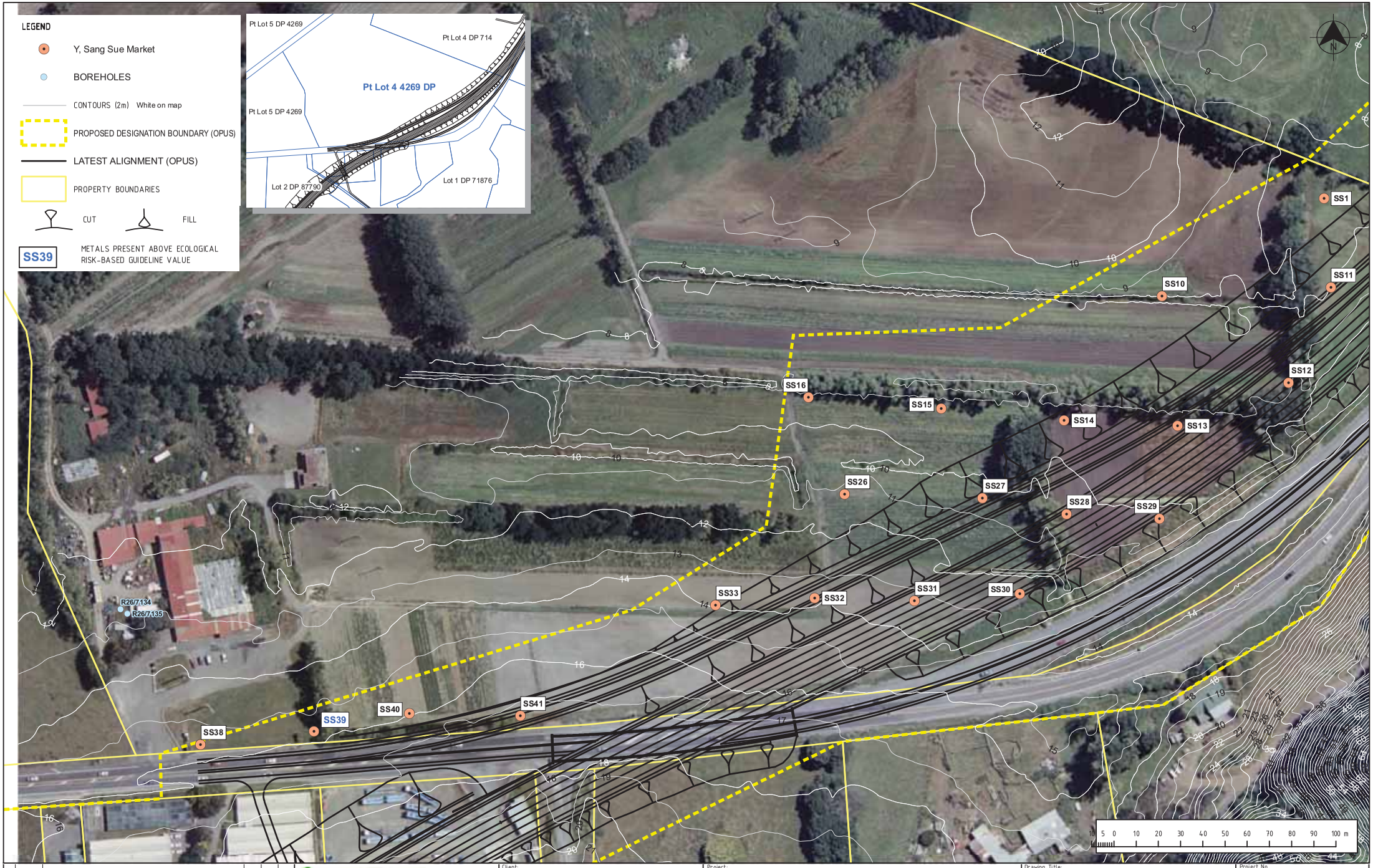
Appendix 16.A
Report figures

Appendix 16.A



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04	01/04/11	NEW DESIGNATION AREA	RD	TM	TM
03	23/11/10	REVIEW	KN	NP	JK
02	28/10/10	NEW AERIALS, TOPO & CHANGES PER EXTERNAL REVIEWER'S REQUEST.	KAF	NP	JK
01	25/06/10	PRELIMINARY - ISSUE FOR CLIENT INFORMATION ONLY	KAF	NP	JK

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Client: NZ TRANSPORT AGENCY

Project: TRANSMISSION GULLY
LAND CONTAMINATION STUDY

STAGE 2 INVESTIGATION

Drawing Title: FIGURE 16.1
SAMPLING LOCATIONS
SANG SUE MARKET GARDEN

Project No. 202414
Scale: 1:1,500 (A3)
Sheet Size: A3
Drawing No. GIS.WS14-11
Revision: 04

Rev	Date	Revision Details	Drn	Ver	App
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04	01/04/11	UPDATED DESIGNATION AREA	RD	TM	TM
03	23/11/10	REVIEW	KN	NP	JK
02	28/10/10	NEW AERIALS, TOPO & CHANGES PER EXTERNAL REVIEWER'S REQUEST.	KAF	NP	JK
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Project: TRANSMISSION GULLY LAND CONTAMINATION STUDY

