 PUG Slab Replacement Project Soils (ESP, 2013)

ESP undertook soil sampling for the Papa Uniform Golf (PUG) taxi-lane concrete slab replacement project, with samples collected beneath a former concrete pavement at 20 locations across two areas adjacent to Terminal 2, which occurs in the AC02 drainage catchment. Subgrade materials were sampled in situ at 0.1m depth below the pavement, with dieldrin detected in one sample (A1-8/0.1) at a concentration of 0.48 mg/kg.

APAM advised that the impacted fill materials identified in the sampling program were removed and remediated during the pavement replacement program, and replaced with clean fill. These works were undertaken in co-ordination with APAM, the Airport Environment Officer (AEO) and the civil contractors conducting the works.

2.5.4 Airside and Golf Course Soils (SGS-Elgin, 2015)

Soil sampling undertaken by SGS-Elgin as part of the Stormwater Pollutant Study (2015) detected the following OC pesticides in Airside:

- Dieldrin (0.006 mg/kg) at location AC2_SS05_0.4, which was sampled from a layer of crushed rock subgrade material located immediately beneath concrete pavement in the PUG taxilane replacement works area (Papa Taxiway), in the AC02 drainage catchment.
- Dieldrin (0.52 mg/kg) at location AC3_SS05, which was sampled from surface soils on the verge of Alpha and Juliet taxiways, in the AC03 drainage catchment.

At the Golf Club, 4,4-DDD (0.005 mg/kg) was detected at location AC_SS20, which was sampled from dry sediments at the base of a small disused dam at the Golf Club located adjacent to a course fairway and maintenance depot.

2.6 Excerpt from Conceptual Site Model

A conceptual site model (CSM) was developed in the Stormwater Pollutant Study which included an evaluation of source-pathway-receptors for OC pesticide contamination. Elements of the CSM

which are relevant for this assessment included the identification of secondary source areas within Airside of surface soils (along grassed verges), attributed to historical surface application of pesticides by techniques such as boom spraying and spot spraying.

Given the low solubility of OC pesticides and their ability to readily bind to soils, the potential for downward leaching of pesticides into subsoils was considered low. However, there is potential for OC pesticides to migrate laterally in surface runoff, where OC pesticides are bound to surface soil particles and mobilise as suspended solids into the Airside stormwater drainage network via upstream drainage features that include grassed swales, spoon drains and stormwater pits. This pathway was investigated in the Study in 2015, with OC pesticides detected in water and/or sediments in both the Arundel stormwater outfalls at network discharge points and downstream in Arundel Creek (as the key receptor). These results indicated that in the upstream catchment, OC pesticides were entering the drainage network in runoff to these upstream drainage features.

These findings contributed to the design of the sampling program in this assessment, which given the large area to be assessed, used a targeted approach that included:

- Sampling of surface soils, nominally in the 0.0-0.05m (top 5cm) depth interval;
- Sampling of surface soils at discrete locations that included verges, spoon drains, grassed swales, low points and adjacent to stormwater pits, as areas with soils most likely to host OC pesticides; and
- Analysis of samples for a broad suite of OC pesticides at detection limits sufficiently low to enable comparison to adopted criteria.

It is noted that primary sources, such as OC pesticide products, have not been identified in Airside by inspections undertaken by Elgin Associates and APAM Environment staff in 2015 and 2016.

METHODOLOGY

3.1 Sampling Overview

The field sampling program was undertaken by suitably trained and experienced environmental scientists in November and December 2016, in accordance with relevant guidelines and standards in:

- National Environment Protection Measure (Assessment of Site Contamination), 1999 amended 2013;
- '*A Guide to the Sampling and Analysis of Waters, Wastewaters, Soils and Wastes*', EPA Victoria, Publication 441, March 2000; and
- Part 6 of the *Federal Airports (Environment Protection) Regulations 1997.*

Fieldwork was undertaken in accordance with a project specific Health and Safety Plan (HASP), which included a hazard risk assessment, safe work method statements, daily toolbox meeting minutes and an emergency response plan. All sampling within Airside was completed under escort by an Airside work safety officer.

3.2 Sampling Coverage

Surface soil sampling was undertaken across Airside in the Arundel Creek 1, 2 and 3 catchments, and Airside and Landside in the Golf Course catchment. For the purposes of the sampling, the four catchments were further divided into 16 sub-areas that were defined as grassed areas in between hardstand pavements including discrete 'islands' located in between runways, taxiways and aprons, or as broader grassed areas that occur between runways and Airside boundary fences. The extent of the sampling scope is shown on **Figures 1, 2 and 3**.

3.2.1 Sampling Sub-Areas

The sub-areas included locations where OC pesticides were previously detected in 2015 (SGS-Elgin), including:

- Taxiway and roadway verge soils near Alpha-Juliet taxiways, and the Gate 22 and Terminal Apron areas where dieldrin was previously detected (AC03 catchment);
- PUGs replacement program areas where dieldrin previously detected (AC02 catchment); and
- Golf course fairways adjacent to dam where DDD previously detected (Golf Course catchment).

A total of 121 discrete surface soil samples were collected across the 16 sub-areas, as summarised below in **Table 3**. Location co-ordinates of the samples collected within each sub-area is included in **Appendix A**.

Table 3 – Summary of Soil Sampling Coverage

Sub Area #	Catchment and Sub Area	Sample IDs	# Samples	Notes
1	AC03_W2	SS01-06	6	Southern part of Airside, in between the Whiskey Taxiway and cargo/freight terminals.
2	AC03_W1	SS07-14	8	Southern part of Airside, in between the Whiskey Taxiway, Haul Road and Southern

Sub Area #	Catchment and Sub Area	Sample IDs	# Samples	Notes
				Apron Extension.
3	AC03_AW	SS15-24	10	Islands between Alpha, Haul Road, Terminal and Southern Aprons and Whiskey, where dieldrin previously detected in verge soils.
4	AC03_AK	SS25-30	6	Island between Alpha, Kilo and N-S Runway.
5	AC03_G22	SS31-40	10	Area south of N-S Runway Kilo Taxiway, and in vicinity of Gate 22.
6	GC_LS	SS41-46	6	Golf Course catchment Landside, with dam where DDD previously detected.
7	GC_AS_S	SS47-52	6	Golf Course catchment Airside, west of N-S runway.
8	GC_AS_N	SS53-56	4	Golf Course catchment Airside, east of N-S Runway
9	AC02_AG	SS57-64	8	Islands between Alpha, Golf and Terminal Apron, east of N-S Runway
10	AC02_FVG	SS65-75	11	Islands between Foxtrot, Victor, Golf, T3 Apron and east of N-S Runway
11	AC02_AF	SS76-89	14	Islands between Alpha, Foxtrot and Sierra, east of N-S Runway and south of E-W Runway
12	AC02_NS_Ops	SS90-94	5	Grassed area in AC02 catchment between N-S runway and Operations Road
13	AC01_NS_Ops	SS95-99	5	Grassed area in AC01 catchment between N-S Runway and Operations Road
14	AC01_NE	SS100-106	7	Grassed area between November and Echo, south of E-W Runway
15	AC01_ME	SS107-111	5	Grassed area between Mike and Echo, south of E-W Runway
16	AC01_WNS	SS112-121	10	Grassed area north of E-W and N-S Runways
	Total		**121**	AC03 catchment – 40 samples, AC02 catchment – 38 samples, Golf Course Catchment - 16 samples, AC01 catchment – 27 samples

Surface soils were sampled at discrete locations within these subareas that included verges, spoon drains, grassed swales, low points and adjacent to stormwater pits. Soils were sampled at the surface in the 0.0-0.05m (top 5cm) depth interval. Based on previous results, these locations were most likely to host soils contaminated with OC pesticides.

3.2.2 Sampling Coverage Limitations

A limitation on the sampling scope was no access to the grassed areas along the runway verges of the north-south and east-west runways. This was due to Airside safety protocols in observing a no-go zone between the gable marker lines and the runways. This limitation was taken into account by sampling at locations at or near the gable marker line that were at lower elevation

than the ground adjacent to the runways, including along grassed swales, spoon drains and adjacent to stormwater pits. Hence, areas were sampled where runoff from the runway and runway verges would be anticipated to migrate towards. Other areas of Airside that were not accessed in the program included the Airservices Australia site in the AC01 catchment, and the Aircraft maintenance facilities in the AC03 catchment.

3.3 Field Sampling Methods

Surface soil samples were collected across the 0-0.05m depth interval using dedicated nitrile gloves and a stainless-steel trowel, and transferred into dedicated laboratory supplied sample jars. Soil characteristics were logged, and photographs taken of each soil sample location. The location of each soil sample was recorded using field iPad GIS software and a Garmin GPS.

Field quality assurance/quality control included collection of blind field duplicates and triplicates at a rate of 1 per 20 samples. The stainless-steel trowel was decontaminated in between each sampling site using a phosphate free detergent and distilled water rinse. A rinsate blank was collected off the trowel each sampling day and analysed for OC pesticides to assess for potential cross- contamination from this re-usable sampling equipment.

Soil sample jars were placed into chilled eskies, and were stored and transported to the analytical laboratories under chain of custody documentation. Samples were expediently forwarded to the laboratories to ensure analyte holding were met.

3.4 Laboratory Analysis

Laboratory analysis of primary, duplicate and rinsate samples was undertaken by laboratory SGS-Australia Pty Ltd (SGS), with field triplicate samples analysed by Eurofins Environment Testing Australia Pty Ltd (Eurofins). Both SGS and Eurofins are accredited by the National Association of Testing Authorities (NATA) for the OC pesticide analysis undertaken.

Laboratory analytical certificates, including associated chain of custody documentation and sample receipt advices, are included in **Appendix B**.

Analytical results are tabulated in **Table AT1**, with soil QA/QC results in **Table AT2**, and rinsate blank QA/QC results in **Table AT3**.

3.5 Analytical Data Validation

Analytical data validation is the process of assessing whether laboratory data are in compliance with method requirements and project specifications. The primary objectives of this process are to ensure that data of known quality are reported, and to identify if the data can be used to fulfil the overall project objectives. The data validation guidelines adopted are based upon data validation guidance provided by EPA Victoria and National Environment Protection Council (NEPC). Specific elements that have been checked and assessed for this project include:

- sample integrity, including preservation and storage of samples upon collection and during transport to the laboratory;
- sample holding times;

- use of appropriate analytical methods;
- rinsate and method blank results;
- field duplicate and field triplicate results;
- laboratory QA/QC results;
- limits of reporting; and
- the occurrence of unusual or anomalous results, *e.g*. laboratory results that appear to be inconsistent with field observations or measurements.

Analytical data reported for this project on a laboratory batch basis is summarised in **Table 4** below:

Table 4 – Analytical Data Reported – Laboratory Batch Summary

Laboratory	Batch #	Sample Results Reported
SGS	ME301296	Primary samples, field duplicates and rinsate blank
	ME301326	Primary samples, field duplicates and rinsate blank
	ME301333	Primary samples, field duplicate and rinsate blank
MGT	525861	Field triplicates
	526608	Field triplicates
	526838	Field triplicate

The validation of the analytical data reported in these batches is summarised **Table 5,** below:

Table 5 - Analytical Data Validation Summary

Component	Comments
Sample Integrity	Samples were collected into clean laboratory supplied jars and transferred into chilled eskies, where they were stored and transported to the laboratories under chain of custody documentation. Refer **Appendix B** for Chain of Custody Records and Sample Receipt Notices.
Sample Holding Times	All samples were extracted and analysed within recommended holding times. Refer **Appendix B** for laboratory analytical certificates of analysis QC results.
Laboratory Methods	Standard methods by SGS and Eurofins based on APHA and USEPA methods, and NATA accredited for the analyses undertaken. Refer to **Appendix B** for laboratory methods and NATA stamped certificates of analysis.
Detection Limits	Detection limits were sufficiently low to enable meaningful comparison with adopted criteria.
Rinsate Blanks	A rinsate blank sample was collected at a rate of 1 per day of sampling, with a total of 4 samples collected. Rinsate blank results are presented in **Table AT3**, with all results reported below detection limits.
Method Blanks	Method blanks were reported for each laboratory batch, with all method blank results reported below detection limits. Refer **Appendix B** for laboratory method blank results.
Laboratory Duplicates, Surrogates and Spikes	Laboratory duplicate, surrogate and spike results are presented as part of certificate of analysis QC reporting in **Appendix B**, with % recoveries and relative percentile difference (RPD) results meeting laboratory acceptance limits.
Field Duplicates	Field duplicates were collected at a rate of 1 per 20 primary samples and analysed by SGS for the same suite of analytes as the primary sample. Six primary-duplicate pairs were collected, with results presented in **Table AT2**. The majority of OCP results were reported as non-detect for both primary and duplicate samples. For instances where positive results were reported, namely the SS21-QC01, SS63-QC03 and SS31-QC07 pairs, RPDs were reported at less than 30%, with the following exception: • SS63 (0.17 mg/kg) vs QC03 (0.01 mg/kg), RPD of 178%. The elevated RPD was attributed to differences between low analyte concentrations, and sample heterogeneity that was not apparent in other sample pairs. As noted below, elevated RPDs were also reported for the triplicate pair SS63 and QC04.
Field Triplicates	Field triplicates were collected at a rate of 1 per 20 primary samples, collected at the same location as the field duplicate, and analysed by Eurofins for the same suite of analytes as the primary sample. Six primary-triplicate pairs were collected, with results presented in **Table AT2**. The majority of OCP results were reported as non-detect for both primary and duplicate samples. For instances where positive results were reported, namely the SS21-QC02, SS63-QC04 and SS31-QC08 pairs, RPDs were reported at less than 30%, with the following

Component	Comments
	exception: • SS63 (0.17 mg/kg) vs QC04 (0.33 mg/kg), RPD of 64%. The elevated RPD was attributed to differences between low analyte concentrations, and sample heterogeneity that was not apparent in other sample pairs.
Anomalous Results	No anomalous results were identified.

On the basis of the data validation review undertaken, the analytical data is considered an acceptable standard and suitable for interpretive use.

RESULTS AND DISCUSSION

Soil sampling results and discussion are presented in the following sections by stormwater catchment (in general clockwise direction from AC03 to AC01 catchments), with results tabulated in **Table AT1.** Sampling locations, historical results and results from this sampling program are presented on **Figures 1-6.**

4.1 AC03 Catchment

Soil sampling in the AC03 catchment was undertaken in five sub-areas, namely AC03_W2, AC03_W1, AC03_AW, AC03_AK and AC03_G22.

4.1.1 Subarea 1 - AC03_W2

Subarea 1 AC03_W2 is in the southern part of Airside, in between the Whiskey Taxiway and cargo/freight terminals (**Figure 3**).

Sampling within Subarea 1 included six locations (SS01-SS06) along spoon drains and swales, adjacent to hardstand verges and within the broader grassed area. The setting of the subarea is illustrated in the photographs below:

Sampled surface soils were described as silty clay, grey to brown and dry to moist.

