



**Soil Contamination
Assessment
for
Lot 1 DP167380,
Lot 2 DP961928,
Lot 1 DP134787,
Walmsleys Road,
Bilambil Heights.**

Prepared for
**Martin Findlater & Associates
Pty Ltd**

September, 2003

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Also at Kawana and Ballina

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1. Introduction

1.1 Background

Gilbert and Sutherland Pty Ltd (G&S) was commissioned by Martin Findlater and Associates Pty Ltd, to conduct a Soil Contamination Assessment within a defined area of land situated across three properties as listed in Table 1.1.1 below. It is envisaged the site will be developed to form part of the 2(c) residential zone of a proposed subdivision. The currently vacant site is located at Walmsleys Road, Bilambil Heights, New South Wales as shown on Drawing Number GJ0309.1.1

Table 1.1.1 List of properties investigated for soil chemical residues.

Lot	DP	Owner
1	167380	Walmsley, P.
2	961928	Walmsley, P.
1	134787	Walmsley, P.
Total investigation area within the proposed 2(c) residential zone is approximately 6.4ha		

1.2 Site history and assessment guidelines

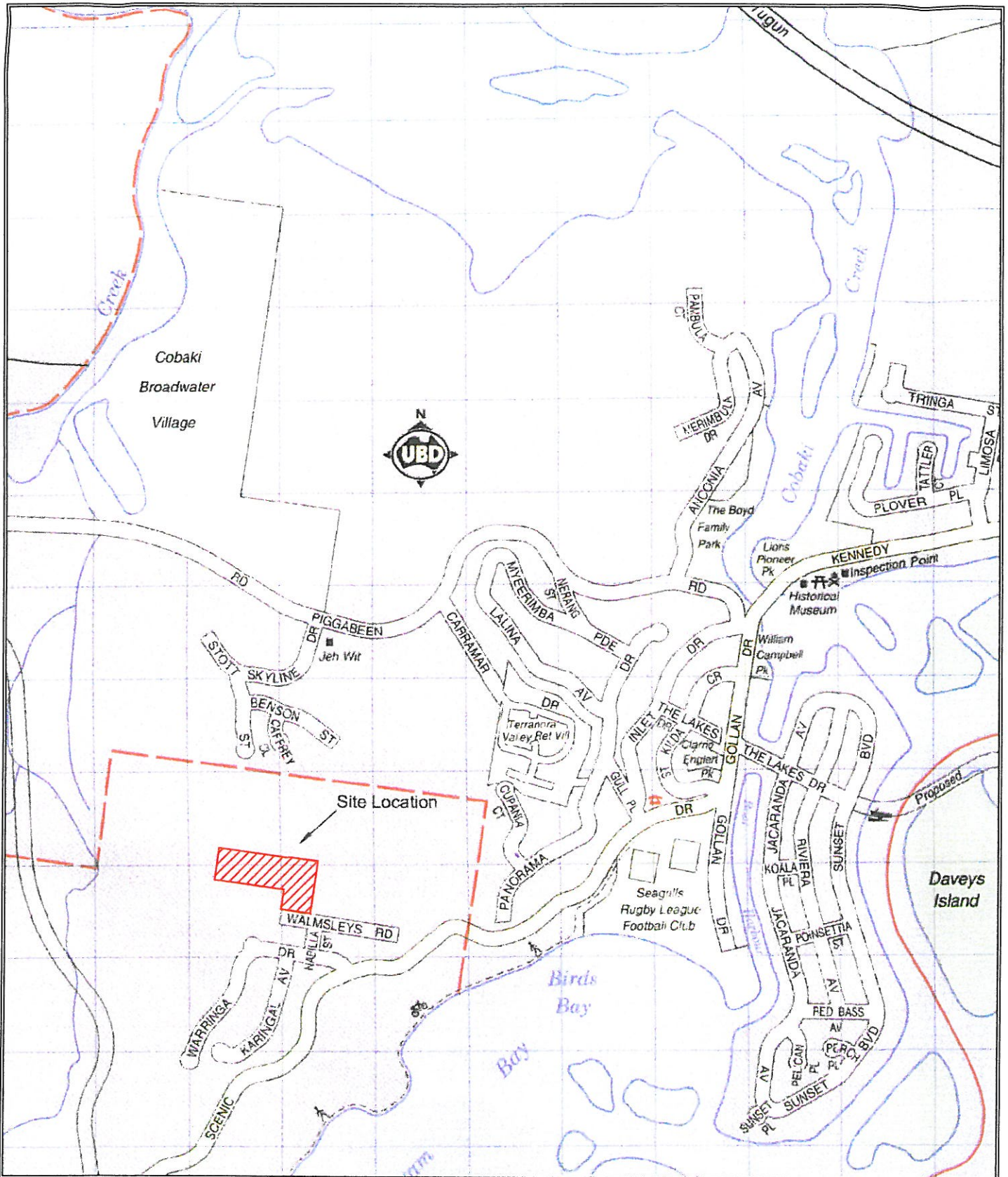
The background and site history made available to Gilbert and Sutherland staff was limited. The subject properties are rural zoned, however to cater for urban expansion within the area, future residential development of the above properties is proposed. It is understood that parts of these properties have been historically used for agricultural purposes. These purposes may have included light grazing as well as areas of cropping or horticultural plantations such as bananas. Passionfruit plantations were observed on neighbouring properties during contamination sampling undertaken by G&S. Therefore, the present assessment was conducted in accordance with the following guidelines:

- Guidelines for Consultants Reporting on Contaminated Sites (NSW EPA 2000),
- Guidelines for Assessing Banana Plantation Sites (NSW EPA 1997),
- Contaminated Sites Sampling Design Guidelines (NSW EPA 1995),
- Assessment of Orchard and Market Garden Contaminated Sites Discussion Paper (NSW EPA 1995), and
- Guideline on the Investigation Levels for Soil and Groundwater, Schedule B (1), National Environment Protection Council.

1.3 Scope of works

The following scope of works was conducted by Gilbert and Sutherland:

- identify potential contamination types;
- discuss the site condition;
- provide an assessment of the site contamination and;
- determine the need for further investigations.



Gilbert & Sutherland

Specialist Soil and Water Scientists

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PROJECT

SITE LOCATION

PROPOSED SUBDIVISION OF LOT 1 IN DP 167380, LOT 2 IN DP 961928 & LOT 1 IN DP 134787

WALMSLEYS ROAD

BILAMBIL HEIGHTS, TERRANORA

Source: Brisbane UBD 43rd Edition

FIGURED DIMENSIONS TO BE READ IN PREFERENCE TO SCALING.

APPROVED

DRAWN C.M.A.

DRAWING No.

DATE 26.09.03

CHECKED

GJ0309.1.1

2. Historical use of chemicals

Historically, a varied array of chemicals have known to be applied to many agricultural lands and given the nature and often extensive use of such chemicals, there is reason to suspect that trace amounts of these chemicals may still be present in the soil. Some of these chemicals are known to persist in the environment whilst others have little or no residual affect within the soil. Given that the majority of the modern agricultural chemicals are not persistent in the environment and the use of the more persistent chemicals has been restricted or prohibited since the mid 1980's, it is unlikely that high residual contamination would be found throughout any given site. However, the presence of contamination "hot spots" may result from spillage of chemicals within storage and mixing areas, mixing at higher concentrations than recommended by manufacturer's specifications or incorrect application methods.

Brief descriptions of chemical residues most commonly found on agricultural lands are listed below:

Organochlorine pesticides (OC's)

- were first introduced in agriculture during the Second World War,
- have been used extensively in NSW i.e. small cropping and banana plantations,
- are stable against decomposition or degradation in the environment,
- have very low solubility in water and have high solubility in hydrocarbon-like environments, and
- have a relatively high toxicity to insects but low toxicity to humans.

Organophosphate pesticides (OP's)

- are generally non-persistent in the environment,
- generally decompose within days or weeks of application and thus are seldom found in food chains,
- are more acutely toxic to humans than OC's, and
- exposure to OP's is typically percutaneous or by inhalation.

Arsenic (As)

- compounds of arsenic are used in weedicides, termiticides and pesticides,
- is a known carcinogen in humans, and
- was replaced by OC's & OP's in the 1950's and 1960's, however is still in limited use today.

Cadmium (Cd)

- is a highly toxic, non-essential element with no known biological function,
- is an impurity in some phosphate fertilizers, and
- is bioavailable in soils.

Copper (Cu)

- is a constituent of many agricultural pesticides and fertilizers,
- is known to cause mucosal irritation of the eyes, and
- may in some instances cause pruritic dermatitis and allergic contact dermatitis in humans.

Lead (Pb)

- is a non-essential element with no known biological function,
- is comparatively less toxic and bioavailable than other heavy metals,
- was historically applied in agriculture via the compound lead arsenate $Pb_3(AsO_4)_2$.