STAGE 2 INVESTIGATION

Drawing Title: FIGURE 16.2 SAMPLING LOCATIONS GOLDEN COAST NURSERIES

Project No. 202414

Scale: 1:500 (A3)

Sheet Size: A3

Drawing No. GIS.WS14-17

Revision: 05

Rev	Date	Revision Details	Drn	Ver	App
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03	23/11/10	REVIEW	KN	NP	JK
02	28/10/10	NEW AERIALS, TOPO & CHANGES PER EXTERNAL REVIEWER'S REQUEST.	KAF	NP	JK
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STAGE 2 INVESTIGATION

Drawing Title: FIGURE 16.3 SAMPLING LOCATIONS CAR HAULAWAYS

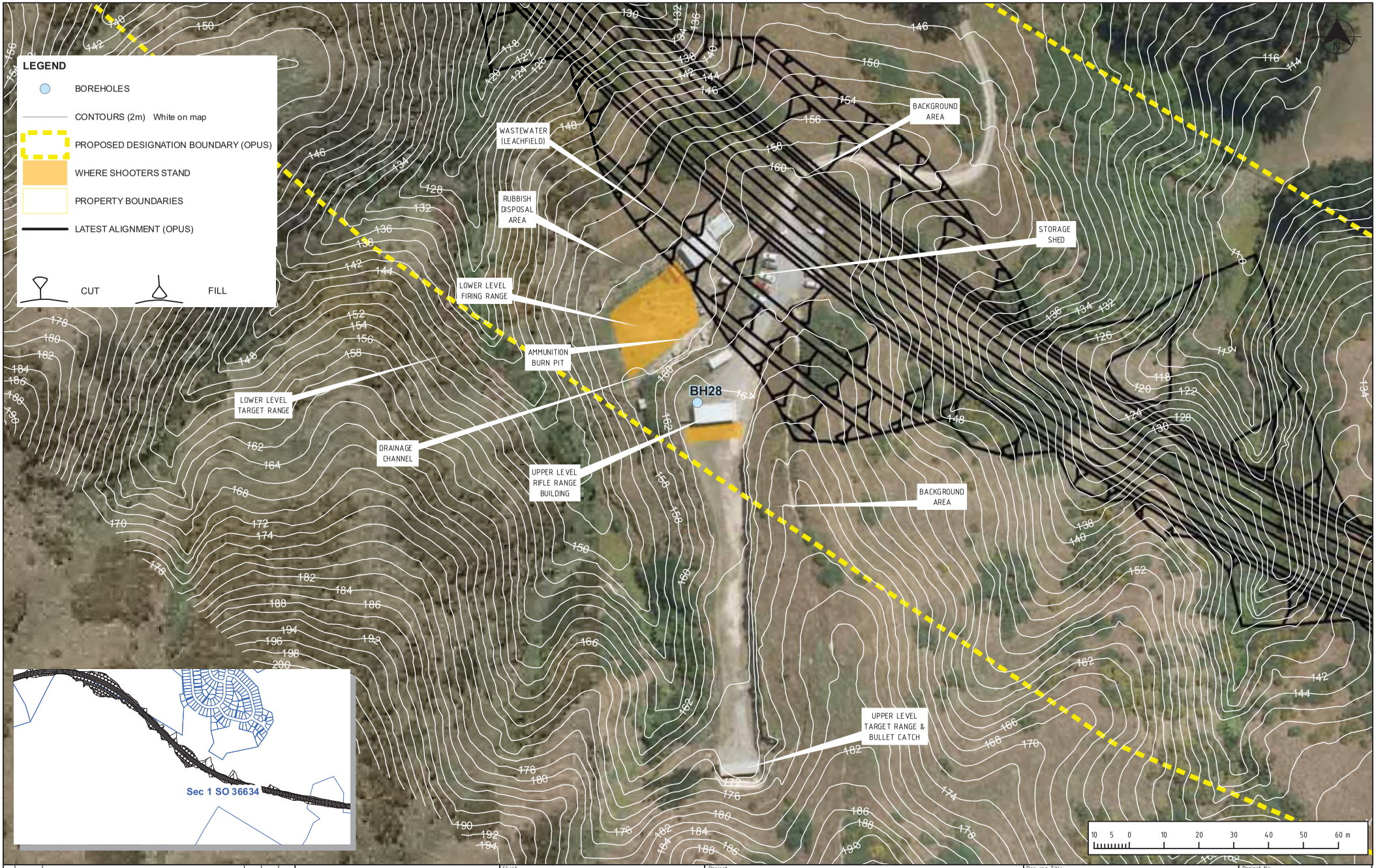
Project No. 202414

Scale: 1:500 (A3)

Sheet Size: A3

Drawing No. GIS.WS14-18

Revision: 04



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02	28/10/10	NEW AERIALS, TOPO & CHANGES PER EXTERNAL REVIEWER'S REQUEST.	KAF	NP	JK
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STAGE 2 INVESTIGATION

Drawing Title: FIGURE 16.4 PORIRUA GUN CLUB AREA OVERVIEW

Project No. 202414

Scale: 1:1,000 (A3)