OC pesticides were not detected at the six sample locations.

4.1.2 Subarea 2 – AC03_W1

Subarea 2 AC03_W1 is in the southern part of Airside, in between the Whiskey Taxiway, Haul Road and Southern Apron Extension (**Figure 3**).

Sampling within Subarea 2 included eight locations (SS07-SS14) along spoon drains and swales, adjacent to hardstand verges and in low points within the broader grassed area. The setting of the subarea is illustrated in the photographs below:

Sampled surface soils were described as silty clay, brown and dry to moist. Minor gravels were also logged in SS12, whilst soils sampled at SS14 in a spoon drain were wet.

OC pesticides were not detected at the eight sample locations.

4.1.3 Subarea 3 – AC03_AW

Subarea 3 AC03_AW is in the southern part of Airside, consisting of two grassed islands in between the Alpha Taxiway, Haul Road, Southern Apron and Whiskey Taxiway (**Figure 3**).

Sampling within Subarea 3 included ten locations (SS15-SS24) along spoon drains and swales, adjacent to stormwater pits and hardstand verges, and in low points within the grassed areas. The setting of the subarea is illustrated in the photographs below:

Sampled surface soils were described as silty clay, brown and dry to moist. Minor gravels were also logged in SS17, whilst soils sampled at SS15 and SS19 in spoon drains were wet.

Dieldrin was detected in surface soils sampled at SS21 (photograph above), located in verge soils adjacent to Alpha Taxiway (**Figure 6**). Dieldrin was reported at SS21 at concentrations ranging from 0.09-0.13mg/kg. This location is nearby to a historical detection of dieldrin in verge soils in 2015 (AC3_SS05), which reported dieldrin at 0.5 mg/kg (**Figure 5**). The result at SS21 is below the

adopted accepted limits/trigger values, whilst the historical result at AC3_SS05 exceeded the accepted limit/trigger value (area of environmental significance) of 0.2 mg/kg.

OC pesticides were not detected at the other nine sampling locations in the subarea.

4.1.4 Subarea 4 – AC03_AK

Subarea 4 AC03_AK is in the southern part of Airside, comprising a grassed island between Alpha and Kilo Taxiways, and the North-South Runway (**Figure 3**).

Sampling within Subarea 4 included six locations (SS25-SS30) along spoon drains and swales, adjacent to stormwater pits and hardstand verges, and in low points within the grassed areas. The setting of the subarea is illustrated in the photographs below:

Sampled surface soils were described as silty clay, brown to dark brown and dry to moist. Minor sands were logged at SS25, whilst minor gravels were logged at SS27. Location SS26 was sampled adjacent to an area of reworked surface soils.

Dieldrin was detected in surface soils sampled at SS25 and SS30 (photographs above), at concentrations of 2.3 mg/kg and 0.84 mg/kg, respectively. Endrin was also detected at SS25 at a concentration of 0.02 mg/kg. Both SS25 and SS30 were sampled from verge soils adjacent to taxiways, with SS25 adjacent to Alpha (in north of subarea and across from SS21) and SS30 adjacent to Kilo (in south of subarea and across from SS31 and SS33) (**Figure 6**).

Both dieldrin results at SS25 and SS30 exceeded the accepted limit/trigger value (area of environmental significance) of 0.2 mg/kg.

OC pesticides were not detected at the other four sampling locations in the subarea.

4.1.5 Subarea 5 – AC03_G22

Subarea 5 AC03_G22 is in the southern part of Airside, comprising a grassed area between the southern end of the North-South Runway, Kilo Taxiway, Airside boundary fencing and Gate 22 (**Figure 3**).

RESULTS AND DISCUSSION

Sampling within Subarea 5 included ten locations (SS31-SS40) along spoon drains and swales, adjacent to stormwater pits and hardstand verges, and in low points within the grassed areas. The setting of the subarea is illustrated in the photographs below:

Sampled surface soils were described as silty clay, brown and dry to moist. Minor sands were also logged at SS31.

Dieldrin was detected in surface soils sampled at SS31 and SS33 (photographs above), both at concentrations of 0.02mg/kg. Both SS31 and SS33 were sampled from grassed swales adjacent to a roadway verge, with SS31 also adjacent to a stormwater pit (**Figure 6**). The locations are nearby to a historical detection of dieldrin in shallow soils, sampled by Prensa near Gate 22 in 2014 (TP05), which reported dieldrin at 0.9-1.3 mg/kg (**Figure 5**).

The results at SS31 and SS33 are below the adopted accepted limits/trigger values, whilst the historical result at TP05 exceeded the accepted limit/trigger value (area of environmental significance) of 0.2 mg/kg.

OC pesticides were not detected at the other eight sampling locations in the subarea.

4.2 Golf Course Catchment

Soil sampling in the Golf Course catchment was undertaken in three sub-areas, namely GC_LS, GC_AS_S and GC_AS_N.

4.2.1 Subarea 6 – GC_LS

Subarea 6 GC_LS is located on the Melbourne Airport Golf Course, just off Airside (**Figure 3**). Sampling within Subarea 6 included six locations (SS41-SS46) across the Golf Course, including grassed swales and spoon drains, and low points within grassed areas adjacent to fairways and greens. The locations were also in a radial pattern away from a historical detection of 4,4-DDD in dry sediments at the base of a disused dam on the golf course, near a maintenance shed. This historical result was reported in 2015 (AC_SS20), with 4,4-DDD reported at 0.005 mg/kg (**Figure 5**).

The setting of the subarea is illustrated in the photographs below:

Sampled surface soils were described as silty clay, brown and dry to moist. Minor gravels were also logged in SS43.

OC pesticides were not detected at the six sample locations.

4.2.2 Subarea 7 – GC_AS_S

Subarea 7 GC_AS_S is a grassed area located on Airside across from the Melbourne Airport Golf Course, bounded by the North-South Runway and Airside boundary fence (**Figure 3**). Sampling within Subarea 7 included six locations (SS47-SS52) along spoon drains and swales, adjacent to stormwater culverts and hardstand verges, and in low points within the grassed areas.

The setting of the subarea is illustrated in the photographs below:

Sampled surface soils were described as silty clay, brown and dry to moist. Surface soils sampled in a spoon drain at SS50 were wet

OC pesticides were not detected at the six sample locations.

4.2.3 Subarea 8 – GC_AS_N

Subarea 8 GC_AS_N is a grassed island bounded by the North-South Runway, Alpha and Victor Taxiways (**Figure 3**). Construction works on Victor Taxiway were underway in the subarea at the

time of sampling, with reworked and/or placed soils a feature of the island. Sampling within Subarea 8 included four locations (SS53-SS56) along spoon drains and swales and adjacent to hardstand verges.

The setting of the subarea is illustrated in the photographs below:

Sampled surface soils were described as silty clay, brown to grey, and dry to moist.

OC pesticides were not detected at the four sample locations.

4.3 AC02 Catchment

Soil sampling in the AC02 catchment was undertaken in four sub-areas, namely AC02_AG, AC02_FVG, AC02_AF and AC02_NS_Ops.

4.3.1 Subarea 9 – AC02_AG

Subarea 9 AC02_AG consists of two grassed islands bounded by the North-South Runway, Alpha and Golf Taxiways, and Terminal and Southern Aprons (**Figure 3**). Sampling within Subarea 9 included eight locations (SS57-SS64) along grassed spoon drains and swales, adjacent to hardstand verges and stormwater pits, and at low points of grassed areas.

The setting of the subarea is illustrated in the photographs below:

Sampled surface soils were described as silty clay, brown to grey, and dry to moist. Minor gravels were also logged in SS64.

Dieldrin was detected in surface soils sampled at SS63 and SS64 (photographs above), which are both located in the grassed island west of the Terminal Apron, and which were sampled from surface soils on the verge of the Apron hardstand (**Figure 6**). Dieldrin was detected at 0.33 mg/kg at SS63 and 1.0 mg/kg at SS64, with both results exceeding the accepted limit/trigger value (area of environmental significance) of 0.2 mg/kg.

OC pesticides were not detected at the other six sampling locations in the subarea.

4.3.2 Subarea 10 – AC02_FVG

Subarea 10 AC02_FVG consists of four grassed islands bounded by the North-South Runway, Foxtrot, Victor and Golf Taxiways, and the Terminal Apron (**Figure 2**). Sampling within Subarea 10 included 11 locations (SS65-SS75) along grassed spoon drains and swales and adjacent to hardstand verges and stormwater pits.

The setting of the subarea is illustrated in the photographs below:

Sampled surface soils were described as silty clay, brown to grey, and dry to moist. Minor gravels were also logged in SS71.

OC pesticides were not detected at the eleven sampling locations in the subarea.

4.3.3 Subarea 11 – AC02_AF

Subarea 11 AC02_AF consists of five grassed islands bounded by the North-South and East-West Runways, Terminal Apron, Alpha, Foxtrot, Sierra and Echo (**Figure 2**). Sampling within Subarea 11 included 14 locations (SS76-SS89) along grassed spoon drains and swales, in low points of grassed areas and adjacent to hardstand verges and stormwater pits.

The setting of the subarea is illustrated in the photographs below:

Sampled surface soils were described as silty clay, brown to grey, and dry to moist. Soils were wet at SS86 and SS89, located in spoon drains.

OC pesticides were not detected at the 14 sampling locations in the subarea.

4.3.4 Subarea 12 – AC02_NS_Ops

Subarea 12 AC02_NS_Ops comprises a grassed area between the North-South Runway and Operations Rd (**Figure 3**). Sampling within Subarea 12 included five locations (SS90-SS94) along grassed spoon drains and swales, and adjacent to hardstand verges and stormwater pits.

The setting of the subarea is illustrated in the photographs below:

Sampled surface soils were described as silty clay, brown, and dry.

Dieldrin was detected in surface soils sampled at SS91, which was sampled from a spoon drain adjacent to a stormwater pit and roadway (**Figure 6**). The stormwater pit adjacent to SS91 was covered with a geotextile coir log and mat (photograph above). Dieldrin was detected at 0.01 mg/kg at SS91 and below the accepted limit/trigger value (area of environmental significance) of 0.2 mg/kg.

OC pesticides were not detected at the other four sampling locations in the subarea.

4.4 AC01 Catchment

Soil sampling in the AC01 catchment was undertaken in four sub-areas, namely AC01_NS_Ops, AC01_NE, AC01_ME and AC01_WNS.

4.4.1 Subarea 13 – AC01_NS_Ops

Subarea 13 AC01_NS_Ops comprises a grassed area between the North-South Runway and Perimeter Rd (**Figure 2**). Sampling within Subarea 13 included five locations (SS95-SS99) along grassed spoon drains and swales, and adjacent to hardstand verges and stormwater pits.

The setting of the subarea is illustrated in the photographs below:

Sampled surface soils were described as silty clay, brown, and dry.

OC pesticides were not detected at any of the five sampling locations in the subarea.

4.4.2 Subarea 14 – AC01_NE

Subarea 14 AC01_NE comprises two grassed areas between the East-West Runway, November and Echo Taxiways and Perimeter Rd (**Figure 2**). Sampling within Subarea 14 included seven locations (SS100-SS106) along grassed spoon drains and swales, grassed low points, and adjacent to hardstand verges and stormwater pits.

The setting of the subarea is illustrated in the photographs below:

Sampled surface soils were described as silty or gravelly clay, brown, and dry.

OC pesticides were not detected at the seven sampling locations in the subarea.

4.4.3 Subarea 15 – AC01_ME

Subarea 15 AC01_ME comprises two grassed areas between the East-West Runway, Mike and Echo Taxiways and Perimeter Rd (**Figure 2**). Sampling within Subarea 15 included five locations (SS107-SS111) along grassed spoon drains and swales, grassed low points, and adjacent to hardstand verges and culverts.

The setting of the subarea is illustrated in the photographs below:

Sampled surface soils were described as silty clay, brown, and dry. Soils at SS107 and SS111 were sampled adjacent to culverts and were wet.

OC pesticides were not detected at the five sampling locations in the subarea.

4.4.4 Subarea 16 – AC01_WNS

Subarea 16 AC01_WNS comprises grassed areas west of the North-South Runway bounded by Perimeter Rd (**Figure 2**). Sampling within Subarea 16 included ten locations (SS112-SS121) along grassed spoon drains and swales, grassed low points, and adjacent to hardstand verges. A number

of the locations (SS115-121) were at intervals along a major spoon drain drainage line for the AC01 catchment.

The setting of the subarea is illustrated in the photographs below:

Sampled surface soils were described as silty clay, brown to grey, and dry to moist.

OC pesticides were not detected at the ten sampling locations in the subarea.

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Based on the results of the sampling program are the following conclusions:

- OC pesticides were detected in surface soils at eight sampling locations, including SS21, SS25, SS30, SS31, SS33, SS63, SS64 and SS91 (**Figure 6**). Five of these locations occur in the AC03 catchment (Subareas 3, 4 and 5), and three occur in the AC02 catchment (Subareas 9 and 12). Detected OC pesticides included dieldrin, which was reported at all eight sample locations. Endrin was also reported at one location (SS25). Aldrin, DDT or its breakdown products (DDE, DDD), were not detected.
- The eight locations where OC pesticides were detected were all from soils adjacent to a hardstand or roadway, such as an Apron, Taxiway or service road. Five locations (SS21, SS25, SS30, SS63, SS64) were all from soils sampled from the grassed verge, whilst the other three locations (SS31, SS33 and SS91) were sampled from a grassed swale or spoon drain also adjacent to hardstand or roadway
- The detection of OC pesticides in surface soils at several locations between the Terminal Apron and Gate 22 is consistent with historical results, which also reported OC pesticides in surface soils and street sweeper residues in this part of Airside **(Figure 5).** The likely source of these OC pesticides is the historical spraying of 'sheep dip' pesticide products in the 1980's across the Terminal Apron and nearby taxiway areas, based on anecdotal accounts from long term Airside maintenance staff.
- Assessment of the current and historical soil results against the adopted OC pesticide criteria found six results (SS25, SS30, SS63, SS64, TP05, AC03_SS05) exceeded the accepted limit/trigger value (area of environmental significance) of the Federal Airport Regulations (1997), with one result (SS21) just below this accepted limit/trigger value. These locations are in Subareas 3, 4 and 9 in the AC02 and AC03 catchments. The results did not exceed other adopted criteria, which included NEPM Health Investigation Levels for an industrial/commercial landuse.
- A conceptual site model developed in previous studies identified a complete exposure pathway for OC pesticides to impact receptors of Arundel Creek via a stormwater runoff pathway, with surface soils contaminated with OC pesticides identified as a source. The results of this sampling program have improved the understanding of the extent of this contamination, which was found to largely occur along a general north-south axis along Alpha Taxiway between the Terminal Apron and Gate 22, in Subareas 3, 4, 5 and 9. The results of this program also indicate that remediation or management of these contaminated surface soils is required to prevent or minimise their potential to enter the Arundel Creek stormwater drainage network.