Mercury (Hg)

- is a non-essential element with no known biological function,
- was used (alkyl-Hg's) to prevent fungal disease in germinating seeds resulting in the addition of large amounts of Hg to soils,
- is a potent neurotoxin causing serious damage to the central nervous system.

Zinc (Zn)

- is a component and impurity in many agricultural fertilizers, and
- is commonly used as a rodenticide and pesticide.

3. Site description

3.1 Investigation area

As earlier noted, three adjacent properties were identified as being relevant to the present investigation. The properties are bound to the east by existing and under construction residential development, to the north by under construction residential developments and an existing passionfruit plantation, and to the west by remnant vegetation. The southern boundary runs parallel to Walmsleys road which ends at a residential dwelling forming the south western boundary.

The investigation area was defined as the area of land from these three properties falling within the proposed 2(c) residential zone. Any other land which fell outside the boundaries of the proposed zone was excluded. The investigation area included approximately 6.4 hectares of land as shown on Drawing GJ0309.1.2.

3.2 Geology and soils

Based on samples recovered from 0.0 to 0.15m depth and observations made during the contamination sampling regime, the predominant soil type encountered across the majority of properties was ferrosol. Ferrosols have B2 horizons which are high in free iron oxide and lack a strong texture contrast between A and B horizons. These soils are widely recognised and utilised agriculturally due to their favourable physical properties, Isbell (1996)¹.

3.3 Topography and drainage

The site is characterized by an approximately 50m wide, relatively flat (5° - 8°) ridge running north south through the middle of the investigation area and also east along the site northern boundary. The layout of Lot 1 (on DP134787) generally follows this ridge and constitutes the road reserve separating Lot 1 (on DP167380) and Lot 2 (on DP961928). Falling away from the ridge towards the western boundary, the slope increases from moderately (10° - 18°) to steeply (26° - 30°) inclined. Falling away from the ridge towards the eastern boundary, the slope is moderately (10° - 18°) inclined, McDonald, R. C. *et al* (1984)². Two stockpiles of topsoil material were also present on the site.

Runoff from Lot 1 (in DP167380) would flow towards the east, while runoff from Lot 2 (in DP961928) would drain to the west and south west.

¹ Isbell, R. F. (1996) *The Australian Soil Classification*. CSIRO.

² McDonald R C, Isbell R F, Speight J G, Walker J & Hopkins M S. (1984) *Australian Soil and Land Survey Field Handbook*, Second Edition 1990, Inkata Press Pty Ltd

3.4 Vegetation

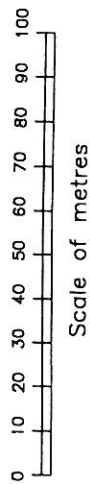
Historical clearing of native vegetation for the purpose of primary production is evident across much of the investigation area, particularly in Lot 1 (on DP167380), on flatter land atop the ridge in Lot 1 (on DP134787) and adjacent to the northern boundary of Lot 2 (on DP961928). More recent clearing is apparent on steep land in the south west of Lot 2 (on DP961928) with surface stones and boulders being stockpiled along the boundary of the proposed 2(c) residential zone. There is also evidence of a burn pit in the gully of Lot 2 (on DP961928). Remnant vegetation is still evident to the west of the site beyond the boundary of the proposed 2(c) residential zone.

Presently, most of the investigation area is dominated by adequate grass cover which had been recently slashed to <0.15m at the time of field sampling.

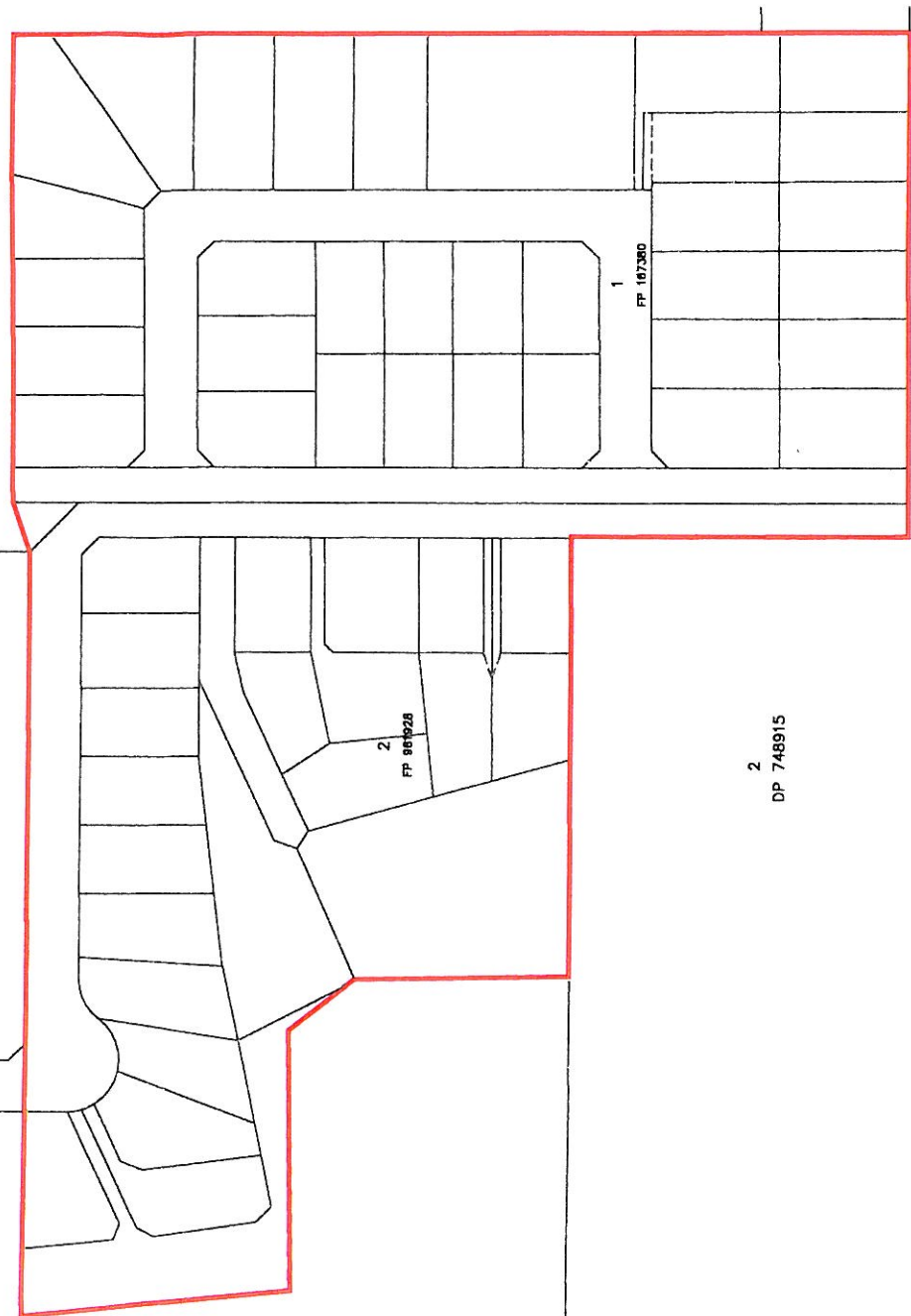


Legend

— Investigation Area



Scale of metres



WALMSLEYS ROAD
DP 776309
DP 748915
DP 167380
DP 861928
DP 208600

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PROJECT

SITE LAYOUT & INVESTIGATION AREA

PROPOSED SUBDIVISION OF LOT 1 IN DP 167380, LOT 2 IN DP 961928 & LOT 1 IN DP 134787

WALMSLEYS ROAD

BILAMBIL HEIGHTS, TERRANORA

FIGURED DIMENSIONS TO BE READ IN PREFERENCE TO SCALING.

APPROVED

SCALE AS SHOWN

DRAWN C.M.A

DRAWING No.

GJ0309.1.2

DATE 26.09.03

4. Subsurface investigation

4.1 Fieldwork

Systematic sampling was conducted across the investigation area by experienced environmental scientists. All soil samples were collected from 0.0 – 0.15m depth near surface level (NSL) using a 60mm diameter push tube sampler. The sampler was washed thoroughly with Extran MA03 cleaner and re-rinsed in water prior to consecutive uses to prevent cross contamination. Ninety six (96) soil sub-samples were recovered from the investigation area as well as an additional total of sixteen (16) sub-samples from two on-site topsoil stockpiles. All sample locations are shown on Drawing Number GJ0309.1.3.

Upon recovery, samples were stored in an ice-filled insulated container and placed out of direct sunlight. The samples were composited by combining equal quantities of four (4) samples to form one (1) composite sample prior to being sent for laboratory analysis. Therefore, a total of twenty four composite samples (C1 – C24) from the site proper and an additional four composite samples (C25 – C28) from the two on-site topsoil stockpiles were formed.