Sheet Size: A3

Drawing No. GIS.WS14-12

Revision: 04

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02	28/10/10	NEW AERIALS, TOPO & CHANGES PER EXTERNAL REVIEWER'S REQUEST.	KAF	NP	JK
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Project:
TRANSMISSION GULLY LAND CONTAMINATION STUDY

STAGE 2 INVESTIGATION

Drawing Title:
FIGURE 16.5
SAMPLING LOCATIONS
PORIRUA GUN CLUB
INNER AREA

Project No.	202414
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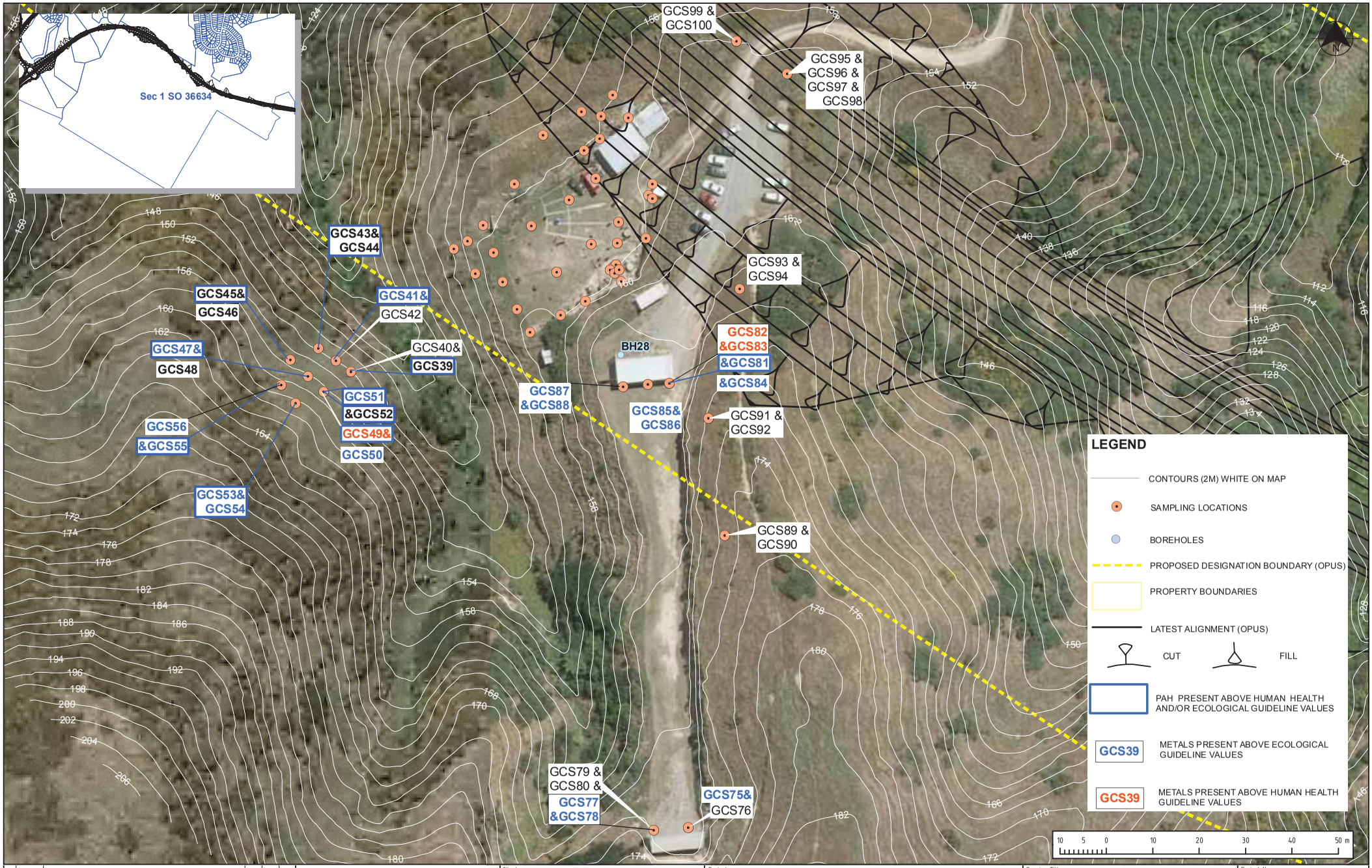
Drawing No.	GIS.WS14-13
Revision:	05