5.2 Recommendations

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LIMITATIONS

Elgin Associates Pty Ltd has prepared this report for the sole use of Australian Pacific Airports (Melbourne) Pty Ltd in accordance with the usual care and thoroughness of the consulting profession. It is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this report. It is prepared in accordance with the scope of work and for the purpose outlined in the Proposal dated 2 November 2016.

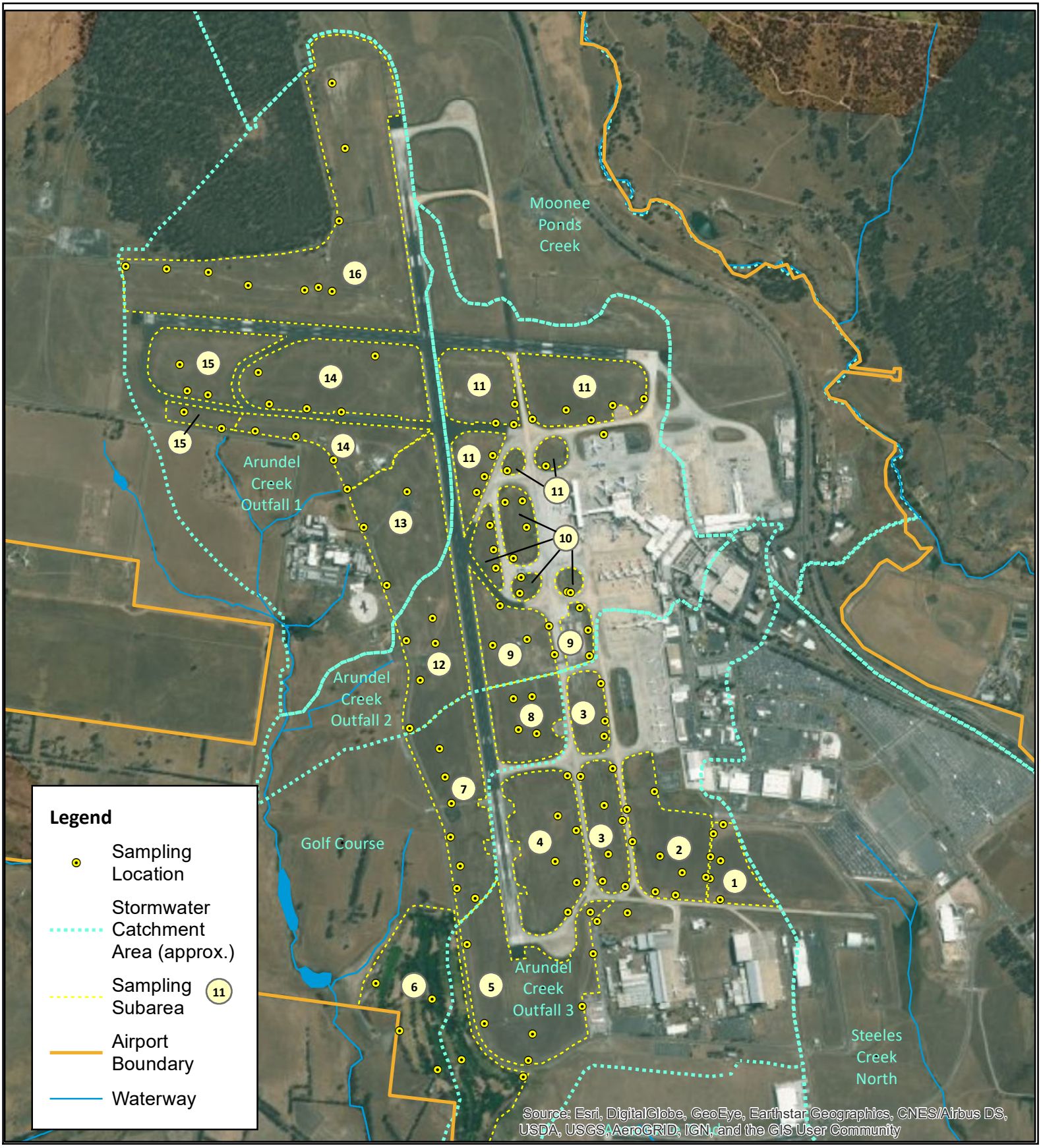
The methodology adopted and sources of information used by Elgin Associates are outlined in this report. Elgin Associates has made no independent verification of this information beyond the agreed scope of works and Elgin Associates assumes no responsibility for any inaccuracies or omissions. No indications were found during our investigations that information contained in this report as provided to Elgin Associates was false.

This report was prepared between December 2016 and April 2017 and is based on the conditions encountered and information reviewed during that period up to the time of preparation. Elgin Associates disclaims responsibility for any changes that may have occurred after this time. Opinions and recommendations contained in this report are based upon information gained during desktop study and fieldwork and information provided from government authorities' records and other third parties. The information in this report is considered to be accurate at the date of issue and reflects at the site at the dates sampled. This document and the information contained herein should only be regarded as validly representing the site conditions at the time of the fieldwork unless otherwise explicitly stated in a preceding section of this report.

This report should be read in full together with all other reports referenced by this report. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties.

TABLES

FIGURES



Client:
Australian Pacific Airports (Melbourne)

N

0 250 500 1,000 Meters

Project:
Assessment of Organochlorine Pesticides in Airside Soils

Title:
Overview of Soil Sampling Locations

elgin associates

Drawn: LF
Approved: AR

Date: 21/12/2016
Status: Draft

Figure 1

Rev. A
A4

APPENDIX A

Sample Location Co-ordinates

Melbourne Airport - Surface Soil Sampling for OC Pesticides - Nov-Dec16

Sample Sites and Co-ordinates

Sub Area #	Sub Area Sample ID Prefix	Sample ID Suffixes	[redacted]	GPS Waypoint
1	AC03_W2	SS01		4
1	AC03_W2	SS02		5
1	AC03_W2	SS03		6
1	AC03_W2	SS04		1
1	AC03_W2	SS05		2
1	AC03_W2	SS06		3
2	AC03_W1	SS07		7
2	AC03_W1	SS08		8
2	AC03_W1	SS09		9
2	AC03_W1	SS10		10
2	AC03_W1	SS11		11
2	AC03_W1	SS12		12
2	AC03_W1	SS13		13
2	AC03_W1	SS14		14
3	AC03_AW	SS15		15
3	AC03_AW	SS16		16
3	AC03_AW	SS17		17
3	AC03_AW	SS18		18
3	AC03_AW	SS19		19
3	AC03_AW	SS20		20
3	AC03_AW	SS21		21
3	AC03_AW	SS22		22
3	AC03_AW	SS23		23
3	AC03_AW	SS24		24
4	AC03_AK	SS25		62
4	AC03_AK	SS26		63
4	AC03_AK	SS27		64
4	AC03_AK	SS28		65
4	AC03_AK	SS29		66
4	AC03_AK	SS30		67

Melbourne Airport - Surface Soil Sampling for OC Pesticides - Nov-Dec16

Sample Sites and Co-ordinates

Sub Area #	Sub Area Sample ID Prefix	Sample ID Suffixes	[redacted]	GPS Waypoint
5	AC03_G22	SS31		68
5	AC03_G22	SS32		69
5	AC03_G22	SS33		70
5	AC03_G22	SS34		71
5	AC03_G22	SS35		72
5	AC03_G22	SS36		73
5	AC03_G22	SS37		74
5	AC03_G22	SS38		75
5	AC03_G22	SS39		76
5	AC03_G22	SS40		77
6	GC_LS	SS41		116
6	GC_LS	SS42		117
6	GC_LS	SS43		118
6	GC_LS	SS44		119
6	GC_LS	SS45		120
6	GC_LS	SS46		121
7	GC_AS_S	SS47		78
7	GC_AS_S	SS48		79
7	GC_AS_S	SS49		80
7	GC_AS_S	SS50		81
7	GC_AS_S	SS51		82
7	GC_AS_S	SS52		83
8	GC_AS_N	SS53		25
8	GC_AS_N	SS54		26
8	GC_AS_N	SS55		27
8	GC_AS_N	SS56		28
9	AC02_AG	SS57		29
9	AC02_AG	SS58		30
9	AC02_AG	SS59		31
9	AC02_AG	SS60		32
9	AC02_AG	SS61		33
9	AC02_AG	SS62		34
9	AC02_AG	SS63		35

Melbourne Airport - Surface Soil Sampling for OC Pesticides - Nov-Dec16

Sample Sites and Co-ordinates

Sub Area #	Sub Area Sample ID Prefix	Sample ID Suffixes	[redacted]	GPS Waypoint
9	AC02_AG	SS64		36
10	AC02_FVG	SS65		37
10	AC02_FVG	SS66		38
10	AC02_FVG	SS67		39
10	AC02_FVG	SS68		40
10	AC02_FVG	SS69		41
10	AC02_FVG	SS70		42
10	AC02_FVG	SS71		43
10	AC02_FVG	SS72		44
10	AC02_FVG	SS73		45
10	AC02_FVG	SS74		46
10	AC02_FVG	SS75		47
11	AC02_AF	SS76		48
11	AC02_AF	SS77		49
11	AC02_AF	SS78		50
11	AC02_AF	SS79		51
11	AC02_AF	SS80		52
11	AC02_AF	SS81		53
11	AC02_AF	SS82		54
11	AC02_AF	SS83		55
11	AC02_AF	SS84		56
11	AC02_AF	SS85		57
11	AC02_AF	SS86		58
11	AC02_AF	SS87		59
11	AC02_AF	SS88		60
11	AC02_AF	SS89		61
12	AC02_NS_Ops	SS90		84
12	AC02_NS_Ops	SS91		85
12	AC02_NS_Ops	SS92		86
12	AC02_NS_Ops	SS93		87
12	AC02_NS_Ops	SS94		88
13	AC01_NS_Ops	SS95		89
13	AC01_NS_Ops	SS96		90

Melbourne Airport - Surface Soil Sampling for OC Pesticides - Nov-Dec16

Sample Sites and Co-ordinates

Sub Area #	Sub Area Sample ID Prefix	Sample ID Suffixes	[redacted]	GPS Waypoint
13	AC01_NS_Ops	SS97		91
13	AC01_NS_Ops	SS98		92
13	AC01_NS_Ops	SS99		93
14	AC01_NE	SS100		94
14	AC01_NE	SS101		95
14	AC01_NE	SS102		96
14	AC01_NE	SS103		97
14	AC01_NE	SS104		98
14	AC01_NE	SS105		99
14	AC01_NE	SS106		100
15	AC01_ME	SS107		111
15	AC01_ME	SS108		112
15	AC01_ME	SS109		113
15	AC01_ME	SS110		114
15	AC01_ME	SS111		115
16	AC01_WNS	SS112		101
16	AC01_WNS	SS113		102
16	AC01_WNS	SS114		103
16	AC01_WNS	SS115		104
16	AC01_WNS	SS116		105
16	AC01_WNS	SS117		106
16	AC01_WNS	SS118		107
16	AC01_WNS	SS119		108
16	AC01_WNS	SS120		109
16	AC01_WNS	SS121		110

APPENDIX B

Laboratory Analytical Certificates

[redacted]

ANALYTICAL REPORT

WORLD RECOGNISED ACCREDITATION

CLIENT DETAILS		LABORATORY DETAILS	
Contact	[redacted]	Manager	[redacted]
Client	ELGIN ASSOCIATES PTY LTD	Laboratory	SGS Melbourne EH&S
Address	PO BOX 3134 WEST HOBART TAS 7000	Address	10/585 Blackburn Road Notting Hill Victoria 3168
Telephone	03 5172 1555	Telephone	+61395743200
Facsimile	03 5174 9320	Facsimile	+61395743399
Email	[redacted]	Email	Au.SampleReceipt.Melbourne@sgs.com
Project	**TE107207**	SGS Reference	**ME301296 R1**
Order Number	**TE107207**	Date Received	01 Dec 2016
Samples	66	Date Reported	16 Dec 2016

COMMENTS

Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 14429.

This report cancels and supersedes the report No.ME301296 R0. dated 07/12/2016 issued by SGS Environment, Health and Safety due to re-analysis of sample QC01.

SIGNATORIES

[redacted]

Chemist SVOC Supervisor

QC SUMMARY

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

OCP in solids MA-77.SD.01 Method: MA77

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	MS %Recovery	MSD %RPD
4,4-DDD	LB010879	mg/kg	0.01	<0.01	0%		
4,4-DDE	LB010879	mg/kg	0.01	<0.01	0%		
4,4-DDT	LB010879	mg/kg	0.01	<0.01	0%	72 - 76%	2 - 5%
Aldrin	LB010879	mg/kg	0.01	<0.01	0%	82 - 98%	8 - 15%
alpha-BHC	LB010879	mg/kg	0.01	<0.01	0%		
beta-BHC	LB010879	mg/kg	0.01	<0.01	0%		
Chlordane	LB010879	mg/kg	0.01	<0.01	0%		
delta-BHC	LB010879	mg/kg	0.01	<0.01	0%		
Dieldrin	LB010879	mg/kg	0.01	<0.01	0 - 18%	82 - 99%	9 - 14%
Endosulfan 1	LB010879	mg/kg	0.01	<0.01	0%		
Endosulfan 2	LB010879	mg/kg	0.01	<0.01	0%		
Endosulfan sulphate	LB010879	mg/kg	0.01	<0.01	0%		
Endrin	LB010879	mg/kg	0.01	<0.01	0%	69 - 86%	0 - 3%
Endrin aldehyde	LB010879	mg/kg	0.01	<0.01	0%		
gamma-BHC (lindane)	LB010879	mg/kg	0.01	<0.01	0%	96 - 104%	9 - 13%
Heptachlor	LB010879	mg/kg	0.01	<0.01	0%	80 - 99%	1 - 2%
Heptachlor Epoxide	LB010879	mg/kg	0.01	<0.01	0%		
Hexachlorobenzene	LB010879	mg/kg	0.01	<0.01	0%		
Isodrin	LB010879	mg/kg	0.01	<0.01	0%		
Methoxychlor	LB010879	mg/kg	0.01	<0.01	0%		

OCP in water MA-77.WW.01 Method: MA77

Parameter	QC Reference	Units	LOR	MB	MS %Recovery	MSD %RPD
4,4-DDD	LB010883	µg/L	0.01	<0.01		
4,4-DDE	LB010883	µg/L	0.01	<0.01		
4,4-DDT	LB010883	µg/L	0.01	<0.01	70%	6%
Aldrin	LB010883	µg/L	0.01	<0.01	72%	16%
alpha-BHC	LB010883	µg/L	0.01	<0.01		
beta-BHC	LB010883	µg/L	0.01	<0.01		
Chlordane	LB010883	µg/L	0.01	<0.01		
delta-BHC	LB010883	µg/L	0.01	<0.01		
Dieldrin	LB010883	µg/L	0.01	<0.01	85%	14%
Endosulfan 1	LB010883	µg/L	0.01	<0.01		
Endosulfan 2	LB010883	µg/L	0.01	<0.01		
Endosulfan Sulphate	LB010883	µg/L	0.01	<0.01		
Endrin	LB010883	µg/L	0.01	<0.01	79%	5%
Endrin Aldehyde	LB010883	µg/L	0.01	<0.01		
gamma-BHC (lindane)	LB010883	µg/L	0.01	<0.01	83%	12%
Heptachlor	LB010883	µg/L	0.01	<0.01	66%	18%
Heptachlor Epoxide	LB010883	µg/L	0.01	<0.01		
Hexachlorobenzene	LB010883	µg/L	0.01	<0.01		
Methoxychlor	LB010883	µg/L	0.01	<0.01		