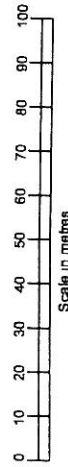
4.2 Laboratory analysis

All composite samples were analysed by Australian Laboratory Services (ALS) for organochlorine and organophosphate pesticides, arsenic, cadmium, copper, lead, mercury and zinc. ALS is located at 32 Shand Street, Stafford, Brisbane, Queensland and is a National Association of Testing Authorities, Australia (NATA) registered laboratory.



Legend

— Stockpiled Material



WALMSLEYS ROAD

87 DP 776309 81 DP 776309 83 DP 776309 2 DP 206800

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PROJECT

SUB-SAMPLE LOCATIONS

PROPOSED SUBDIVISION OF LOT 1 IN DP 167380, LOT
2 IN DP 961928 & LOT 1 IN DP 134787

WALMSLEYS ROAD

BILAMBIL HEIGHTS, TERRANORA

FIGURED DIMENSIONS TO
BE READ IN PREFERENCE
TO SCALING.

APPROVED

SCALE AS SHOWN
DATE 26.09.03

DRAWN C.M.A.

DRAWING No.

GJ0309.1.3

5. Results

5.1 Soil investigation trigger levels

The National Environment Protection Council (NEPC), Level A, Health Investigation Levels (HIL's) for frequently occurring substances is shown in Table 5.1.1 below. Consideration must be given to the future use of areas within the subject properties where results are found to exceed one or more of the HIL's. As composites were formed by combining equal amounts of four (4) sub samples, HIL's were adjusted for composite sampling by dividing by four (4).

Table 5.1.1 The NEPM HIL's for frequently occurring substances (mg/kg).

Analyte	Background ranges	HIL's (mg/kg)	HIL's adjusted for composite sampling
Metals/Metalloids			
Arsenic	1 - 50	100	25
Cadmium	1	20	5
Copper	2 - 100	1000	250
Lead	1 - 200	300	75
Zinc	10 - 300	7000	1750
Mercury (inorganic)	0.03	15	3.75
Organics			
Aldrin + Dieldrin (A+D)	-	10	2.5
Chlordane	-	50	12.5
DDT + DDD + DDE	-	200	50

Summaries of analytical results for the present investigation are shown in Table 5.1.2 below with results exceeding HIL's shown in bold. Laboratory certificates are attached in Appendix 1.

Table 5.1.2. Summary of analytical results

Composite (Sample) no.	As	Cd	Cu	Pb	Zn	Hg	Aldrin + Dieldrin	Chlordane	DDT + DDD + DDE
C1 (S1,S2,S3,S4)	9	<1	19	20	86	<0.1	<0.1	<0.1	<0.3
C2 (S5,S6,S7,S8)	10	<1	16	8	52	0.2	<0.1	<0.1	<0.3
C3 (S9,S10,S11,S12)	11	<1	19	7	73	0.1	<0.1	<0.1	<0.3
C4 (S13,S14,S15,S16)	8	<1	21	6	50	0.1	<0.1	<0.1	<0.3
C5 (S17,S18,S19,S20)	10	<1	19	9	66	<0.1	<0.1	<0.1	<0.3
C6 (S21,S22,S23,S24)	9	<1	28	8	51	0.1	<0.1	<0.1	<0.3
C7 (S25,S26,S27,S28)	5	<1	32	10	60	<0.1	<0.1	<0.1	<0.3
C8 (S29,S30,S31,S32)	11	<1	31	8	54	0.1	<0.1	<0.1	<0.3
C9 (S33,S34,S35,S36)	10	<1	19	9	45	<0.1	<0.1	<0.1	<0.3
C10 (S37,S38,S39,S40)	8	<1	21	7	68	<0.1	<0.1	<0.1	<0.3
C11 (S41,S42,S43,S44)	9	<1	19	7	55	<0.1	<0.1	<0.1	<0.3
C12 (S45,S46,S47,S48)	2	<1	24	8	53	0.1	<0.1	<0.1	<0.3
C13 (S49,S50,S51,S52)	4	<1	16	7	52	<0.1	<0.1	<0.1	<0.3
C14 (S53,S54,S55,S56)	15	<1	17	8	92	0.1	<0.1	<0.1	<0.3
C15 (S57,S58,S59,S60)	10	<1	20	7	98	<0.1	<0.1	<0.1	<0.3
C16 (S61,S62,S63,S64)	8	<1	17	4	65	<0.1	<0.1	<0.1	<0.3
C17 (S65,S66,S67,S68)	9	<1	18	5	64	<0.1	<0.1	<0.1	<0.3
C18 (S69,S70,S71,S72)	7	<1	13	5	53	<0.1	<0.1	<0.1	<0.3

Composite (Sample) no.	As	Cd	Cu	Pb	Zn	Hg	Aldrin + Dieldrin	Chlordane	DDT + DDD + DDE
C19 (S73,S74,S75,S76)	8	<1	19	8	50	0.1	<0.1	<0.1	<0.3
C20 (S77,S78,S79,S80)	7	<1	30	11	104	<0.1	<0.1	<0.1	<0.3
C21 (S81,S82,S83,S84)	10	<1	27	8	60	<0.1	<0.1	<0.1	<0.3
C22 (S85,S86,S87,S88)	8	<1	13	5	32	<0.1	<0.1	<0.1	<0.3
C23 (S89,S90,S91,S92)	7	<1	11	6	37	<0.1	<0.1	<0.1	<0.3
C24 (S93,S94,S95,S96)	8	<1	11	5	31	<0.1	<0.1	<0.1	<0.3
C25 (S97,S98,S99,S100)	7	<1	14	4	105	0.4	<0.1	<0.1	<0.3
C26 (S101,S102,S103,S104)	8	<1	13	4	90	0.3	<0.1	<0.1	<0.3
C27 (S105,S106,S107,S108)	9	<1	44	7	97	<0.1	<0.1	<0.1	<0.3
C28 (S109,S110,S111,S112)	8	<1	13	4	108	0.2	<0.1	<0.1	<0.3
Mean	8	<1	20	7	66	0.2	<0.1	<0.1	<0.3

The concentrations of arsenic, cadmium, copper, lead, zinc, mercury, and organochlorine compounds were below the adjusted HIL levels within all twenty four (24) composite samples analysed from the site proper. Additionally, concentrations of all analytes in the four composite samples recovered from the two (2) on-site topsoil stockpiles were also were below adjusted HIL levels.

6. Conclusions and recommendations

This Soil Contamination Assessment examined the occurrence and concentration of arsenic, cadmium, copper, lead, zinc, mercury, and organochlorine compounds in the natural surface soils of the investigation area. The results conclude that, of these potentially contaminating substances, none are present in concentrations exceeding the NEPC's Level A, Health Investigation Levels for frequently occurring substances.

Based on this finding, Gilbert and Sutherland consider that no additional sampling or analysis is required. In relation to soil contamination issues, we consider that the site is suitable for the proposed residential development.

Appendix 1. Laboratory certificates



CERTIFICATE OF ANALYSIS

CONTACT: MR J ULYATE
CLIENT: GILBERT & SUTHERLAND PTY LTD
ADDRESS:
P O BOX 4115
ROBINA QLD 4230
ORDER No.: GJ0309-1
PROJECT:

BATCH: EB57868
SUB BATCH: 0
LABORATORY: BRISBANE
DATE RECEIVED: 26/08/2003
DATE COMPLETED: 02/09/2003
SAMPLE TYPE: SOIL
No. of SAMPLES: 3

COMMENTS

Results apply to sample(s) as submitted.

NOTES

This is the Final Report and supersedes any preliminary reports with this batch number.
All pages of this report have been checked and approved for release.

ISSUING LABORATORY: BRISBANE

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Signatory

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Sydney
Newcastle
Auckland

Hong Kong
Singapore
Kuala Lumpur
Bogor
Mumbai

AMERICAS

Vancouver
Santiago
Antofagasta
Lima



NATA Accredited Laboratory Number 825

Site: BRISBANE

This Laboratory is accredited by the National Association of Testing Authorities, Australia. The test(s) reported herein have been performed in accordance with its terms of accreditation. This document shall not be reproduced, except in full.