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03	23/11/10	REVIEW	KN	NP	JK
02	28/10/10	NEW AERIALS, TOPO & CHANGES PER EXTERNAL REVIEWER'S REQUEST.	KAF	NP	JK
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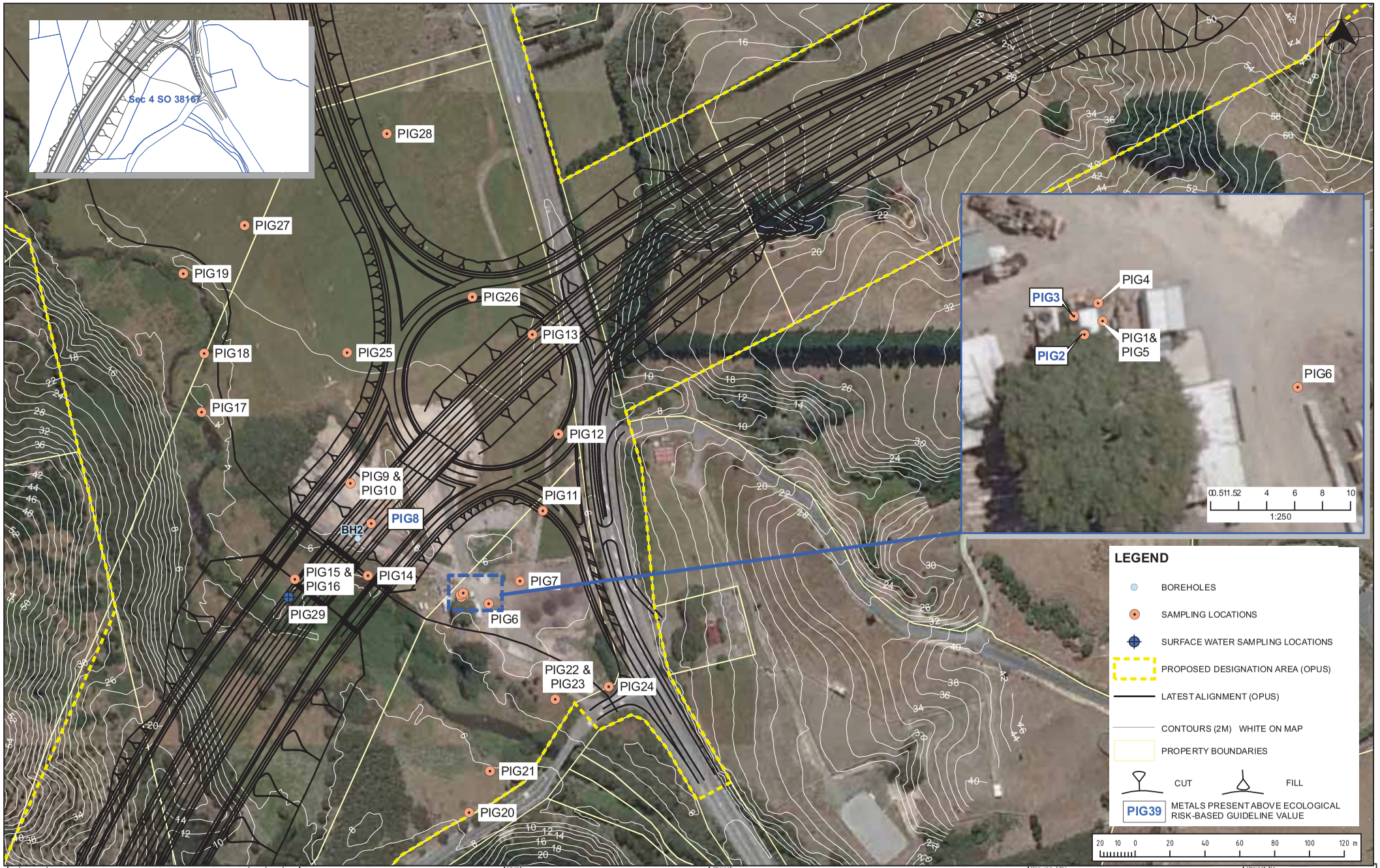
Project:
TRANSMISSION GULLY LAND CONTAMINATION STUDY

STAGE 2 INVESTIGATION

Drawing Title:
FIGURE 16.6
SAMPLING LOCATIONS
PORIRUA GUN CLUB
OUTER AREA

Project No.	202414
Scale: 1:750 (A3)	Sheet Size: A3
Drawing No.	GIS.WS14-14
Revision:	05



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03	23/11/10	REVIEW	KN	NP	JK
02	28/10/10	NEW AERIALS, TOPO & CHANGES PER EXTERNAL REVIEWER'S REQUEST.	KAF	NP	JK
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LAND CONTAMINATION STUDY