QC SUMMARY

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

Surrogates - SVOC in Solids **Method: SVOC Methods**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	MS %Recovery	MSD %RPD
2,4,6-Tribromophenol	LB010879	%	-	63 - 70%	0 - 7%	62 - 87%	2 - 8%
Fluorobiphenyl	LB010879	%	-	95 - 102%	1 - 8%	98 - 102%	1 - 5%
Fluorophenol	LB010879	%	-	77 - 91%	1 - 8%	80 - 89%	1 - 7%
Nitrobenzene-d5	LB010879	%	-	75 - 85%	1 - 8%	77 - 84%	7 - 12%
Phenol-d6	LB010879	%	-	79 - 92%	0 - 6%	80 - 90%	1 - 3%
p-Terphenyl-d14	LB010879	%	-	78 - 88%	0 - 6%	81 - 89%	2 - 5%

Surrogates - SVOC in Water **Method: SVOC Methods**

Parameter	QC Reference	Units	LOR	MB	MS %Recovery	MSD %RPD
p-Terphenyl-d14	LB010883	%	-	85%	96%	1%

[redacted]

METHOD SUMMARY

ME301296 R1

METHOD	METHODOLOGY SUMMARY

FOOTNOTES

IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
*	NATA accreditation does not cover the performance of this service.
**	Indicative data, theoretical holding time exceeded.
LOR	Limit of Reporting
↑↓	Raised or Lowered Limit of Reporting
QFH	QC result is above the upper tolerance
QFL	QC result is below the lower tolerance
-	The sample was not analysed for this analyte
NVL	Not Validated

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calcuated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here : http://www.sgs.com.au/~/media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

Approved: [redacted]

SGS CHAIN OF CUSTODY & ANALYSIS REQUEST (FOR INTERLAB WORK)

Receiving Laboratory: SGS: ~~SYDNEY~~ NOTTINGHILL
Initiating Laboratory: SGS: TRARALGON
Initiating Contact:

Final Report Required:	Yes / NATA	Prelim Report Due: / / am/pm	Special Prices Apply: Yes / No
Send To:	(Us) / Client	Final Report Due: / / am/pm 4 DAYS.	Quote No: Client:**
Address To:	Us / (Client*) (~~Address~~ As Below)	Matrix / Preservation Method	Analysis Required / Remarks
SGS Job No:	Client Job No:		

Sample No.	Sample No.	Sampling Date/Time	Water	Soil			Ice					OC PESTICIDES										Remarks
Refer Attached COC x6.																						
																						Courier Service:
																						Consignment No:

Relinquished By: [redacted] Date/Time: 1/12/16 930 Received By: [redacted] Date/Time 1/12/16 9:30am

*NOTES:** Client Address: Attention: [redacted]
MELBOURNE AIRPORT
(MELBOURNE-AL-GLA-VIC)

** Special Prices, Quotes, Clients **MUST BE** Referred To.

SGS Melbourne EHS
ME301296 COC
Received: 01 – Dec – 2016

CHAIN OF CUSTODY DOCUMENTATION

Elgin Associates

ADDRESS / OFFICE: **Suite 303, 75 Tulip St, PO Box 322, Sandringham VIC 3191**

PROJECT MANAGER (PM): [redacted]

PROJECT ID: **JN16153 - Mel Air OCP Soil Sampling**

SITE: **Melbourne Airport** P.O. NO.:

RESULTS REQUIRED (Date): **Standard TAT** QUOTE NO:

SAMPLERS: [redacted]

MOBILE: [redacted]

EMAIL REPORT TO: [redacted]

EMAIL INVOICE TO: (if different to report)

SGS Australia Pty Ltd,
Unit 2, Lot 1 Traralgon-Maffra Rd
Traralgon, VIC 3844
ph: 03 5172 1555

ANALYSIS REQUIRED

FOR LABORATORY USE ONLY

COOLER SEAL (circle appropriate)

Intact: Yes No N/A

SAMPLE TEMPERATURE

CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

OCP Low Level with **LORs of 0.01-0.05 mg/kg**

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		Organochlorine Pesticides (Low Level)											
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles												
	AC03-W2-SS01	S	29/11/16		J	1	✓											
	AC03-W2-SS02	S			J	1	✓											
	AC03-W2-SS03	S			J	1	✓											
	AC03-W2-SS04	S			J	1	✓											
	AC03-W2-SS05	S			J	1	✓											
	AC03-W2-SS06	S			J	1	✓											
	AC03-W1-SS07	S			J	1	✓											
	AC03-W1-SS08	S			J	1	✓											
	AC03-W1-SS09	S			J	1	✓											
	AC03-W1-SS10	S			J	1	✓											
	AC03-W1-SS11	S			J	1	✓											
	AC03-W1-SS12	S			J	1	✓											

RELINQUISHED BY:		RECEIVED BY	METHOD OF SHIPMENT
Name: [redacted]	Date: 1/12/16	Name: [redacted]	Con' Note No:
Of: Elgin Associates	Time: 9:30	Of: SGS	
Name:	Date:	Name:	Transport Co:
Of:	Time:	Of:	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY DOCUMENTATION

Elgin Associates

ADDRESS / OFFICE: **Suite 303, 75 Tulip St, PO Box 322, Sandringham VIC 3191**

PROJECT MANAGER (PM): [redacted]

PROJECT ID: **JN16153 - Mel Air OCP Soil Sampling**

SITE: **Melbourne Airport** P.O. NO.:

RESULTS REQUIRED (Date): **Standard TAT** QUOTE NO.:

SAMPLERS: [redacted]

MOBILE: [redacted]

EMAIL REPORT TO: [redacted]

EMAIL INVOICE TO: (if different to report)

SGS Australia Pty Ltd,
Unit 2, Lot 1 Traralgon-Maffra Rd
Traralgon, VIC 3844
ph: 03 5172 1555

FOR LABORATORY USE ONLY

COOLER SEAL (circle appropriate)

Intact: Yes No N/A

SAMPLE TEMPERATURE

CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

OCP Low Level with LORs of 0.01-0.05 mg/kg

ANALYSIS REQUIRED

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		Organochlorine Pesticides (Low Level)											
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles												
	AC03-W1-SS13	S	29/11/16		J	1	✓											
	AC03-W1-SS14	S			J	1	✓											
	AC03-AW-SS15	S			J	1	✓											
	AC03-AW-SS16	S			J	1	✓											
	AC03-AW-SS17	S			J	1	✓											
	AC03-AW-SS18	S			J	1	✓											
	AC03-AW-SS19	S			J	1	✓											
	AC03-AW-SS20	S			J	1	✓											
	AC03-AW-SS21	S			J	1	✓											
	AC03-AW-SS22	S			J	1	✓											
	AC03-AW-SS23	S			J	1	✓											
	AC03-AW-SS24	S	↓		J	1	✓											

RELINQUISHED BY:		RECEIVED BY	METHOD OF SHIPMENT
Name:	Date: 1/12/16	Name: [redacted]	Con' Note No:
Of: Elgin Associates [redacted]	Time: 9h0	Of: SGS	
Name:	Date:	Name:	Transport Co:
Of:	Time:	Of:	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY DOCUMENTATION

Elgin Associates

ADDRESS / OFFICE: **Suite 303, 75 Tulip St, PO Box 322, Sandringham VIC 3191**

PROJECT MANAGER (PM): [redacted]

PROJECT ID: **JN16153 - Mel Air OCP Soil Sampling**

SITE: **Melbourne Airport** P.O. NO.:

RESULTS REQUIRED (Date): **Standard TAT** QUOTE NO:

SAMPLERS: [redacted]

MOBILE: [redacted]

EMAIL REPORT TO: [redacted]

EMAIL INVOICE TO: (if different to report)

SGS Australia Pty Ltd,
Unit 2, Lot 1 Traralgon-Maffra Rd
Traralgon, VIC 3844
ph: 03 5172 1555

FOR LABORATORY USE ONLY

COOLER SEAL (circle appropriate)

Intact: Yes No N/A

SAMPLE TEMPERATURE

CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

OCP Low Level with LORs of 0.01-0.05 mg/kg

ANALYSIS REQUIRED

SAMPLE INFORMATION (note: S = Soil, W=Water) | CONTAINER INFORMATION

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	Organochlorine Pesticides (Low Level)											
	GC01	S	29/11/16		J	1	✓											
	RB01	W			A	1	✓											
	GC-AS-N-S553	S			J	1	✓											
	GC-AS-N-S554	S			J	1	✓											
	GC-AS-N-S555	S			J	1	✓											
	GC-AS-N-S556	S			J	1	✓											
	AC02-AG-S557	S			J	1	✓											
	AC02-AG-S558	S			J	1	✓											
	AC02-AG-S559	S			J	1	✓											
	AC02-AG-S560	S	30/11/16		J	1	✓											
	AC02-AG-S561	S			J	1	✓											
	AC02-AG-S562	S			J	1	✓											

RELINQUISHED BY:

Name: [redacted] Date: 1/12/16

Of: Elgin Associates Time: [redacted]

Name: Date:

Of: Time:

RECEIVED BY

Name: [redacted]

Of: SGS

Name:

Of:

METHOD OF SHIPMENT

Con' Note No:

Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY DOCUMENTATION

Elgin Associates	SAMPLERS: [redacted]
ADDRESS / OFFICE: Suite 303, 75 Tulip St, PO Box 322, Sandringham VIC 3191	MOBILE: [redacted]
PROJECT MANAGER (PM): [redacted]	
PROJECT ID: JN16153 - Mel Air OCP Soil Sampling	EMAIL REPORT TO: [redacted]
SITE: Melbourne Airport P.O. NO.:	EMAIL INVOICE TO: (if different to report)
RESULTS REQUIRED (Date): Standard TAT QUOTE NO.:	ANALYSIS REQUIRED

SGS Australia Pty Ltd,
Unit 2, Lot 1 Traralgon-Maffra Rd
Traralgon, VIC 3844
ph: 03 5172 1555

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
OCP Low Level with LORs of 0.01-0.05 mg/kg

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		Organochlorine Pesticides (Low Level)											
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles												
	ACO2-AG-SS63	S	30/11/16		J	1	✓											
	ACO2-AG-SS64	S			J	1	✓											
	ACO2-FVG-SS65	S			J	1	✓											
	ACO2-FVG-SS66	S			J	1	✓											
	ACO2-FVG-SS67	S			J	1	✓											
	ACO2-FVG-SS68	S			J	1	✓											
	ACO2-FVG_SS69	S			J	1	✓											
	ACO2-FVG-SS70	S			J	1	✓											
	ACO2-FVG-SS71	S			J	1	✓											
	ACO2-FVG-SS72	S			J	1	✓											
	ACO2-FVG-SS73	S			J	1	✓											
	ACO2-FVG-SS74	S	↓		J	1	✓											

RELINQUISHED BY:		RECEIVED BY	METHOD OF SHIPMENT
Name: [redacted]	Date: 1/12/16	Name: [redacted]	Con' Note No:
Of: Elgin Associates	Time: 9:17	Of: SGS	
Name:	Date:	Name:	Transport Co:
Of:	Time:	Of:	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY DOCUMENTATION

Elgin Associates	SAMPLERS [redacted]
ADDRESS / OFFICE: **Suite 303, 75 Tulip St, PO Box 322, Sandringham VIC 3191**	MOBILE [redacted]
PROJECT MANAGER (PM): [redacted]	
PROJECT ID: **JN16153 - Mel Air OCP Soil Sampling**	EMAIL REPORT TO: [redacted]
SITE: **Melbourne Airport** P.O. NO.:	EMAIL INVOICE TO: (if different to report)
RESULTS REQUIRED (Date): **Standard TAT** QUOTE NO:	**ANALYSIS REQUIRED**

SGS Australia Pty Ltd,
Unit 2, Lot 1 Traralgon-Maffra Rd
Traralgon, VIC 3844
ph: 03 5172 1555

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
OCP Low Level with LORs of 0.01-0.05 mg/kg

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		Organochlorine Pesticides (Low Level)											
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles												
	ACO2-FVL-S575	S	30/11/16		J	1	✓											
	ACO2-AF-S576					1	✓											
	ACO2-AF-S577					1	✓											
	ACO2-AF-S578					1	✓											
	ACO2-AF-S579					1	✓											
	ACO2-AF-S580					1	✓											
	ACO2-AF-S581					1	✓											
	ACO2-AF-S582					1	✓											
	ACO2-AF-S583					1	✓											
	ACO2-AF-S584					1	✓											
	ACO2-AF-S585					1	✓											
	ACO2-AF-S586	↓	↓		↓	1	✓											

RELINQUISHED BY:		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date: 1/12/16	Name: [redacted]		Con' Note No:
Of: Elgin Associates [redacted]	Time: 930	Of: SGS		
Name:	Date:	Name:		Transport Co:
Of:	Time:	Of:		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY DOCUMENTATION

Elgin Associates

ADDRESS / OFFICE: **Suite 303, 75 Tulip St, PO Box 322, Sandringham VIC 3191**

PROJECT MANAGER (PM): [redacted]

PROJECT ID: **JN16153 - Mel Air OCP Soil Sampling**

SITE: **Melbourne Airport** P.O. NO.:

RESULTS REQUIRED (Date): **Standard TAT** QUOTE NO:

SAMPLERS [redacted]

MOBILE [redacted]

EMAIL REPORT TO [redacted]

EMAIL INVOICE TO: (if different to report)

SGS Australia Pty Ltd,
Unit 2, Lot 1 Traralgon-Maffra Rd
Traralgon, VIC 3844
ph: 03 5172 1555

ANALYSIS REQUIRED

FOR LABORATORY USE ONLY

COOLER SEAL (circle appropriate)

Intact: Yes No N/A

SAMPLE TEMPERATURE

CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

OCP Low Level with LORs of 0.01-0.05 mg/kg

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		Organochlorine Pesticides (Low Level)											
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles												
	AC02-AF-5587	S	30/11/16		J	1	✓											
	AC02-AF-5588	S			J	1	✓											
	AC02-AF-5589	S			J	1	✓											
	QC03	S			J	1	✓											
	QC05	S			J	1	✓											
	RB02	W			A	1	✓											

RELINQUISHED BY:

Name:
Of: Elgin Associates [redacted]
Name:
Of:

Date: 1/12/16
Time: 9:30
Date:
Time:

RECEIVED BY

Name: [redacted]
Of: SGS
Name:
Of:

METHOD OF SHIPMENT

Con' Note No:

Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

SAMPLE RECEIPT ADVICE

ME301296

CLIENT DETAILS

Contact	[redacted]
Client	SGS Environmental Traralgon
Address	PO Box 1956 Unit 2, Lot 1 Traralgon Maffra Road VIC 3844
Telephone	03 5172 1555
Facsimile	03 5174 9320
Email	[redacted]
Project	**TE107207**
Order Number	**TE107207**
Samples	66

LABORATORY DETAILS

Manager	[redacted]
Laboratory	SGS Melbourne EH&S
Address	10/585 Blackburn Road Notting Hill Victoria 3168
Telephone	+61395743200
Facsimile	+61395743399
Email	Au.SampleReceipt.Melbourne@sgs.com
Samples Received	Thu 1/12/2016
Report Due	Thu 8/12/2016
SGS Reference	**ME301296**

SUBMISSION DETAILS

This is to confirm that 66 samples were received on Thursday 1/12/2016. Results are expected to be ready by Thursday 8/12/2016. Please quote SGS reference ME301296 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	64 Soils, 2 Waters
Date documentation received		Type of documentation received	COC
Number of eskies/boxes received	2	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	
Sufficient sample for analysis	Yes	Turnaround time requested	Standard

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

SAMPLE RECEIPT ADVICE

ME301296

CLIENT DETAILS

Client SGS Environmental Traralgon

Project TE107207

SUMMARY OF ANALYSIS

No.	Sample ID	OCP in solids MA-77.SD.01
001	AC03-W2-SS01	20
002	AC03-W2-SS02	20
003	AC03-W2-SS03	20
004	AC03-W2-SS04	20
005	AC03-W2-SS05	20
006	AC03-W2-SS06	20
007	AC03-W1-SS07	20
008	AC03-W1-SS08	20
009	AC03-W1-SS09	20
010	AC03-W1-SS10	20
011	AC03-W1-SS11	20
012	AC03-W1-SS12	20
013	AC03-W1-SS13	20
014	AC03-W1-SS14	20
015	AC03-AW-SS15	20
016	AC03-AW-SS16	20
017	AC03-AW-SS17	20
018	AC03-AW-SS18	20
019	AC03-AW-SS19	20
020	AC03-AW-SS20	20
021	AC03-AW-SS21	20
022	AC03-AW-SS22	20
023	AC03-AW-SS23	20
024	AC03-AW-SS24	20

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

ME301296

CLIENT DETAILS

Client SGS Environmental Traralgon

Project TE107207

SUMMARY OF ANALYSIS

No.	Sample ID	OCP in solids MA-77.SD.01	OCP in water MA-77.WW.01
025	QC01	20	-
026	RB01	-	19
027	GC-AS-N-SS53	20	-
028	GC-AS-N-SS54	20	-
029	GC-AS-N-SS55	20	-
030	GC-AS-N-SS56	20	-
031	AC02-AG-SS57	20	-
032	AC02-AG-SS58	20	-
033	AC02-AG-SS59	20	-
034	AC02-AG-SS60	20	-
035	AC02-AG-SS61	20	-
036	AC02-AG-SS62	20	-
037	AC02-AG-SS63	20	-
038	AC02-AG-SS64	20	-
039	AC02-FVG-SS65	20	-
040	AC02-FVG-SS66	20	-
041	AC02-FVG-SS67	20	-
042	AC02-FVG-SS68	20	-
043	AC02-FVG-SS69	20	-
044	AC02-FVG-SS70	20	-
045	AC02-FVG-SS71	20	-
046	AC02-FVG-SS72	20	-
047	AC02-FVG-SS73	20	-
048	AC02-FVG-SS74	20	-

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

ME301296

CLIENT DETAILS

Client SGS Environmental Traralgon

Project TE107207

SUMMARY OF ANALYSIS

No.	Sample ID	OCP in solids MA-77.SD.01	OCP in water MA-77.WW.01
049	AC02-FVG-SS75	20	-
050	AC02-AF-SS76	20	-
051	AC02-AF-SS77	20	-
052	AC02-AF-SS78	20	-
053	AC02-AF-SS79	20	-
054	AC02-AF-SS80	20	-
055	AC02-AF-SS81	20	-
056	AC02-AF-SS82	20	-
057	AC02-AF-SS83	20	-
058	AC02-AF-SS84	20	-
059	AC02-AF-SS85	20	-
060	AC02-AF-SS86	20	-
061	AC02-AF-SS87	20	-
062	AC02-AF-SS88	20	-
063	AC02-AF-SS89	20	-
064	QC03	20	-
065	QC05	20	-
066	RB02	-	19

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

[redacted]

ANALYTICAL REPORT

NATA
WORLD RECOGNISED ACCREDITATION

CLIENT DETAILS

Contact	[redacted]
Client	ELGIN ASSOCIATES PTY LTD
Address	PO BOX 3134 WEST HOBART TAS 7000
Telephone	03 5172 1555
Facsimile	03 5174 9320
Email	[redacted]
Project	**TE107207**
Order Number	**TE107207**
Samples	42

LABORATORY DETAILS

Manager	[redacted]
Laboratory	SGS Melbourne EH&S
Address	10/585 Blackburn Road Notting Hill Victoria 3168
Telephone	+61395743200
Facsimile	+61395743399
Email	Au.SampleReceipt.Melbourne@sgs.com
SGS Reference	**ME301326 R0**
Date Received	06 Dec 2016
Date Reported	14 Dec 2016

COMMENTS

Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 14429.

SIGNATORIES

[redacted]
Chemist

[redacted]
SVOC Supervisor

QC SUMMARY

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

OCP in solids MA-77.SD.01 Method: MA77

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	MS %Recovery	MSD %RPD
4,4-DDD	LB010910	mg/kg	0.01	<0.01	0%		
4,4-DDE	LB010910	mg/kg	0.01	<0.01	0%		
4,4-DDT	LB010910	mg/kg	0.01	<0.01	0%	65 - 72%	0 - 8%
Aldrin	LB010910	mg/kg	0.01	<0.01	0%	72 - 85%	1 - 7%
alpha-BHC	LB010910	mg/kg	0.01	<0.01	0%		
beta-BHC	LB010910	mg/kg	0.01	<0.01	0%		
Chlordane	LB010910	mg/kg	0.01	<0.01	0%		
delta-BHC	LB010910	mg/kg	0.01	<0.01	0%		
Dieldrin	LB010910	mg/kg	0.01	<0.01	0 - 3%	79 - 93%	2 - 8%
Endosulfan 1	LB010910	mg/kg	0.01	<0.01	0%		
Endosulfan 2	LB010910	mg/kg	0.01	<0.01	0%		
Endosulfan sulphate	LB010910	mg/kg	0.01	<0.01	0%		
Endrin	LB010910	mg/kg	0.01	<0.01	0%	71 - 80%	0 - 2%
Endrin aldehyde	LB010910	mg/kg	0.01	<0.01	0%		
gamma-BHC (lindane)	LB010910	mg/kg	0.01	<0.01	0%	86 - 97%	0 - 9%
Heptachlor	LB010910	mg/kg	0.01	<0.01	0%	64 - 81%	1 - 9%
Heptachlor Epoxide	LB010910	mg/kg	0.01	<0.01	0%		
Hexachlorobenzene	LB010910	mg/kg	0.01	<0.01	0%		
Isodrin	LB010910	mg/kg	0.01	<0.01	0%		
Methoxychlor	LB010910	mg/kg	0.01	<0.01	0%		

OCP in water MA-77.WW.01 Method: MA77

Parameter	QC Reference	Units	LOR	MB	MS %Recovery	MSD %RPD
4,4-DDD	LB011011	µg/L	0.01	<0.01		
4,4-DDE	LB011011	µg/L	0.01	<0.01		
4,4-DDT	LB011011	µg/L	0.01	<0.01	82%	2%
Aldrin	LB011011	µg/L	0.01	<0.01	82%	5%
alpha-BHC	LB011011	µg/L	0.01	<0.01		
beta-BHC	LB011011	µg/L	0.01	<0.01		
Chlordane	LB011011	µg/L	0.01	<0.01		
delta-BHC	LB011011	µg/L	0.01	<0.01		
Dieldrin	LB011011	µg/L	0.01	<0.01	88%	4%
Endosulfan 1	LB011011	µg/L	0.01	<0.01		
Endosulfan 2	LB011011	µg/L	0.01	<0.01		
Endosulfan Sulphate	LB011011	µg/L	0.01	<0.01		
Endrin	LB011011	µg/L	0.01	<0.01	81%	1%
Endrin Aldehyde	LB011011	µg/L	0.01	<0.01		
gamma-BHC (lindane)	LB011011	µg/L	0.01	<0.01	91%	5%
Heptachlor	LB011011	µg/L	0.01	<0.01	72%	6%
Heptachlor Epoxide	LB011011	µg/L	0.01	<0.01		
Hexachlorobenzene	LB011011	µg/L	0.01	<0.01		
Methoxychlor	LB011011	µg/L	0.01	<0.01		

QC SUMMARY

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

Surrogates - SVOC in Solids **Method: SVOC Methods**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	MS %Recovery	MSD %RPD
2,4,6-Tribromophenol	LB010910	%	-	86 - 100%	1 - 9%	71 - 101%	7 - 10%
Fluorobiphenyl	LB010910	%	-	90 - 101%	1 - 7%	85 - 92%	3 - 7%
Fluorophenol	LB010910	%	-	95 - 115%	1 - 6%	86 - 97%	4 - 6%
Nitrobenzene-d5	LB010910	%	-	77 - 95%	1 - 6%	74 - 82%	3 - 5%
Phenol-d6	LB010910	%	-	89 - 107%	0 - 6%	81 - 90%	3 - 6%
p-Terphenyl-d14	LB010910	%	-	87 - 101%	0 - 5%	78 - 90%	2 - 8%

Surrogates - SVOC in Water **Method: SVOC Methods**

Parameter	QC Reference	Units	LOR	MB	MS %Recovery	MSD %RPD
p-Terphenyl-d14	LB011011	%	-	73%	71%	9%

METHOD SUMMARY

METHOD	METHODOLOGY SUMMARY

FOOTNOTES

IS	Insufficient sample for analysis.	LOR	Limit of Reporting
LNR	Sample listed, but not received.	↑↓	Raised or Lowered Limit of Reporting
*	NATA accreditation does not cover the performance of this service.	QFH	QC result is above the upper tolerance
		QFL	QC result is below the lower tolerance
**	Indicative data, theoretical holding time exceeded.	-	The sample was not analysed for this analyte
		NVL	Not Validated

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calcuated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here : http://www.sgs.com.au/~/media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

SAMPLE RECEIPT ADVICE

ME301326

CLIENT DETAILS

Contact	[redacted]
Client	SGS Environmental Traralgon
Address	PO Box 1956 Unit 2, Lot 1 Traralgon Maffra Road VIC 3844
Telephone	03 5172 1555
Facsimile	03 5174 9320
Email	[redacted]
Project	**TE107207**
Order Number	**TE107207**
Samples	42

LABORATORY DETAILS

Manager	[redacted]
Laboratory	SGS Melbourne EH&S
Address	10/585 Blackburn Road Notting Hill Victoria 3168
Telephone	+61395743200
Facsimile	+61395743399
Email	Au.SampleReceipt.Melbourne@sgs.com
Samples Received	Tue 6/12/2016
Report Due	Tue 13/12/2016
SGS Reference	**ME301326**

SUBMISSION DETAILS

This is to confirm that 42 samples were received on Tuesday 6/12/2016. Results are expected to be ready by Tuesday 13/12/2016. Please quote SGS reference ME301326 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	64 Soils, 2 Waters
Date documentation received		Type of documentation received	COC
Number of eskies/boxes received	2	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	
Sufficient sample for analysis	Yes	Turnaround time requested	Standard

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

SAMPLE RECEIPT ADVICE

ME301326

CLIENT DETAILS

Client SGS Environmental Traralgon

Project TE107207

SUMMARY OF ANALYSIS

No.	Sample ID	OCP in solids MA-77.SD.01	OCP in water MA-77.WW.01	Surrogates - SVOC in Solids
001	AC03-AK-SS25	20	19	6
002	AC03-AK-SS26	20	19	6
003	AC03-AK-SS27	20	19	6
004	AC03-AK-SS28	20	19	6
005	AC03-AK-SS29	20	19	6
006	AC03-AK-SS30	20	19	6
007	AC03-G22-SS31	20	19	6
008	AC03-G22-SS32	20	-	6
009	AC03-G22-SS33	20	-	6
010	AC03-G22-SS34	20	-	6
011	AC03-G22-SS35	20	-	6
012	AC03-G22-SS36	20	-	6
013	AC03-G22-SS37	20	-	6
014	AC03-G22-SS38	20	-	6
015	AC03-G22-SS39	20	-	6
016	AC03-G22-SS40	20	-	6
017	GC-AS-S-SS47	20	-	6
018	GC-AS-S-SS48	20	-	6
019	GC-AS-S-SS49	20	-	6
020	GC-AS-S-SS50	20	-	6
021	GC-AS-S-SS51	20	-	6
022	GC-AS-S-SS52	20	-	6
023	AC02-NS-OPS-SS90	20	-	6
024	AC02-NS-OPS-SS91	20	-	6

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

ME301326

CLIENT DETAILS

Client SGS Environmental Traralgon

Project TE107207

SUMMARY OF ANALYSIS

No.	Sample ID	OCP in solids MA-77.SD.01	OCP in water MA-77.WW.01	Surrogates - SVOC in Solids	Surrogates - SVOC in Water
025	AC02-NS-OPS-SS92	20	-	6	-
026	AC02-NS-OPS-SS93	20	-	6	-
027	AC02-NS-OPS-SS94	20	-	6	-
028	AC01-NS-OPS-SS95	20	-	6	-
029	AC01-NS-OPS-SS96	20	-	6	-
030	AC01-NS-OPS-SS97	20	-	6	-
031	AC01-NS-OPS-SS98	20	-	6	-
032	AC01-NS-OPS-SS99	20	-	6	-
033	AC01-NE-SS100	20	-	6	-
034	AC01-NE-SS101	20	-	6	-
035	AC01-NE-SS102	20	-	6	-
036	AC01-NE-SS103	20	-	6	-
037	AC01-NE-SS104	20	-	6	-
038	AC01-NE-SS105	20	-	6	-
039	AC01-NE-SS106	20	-	6	-
040	RB03	-	19	-	6
041	QC07	20	-	6	-
042	QC09	20	-	6	-

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

Approved: P Bamford

SGS CHAIN OF CUSTODY & ANALYSIS REQUEST
(FOR INTERLAB WORK)

Receiving Laboratory: SGS: ~~SYDNEY~~ NOTTINGHILL
Initiating Laboratory: SGS: TRARALGON
Initiating Contact:

Final Report Required:	Yes / NATA	Prelim Report Due: / / am/pm	Special Prices Apply: Yes / No
Send To:	(Us) / Client	Final Report Due: / / am/pm 4 DAYS	Quote No: Client:**
Address To:	Us / Client* (Address As Below)	Matrix / Preservation Method / Analysis Required	Remarks

SGS Job No:	Client Job No:		Water	Soil			Ice					OC PESTICIDES										Remarks
Sample No.	Sample No.	Sampling Date/Time																				
[redacted]		COCs x4 pages																				
																						Courier Service:
																						Consignment No:

Relinquished By:	Date/Time:	Received By:	Date/Time
[redacted]	6/12/15 1245	[redacted]	6/12/16 1pm

[redacted]
Melbourne Airport
(MELBOURNE_AI_GLA_VIC)
Elgin Associates [redacted]

** Special Prices, Quotes, Clients **MUST BE** Referred To.

SGS Melbourne EHS

ME301326 COC
Received: 06 – Dec – 2016

CHAIN OF CUSTODY DOCUMENTATION

Elgin Associates

ADDRESS / OFFICE: **Suite 303, 75 Tulip St, PO Box 322, Sandringham VIC 3191**

PROJECT MANAGER (PM): [redacted]

PROJECT ID: **JN16153 - Mel Air OCP Soil Sampling**

SITE: **Melbourne Airport** P.O. NO.:

RESULTS REQUIRED (Date): **Standard TAT** QUOTE NO:

SAMPLERS: [redacted]

MOBILE [redacted]

EMAIL REPORT TO [redacted]

EMAIL INVOICE TO: (if different to report)

SGS Australia Pty Ltd,
Unit 2, Lot 1 Traralgon-Maffra Rd
Traralgon, VIC 3844
ph: 03 5172 1555

FOR LABORATORY USE ONLY

COOLER SEAL (circle appropriate)

Intact: Yes No N/A

SAMPLE TEMPERATURE

CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

OCP Low Level with LORs of 0.01-0.05 mg/kg

ANALYSIS REQUIRED

SAMPLE INFORMATION (note: S = Soil, W=Water) | CONTAINER INFORMATION

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	Organochlorine Pesticides (Low Level)										
	ACO3-AK-S525	S	5/12/16		J	1	✓										
	ACO3-AK-S526	S			J	1	✓										
	ACO3-AK-S527	S			J	1	✓										
	ACO3-AK-S528	S			J	1	✓										
	ACO3-AK-S529	S			J	1	✓										
	ACO3-AK-S530	S			J	1	✓										
	ACO3-G22-S531	S			J	1	✓										
	ACO3-G22-S532	S			J	1	✓										
	ACO3-G22-S533	S			J	1	✓										
	ACO3-G22-S534	S			J	1	✓										
	ACO3-G22-S535	S			J	1	✓										
	ACO3-G22-S536	S	↓		J	1	✓										

RELINQUISHED BY:

Name: [redacted] Date: 6/12/16

Of: Elgin Associates Time: 1245

Name: Date:

Of: Time:

RECEIVED BY

Name: [redacted]

Of: SGS Australia 6/12/16 1pm

Name:

Of:

METHOD OF SHIPMENT

Con' Note No:

Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY DOCUMENTATION

Elgin Associates	SAMPLERS: [redacted]
ADDRESS / OFFICE: Suite 303, 75 Tulip St, PO Box 322, Sandringham VIC 3191	MOBILE: [redacted]
PROJECT MANAGER (PM): [redacted]	
PROJECT ID: JN16153 - Mel Air OCP Soil Sampling	EMAIL REPORT TO: [redacted]
SITE: Melbourne Airport P.O. NO.:	EMAIL INVOICE TO: (if different to report)
RESULTS REQUIRED (Date): Standard TAT QUOTE NO:	ANALYSIS REQUIRED

SGS Australia Pty Ltd,
Unit 2, Lot 1 Traralgon-Maffra Rd
Traralgon, VIC 3844
ph: 03 5172 1555

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
OCP Low Level with LORs of 0.01-0.05 mg/kg

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		Organochlorine Pesticides (Low Level)											
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles												
	AC03-G22-S537	S	5/12/16		J	1	✓											
	AC03-G22-S538	S			J	1	✓											
	AC03-G22-S539	S			J	1	✓											
	AC03-G22-S540	S			J	1	✓											
	GC-AS-S-S547	S			J	1	✓											
	GC-AS-S-S548	S			J	1	✓											
	GC-AS-S-S549	S			J	1	✓											
	GC-AS-S-S550	S			J	1	✓											
	GC-AS-S-S551	S			J	1	✓											
	GC-AS-S-S552	S			J	1	✓											
	AC02-NS-QA-S590	S			J	1	✓											
	AC02-NS-QA-S591	S			J	1	✓											

RELINQUISHED BY:		RECEIVED BY		METHOD OF SHIPMENT
Name: [redacted]	Date: 6/12/16	Name: [redacted]		Con' Note No:
Of: Elgin Associates	Time: 1245	Of: SGS Australia	6/12/16 1pm	
Name:	Date:	Name:		Transport Co:
Of:	Time:	Of:		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY DOCUMENTATION

SGS Australia Pty Ltd,
Unit 2, Lot 1 Traralgon-Maffra Rd
Traralgon, VIC 3844
ph: 03 5172 1555

Elgin Associates
ADDRESS / OFFICE: Suite 303, 75 Tulip St, PO Box 322, Sandringham VIC 3191
PROJECT MANAGER (PM): [redacted]
PROJECT ID: JN16153 - Mel Air OCP Soil Sampling
SITE: Melbourne Airport P.O. NO.:
RESULTS REQUIRED (Date): Standard TAT QUOTE NO:

SAMPLERS: [redacted]
MOBILE: [redacted]
EMAIL REPORT TO: [redacted]
EMAIL INVOICE TO: (if different to report)

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
OCP Low Level with LORs of 0.01-0.05 mg/kg

ANALYSIS REQUIRED

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		Organochlorine Pesticides (Low Level)											
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles												
	AC02-NS-Ops-SS92	S	5/12/16		J	1	✓											
	AC02-NS-Ops-SS93	S				1	✓											
	AC02-NS-Ops-SS94	S				1	✓											
	AC01-NS-Ops-SS95	S				1	✓											
	AC01-NS-Ops-SS96	S				1	✓											
	AC01-NS-Ops-SS97	S				1	✓											
	AC01-NS-Ops-SS98	S				1	✓											
	AC01-NS-Ops-SS99	S				1	✓											
	AC01-NE-SS100	S				1	✓											
	AC01-NE-SS101	S				1	✓											
	AC01-NE-SS102	S				1	✓											
	AC01-NE-SS103	S				1	✓											

RELINQUISHED BY:
Name: [redacted]
Of: Elgin Associates
Date: 6/12/16
Time: 1245
Name:
Of:
Date:
Time:

RECEIVED BY
Name: [redacted]
Of: SGS Australia [redacted] 6/12/16 1pm
Name:
Of:

METHOD OF SHIPMENT
Con' Note No:
Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY DOCUMENTATION

SGS Australia Pty Ltd,
Unit 2, Lot 1 Traralgon-Maffra Rd
Traralgon, VIC 3844
ph: 03 5172 1555

Elgin Associates

ADDRESS / OFFICE: Suite 303, 75 Tulip St, PO Box 322, Sandringham VIC 3191

PROJECT MANAGER (PM): [redacted]

PROJECT ID: JN16153 - Mel Air OCP Soil Sampling

SITE: Melbourne Airport P.O. NO.:

RESULTS REQUIRED (Date): Standard TAT QUOTE NO:

SAMPLERS: [redacted]

MOBILE: [redacted]

EMAIL REPORT TO: [redacted]

EMAIL INVOICE TO: (if different to report)

FOR LABORATORY USE ONLY

COOLER SEAL (circle appropriate)

Intact: Yes No N/A

SAMPLE TEMPERATURE

CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

OCP Low Level with LORs of 0.01-0.05 mg/kg

ANALYSIS REQUIRED

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		Organochlorine Pesticides (Low Level)											
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles												
	AC01-NE-SS04	S	5/12/16		J	1	✓											
	AC01-NE-SS05	S			J	1	✓											
	AC01-NE-SS06	S			J	1	✓											
	RB03	W			J	1	✓											
	QC07	S			J	1	✓											
	QC09	S			J	1	✓											

RELINQUISHED BY:		RECEIVED BY	METHOD OF SHIPMENT
Name: [redacted]	Date: 6/12/16	Name: [redacted]	Con' Note No:
Of: Elgin Associates	Time: 1245	Of: SGS Australia 6/12/16 1pm	
Name:	Date:	Name:	Transport Co:
Of:	Time:	Of:	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

[redacted]

ANALYTICAL REPORT

NATA
WORLD RECOGNISED ACCREDITATION

CLIENT DETAILS

Contact	[redacted]
Client	ELGIN ASSOCIATES PTY LTD
Address	PO BOX 3134 WEST HOBART TAS 7000
Telephone	03 5172 1555
Facsimile	03 5174 9320
Email	[redacted]
Project	**TE107207**
Order Number	**TE107207**
Samples	23

LABORATORY DETAILS

Manager	[redacted]
Laboratory	SGS Melbourne EH&S
Address	10/585 Blackburn Road Notting Hill Victoria 3168
Telephone	+61395743200
Facsimile	+61395743399
Email	Au.SampleReceipt.Melbourne@sgs.com
SGS Reference	**ME301333 R0**
Date Received	07 Dec 2016
Date Reported	14 Dec 2016

COMMENTS

Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 14429.

SIGNATORIES

[redacted]
Chemist

[redacted]
SVOC Supervisor

QC SUMMARY

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

OCP in solids MA-77.SD.01 Method: MA77

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	MS %Recovery	MSD %RPD
4,4-DDD	LB010920	mg/kg	0.01	<0.01	0%		
4,4-DDE	LB010920	mg/kg	0.01	<0.01	0%		
4,4-DDT	LB010920	mg/kg	0.01	<0.01	0%	64%	5%
Aldrin	LB010920	mg/kg	0.01	<0.01	0%	69%	2%
alpha-BHC	LB010920	mg/kg	0.01	<0.01	0%		
beta-BHC	LB010920	mg/kg	0.01	<0.01	0%		
Chlordane	LB010920	mg/kg	0.01	<0.01	0%		
delta-BHC	LB010920	mg/kg	0.01	<0.01	0%		
Dieldrin	LB010920	mg/kg	0.01	<0.01	0%	73%	5%
Endosulfan 1	LB010920	mg/kg	0.01	<0.01	0%		
Endosulfan 2	LB010920	mg/kg	0.01	<0.01	0%		
Endosulfan sulphate	LB010920	mg/kg	0.01	<0.01	0%		
Endrin	LB010920	mg/kg	0.01	<0.01	0%	70%	4%
Endrin aldehyde	LB010920	mg/kg	0.01	<0.01	0%		
gamma-BHC (lindane)	LB010920	mg/kg	0.01	<0.01	0%	81%	5%
Heptachlor	LB010920	mg/kg	0.01	<0.01	0%	63%	3%
Heptachlor Epoxide	LB010920	mg/kg	0.01	<0.01	0%		
Hexachlorobenzene	LB010920	mg/kg	0.01	<0.01	0%		
Isodrin	LB010920	mg/kg	0.01	<0.01	0%		
Methoxychlor	LB010920	mg/kg	0.01	<0.01	0%		

OCP in water MA-77.WW.01 Method: MA77

Parameter	QC Reference	Units	LOR	MB	MS %Recovery	MSD %RPD
4,4-DDD	LB011011	µg/L	0.01	<0.01		
4,4-DDE	LB011011	µg/L	0.01	<0.01		
4,4-DDT	LB011011	µg/L	0.01	<0.01	82%	2%
Aldrin	LB011011	µg/L	0.01	<0.01	82%	5%
alpha-BHC	LB011011	µg/L	0.01	<0.01		
beta-BHC	LB011011	µg/L	0.01	<0.01		
Chlordane	LB011011	µg/L	0.01	<0.01		
delta-BHC	LB011011	µg/L	0.01	<0.01		
Dieldrin	LB011011	µg/L	0.01	<0.01	88%	4%
Endosulfan 1	LB011011	µg/L	0.01	<0.01		
Endosulfan 2	LB011011	µg/L	0.01	<0.01		
Endosulfan Sulphate	LB011011	µg/L	0.01	<0.01		
Endrin	LB011011	µg/L	0.01	<0.01	81%	1%
Endrin Aldehyde	LB011011	µg/L	0.01	<0.01		
gamma-BHC (lindane)	LB011011	µg/L	0.01	<0.01	91%	5%
Heptachlor	LB011011	µg/L	0.01	<0.01	72%	6%
Heptachlor Epoxide	LB011011	µg/L	0.01	<0.01		
Hexachlorobenzene	LB011011	µg/L	0.01	<0.01		
Methoxychlor	LB011011	µg/L	0.01	<0.01		

QC SUMMARY

MB blank results are compared to the Limit of Reporting
LCS and MS spike recoveries are measured as the percentage of analyte recovered from the sample compared the the amount of analyte spiked into the sample.
DUP and MSD relative percent differences are measured against their original counterpart samples according to the formula : *the absolute difference of the two results divided by the average of the two results as a percentage*. Where the DUP RPD is 'NA' , the results are less than the LOR and thus the RPD is not applicable.