Batch: EB57868
 Sub Batch: 0
 Date of Issue: 02/09/2003
 Client: GILBERT & SUTHERLAND PTY LTD
 Client Reference:

CERTIFICATE OF ANALYSIS



		SAMPLE IDENTIFICATION									
		Laboratory I.D.		1		2		3			
		Date Sampled		22/08/2003		22/08/2003		22/08/2003			
		UNIT		LOR		C7		C12		C13	
METHOD	ANALYSIS DESCRIPTION										
EA-055	Moisture Content (dried @ 103°C)			0.1		23.5		27.0		27.5	
EG-005T	Arsenic - Total	mg/kg		1		5		2		4	
EG-005T	Cadmium - Total	mg/kg		1		<1		<1		<1	
EG-005T	Copper - Total	mg/kg		1		32		24		16	
EG-005T	Lead - Total	mg/kg		1		10		8		7	
EG-005T	Zinc - Total	mg/kg		1		60		53		52	
EG-035T	Mercury - Total	mg/kg		0.1		<0.1		0.1		<0.1	

Batch: EB57868

Sub Batch: 0

Date of Issue: 02/09/2003

Client: GILBERT & SUTHERLAND PTY LTD

Client Reference:

QUALITY CONTRC_ REPORT



SAMPLE IDENTIFICATION									
Laboratory I.D.		200	201						
Date Sampled		26/08/2003	26/08/2003						
UNIT		LOR	Method Blank 1	Inorg 1	LCS % Rec				
METHOD		ANALYSIS DESCRIPTION							
CHECKS AND SPIKES									
EA-055	Moisture Content (dried @ 103°C)		%	0.1					
EG-005T	Arsenic - Total		mg/kg	1	----	----			
EG-005T	Cadmium - Total		mg/kg	1	<1	96.0%			
EG-005T	Copper - Total		mg/kg	1	<1	94.0%			
EG-005T	Lead - Total		mg/kg	1	<1	100%			
EG-005T	Zinc - Total		mg/kg	1	<1	96.0%			
EG-035T	Mercury - Total		mg/kg	0.1	<1	97.0%			
					<0.1	95.0%			



CERTIFICATE OF ANALYSIS

CONTACT: MR J ULYATE
CLIENT: GILBERT & SUTHERLAND PTY LTD
ADDRESS:
P O BOX 4115
ROBINA QLD 4230
ORDER No.: GJ0309-1
PROJECT:

BATCH: EB57868
SUB BATCH: 1
LABORATORY: BRISBANE
DATE RECEIVED: 26/08/2003
DATE COMPLETED: 02/09/2003
SAMPLE TYPE: SOIL
No. of SAMPLES: 3

COMMENTS

Results apply to sample(s) as submitted. Samples analysed on an as received basis. Results reported on a dry weight basis.

NOTES

This is the Final Report and supersedes any preliminary reports with this batch number. All pages of this report have been checked and approved for release.

ISSUING LABORATORY: BRISBANE

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Signatory

LABORATORIES

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Sydney
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Auckland

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Kuala Lumpur
Bogor
Mumbai

AMERICAS

Vancouver
Santiago
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NATA Accredited Laboratory Number 825

Site: BRISBANE

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Batch: EB57868
Sub Batch: 1
Date of Issue: 02/09/2003
Client: GILBERT & SUTHERLAND PTY LTD
Client Reference:

CERTIFICATE OF ANALYSIS



METHOD	ANALYSIS DESCRIPTION	Laboratory I.D.		SAMPLE IDENTIFICATION			
		Date Sampled	LOR	1	2	3	
		UNIT		C7	C12	C13	
EA-055	Moisture Content (dried @ 103°C)	%	0.1	23.5	27.0	27.5	
EP-068A-SS	ORGANOCHLORINE PESTICIDES						
EP-068A-SS	alpha-BHC	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068A-SS	HCB	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068A-SS	beta-BHC & gamma-BHC	mg/kg	0.1	<0.1	<0.1	<0.1	
EP-068A-SS	delta-BHC	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068A-SS	Heptachlor	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068A-SS	Aldrin	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068A-SS	Heptachlor epoxide	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068A-SS	Chlordane - trans	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068A-SS	Endosulfan 1	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068A-SS	Chlordane - cis	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068A-SS	Dieldrin	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068A-SS	DDE	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068A-SS	Endrin	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068A-SS	Endosulfan 2	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068A-SS	DDD	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068A-SS	Endrin aldehyde	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068A-SS	Endosulfan sulfate	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068A-SS	DDT	mg/kg	0.2	<0.2	<0.2	<0.2	
EP-068A-SS	Endrin ketone	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068A-SS	Methoxychlor	mg/kg	0.2	<0.2	<0.2	<0.2	
EP-068B-SS	ORGANOPHOSPHORUS PESTICIDES						
EP-068B-SS	Dichlorvos	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Demeton-S-methyl	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Monocrotophos	mg/kg	0.2	<0.2	<0.2	<0.2	
EP-068B-SS	Dimethoate	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Diazinon	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Chlorpyrifos-methyl	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Parathion-methyl	mg/kg	0.2	<0.2	<0.2	<0.2	
EP-068B-SS	Malathion	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Fenitrothion	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Chlorpyrifos	mg/kg	0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Parathion	mg/kg	0.2	<0.2	<0.2	<0.2	

Batch: EB57868
Sub Batch: 1
Date of Issue: 02/09/2003
Client: GILBERT & SUTHERLAND PTY LTD
Client Reference:

CERTIFICATE OF ANALYSIS



		Laboratory I.D.			SAMPLE IDENTIFICATION				
		Date Sampled	1	2	3				
		UNIT	C7	C12	C13				
METHOD	ANALYSIS DESCRIPTION								
EP-068B-SS	Pirimphos-ethyl	mg/kg	<0.05	<0.05	<0.05				
EP-068B-SS	Chlorfenvinphos E	mg/kg	<0.05	<0.05	<0.05				
EP-068B-SS	Chlorfenvinphos Z	mg/kg	<0.05	<0.05	<0.05				
EP-068B-SS	Bromophos-ethyl	mg/kg	<0.05	<0.05	<0.05				
EP-068B-SS	Fenamiphos	mg/kg	<0.05	<0.05	<0.05				
EP-068B-SS	Prothiofos	mg/kg	<0.05	<0.05	<0.05				
EP-068B-SS	Ethion	mg/kg	<0.05	<0.05	<0.05				
EP-068B-SS	Carbophenothion	mg/kg	<0.05	<0.05	<0.05				
EP-068B-SS	Azinphos-methyl	mg/kg	<0.05	<0.05	<0.05				
EP-068S-SS	ORGANOCHLORINE PESTICIDE SURROGATE								
EP-068S-SS	Dibromo-DDE	%	110	97	121				
EP-068T-SS	ORGANOPHOSPHORUS PESTICIDE SURROGATE								
EP-068T-SS	DEF	%	104	97	104				

Batch: EB57868

Sub Batch: 1

Date of Issue: 02/09/2003

Client: GILBERT & SUTHERLAND PTY LTD

Client Reference:

QUALITY CONTRC _ REPORT



METHOD		ANALYSIS DESCRIPTION	Laboratory I.D.		SAMPLE IDENTIFICATION				CHECKS AND SPIKES			
			Date Sampled	UNIT	LOR	200	406	407				
EA-055		Moisture Content (dried @ 103°C)				22/08/2003	22/08/2003	22/08/2003				
EP-068A-SS		ORGANOCHLORINE PESTICIDES		%	0.1	----	----	----				
EP-068A-SS		alpha-BHC		mg/kg	0.05	<0.05	83.0%	83.5%				
EP-068A-SS		HCb		mg/kg	0.05	<0.05	83.6%	82.2%				
EP-068A-SS		beta-BHC & gamma-BHC		mg/kg	0.1	<0.1	87.0%	86.9%				
EP-068A-SS		delta-BHC		mg/kg	0.05	<0.05	88.1%	84.5%				
EP-068A-SS		Heptachlor		mg/kg	0.05	<0.05	83.8%	83.1%				
EP-068A-SS		Aldrin		mg/kg	0.05	<0.05	77.7%	78.8%				
EP-068A-SS		Heptachlor epoxide		mg/kg	0.05	<0.05	84.7%	84.2%				
EP-068A-SS		Chlordane - trans		mg/kg	0.05	<0.05	82.2%	82.5%				
EP-068A-SS		Endosulfan 1		mg/kg	0.05	<0.05	99.6%	94.8%				
EP-068A-SS		Chlordane - cis		mg/kg	0.05	<0.05	87.4%	82.1%				
EP-068A-SS		Dieldrin		mg/kg	0.05	<0.05	96.7%	96.7%				
EP-068A-SS		DDE		mg/kg	0.05	<0.05	91.2%	85.5%				
EP-068A-SS		Endrin		mg/kg	0.05	<0.05	81.3%	74.7%				
EP-068A-SS		Endosulfan 2		mg/kg	0.05	<0.05	91.5%	87.3%				
EP-068A-SS		DDD		mg/kg	0.05	<0.05	90.6%	89.8%				
EP-068A-SS		Endrin aldehyde		mg/kg	0.05	<0.05	102%	97.1%				
EP-068A-SS		Endosulfan sulfate		mg/kg	0.05	<0.05	98.4%	92.8%				
EP-068A-SS		DDT		mg/kg	0.2	<0.2	92.2%	88.9%				
EP-068A-SS		Endrin ketone		mg/kg	0.05	<0.05	118%	98.2%				
EP-068A-SS		Methoxychlor		mg/kg	0.2	<0.2	88.7%	83.5%				
EP-068B-SS		ORGANOPHOSPHORUS PESTICIDES										
EP-068B-SS		Dichlorvos		mg/kg	0.05	<0.05	78.3%	76.5%				
EP-068B-SS		Demeton-S-methyl		mg/kg	0.05	<0.05	67.1%	80.3%				
EP-068B-SS		Monocrotophos		mg/kg	0.2	<0.2	72.4%	83.8%				
EP-068B-SS		Dimethoate		mg/kg	0.05	<0.05	78.8%	85.3%				
EP-068B-SS		Diazinon		mg/kg	0.05	<0.05	79.4%	85.3%				
EP-068B-SS		Chlorpyrifos-methyl		mg/kg	0.05	<0.05	87.1%	86.4%				
EP-068B-SS		Parathion-methyl		mg/kg	0.2	<0.2	77.7%	78.8%				
EP-068B-SS		Malathion		mg/kg	0.05	<0.05	92.5%	90.0%				
EP-068B-SS		Fenthion		mg/kg	0.05	<0.05	80.0%	81.3%				