STAGE 2 INVESTIGATION

Drawing Title:
FIGURE 16.7
SAMPLING LOCATIONS
PAUATAHANUI INLET
GARDEN SUPPLY

Project No.	202414
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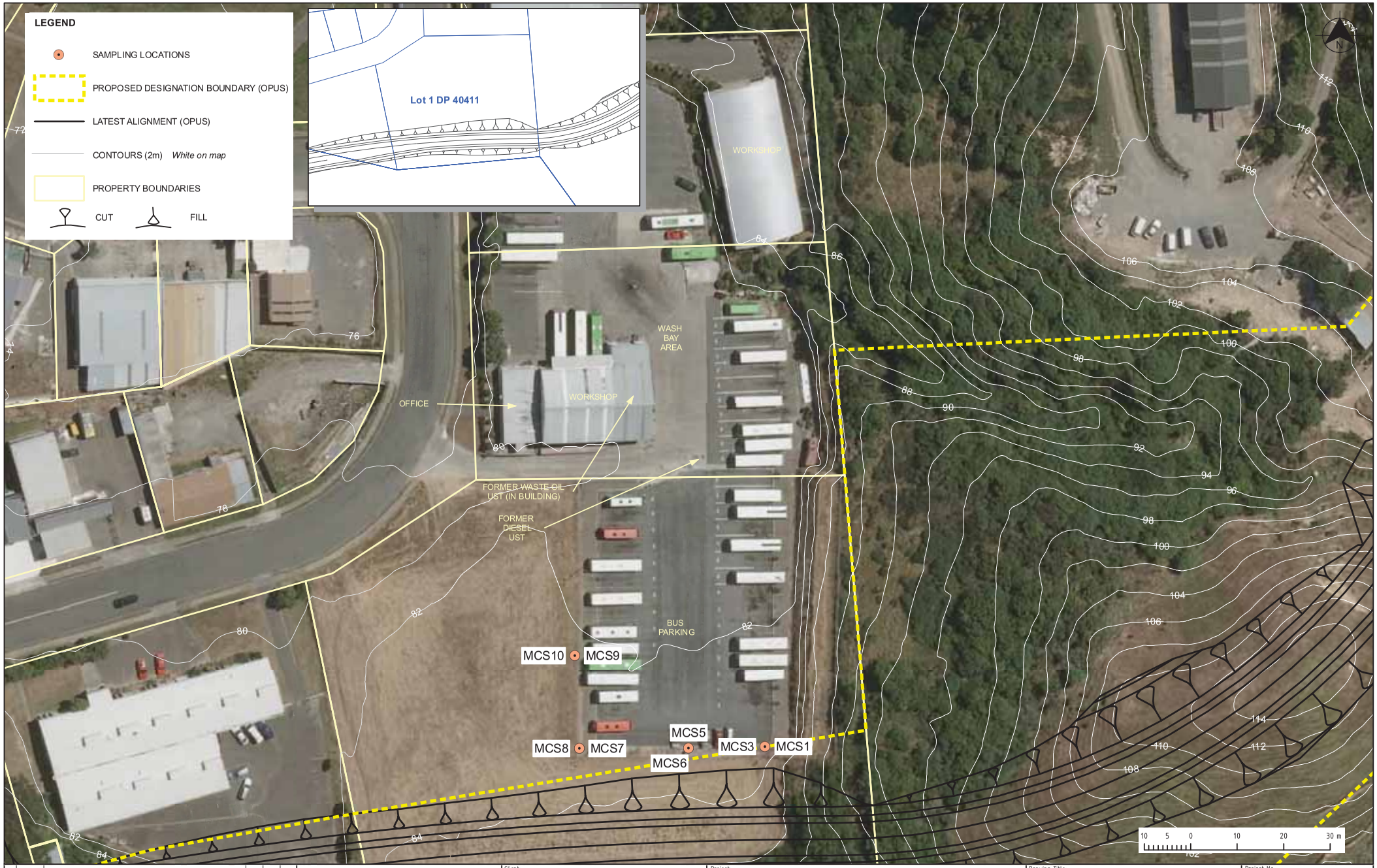
Drawing No.	GIS.WS14-15
Revision:	04



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02	28/10/10	NEW AERIALS, TOPO & CHANGES PER EXTERNAL REVIEWER'S REQUEST	KAF	NP	JK
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TRANSMISSION GULLY LAND CONTAMINATION STUDY