Surrogates - SVOC in Solids **Method: SVOC Methods**

Parameter	QC Reference	Units	LOR	MB	DUP %RPD	MS %Recovery	MSD %RPD
2,4,6-Tribromophenol	LB010920	%	-	70%	3 - 8%	62%	9%
Fluorobiphenyl	LB010920	%	-	76%	3 - 11%	72%	1%
Fluorophenol	LB010920	%	-	82%	3 - 9%	75%	2%
Nitrobenzene-d5	LB010920	%	-	69%	6 - 11%	64%	2%
Phenol-d6	LB010920	%	-	76%	3 - 9%	70%	1%
p-Terphenyl-d14	LB010920	%	-	71%	2 - 10%	67%	1%

Surrogates - SVOC in Water **Method: SVOC Methods**

Parameter	QC Reference	Units	LOR	MB	MS %Recovery	MSD %RPD
p-Terphenyl-d14	LB011011	%	-	73%	71%	9%

METHOD SUMMARY

METHOD	METHODOLOGY SUMMARY

FOOTNOTES

IS	Insufficient sample for analysis.	LOR	Limit of Reporting
LNR	Sample listed, but not received.	↑↓	Raised or Lowered Limit of Reporting
*	NATA accreditation does not cover the performance of this service.	QFH	QC result is above the upper tolerance
		QFL	QC result is below the lower tolerance
**	Indicative data, theoretical holding time exceeded.	-	The sample was not analysed for this analyte
		NVL	Not Validated

Samples analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calcuated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here : http://www.sgs.com.au/~/media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf

Approved: P Bamford

SGS

CHAIN OF CUSTODY & ANALYSIS REQUEST
(FOR INTERLAB WORK)

Receiving Laboratory: SGS: ~~SYDNEY~~ NOTTING HILL
Initiating Laboratory: SGS: TRARALGON
Initiating Contact:

Final Report Required: Yes / NATA	Prelim Report Due: / / am/pm	Special Prices Apply: Yes / No	
Send To: (Us) / Client	Final Report Due: / / am/pm 4 DAYS	Quote No:	Client:**
Address To: Us / (Client*) (Address As Below)			
SGS Job No:	Client Job No:		

Sample No.	Sample No.	Sampling Date/Time	Matrix: Water	Matrix: Soil			Preservation Method: Ice					Analysis Required: OC Pesticides										Remarks
[redacted]	OCs X2																					

SGS Melbourne EHS
ME301333 COC
Received: 07 – Dec – 2016

Courier Service:

Consignment No:

Relinquished By: [redacted] [redacted] Date/Time: 7/12/16 1500

Received By: [redacted] Date/Time 7/12/16 3pm

NOTES:* Client Address: Attention: [redacted]
Melbourne Airport
~~(MELBOURNE-AI-GLA-VIC)~~
Elgin Associates

** Special Prices, Quotes, Clients **MUST BE** Referred To.

CHAIN OF CUSTODY DOCUMENTATION

Elgin Associates

ADDRESS / OFFICE: **Suite 303, 75 Tulip St, PO Box 322, Sandringham VIC 3191**

PROJECT MANAGER (PM): [redacted]

PROJECT ID: **JN16153 - Mel Air OCP Soil Sampling**

SITE: **Melbourne Airport** P.O. NO.:

RESULTS REQUIRED (Date): **Standard TAT** QUOTE NO:

SAMPLERS: [redacted]

MOBILE: [redacted]

EMAIL REPORT TO: [redacted]

EMAIL INVOICE TO: (if different to report)

SGS Australia Pty Ltd,
Unit 2, Lot 1 Traralgon-Maffra Rd
Traralgon, VIC 3844
ph: 03 5172 1555

FOR LABORATORY USE ONLY

COOLER SEAL (circle appropriate)

Intact: Yes No N/A

SAMPLE TEMPERATURE

CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

OCP Low Level with LORs of 0.01-0.05 mg/kg

ANALYSIS REQUIRED

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		Organochlorine Pesticides (Low Level)											
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles												
	GC-LS-SS41	S	7/12/16		J	1	✓											
	GC-LS-SS42	S			J	1	✓											
	GC-LS-SS43	S				1	✓											
	GC-LS-SS44	S				1	✓											
	GC-LS-SS45	S				1	✓											
	GC-LS-SS46	S				1	✓											
	RB04	W			(A)	1	✓											
	AC01-ME_SS07	S				1	✓											
	AC01-ME-SS08	S				1	✓											
	AC01-ME-SS09	S				1	✓											
	AC01-ME-SS10	S				1	✓											
	AC01-ME-SS11	S				1	✓											

RELINQUISHED BY:

Name: [redacted]
Of: Elgin Associates
Date: 7/12/16
Time: 1500
Name:
Of:
Date:
Time:

RECEIVED BY

Name: [redacted]
Of: SGS Australia 7/12/16 3pm
Name:
Of:

METHOD OF SHIPMENT

Con' Note No:

Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved;
V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY DOCUMENTATION

Elgin Associates

ADDRESS / OFFICE: Suite 303, 75 Tulip St, PO Box 322, Sandringham VIC 3191

PROJECT MANAGER (PM): [redacted]

PROJECT ID: JN16153 - Mel Air OCP Soil Sampling

SITE: Melbourne Airport P.O. NO.:

RESULTS REQUIRED (Date): Standard TAT QUOTE NO:

SAMPLERS: [redacted]

MOBILE: [redacted]

EMAIL REPORT TO: [redacted]

EMAIL INVOICE TO: (if different to report)

SGS Australia Pty Ltd,
Unit 2, Lot 1 Traralgon-Maffra Rd
Traralgon, VIC 3844
ph: 03 5172 1555

FOR LABORATORY USE ONLY

COOLER SEAL (circle appropriate)

Intact: Yes No N/A

SAMPLE TEMPERATURE

CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

OCP Low Level with LORs of 0.01-0.05 mg/kg

ANALYSIS REQUIRED

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		Organochlorine Pesticides (Low Level)											
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles												
	AC01-WNS-SS112	S	7/12/16		J	1	✓											
	AC01-WNS-SS113					1	✓											
	AC01-WNS-SS114					1	✓											
	AC01-WNS-SS115					1	✓											
	AC01-WNS-SS116					1	✓											
	AC01-WNS-SS117					1	✓											
	AC01-WNS-SS118					1	✓											
	AC01-WNS-SS119					1	✓											
	AC01-WNS-SS120					1	✓											
	AC01-WNS-SS121					1	✓											
	QC11					1	✓											

RELINQUISHED BY:

Name:

Of: Elgin Associates [redacted]

Date: [redacted] 7/12/16

Time: [redacted]

Name:

Of:

Date: 7/12/16

Time: 1500

RECEIVED BY

Name: [redacted]

Of: SGS Australia [redacted] 9/12/16 3pm

Name:

Of:

METHOD OF SHIPMENT

Con' Note No:

Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

SAMPLE RECEIPT ADVICE

ME301333

CLIENT DETAILS

Contact	[redacted]
Client	SGS Environmental Traralgon
Address	PO Box 1956 Unit 2, Lot 1 Traralgon Maffra Road VIC 3844
Telephone	03 5172 1555
Facsimile	03 5174 9320
Email	[redacted]
Project	**TE107207**
Order Number	**TE107207**
Samples	23

LABORATORY DETAILS

Manager	[redacted]
Laboratory	SGS Melbourne EH&S
Address	10/585 Blackburn Road Notting Hill Victoria 3168
Telephone	+61395743200
Facsimile	+61395743399
Email	Au.SampleReceipt.Melbourne@sgs.com
Samples Received	Wed 7/12/2016
Report Due	Fri 16/12/2016
SGS Reference	**ME301333**

SUBMISSION DETAILS

This is to confirm that 23 samples were received on Wednesday 7/12/2016. Results are expected to be ready by Friday 16/12/2016. Please quote SGS reference ME301333 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Samples clearly labelled	Yes	Complete documentation received	Yes
Sample container provider	SGS	Sample cooling method	Ice Bricks
Samples received in correct containers	Yes	Sample counts by matrix	64 Soils, 2 Waters
Date documentation received		Type of documentation received	COC
Number of eskies/boxes received	2	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	
Sufficient sample for analysis	Yes	Turnaround time requested	Standard

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

SAMPLE RECEIPT ADVICE

ME301333

CLIENT DETAILS

Client SGS Environmental Traralgon

Project TE107207

SUMMARY OF ANALYSIS

No.	Sample ID	OCP in solids MA-77.SD.01	OCP in water MA-77.WW.01	Surrogates - SVOC in Solids	Surrogates - SVOC in Water
001	GC-LS-SS41	20	-	6	-
002	GC-LS-SS42	20	-	6	-
003	GC-LS-SS43	20	-	6	-
004	GC-LS-SS44	20	-	6	-
005	GC-LS-SS45	20	-	6	-
006	GC-LS-SS46	20	-	6	-
007	RB04	-	19	-	6
008	AC01-ME-SS107	20	-	6	-
009	AC01-ME-SS108	20	-	6	-
010	AC01-ME-SS109	20	-	6	-
011	AC01-ME-SS110	20	-	6	-
012	AC01-ME-SS111	20	-	6	-
013	AC01-WNS-SS112	20	-	6	-
014	AC01-WNS-SS113	20	-	6	-
015	AC01-WNS-SS114	20	-	6	-
016	AC01-WNS-SS115	20	-	6	-
017	AC01-WNS-SS116	20	-	6	-
018	AC01-WNS-SS117	20	-	6	-
019	AC01-WNS-SS118	20	-	6	-
020	AC01-WNS-SS119	20	-	6	-
021	AC01-WNS-SS120	20	-	6	-
022	AC01-WNS-SS121	20	-	6	-
023	QC11	20	-	6	-

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

eurofins | mgt

Certificate of Analysis

Elgin Associates Pty Ltd
Suite 2, 5 Melrose Street
Sandringham
VIC 3191

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: -[redacted]

Report **525861-S**
Project name JN16153
Project ID JN16153
Received Date Dec 01, 2016

Client Sample ID			**QC02**	**QC04**	**QC06**
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**M16-De00525**	**M16-De00526**	**M16-De00527**
Date Sampled			**Nov 29, 2016**	**Nov 30, 2016**	**Nov 30, 2016**
Test/Reference	LOR	Unit			
Organochlorine Pesticides					
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	0.13	0.33	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1	< 1
Dibutylchlorendate (surr.)	1	%	98	100	124
Tetrachloro-m-xylene (surr.)	1	%	89	73	110
% Moisture	1	%	20	25	23

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Organochlorine Pesticides	Melbourne	Dec 02, 2016	14 Day
- Method: USEPA 8081 Organochlorine Pesticides			
% Moisture	Melbourne	Dec 01, 2016	14 Day
- Method: LTM-GEN-7080 Moisture			

ABN– 50 005 085 521
e.mail : EnviroSales@eurofins.com
web : www.eurofins.com.au

Melbourne
2-5 Kingston Town Close
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Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 18217

Company Name: Elgin Associates for POMC
Address: Suite 2, 5 Melrose Street
Sandringham
VIC 3191

Project Name: JN16153
Project ID: JN16153

Order No.:
Report #: 525861
Phone: 03 9015 9677
Fax: 03 8648 6336

Received: Dec 1, 2016 9:40 AM
Due: Dec 8, 2016
Priority: 5 Day
Contact Name: [redacted]

Eurofins | mgt Analytical Services Manager : [redacted]

Sample Detail						Organochlorine Pesticides	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 18217							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	QC02	Nov 29, 2016		Soil	M16-De00525	X	X
2	QC04	Nov 30, 2016		Soil	M16-De00526	X	X
3	QC06	Nov 30, 2016		Soil	M16-De00527	X	X
Test Counts						3	3

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per Kilogram

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Nephelometric Turbidity Units

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs 20-130%

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
4.4'-DDD	%	122			70-130	Pass	
4.4'-DDE	%	103			70-130	Pass	
4.4'-DDT	%	79			70-130	Pass	
a-BHC	%	98			70-130	Pass	
Aldrin	%	111			70-130	Pass	
b-BHC	%	100			70-130	Pass	
d-BHC	%	93			70-130	Pass	
Dieldrin	%	114			70-130	Pass	
Endosulfan I	%	102			70-130	Pass	
Endosulfan II	%	101			70-130	Pass	
Endosulfan sulphate	%	108			70-130	Pass	
Endrin	%	115			70-130	Pass	
Endrin aldehyde	%	90			70-130	Pass	
Endrin ketone	%	103			70-130	Pass	
g-BHC (Lindane)	%	109			70-130	Pass	
Heptachlor	%	95			70-130	Pass	
Heptachlor epoxide	%	108			70-130	Pass	
Hexachlorobenzene	%	97			70-130	Pass	
Methoxychlor	%	100			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M16-No27850	NCP	%	108			70-130	Pass	
4.4'-DDE	M16-No27850	NCP	%	92			70-130	Pass	
4.4'-DDT	M16-No27850	NCP	%	94			70-130	Pass	
a-BHC	M16-No27850	NCP	%	115			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aldrin	M16-No27850	NCP	%	112			70-130	Pass	
b-BHC	M16-No27850	NCP	%	102			70-130	Pass	
d-BHC	M16-No27850	NCP	%	119			70-130	Pass	
Dieldrin	M16-No27850	NCP	%	113			70-130	Pass	
Endosulfan I	M16-No27850	NCP	%	124			70-130	Pass	
Endosulfan II	M16-No27850	NCP	%	95			70-130	Pass	
Endosulfan sulphate	M16-No27850	NCP	%	92			70-130	Pass	
Endrin	M16-No27850	NCP	%	92			70-130	Pass	
Endrin aldehyde	M16-No27850	NCP	%	97			70-130	Pass	
Endrin ketone	M16-No27850	NCP	%	109			70-130	Pass	
g-BHC (Lindane)	M16-No27850	NCP	%	118			70-130	Pass	
Heptachlor	M16-No27850	NCP	%	105			70-130	Pass	
Heptachlor epoxide	M16-No27850	NCP	%	108			70-130	Pass	
Hexachlorobenzene	M16-No27850	NCP	%	112			70-130	Pass	
Methoxychlor	M16-No27850	NCP	%	73			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M16-No27850	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M16-No27850	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M16-No27850	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M16-No27850	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	M16-No27850	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M16-No27850	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	M16-No27850	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	M16-No27850	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M16-No27850	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M16-No27850	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M16-No27850	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M16-No27850	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M16-No27850	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M16-No27850	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M16-No27850	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	M16-No27850	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M16-No27850	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M16-No27850	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M16-No27850	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M16-No27850	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M16-No27850	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M16-De00017	NCP	%	5.9	5.4	10	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised By

[redacted]

Analytical Services Manager
Senior Analyst-Metal (VIC)
Senior Analyst-Organic (VIC)
Senior Analyst-Inorganic (VIC)
Senior Analyst-Organic (VIC)

[redacted]

National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

CHAIN OF CUSTODY DOCUMENTATION

Elgin Associates	SAMPLERS: [redacted]
ADDRESS / OFFICE: **Suite 303, 75 Tulip St, PO Box 322, Sandringham VIC 3191**	MOBILE: [redacted]
PROJECT MANAGER (PM): [redacted]	
PROJECT ID: **JN16153**	EMAIL REPORT TO: [redacted]
SITE: **JN16153** P.O. NO.:	EMAIL INVOICE TO: (if different to report)
RESULTS REQUIRED (Date): **Standard TAT** QUOTE NO:	**ANALYSIS REQUIRED**

Eurofins Environment Testing Pty Ltd,
2/5 Kingston Cl
Oakleigh, VIC 3166
ph: 03 8564 5000

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:
OCP Low Level with LORs of 0.01-0.05 mg/kg

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		Organochlorine Pesticides (Low Level)											
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles												
	QC02	S	29/11/16		J	1	✓											
	QC04	S	30/11/16		J	1	✓											
	QC06	S	30/11/16		J	1	✓											

RELINQUISHED BY:			RECEIVED BY		METHOD OF SHIPMENT
Name: [redacted]	Date: 1/12/16	Name: [redacted]			
Of: Elgin Associates	Time:	Of:			Con' Note No:
Name:	Date: 1000	Name:			
Of:	Time:	Of:			Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

[redacted] 525861

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Oakleigh Vic 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
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Lane Cove West NSW 2066
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NATA # 1261 Site # 20794