Batch: EB57868

Sub Batch: 1

Date of Issue: 02/09/2003

Client: GILBERT & SUTHERLAND PTY LTD

Client Reference:

QUALITY CONTRC_ REPORT



METHOD		ANALYSIS DESCRIPTION	UNIT	LOR	SAMPLE IDENTIFICATION					CHECKS AND SPIKES				
					Laboratory I.D.	200	406	407						
					Date Sampled	22/08/2003	22/08/2003	22/08/2003						
						Method	OCOPS1425	OCOPS1425						
						Blank 1	SCS % Rec	DCS % Rec						
EP-068B-SS	Chlorpyrifos		mg/kg	0.05		<0.05	87.9%	93.0%						
EP-068B-SS	Parathion		mg/kg	0.2		<0.2	62.4%	63.5%						
EP-068B-SS	Pyrimphos-ethyl		mg/kg	0.05		<0.05	69.6%	78.1%						
EP-068B-SS	Chlorfenvinphos E		mg/kg	0.05		<0.05	----	----						
EP-068B-SS	Chlorfenvinphos Z		mg/kg	0.05		<0.05	93.0%	91.1%						
EP-068B-SS	Bromophos-ethyl		mg/kg	0.05		<0.05	87.8%	87.7%						
EP-068B-SS	Fenamiphos		mg/kg	0.05		<0.05	71.8%	77.7%						
EP-068B-SS	Prothiofos		mg/kg	0.05		<0.05	83.4%	84.3%						
EP-068B-SS	Ethion		mg/kg	0.05		<0.05	88.3%	86.3%						
EP-068B-SS	Carbophenothion		mg/kg	0.05		<0.05	90.0%	90.4%						
EP-068B-SS	Azinphos-methyl		mg/kg	0.05		<0.05	89.4%	81.9%						
EP-068S-SS	ORGANOCHLORINE PESTICIDE SURROGATE													
EP-068S-SS	Dibromo-DDE		%	1		99	115	102						
EP-068T-SS	ORGANOPHOSPHORUS PESTICIDE SURROGATE													
EP-068T-SS	DEF		%	1		85	95	84						

CHAIN OF CUSTODY DOCUMENTATION

Client	Gilbert and Sutherland
---------------	------------------------

Postal Address: PO Box 857, Robina QLD 4226

Send Report to: James Ulyate

Send Report to:	James Ulyate	Send Invoice to:	D. Endres (Robina)
Data Needed Rv:			

G&S Project ID: GJ0309-1

Comments:

ATTENTION: LARRY

The following samples were left out of the original shipment on 22.08.03.

Please ensure they are analysed with the original samples ie C1-C29.

[illegible]

Relinquished by:

Name: James Ulyate
of: G&S

Date: 25.08.03

Time:

Received by:

Name:

of:

Date:

Time:

ACS ENVIRONMENTAL
7/6/03

46/03

EB 57868
S (A) ORG
26/8/03

தமிழ்

FILED
AXED
26/8/03

ORGANICS QUALITY CONTROL REPORT**BATCH No. : EB57868****DATE BATCH RECEIVED : 26/08/03****CLIENT : Gilbert & Sutherland Pty Ltd****DATE BATCH COMPLETED : 02/09/03**

Where applicable, internal standards are added to sample extracts prior to instrumental analysis.

Absolute peak areas and retention times fall within the criteria specified in the individual methods.

Method Code	Test	Matrix	Method Reference		QC Lot Number	Date Samples Extracted	Date Samples Analysed
			Extraction	Analysis			
EP-068	Pesticides	Soil	Tumbler	USEPA 8270B	OCOPS1425	29/08/03	01/09/03

BATCH QUALITY CONTROL -- CONTROL SPIKE/DUPLICATE									
ALS EP-068 : Pesticides									
QC LOT No. :		OCOPS1425				ANALYST K. HEGARTY			
MATRIX:		Soils							
COMPOUND	Blank Conc	Spike Level	SPIKE QC RESULTS				Control Limits		
			SCS Rec.	DCS Rec.	Average Rec.	RPD	Rec.		RPD
	mg/kg	mg/kg	%		%	%	Low	High	%
EP068A : OC Pesticides									
a-BHC	<0.025	0.25	83	83.5	83.3	0.6	61.2	100	0 - 20
HCB	<0.025	0.25	83.6	82.2	82.9	1.69	61.7	101	0 - 20
b- & g-BHC	<0.05	0.5	87	86.9	87	0.12	70.2	101	0 - 20
d-BHC	<0.025	0.25	88.1	84.5	86.3	4.17	68.1	96.4	0 - 20
Heptachlor	<0.025	0.25	83.8	83.1	83.5	0.84	62	103	0 - 20
Aldrin	<0.025	0.25	77.7	78.8	78.3	1.41	59.5	107	0 - 20
Heptachlor epoxide	<0.025	0.25	84.7	84.2	84.5	0.59	66	99.1	0 - 20
Chlordane peak no 1	<0.025	0.25	82.2	82.5	82.4	0.36	67.3	102	0 - 20
Endosulfan 1	<0.025	0.25	99.6	94.8	97.2	4.94	66.3	114	0 - 20
Chlordane peak no. 2	<0.025	0.25	87.4	82.1	84.8	6.25	64.5	104	0 - 20
Dieldrin	<0.025	0.25	96.7	96.7	96.7	0	58.4	116	0 - 20
DDE	<0.025	0.25	91.2	85.5	88.4	6.45	72.7	92.5	0 - 20
Endrin	<0.025	0.25	81.3	74.7	78	8.46	70.8	106	0 - 20
Endosulfan 2	<0.025	0.25	91.5	87.3	89.4	4.7	72.2	100	0 - 20
DDD	<0.025	0.25	90.6	89.8	90.2	0.89	68.5	102	0 - 20
Endrin aldehyde	<0.025	0.25	102	97.1	99.6	4.92	56.7	105	1 - 20
Endosulfan sulfate	<0.025	0.25	98.4	92.8	95.6	5.86	67.8	107	0 - 20
DDT	<0.1	0.25	92.2	88.9	90.6	3.64	60.9	120	0 - 20
Endrin ketone	<0.025	0.25	118	98.2	108	18.3	60	111	0 - 20
Methoxychlor	<0.1	0.25	88.7	83.5	86.1	6.04	47.4	124	0 - 20
EP0678 : OP Pesticides									
Dichlorvos	<0.025	0.25	78.3	76.5	77.4	2.33	53.6	99.6	0 - 20
Demeton-s-methyl	<0.025	0.25	67.1	80.3	73.7	17.9	55.9	99	0 - 20
Monocrotophos	<0.1	0.25	72.4	83.8	78.1	14.6	52.3	124	0 - 20
Dimethoate	<0.025	0.25	78.8	85.3	82.1	7.92	70.7	104	0 - 20
Diazinon	<0.025	0.25	79.4	85.3	82.4	7.16	66	101	0 - 20
Chlorpyrifos methyl	<0.025	0.25	87.1	86.4	86.8	0.81	66.2	98.3	0 - 20
Parathion methyl	<0.1	0.25	77.7	78.8	78.3	1.41	69.4	97.3	0 - 20
Malathion	<0.025	0.25	92.5	90	91.3	2.74	66	102	0 - 20
Fenthion	<0.025	0.25	80	81.3	80.7	1.61	69.7	95.4	0 - 20
Chlorpyrifos	<0.025	0.25	87.9	93	90.5	5.64	69	101	0 - 20
Parathion	<0.1	0.25	62.4	63.5	63	1.75	50.1	122	0 - 20
Pirimphos ethyl	<0.025	0.25	69.6	78.1	73.9	11.5	72.3	93.6	0 - 20
Chlorfenvinphos Z	<0.025	0.25	93	91.1	92.1	2.06	67.2	107	0 - 20
Bromophos ethyl	<0.025	0.25	87.8	87.7	87.8	0.11	73.8	97.4	0 - 20
Fenamiphos	<0.025	0.25	71.8	77.7	74.8	7.89	70.7	100	0 - 20
Prothiofos	<0.025	0.25	83.4	84.3	83.9	1.07	70.8	99.2	0 - 20