STAGE 2 INVESTIGATION

Drawing Title:
FIGURE 16.8
SAMPLING LOCATIONS
MANA COACH

Project No.	202414
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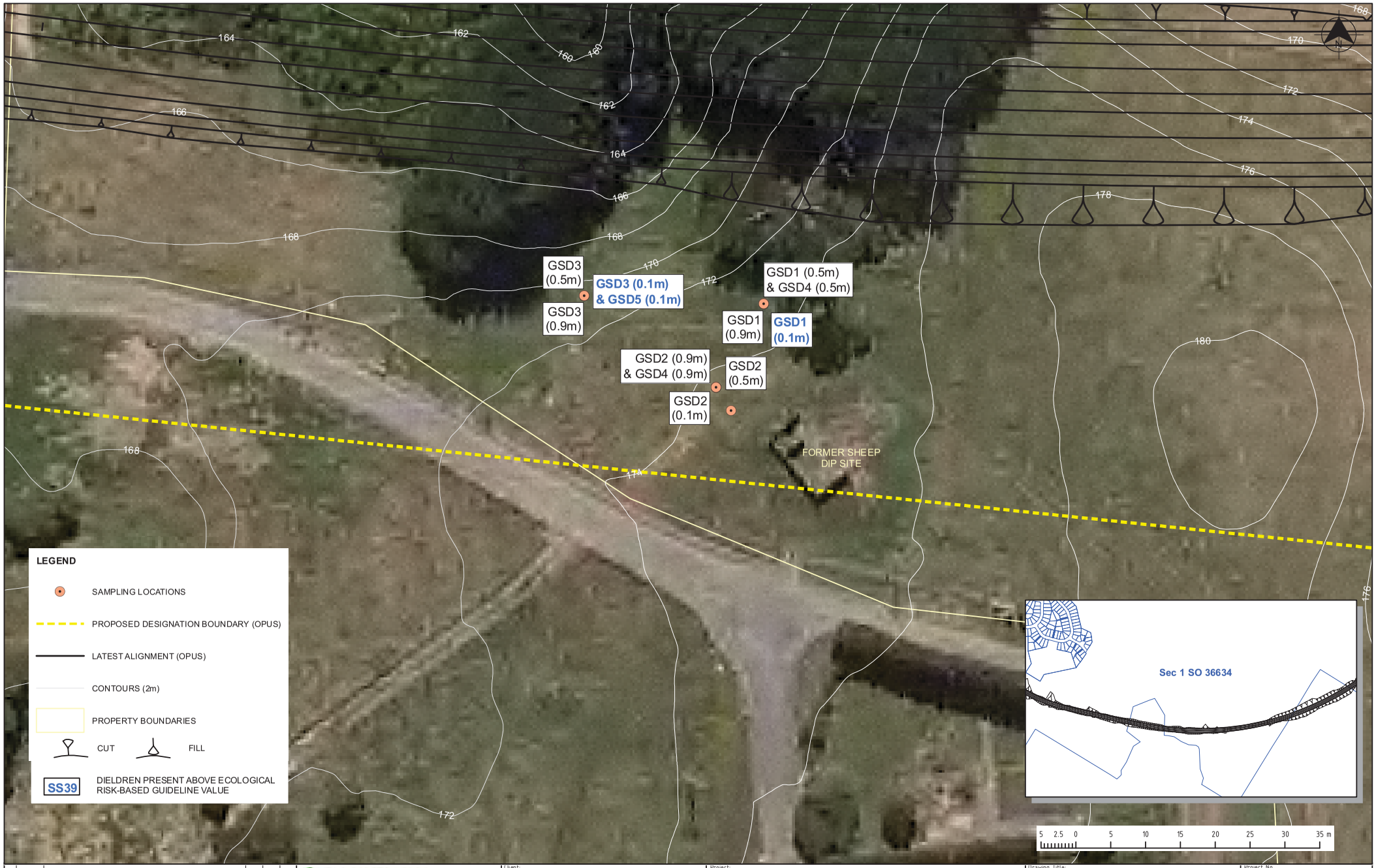
Drawing No.	GIS.WS14-16
Revision:	04



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02	28/10/10	NEW AERIALS, TOPO & CHANGES PER EXTERNAL REVIEWER'S REQUEST.	KAF	NP	JK
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Project: TRANSMISSION GULLY ENVIRONMENTAL STUDY

STAGE 2 INVESTIGATION

Drawing Title: FIGURE 16.9 SAMPLING LOCATIONS GWRC SHEEP DIP SITE

Project No.	202414
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Drawing No.	GIS.WS14-19
Revision:	04

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Client: NZ TRANSPORT AGENCY

Project: TRANSMISSION GULLY ENVIRONMENTAL STUDY

STAGE 2 INVESTIGATION

Drawing Title: FIGURE 16.10 SAMPLING LOCATIONS FORMER STOCKYARD SITE

Project No. 202414

Scale: 1:500 (A3)

Sheet Size: A3

Drawing No. GIS.WS14-20

Revision: 04

Appendix 16.B
Tables (CD provided upon request)

Appendix 16.B

Appendix 16.C

Historic Title Records, Council Records, and Laboratory Reports
(CD provided upon request)

Appendix 16.C

Appendix 16.D

Historic aerial photos (CD Provided upon request)

Appendix 16.D

Appendix 16.E
Site photographs (CD provided upon request)

Appendix 16.E

Appendix 16.F
Geophysical survey report
(CD provided upon request)

Appendix 16.F

Appendix 16.G

Hand auger and test pit logs
(CD provided upon request)

Appendix 16.G

Appendix 16.H
Laboratory results summary tables

Appendix 16.H

Key to colour codes, abbreviations and references in summary data tables

Results Colour Code and Abbreviations

Blue Text	Exceeds risk based guideline values for ecological receptors at commercial/industrial sites
Green Text	Exceeds risk based guideline values for ecological receptors at recreational/parkland sites
Red Text	Exceeds risk based guideline values for human health at commercial/industrial sites
	Analyte detected above Wellington regional background levels
–	Constituent not included in analysis suite
BEDL	Below effective detection limit