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261 Site # 18217

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Sample Receipt Advice

Company name: **Elgin Associates for POMC**

Contact name: -[redacted]
Project name: JN16153
Project ID: JN16153
COC number: Not provided
Turn around time: 5 Day
Date/Time received: Dec 1, 2016 9:40 AM
Eurofins | mgt reference: **525861**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Contact notes

If you have any questions with respect to these samples please contact:

[redacted]

Results will be delivered electronically via e.mail to [redacted]

eurofins | mgt

Certificate of Analysis

Elgin Associates Pty Ltd
Suite 2, 5 Melrose Street
Sandringham
VIC 3191

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: [redacted]

Report	**526608-S**
Project name	JN16153
Project ID	JN16153
Received Date	Dec 06, 2016

Client Sample ID			**QC08**	**QC10**
Sample Matrix			**Soil**	**Soil**
Eurofins | mgt Sample No.			**M16-De06264**	**M16-De06265**
Date Sampled			**Dec 05, 2016**	**Dec 05, 2016**
Test/Reference	LOR	Unit		
Organochlorine Pesticides				
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	< 0.05
Toxaphene	1	mg/kg	< 1	< 1
Dibutylchlorendate (surr.)	1	%	90	94
Tetrachloro-m-xylene (surr.)	1	%	60	62
% Moisture	1	%	8.5	13

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Organochlorine Pesticides	Melbourne	Dec 08, 2016	14 Day
- Method: USEPA 8081 Organochlorine Pesticides			
% Moisture	Melbourne	Dec 07, 2016	14 Day
- Method: LTM-GEN-7080 Moisture			

ABN– 50 005 085 521
e.mail : EnviroSales@eurofins.com
web : www.eurofins.com.au

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 18217

Company Name: Elgin Associates for POMC
Address: Suite 2, 5 Melrose Street
Sandringham
VIC 3191

Project Name: JN16153
Project ID: JN16153

Order No.:
Report #: 526608
Phone: 03 9015 9677
Fax: 03 8648 6336

Received: Dec 6, 2016 1:08 PM
Due: Dec 13, 2016
Priority: 5 Day
Contact Name: [redacted]

Eurofins | mgt Analytical Services Manager : [redacted]

Sample Detail						Organochlorine Pesticides	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 18217							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	QC08	Dec 05, 2016		Soil	M16-De06264	X	X
2	QC10	Dec 05, 2016		Soil	M16-De06265	X	X
Test Counts						2	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per Kilogram

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Nephelometric Turbidity Units

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs 20-130%

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
4.4'-DDD	%	112			70-130	Pass	
4.4'-DDE	%	93			70-130	Pass	
4.4'-DDT	%	79			70-130	Pass	
a-BHC	%	82			70-130	Pass	
Aldrin	%	77			70-130	Pass	
b-BHC	%	82			70-130	Pass	
d-BHC	%	90			70-130	Pass	
Dieldrin	%	91			70-130	Pass	
Endosulfan I	%	89			70-130	Pass	
Endosulfan II	%	92			70-130	Pass	
Endosulfan sulphate	%	98			70-130	Pass	
Endrin	%	85			70-130	Pass	
Endrin aldehyde	%	97			70-130	Pass	
Endrin ketone	%	123			70-130	Pass	
g-BHC (Lindane)	%	83			70-130	Pass	
Heptachlor	%	75			70-130	Pass	
Heptachlor epoxide	%	83			70-130	Pass	
Hexachlorobenzene	%	80			70-130	Pass	
Methoxychlor	%	75			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M16-De06265	CP	%	126			70-130	Pass	
4.4'-DDE	M16-De06265	CP	%	105			70-130	Pass	
4.4'-DDT	M16-De06265	CP	%	88			70-130	Pass	
a-BHC	M16-De06265	CP	%	96			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aldrin	M16-De06265	CP	%	89			70-130	Pass	
b-BHC	M16-De06265	CP	%	99			70-130	Pass	
d-BHC	M16-De06265	CP	%	109			70-130	Pass	
Dieldrin	M16-De06265	CP	%	80			70-130	Pass	
Endosulfan I	M16-De06265	CP	%	103			70-130	Pass	
Endosulfan II	M16-De06265	CP	%	104			70-130	Pass	
Endosulfan sulphate	M16-De06265	CP	%	115			70-130	Pass	
Endrin	M16-De06265	CP	%	112			70-130	Pass	
Endrin aldehyde	M16-De06265	CP	%	108			70-130	Pass	
Endrin ketone	M16-De06265	CP	%	128			70-130	Pass	
g-BHC (Lindane)	M16-De06265	CP	%	97			70-130	Pass	
Heptachlor	M16-De06265	CP	%	88			70-130	Pass	
Heptachlor epoxide	M16-De06265	CP	%	97			70-130	Pass	
Hexachlorobenzene	M16-De06265	CP	%	92			70-130	Pass	
Methoxychlor	M16-De06265	CP	%	107			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M16-De06264	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M16-De06264	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M16-De06264	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M16-De06264	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	M16-De06264	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M16-De06264	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	M16-De06264	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	M16-De06264	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M16-De06264	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M16-De06264	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M16-De06264	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M16-De06264	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M16-De06264	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M16-De06264	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M16-De06264	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	M16-De06264	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M16-De06264	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M16-De06264	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M16-De06264	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M16-De06264	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M16-De06264	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M16-De06120	NCP	%	4.3	5.0	15	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised By

[redacted]

Analytical Services Manager
Senior Analyst-Metal (VIC)
Senior Analyst-Organic (VIC)
Senior Analyst-Organic (VIC)
Senior Analyst-Inorganic (VIC)

[redacted]

National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

CHAIN OF CUSTODY DOCUMENTATION

Elgin Associates

ADDRESS / OFFICE: **Suite 303, 75 Tulip St, PO Box 322, Sandringham VIC 3191**

PROJECT MANAGER (PM): [redacted]

PROJECT ID: **JN16153**

SITE: **JN16153** P.O. NO.:

RESULTS REQUIRED (Date): **Standard TAT** QUOTE NO:

SAMPLERS: [redacted]

MOBILE: [redacted]

EMAIL REPORT TO: [redacted]

EMAIL INVOICE TO: (if different to report)

Eurofins Environment Testing Pty Ltd,
2/5 Kingston Cl
Oakleigh, VIC 3166
ph: 03 8564 5000

FOR LABORATORY USE ONLY

COOLER SEAL (circle appropriate)

Intact: Yes No N/A

SAMPLE TEMPERATURE

CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

OCP Low Level with LORs of 0.01-0.05 mg/kg

ANALYSIS REQUIRED

SAMPLE INFORMATION (note: S = Soil, W=Water) | CONTAINER INFORMATION

LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	Organochlorine Pesticides (Low Level)											
	QC08	S	5/12/16		J	1	✓											
	QC10	S	5/12/16		J	1	✓											

RELINQUISHED BY:

Name: [redacted]	Date: 6/12/16	Name: [redacted]	Date: 6/12/16
Of: Elgin Associates	Time: 1310	Of: [redacted]	Time: 4:05 PM.
Name:	Date:	Name: [redacted]	Date: 6/12/16
Of:	Time:	Of: [redacted]	Time: 1:08 pm

METHOD OF SHIPMENT

Con' Note No:

Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

526607

eurofins | mgt

Melbourne
3-5 Kingston Town Close
Oakleigh Vic 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
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Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261 Site # 18217

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Sample Receipt Advice

Company name: **Elgin Associates for POMC**

Contact name: [redacted]
Project name: JN16153
Project ID: JN16153
COC number: Not provided
Turn around time: 5 Day
Date/Time received: Dec 6, 2016 1:08 PM
Eurofins | mgt reference: **526608**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Contact notes

If you have any questions with respect to these samples please contact:

[redacted]

Results will be delivered electronically via e.mail to [redacted]

eurofins | mgt

Certificate of Analysis

Elgin Associates Pty Ltd
Suite 2, 5 Melrose Street
Sandringham
VIC 3191

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: [redacted]

Report **526838-S**
Project name
Project ID JN16153
Received Date Dec 07, 2016

Client Sample ID			**QC12**
Sample Matrix			**Soil**
Eurofins | mgt Sample No.			**M16-De07875**
Date Sampled			**Dec 07, 2016**
Test/Reference	LOR	Unit	
Organochlorine Pesticides			
Chlordanes - Total	0.1	mg/kg	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05
a-BHC	0.05	mg/kg	< 0.05
Aldrin	0.05	mg/kg	< 0.05
b-BHC	0.05	mg/kg	< 0.05
d-BHC	0.05	mg/kg	< 0.05
Dieldrin	0.05	mg/kg	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05
Endrin	0.05	mg/kg	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05
Heptachlor	0.05	mg/kg	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05
Toxaphene	1	mg/kg	< 1
Dibutylchlorendate (surr.)	1	%	108
Tetrachloro-m-xylene (surr.)	1	%	109
% Moisture	1	%	39

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Organochlorine Pesticides	Melbourne	Dec 09, 2016	14 Day
- Method: USEPA 8081 Organochlorine Pesticides			
% Moisture	Melbourne	Dec 08, 2016	14 Day
- Method: LTM-GEN-7080 Moisture			

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ABN– 50 005 085 521
e.mail : EnviroSales@eurofins.com
web : www.eurofins.com.au

Melbourne
2-5 Kingston Town Close
Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
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Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 18217

Company Name: Elgin Associates for POMC
Address: Suite 2, 5 Melrose Street
Sandringham
VIC 3191

Project Name:
Project ID: JN16153

Order No.:
Report #: 526838
Phone: 03 9015 9677
Fax: 03 8648 6336

Received: Dec 7, 2016 3:20 PM
Due: Dec 14, 2016
Priority: 5 Day
Contact Name: [redacted]

Eurofins | mgt Analytical Services Manager : [redacted]

Sample Detail						Organochlorine Pesticides	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 18217							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	QC12	Dec 07, 2016		Soil	M16-De07875	X	X
Test Counts						1	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
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3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per Kilogram

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Nephelometric Turbidity Units

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 50-150%-Phenols & PFASs 20-130%

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
4.4'-DDD	%	126			70-130	Pass	
4.4'-DDE	%	117			70-130	Pass	
4.4'-DDT	%	115			70-130	Pass	
a-BHC	%	122			70-130	Pass	
Aldrin	%	120			70-130	Pass	
b-BHC	%	116			70-130	Pass	
d-BHC	%	124			70-130	Pass	
Dieldrin	%	125			70-130	Pass	
Endosulfan I	%	121			70-130	Pass	
Endosulfan II	%	112			70-130	Pass	
Endosulfan sulphate	%	128			70-130	Pass	
Endrin	%	115			70-130	Pass	
Endrin aldehyde	%	118			70-130	Pass	
Endrin ketone	%	120			70-130	Pass	
g-BHC (Lindane)	%	120			70-130	Pass	
Heptachlor	%	118			70-130	Pass	
Heptachlor epoxide	%	127			70-130	Pass	
Hexachlorobenzene	%	121			70-130	Pass	
Methoxychlor	%	117			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M16-De07493	NCP	%	116			70-130	Pass	
4.4'-DDE	M16-De07493	NCP	%	102			70-130	Pass	
4.4'-DDT	M16-De07493	NCP	%	99			70-130	Pass	
a-BHC	M16-De07493	NCP	%	100			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aldrin	M16-De07493	NCP	%	97			70-130	Pass	
b-BHC	M16-De07493	NCP	%	93			70-130	Pass	
d-BHC	M16-De07493	NCP	%	111			70-130	Pass	
Dieldrin	M16-De07493	NCP	%	106			70-130	Pass	
Endosulfan I	M16-De07493	NCP	%	99			70-130	Pass	
Endosulfan II	M16-De07493	NCP	%	98			70-130	Pass	
Endosulfan sulphate	M16-De07493	NCP	%	105			70-130	Pass	
Endrin	M16-De07493	NCP	%	118			70-130	Pass	
Endrin aldehyde	M16-De07493	NCP	%	97			70-130	Pass	
Endrin ketone	M16-De07493	NCP	%	115			70-130	Pass	
g-BHC (Lindane)	M16-De07493	NCP	%	100			70-130	Pass	
Heptachlor	M16-De07493	NCP	%	100			70-130	Pass	
Heptachlor epoxide	M16-De07493	NCP	%	98			70-130	Pass	
Hexachlorobenzene	M16-De07493	NCP	%	95			70-130	Pass	
Methoxychlor	M16-De07493	NCP	%	117			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M16-De07491	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M16-De07491	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M16-De07491	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M16-De07491	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	M16-De07491	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M16-De07491	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	M16-De07491	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	M16-De07491	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M16-De07491	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M16-De07491	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M16-De07491	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M16-De07491	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M16-De07491	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M16-De07491	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M16-De07491	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	M16-De07491	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M16-De07491	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M16-De07491	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M16-De07491	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M16-De07491	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M16-De07491	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M16-De07675	NCP	%	< 1	< 1	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised By

[redacted]

Analytical Services Manager
Senior Analyst-Metal (VIC)
Senior Analyst-Organic (VIC)
Senior Analyst-Organic (VIC)
Senior Analyst-Inorganic (VIC)

National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

CHAIN OF CUSTODY DOCUMENTATION

Elgin Associates

ADDRESS / OFFICE: **Suite 303, 75 Tulip St, PO Box 322, Sandringham VIC 3191**

PROJECT MANAGER (PM): [redacted]

PROJECT ID: **JN16153**

SITE: **JN16153** P.O. NO.:

RESULTS REQUIRED (Date): **Standard TAT** QUOTE NO.:

SAMPLERS: [redacted]

MOBILE: [redacted]

EMAIL REPORT TO: [redacted]

EMAIL INVOICE TO: (if different to report)

Eurofins Environment Testing
Pty Ltd,
2/5 Kingston Cl
Oakleigh, VIC 3166
ph: 03 8564 5000

FOR LABORATORY USE ONLY

COOLER SEAL (circle appropriate)

Intact: Yes No N/A

SAMPLE TEMPERATURE

CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

OCP Low Level with LORs of 0.01-0.05 mg/kg

ANALYSIS REQUIRED

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		Organochlorine Pesticides (Low Level)										
LAB ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles											
	QC12	S	7/12/16		G	1	✓										

RELINQUISHED BY:				RECEIVED BY				METHOD OF SHIPMENT
Name:	[redacted]	Date:	7/12/16	Name:	[redacted]		7/12/16	Con' Note No:
Of: Elgin Associates		Time:	1520	Of:			3:20pm	
Name:		Date:		Name:				Transport Co:
Of:		Time:		Of:	GE			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag

526838

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Site # 1254 & 14271

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NATA # 1261 Site # 18217

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Sample Receipt Advice

Company name: **Elgin Associates for POMC**

Contact name: -[redacted]
Project name: JN16153
Project ID: JN16153
COC number: Not provided
Turn around time: 5 Day
Date/Time received: Dec 7, 2016 3:20 PM
Eurofins | mgt reference: **526838**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Contact notes

If you have any questions with respect to these samples please contact:

[redacted]

Results will be delivered electronically via e.mail to [redacted]