BATCH QUALITY CONTROL -- CONTROL SPIKE/DUPLICATE									
ALS EP-068 : Pesticides									
QC LOT No. :		OCOPS1425			ANALYST K. HEGARTY				
MATRIX:		Soils							
COMPOUND	Blank Conc	Spike Level	SPIKE QC RESULTS				Control Limits		
			SCS Rec.	DCS Rec.	Average Rec.	RPD	Rec.		RPD
	mg/kg	mg/kg	%		%	%	Low	High	%
Ethion	<0.025	0.25	88.3	86.3	87.3	2.29	67.6	106	0 - 20
Carbofenthion	<0.025	0.25	90	90.4	90.2	0.44	62.5	108	0 - 20
Azinphos methyl	<0.025	0.25	89.4	81.9	85.7	8.76	42.4	115	0 - 20
EP068C : Triazines									
Simazine	<0.025	0.25	102	105	104	2.9	1	112	0 - 20
Atrazine	<0.025	0.25	84.4	89.4	86.9	5.75	70.2	104	0 - 20
EP068D :Pyrethroids									
Cypermethrins(multipeaks)	<0.1	0.25	89.4	88.4	88.9	1.12	45.8	126	0 - 20
EP068S : OC Surrogate									
Dibromo-DDE	99.4%	1.25	115	102	109 *	12	66.7	101	0 - 20
EP068T : OP Surrogate									
DEF	85.3%	1.25	94.9	84.2	89.6	11.9	60.6	101	0 - 20

COMMENTS:

- 1) The recovery control limits are based on ALS laboratory statistical data. (Method QWI-ORG/07)
- 2) The control limits on RPD (relative percent deviation) are fixed.
- 3) * : Recovery or RPD falls outside of the recommended control limits.



CERTIFICATE OF ANALYSIS

CONTACT: MR J ULYATE
CLIENT: GILBERT & SUTHERLAND PTY LTD
ADDRESS:
P O BOX 4115
ROBINA QLD 4230

ORDER No.: GJ0309-1
PROJECT:

BATCH: EB57950
SUB BATCH: 0
LABORATORY: BRISBANE
DATE RECEIVED: 26/08/2003
DATE COMPLETED: 08/09/2003
SAMPLE TYPE: SOIL
No. of SAMPLES: 25

COMMENTS

Results apply to sample(s) as submitted. Samples as received digested by USEPA method 200.2 (modified) prior to the determination of metals. Results reported on a dry weight basis.

NOTES

This is the Final Report and supersedes any preliminary reports with this batch number. All pages of this report have been checked and approved for release.

ISSUING LABORATORY: BRISBANE

Address
32 Shand Street
Stafford QLD 4053
Australia

Phone: 61-7-3243 7222
Fax: 61-7-3243 7218
Email: michael.heery@alsenviro.com

Signatory

LABORATORIES

AUSTRALASIA

Brisbane
Melbourne
Sydney
Newcastle
Auckland
Hong Kong
Singapore
Kuala Lumpur
Bogor
Mumbai

AMERICAS

Vancouver
Santiago
Antofagasta
Lima



NATA Accredited Laboratory Number 825

Site: BRISBANE

This Laboratory is accredited by the National Association of Testing Authorities, Australia. The test(s) reported herein have been performed in accordance with its terms of accreditation. This document shall not be reproduced except in full.

Batch: EB57950

Sub Batch: 0

Date of Issue: 08/09/2003

Client: GILBERT & SUTHERLAND PTY LTD

Client Reference:

CERTIFICATE OF ANALYSIS



METHOD		Laboratory I.D.		SAMPLE IDENTIFICATION										
		Date Sampled	LOR	UNIT	1	2	3	4	5	6	7	8	9	10
EA-055	Moisture Content (dried @ 103°C)		0.1	%	23.0	23.8	22.1	26.2	24.3	26.2	25.9	24.1	22.9	25.0
EG-005T	Arsenic - Total		1	mg/kg	9	10	11	8	10	9	11	10	8	9
EG-005T	Cadmium - Total		1	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
EG-005T	Copper - Total		1	mg/kg	19	16	19	21	19	28	31	19	21	19
EG-005T	Lead - Total		1	mg/kg	20	8	7	6	9	8	8	9	7	7
EG-005T	Zinc - Total		1	mg/kg	86	52	73	50	66	51	54	45	68	55
EG-035T	Mercury - Total		0.1	mg/kg	<0.1	0.2	0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1

Batch: EB57950
Sub Batch: 0
Date of Issue: 08/09/2003
Client: GILBERT & SUTHERLAND PTY LTD
Client Reference:

CERTIFICATE OF ANALYSIS



			SAMPLE IDENTIFICATION															
Laboratory I.D.																		
Date Sampled																		
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	11	12	13	14	15	16	17	18	19	20					
EA-055	Moisture Content (dried @ 103°C)	%	0.1	26.3	23.8	21.6	25.1	25.4	26.9	20.0	28.8	28.1	28.9					
EG-005T	Arsenic - Total	mg/kg	1	15	10	8	9	7	8	7	10	8	7					
EG-005T	Cadmium - Total	mg/kg	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1					
EG-005T	Copper - Total	mg/kg	1	17	20	17	18	13	19	30	27	13	11					
EG-005T	Lead - Total	mg/kg	1	8	7	4	5	5	8	11	8	5	6					
EG-005T	Zinc - Total	mg/kg	1	92	98	65	64	53	50	104	60	32	37					
EG-035T	Mercury - Total	mg/kg	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1					

Batch: EB57950

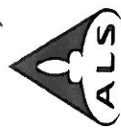
Sub Batch: 0

Date of Issue: 08/09/2003

Client: GILBERT & SUTHERLAND PTY LTD

Client Reference:

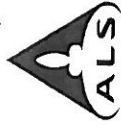
CERTIFICATE OF ANALYSIS



METHOD		ANALYSIS DESCRIPTION	Laboratory I.D.		SAMPLE IDENTIFICATION							
			Date Sampled		21		22		23		24	
			UNIT	LOR	22/08/2003	22/08/2003	22/08/2003	22/08/2003	22/08/2003	22/08/2003	22/08/2003	22/08/2003
EA-055		Moisture Content (dried @ 103°C)	%	0.1	25.8	23.5	18.0	22.4	23.4			
EG-005T	Arsenic	- Total	mg/kg	1	8	7	8	9	8			
EG-005T	Cadmium	- Total	mg/kg	1	<1	<1	<1	<1	<1			
EG-005T	Copper	- Total	mg/kg	1	11	14	13	44	13			
EG-005T	Lead	- Total	mg/kg	1	5	4	4	7	4			
EG-005T	Zinc	- Total	mg/kg	1	31	105	90	97	108			
EG-035T	Mercury	- Total	mg/kg	0.1	<0.1	0.4	0.3	<0.1	0.2			

Batch: EB57950
Sub Batch: 0
Date of Issue: 08/09/2003
Client: GILBERT & SUTHERLAND PTY LTD
Client Reference:

QUALITY CONTROL REPORT



METHOD		ANALYSIS DESCRIPTION	Laboratory I.D.		SAMPLE IDENTIFICATION					
			Date Sampled		200	201	300	301		
			UNIT	LOR	Method Blank 1	Inorg 1 LCS % Rec	Method Blank 2	Inorg 2 LCS % Rec		
CHECKS AND SPIKES										
EA-055	Moisture Content (dried @ 103°C)	%	0.1		----	----	----	----		
EG-005T	Arsenic - Total	mg/kg	1		<1	106%	<1	103%		
EG-005T	Cadmium - Total	mg/kg	1		<1	101%	<1	100%		
EG-005T	Copper - Total	mg/kg	1		<1	103%	<1	102%		
EG-005T	Lead - Total	mg/kg	1		<1	102%	<1	99.0%		
EG-005T	Zinc - Total	mg/kg	1		<1	102%	<1	101%		
EG-035T	Mercury - Total	mg/kg	0.1		<0.1	101%	<0.1	99.0%		



CERTIFICATE OF ANALYSIS

CONTACT: MR J ULYATE
CLIENT: GILBERT & SUTHERLAND PTY LTD
ADDRESS:
P O BOX 4115
ROBINA QLD 4230
ORDER No.: GJ0309-1
PROJECT:

BATCH: EB57950
SUB BATCH: 1
LABORATORY: BRISBANE
DATE RECEIVED: 26/08/2003
DATE COMPLETED: 08/09/2003
SAMPLE TYPE: SOIL
No. of SAMPLES: 25

COMMENTS

Results apply to sample(s) as submitted. Samples analysed on an as received basis. Results reported on a dry weight basis.