References	*Abbreviation used in Tables*
Canadian Environmental Quality Guidelines (CCME, 2002): Soil Quality Guideline Values	CCME SQGE
Department of Environment, Food and Rural Affairs and the Environment Agency (DEFRA) 2002: Assessment of Risks to Human Health from Land Contamination: An overview of the development of soil guideline values and related research, Department of Environment, Food and Rural Affairs and the Environment Agency	DEFRA
Ministry for the Environment (MfE) and Ministry of Health (MoH), 1997: Health and Environmental Guidelines for Selected Timber Treatment Chemicals (NZTTG)	MfE/MoH
MfE, 1999: Ministry of the Environment Report 245: Guidelines for Managing and Assessing Petroleum Hydrocarbon Contaminated Sites in New Zealand	MfE 1999
MfE, 2006: Ministry of the Environment Report 775: Identifying and Managing Risks Associated with Former Sheep Dip Sites	MfE 2006
MfE, 2011: Cabinet Economic Growth and Infrastructure Committee Paper on A Proposed National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health	NZNES
Ministry of Housing, Spatial Planning and the Environment, 2000. Circular on Target Values and Intervention Values for Soil Remediation. Ministry of Housing, Spatial Planning and the Environment , Bilthoven, The Netherlands	MoHSPE
NEPC, 1999: *Guideline on the Investigation Levels for Soil and Groundwater,* National Environment Protection Council; Human Health Investigation Levels	NEPC HIL
New Zealand Water & Wastes Association, 2003. Guidelines for the Safe Application of Biosolids to Land in New Zealand. Developed in conjunction with MfE.	NZWWA BG
USEPA, 2002b: EPA Region 9 Preliminary Remediation Goals, US Environmental Protection Agency	USEPA Region IX
United States Environmental Protection Agency (USEPA), 2002a: EPA Region 6 Human Health Medium Specific Risk based Screening Levels, US Environmental Protection Agency	USEPA Region VI
USEPA, 2000: EPA Ecological Soil Screening Level Guidance, US Environmental Protection Agency	USEPA SSL

Table 16.13
Sang Sue Market Garden
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	SS1	SS2	SS3	SS4	SS5	SS5	SS6	SS7
							Depth (m)	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1
							Date Sampled	19-Apr-10	19-Apr-10	19-Apr-10	19-Apr-10	19-Apr-10	19-Apr-10	19-Apr-10	19-Apr-10
	Human Health		Ecological receptors			Background Trace Elements	Soil Type	Silt (ML)	Sand (SP)	Sand (SP)	Sand (SP)	Sand (SP)	Sand (SP)	Sand (SP)	Sand (SP)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals															
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		5.4	3.9	3.5	4.4	5.6	5.8	5.9	5.5
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.24	0.127	0.117	0.21	0.29	0.33	0.33	0.17
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		13.2	6.6	5.8	7.3	10	11	10.8	10.2
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		18.3	11.3	9.5	17.1	17.2	18.5	17	13.1
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		21	4.5	4.2	4.5	11	12.8	10.7	15
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		10	5.4	5	5.9	7.4	7.6	6.9	8.1
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		70	58	40	86	81	88	64	53
Organochlorine Pesticides															
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
delta-BHC	-		-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
cis-chlordane	-		-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
trans-chlordane	-		-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	0.033	< 0.010
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	0.03	< 0.010
Total DDT	1000	NZNES	12	0.7	CCME SQGE	NA		<0.010	<0.011	<0.011	<0.011	< 0.011	< 0.011	0.063	<0.010
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		<0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
Endosulfan sulphate	-		-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
Endrin aldehyde	-		-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
Endrin Ketone	-		-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
Hexachlorobenzene			-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.02	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.02	< 0.02
Organonitrogen & Organophosphorus Pesticides**															
Alachlor	21.41	USEPA Region IX	-	-	-	NA		0.167	<0.05	<0.05	<0.05	0.053	0.057	0.061	<0.05
Pendimethalin	24624.25	USEPA Region IX	-	-	-	NA		<0.06	<0.05	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Pirimiphos-methyl	6156.06	USEPA Region IX	-	-	-	NA		<0.06	<0.05	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Polycyclic Aromatic Hydrocarbons															
	Sample Depth <1m														
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	-	-	-	<0.03	<0.03	-	<0.03
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	-	-	-	< 0.13	< 0.14	-	< 0.14
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	-	-	-	< 0.03	< 0.03	-	< 0.03

*See Table Key for definitions of abbreviations and colour coding.
**Only analytes above effective detectable limits are shown. All other analytes in this group are below the laboratory report limit.

Table 16.13
Sang Sue Market Garden
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	SS42 (Duplicate of SS7-0.1)	SS7	SS42 (Duplicate of SS7-0.3)	SS□	SS9	SS10	SS10	SS11
							Depth (m)	0.1	0.3	0.3	0.1	0.1	0.1	0.3	0.1
							Date Sampled	19-Apr-10	19-Apr-10	19-Apr-10	19-Apr-10	19-Apr-10	19-Apr-10	19-Apr-10	19-Apr-10
	Human Health		Ecological receptors			Background Trace Elements	Soil Type	Sand (SP)	Sand (SP)	Sand (SP)	Sand (SP)	Sand (SP)	Sand (SP)	Sand (SP)	Sand (SP)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals															
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		6.4	6.3	5.4	3.8	4.1	4.9	4.7	7.6
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.22	0.21	0.194	0.21	0.127	0.174	0.177	0.34
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		11.4	11.2	10.3	7.9	7.5	8.1	8.6	18.4
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		15.2	13.6	13.6	9.6	9	13.1	12.9	33
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		16.6	14.6	14.1	7.9	7.6	9	9.6	21
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		8.7	8.4	8.5	6.6	7.1	6.6	7	12
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		58	54	53	50	42	49	53	125
Organochlorine Pesticides															
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
delta-BHC	-		-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
cis-chlordane	-		-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
trans-chlordane	-		-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	0.0104	< 0.010
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
Total DDT	1000	NZNES	12	0.7	CCME SQGE	NA		<0.011	< 0.011	<0.011	< 0.011	< 0.011	< 0.010	0.0104	< 0.010
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
Endosulfan sulphate	-		-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
Endrin aldehyde	-		-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
Endrin Ketone	-		-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
Hexachlorobenzene			-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.02	< 0.03	< 0.02
Organonitrogen & Organophosphorus Pesticides**															
Alachlor	21.41	USEPA Region IX	-	-	-	NA		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.53
Pendimethalin	24624.25	USEPA Region IX	-	-	-	NA		<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.056
Pirimiphos-methyl	6156.06	USEPA Region IX	-	-	-	NA		<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	0.45
Polycyclic Aromatic Hydrocarbons															
	Sample Depth <1m														
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		<0.03	<0.03	<0.03	-	-	<0.03	<0.03	-
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.13	< 0.13	< 0.13	-	-	< 0.13	< 0.13	-
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		< 0.03	< 0.03	< 0.03	-	-	< 0.03	< 0.03	-