NOTES

This is the Final Report and supersedes any preliminary reports with this batch number. All pages of this report have been checked and approved for release.

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Batch: EB57950
Sub Batch: 1
Date of Issue: 08/09/2003
Client: GILBERT & SUTHERLAND PTY LTD
Client Reference:

CERTIFICATE OF ANALYSIS



METHOD	ANALYSIS DESCRIPTION	Laboratory I.D.		SAMPLE IDENTIFICATION									
		Date Sampled	LOR	1	2	3	4	5	6	7	8	9	10
		UNIT		C1	C2	C3	C4	C5	C6	C8	C9	C10	C11
EA-055	Moisture Content (dried @ 103°C)	%	0.1	23.0	23.8	22.1	26.2	24.3	26.2	25.9	24.1	22.9	25.0
EP-068A-SS	ORGANOCHLORINE PESTICIDES												
EP-068A-SS	alpha-BHC	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	HCB	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	beta-BHC & gamma-BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
EP-068A-SS	delta-BHC	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Heptachlor	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Aldrin	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Heptachlor epoxide	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Chlordane - trans	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Endosulfan 1	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Chlordane - cis	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Dieldrin	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	DDE	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Endrin	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Endosulfan 2	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	DDD	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Endrin aldehyde	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Endosulfan sulfate	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	DDT	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EP-068A-SS	Endrin ketone	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Methoxychlor	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EP-068B-SS	ORGANOPHOSPHORUS PESTICIDES												
EP-068B-SS	Dichlorvos	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Demeton-S-methyl	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Monocrotophos	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EP-068B-SS	Dimethoate	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Diazinon	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Chlorpyrifos-methyl	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Parathion-methyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EP-068B-SS	Malathion	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Fenthion	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Chlorpyrifos	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Parathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Batch: EB57950

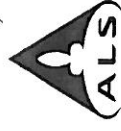
Sub Batch: 1

Date of Issue: 08/09/2003

Client: GILBERT & SUTHERLAND PTY LTD

Client Reference:

CERTIFICATE OF ANALYSIS



Laboratory I.D.				SAMPLE IDENTIFICATION									
Date Sampled		1	2	3	4	5	6	7	8	9	10		
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	C1	C2	C3	C4	C5	C6	C8	C9	C10	C11
EP-068B-SS	Plrimphos-ethyl	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Chlorfenvinphos E	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Chlorfenvinphos Z	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Bromophos-ethyl	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Fenamiphos	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Prothiofos	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Ethion	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Carbophenothion	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Azinphos-methyl	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068S-SS	ORGANOCHLORINE PESTICIDE SURROGATE												
EP-068S-SS	Dibromo-DDE	%	1	121	122	115	119	122	118	92	119	113	110
EP-068T-SS	ORGANOPHOSPHORUS PESTICIDE SURROGATE												
EP-068T-SS	DEF	%	1	102	102	90	111	95	114	81	98	113	104

Batch: EB57950

Sub Batch: 1

Date of Issue: 08/09/2003

Client: GILBERT & SUTHERLAND PTY LTD

Client Reference:

CERTIFICATE OF ANALYSIS



Laboratory I.D.				SAMPLE IDENTIFICATION											
METHOD	ANALYSIS DESCRIPTION	Date Sampled		11	12	13	14	15	16	17	18	19	20		
		UNIT	LOR	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23		
EA-055	Moisture Content (dried @ 103°C)	%	0.1	26.3	23.8	21.6	25.1	25.4	26.9	20.0	28.8	28.1	28.9		
EP-068A-SS	ORGANOCHLORINE PESTICIDES														
EP-068A-SS	alpha-BHC	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068A-SS	HCB	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068A-SS	beta-BHC & gamma-BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
EP-068A-SS	delta-BHC	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068A-SS	Heptachlor	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068A-SS	Aldrin	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068A-SS	Heptachlor epoxide	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068A-SS	Chlordane - trans	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068A-SS	Endosulfan 1	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068A-SS	Chlordane - cis	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068A-SS	Dieldrin	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068A-SS	DDE	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068A-SS	Endrin	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068A-SS	Endosulfan 2	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068A-SS	DDD	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068A-SS	Endrin aldehyde	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068A-SS	Endosulfan sulfate	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068A-SS	DDT	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
EP-068A-SS	Endrin ketone	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068A-SS	Methoxychlor	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
EP-068B-SS	ORGANOPHOSPHORUS PESTICIDES														
EP-068B-SS	Dichlorvos	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068B-SS	Demeton-S-methyl	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068B-SS	Monocrotophosphos	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
EP-068B-SS	Dimethoate	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068B-SS	Diazinon	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068B-SS	Chlorpyrifos-methyl	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068B-SS	Parathion-methyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
EP-068B-SS	Malathion	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068B-SS	Fenthion	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068B-SS	Chlorpyrifos	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
EP-068B-SS	Parathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		

Batch: EB57950

Sub Batch: 1

Date of Issue: 08/09/2003

Client: GILBERT & SUTHERLAND PTY LTD

Client Reference:

CERTIFICATE OF ANALYSIS



Laboratory I.D.			SAMPLE IDENTIFICATION											
Date Sampled		11	12	13	14	15	16	17	18	19	20			
		22/08/2003	22/08/2003	22/08/2003	22/08/2003	22/08/2003	22/08/2003	22/08/2003	22/08/2003	22/08/2003	22/08/2003			
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23	
EP-068B-SS	Pirimphos-ethyl	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Chlorfenvinphos E	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Chlorfenvinphos Z	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Bromophos-ethyl	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Fenamiphos	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Prothiofos	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Ethion	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Carbophenothion	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Azinphos-methyl	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
EP-068S-SS	ORGANOCHLORINE PESTICIDE SURROGATE													
EP-068S-SS	Dibromo-DDE	%	1	101	113	113	93	95	106	120	114	90	119	
EP-068T-SS	ORGANOPHOSPHORUS PESTICIDE SURROGATE													
EP-068T-SS	DEF	%	1	91	94	101	80	83	103	107	98	79	109	

Batch: EB57950
Sub Batch: 1
Date of Issue: 08/09/2003
Client: GILBERT & SUTHERLAND PTY LTD
Client Reference:

CERTIFICATE OF ANALYSIS



METHOD	ANALYSIS DESCRIPTION	Laboratory I.D.		SAMPLE IDENTIFICATION				
		Date Sampled	LOR	21	22	23	24	25
		UNIT		C24	C25	C26	C27	C28
EA-055	Moisture Content (dried @ 103°C)	%	0.1	25.8	23.5	18.0	22.4	23.4
EP-068A-SS	ORGANOCHLORINE PESTICIDES							
EP-068A-SS	alpha-BHC	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	HCB	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	beta-BHC & gamma-BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
EP-068A-SS	delta-BHC	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Heptachlor	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Aldrin	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Heptachlor epoxide	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Chlordane - trans	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Endosulfan 1	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Chlordane - cis	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Dieldrin	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	DDE	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Endrin	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Endosulfan 2	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	DDD	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Endrin aldehyde	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Endosulfan sulfate	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	DDT	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EP-068A-SS	Endrin ketone	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068A-SS	Methoxychlor	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EP-068B-SS	ORGANOPHOSPHORUS PESTICIDES							
EP-068B-SS	Dichlorvos	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Demeton-S-methyl	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Monocrotophos	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EP-068B-SS	Dimethoate	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Diazinon	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Chlorpyrifos-methyl	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Parathion-methyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EP-068B-SS	Malathion	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Fenthion	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Chlorpyrifos	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-068B-SS	Parathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Batch: EB57950

Sub Batch: 1

Date of Issue: 08/09/2003

Client: GILBERT & SUTHERLAND PTY LTD

Client Reference:

CERTIFICATE OF ANALYSIS



		Laboratory I.D.		SAMPLE IDENTIFICATION					
		Date Sampled		21	22	23	24	25	
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	22/08/2003	22/08/2003	22/08/2003	22/08/2003	22/08/2003	
EP-068B-SS	Pirimphos-ethyl	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Chlorfenvinphos E	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Chlorfenvinphos Z	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Bromophos-ethyl	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Fenamiphos	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Prothiofos	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Ethion	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Carbophenothion	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
EP-068B-SS	Azinphos-methyl	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
EP-068S-SS	ORGANOCHLORINE PESTICIDE SURROGATE								
EP-068S-SS	Dibromo-DDE	%	1	119	117	94	77	91	
EP-068T-SS	ORGANOPHOSPHORUS PESTICIDE SURROGATE								
EP-068T-SS	DEF	%	1	97	87	82	81	79	

Batch: EB57950

Sub Batch: 1

Date of Issue: 08/09/2003

Client: GILBERT & SUTHERLAND PTY LTD

Client Reference:

QUALITY CONTROL REPORT



METHOD		ANALYSIS DESCRIPTION	UNIT	LOR	Laboratory I.D.					SAMPLE IDENTIFICATION				
					Date Sampled	200	406	407	300	506	507	CHECKS AND SPIKES		
						Method Blank 1	OCOPS1433 SCS % Rec	OCOPS1433 DCS % Rec	Method Blank 2	OCOPS1434 SCS % Rec	OCOPS1434 DCS % Rec			
EA-055		Moisture Content (dried @ 103°C)	%	0.1										
EP-068A-SS		ORGANOCHLORINE PESTICIDES												
EP-068A-SS		alpha-BHC	mg/kg	0.05		<0.05	84.4%	84.1%	<0.05	83.3%	88.1%			
EP-068A-SS		HCB	mg/kg	0.05		<0.05	81.4%	81.3%	<0.05	85.8%	78.4%			
EP-068A-SS		beta-BHC & gamma-BHC	mg/kg	0.1		<0.1	88.9%	88.7%	<0.1	94.0%	92.9%			
EP-068A-SS		delta-BHC	mg/kg	0.05		<0.05	88.9%	89.4%	<0.05	93.2%	94.9%			
EP-068A-SS		Heptachlor	mg/kg	0.05		<0.05	85.4%	85.1%	<0.05	78.2%	87.7%			
EP-068A-SS		Aldrin	mg/kg	0.05		<0.05	86.5%	88.1%	<0.05	87.1%	89.0%			
EP-068A-SS		Heptachlor epoxide	mg/kg	0.05		<0.05	88.7%	89.1%	<0.05	83.6%	76.2%			
EP-068A-SS		Chlordane - trans	mg/kg	0.05		<0.05	87.9%	89.2%	<0.05	82.3%	88.1%			
EP-068A-SS		Endosulfan 1	mg/kg	0.05		<0.05	97.9%	97.4%	<0.05	91.8%	87.2%			
EP-068A-SS		Chlordane - cis	mg/kg	0.05		<0.05	89.0%	90.5%	<0.05	89.4%	85.1%			
EP-068A-SS		Dieldrin	mg/kg	0.05		<0.05	90.3%	89.2%	<0.05	95.1%	98.8%			
EP-068A-SS		DDE	mg/kg	0.05		<0.05	89.1%	89.6%	<0.05	87.4%	89.0%			
EP-068A-SS		Endrin	mg/kg	0.05		<0.05	67.1%	68.7%	<0.05	68.7%	71.7%			
EP-068A-SS		Endosulfan 2	mg/kg	0.05		<0.05	94.0%	95.2%	<0.05	91.1%	97.4%			
EP-068A-SS		DDD	mg/kg	0.05		<0.05	93.6%	94.3%	<0.05	98.0%	101%			
EP-068A-SS		Endrin aldehyde	mg/kg	0.05		<0.05	81.4%	82.1%	<0.05	74.4%	72.1%			
EP-068A-SS		Endosulfan sulfate	mg/kg	0.05		<0.05	93.4%	94.7%	<0.05	73.6%	72.9%			
EP-068A-SS		DDT	mg/kg	0.2		<0.2	91.4%	91.1%	<0.2	76.4%	78.3%			
EP-068A-SS		Endrin ketone	mg/kg	0.05		<0.05	103%	103%	<0.05	86.3%	85.7%			
EP-068A-SS		Methoxychlor	mg/kg	0.2		<0.2	90.6%	87.5%	<0.2	95.2%	96.6%			
EP-068B-SS		ORGANOPHOSPHORUS PESTICIDES												
EP-068B-SS		Dichlorvos	mg/kg	0.05		<0.05	70.2%	72.7%	<0.05	89.1%	83.9%			
EP-068B-SS		Demeton-S-methyl	mg/kg	0.05		<0.05	65.9%	65.8%	<0.05	58.2%	55.2%			
EP-068B-SS		Monocrotophosph	mg/kg	0.2		<0.2	68.8%	69.7%	<0.2	71.9%	71.2%			
EP-068B-SS		Dimethoate	mg/kg	0.05		<0.05	89.1%	90.4%	<0.05	94.2%	87.0%			
EP-068B-SS		Diazinon	mg/kg	0.05		<0.05	88.9%	88.8%	<0.05	81.7%	85.6%			
EP-068B-SS		Chlorpyrifos-methyl	mg/kg	0.05		<0.05	87.0%	86.9%	<0.05	83.4%	88.2%			
EP-068B-SS		Parathion-methyl	mg/kg	0.2		<0.2	93.1%	93.1%	<0.2	87.1%	89.0%			
EP-068B-SS		Malathion	mg/kg	0.05		<0.05	88.6%	89.0%	<0.05	78.8%	85.0%			
EP-068B-SS		Fenthion	mg/kg	0.05		<0.05	83.9%	84.6%	<0.05	80.0%	82.4%			

Batch: EB57950

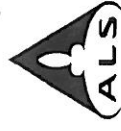
Sub Batch: 1

Date of Issue: 08/09/2003

Client: GILBERT & SUTHERLAND PTY LTD

Client Reference:

QUALITY CONTROL REPORT



Laboratory I.D.		SAMPLE IDENTIFICATION						
Date Sampled		200	406	407	300	506	507	
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	CHECKS AND SPIKES				
				Method Blank 1	OCOPS1433 SCS % Rec	OCOPS1433 DCS % Rec	Method Blank 2	OCOPS1434 DCS % Rec
EP-068B-SS	Chlorpyrifos	mg/kg	0.05	<0.05	91.5%	91.5%	<0.05	87.7%
EP-068B-SS	Parathion	mg/kg	0.2	<0.2	99.4%	97.3%	<0.2	96.7%
EP-068B-SS	Pirimphos-ethyl	mg/kg	0.05	<0.05	90.6%	91.5%	<0.05	88.7%
EP-068B-SS	Chlorfenvinphos E	mg/kg	0.05	<0.05	---	---	<0.05	---
EP-068B-SS	Chlorfenvinphos Z	mg/kg	0.05	<0.05	89.8%	92.5%	<0.05	87.9%
EP-068B-SS	Bromophos-ethyl	mg/kg	0.05	<0.05	91.5%	94.6%	<0.05	86.4%
EP-068B-SS	Fenamiphos	mg/kg	0.05	<0.05	83.7%	85.3%	<0.05	83.6%
EP-068B-SS	Prothiofos	mg/kg	0.05	<0.05	89.7%	89.0%	<0.05	80.6%
EP-068B-SS	Ethion	mg/kg	0.05	<0.05	95.8%	96.8%	<0.05	88.9%
EP-068B-SS	Carbophenothion	mg/kg	0.05	<0.05	89.4%	91.2%	<0.05	88.1%
EP-068B-SS	Azinphos-methyl	mg/kg	0.05	<0.05	84.5%	84.0%	<0.05	73.9%
EP-068S-SS	ORGANOCHLORINE PESTICIDE SURROGATE	%	1	75	85	85	102	108
EP-068S-SS	Dibromo-DDE	%	1	71	77	76	102	105
EP-068T-SS	ORGANOPHOSPHORUS PESTICIDE SURROGATE	%	1	71	77	76	102	105
EP-068T-SS	DEF	%	1	71	77	76	102	105

CHAIN OF CUSTODY DOCUMENTATION

Client	Gilbert and Sutherland	For:	Australian Laboratory Services
Postal Address:	PO Box 857, Robina QLD 4226	Address:	32 Shand Street, Stafford, Q4053
Send Report to:	James Ulyate	Tel:	073 243 7222
Data Needed By:		Fax:	073 243 7218
G&S Project ID:	GJ0309-1		

Send Invoice to: D. Endres (Robina)													
Comments:													
Sample ID	Depth	Matrix	Date	Time	OC	OP	Arsenic	Lead	Cadmium	Copper	Mercury	Zinc	Notes:
Q C1		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C2		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C3		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C4		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C5		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C6		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C7		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C8		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C9		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C10		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C11		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C12		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C13		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C14		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C15		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C16		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C17		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C18		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C19		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C20		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C21		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C22		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C23		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C24		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C25		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C26		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C27		Soil	22.08.03		/	/	/	/	/	/	/	/	
Q C28		Soil	22.08.03		/	/	/	/	/	/	/	/	

Relinquished by:	James Ulyate	Received by:	
Name:	G&S	Name:	ALC ENVIRONMENTAL
of:	22.08.03	of:	26/8/03
Date:		Date:	
Time:		Time:	

EB57950
S
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26/8/03

- 1 oct 03

URGENT

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26/8/03

samples
Alot
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Signature