*See Table Key for definitions of abbreviations and colour coding.
**Only analytes above effective detectable limits are shown. All other analytes in this group are below the laboratory report limit.

Table 16.13
Sang Sue Market Garden
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	SS12	SS13	SS14	SS43 (Duplicate of SS14-0.1)	SS14	SS43 (Duplicate of SS14-0.3)	SS15	SS16
							Depth (m)	0.1	0.1	0.1	0.1	0.3	0.3	0.1	0.1
							Date Sampled	22-Apr-10	22-Apr-10	22-Apr-10	22-Apr-10	22-Apr-10	22-Apr-10	22-Apr-10	22-Apr-10
	Human Health		Ecological receptors			Background Trace Elements	Soil Type	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals															
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		9	8.8	8.5	8.2	9.1	9.4	8.8	8.3
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.33	0.37	0.33	0.29	0.25	0.199	0.23	0.22
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		16.1	16.6	15.4	16.2	15.3	15	13.5	14
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		27	23	23	23	17.9	16.7	16.3	19
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		22	24	24	25	25	26	28	29
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		11.1	11.4	11.3	11.2	10.8	10.4	10.7	10.6
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		114	109	104	103	80	78	90	83
Organochlorine Pesticides															
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.010	< 0.011	-	-	-	-	-	-
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.010	< 0.011	-	-	-	-	-	-
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.010	< 0.011	-	-	-	-	-	-
delta-BHC	-		-	-		NA		< 0.010	< 0.011	-	-	-	-	-	-
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.010	< 0.011	-	-	-	-	-	-
cis-chlordane	-		-	-		NA		< 0.010	< 0.011	-	-	-	-	-	-
trans-chlordane	-		-	-		NA		< 0.010	< 0.011	-	-	-	-	-	-
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.011	-	-	-	-	-	-
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		0.0145	< 0.011	-	-	-	-	-	-
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.011	-	-	-	-	-	-
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		0.063	0.0188	-	-	-	-	-	-
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.011	-	-	-	-	-	-
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		0.042	0.0146	-	-	-	-	-	-
Total DDT	1000	NZNES	12	0.7	CCME SQGE	NA		0.1195	0.0334	-	-	-	-	-	-
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.010	< 0.011	-	-	-	-	-	-
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	< 0.011	-	-	-	-	-	-
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	< 0.011	-	-	-	-	-	-
Endosulfan sulphate	-		-	-		NA		< 0.010	< 0.011	-	-	-	-	-	-
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.010	< 0.011	-	-	-	-	-	-
Endrin aldehyde	-		-	-		NA		< 0.010	< 0.011	-	-	-	-	-	-
Endrin Ketone	-		-	-		NA		< 0.010	< 0.011	-	-	-	-	-	-
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.010	< 0.011	-	-	-	-	-	-
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.010	< 0.011	-	-	-	-	-	-
Hexachlorobenzene			-	-		NA		< 0.010	< 0.011	-	-	-	-	-	-
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.010	< 0.011	-	-	-	-	-	-
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.02	< 0.03	-	-	-	-	-	-
Organonitrogen & Organophosphorus Pesticides**															
Alachlor	21.41	USEPA Region IX	-	-	-	NA		0.062	0.134	0.12	0.124	0.3	0.41	0.153	0.165
Pendimethalin	24624.25	USEPA Region IX	-	-	-	NA		<0.06	<0.07	<0.06	<0.07	<0.07	<0.07	0.074	0.184
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Pirimiphos-methyl	6156.06	USEPA Region IX	-	-	-	NA		<0.06	<0.07	<0.06	<0.07	<0.07	<0.07	<0.07	<0.07
Polycyclic Aromatic Hydrocarbons															
	Sample Depth <1m														
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	-	<0.03	<0.03	<0.04	<0.03	-	-
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	-	< 0.14	< 0.14	< 0.16	< 0.15	-	-
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	-	< 0.03	< 0.03	< 0.04	< 0.03	-	-

*See Table Key for definitions of abbreviations and colour coding.
**Only analytes above effective detectable limits are shown. All other analytes in this group are below the laboratory report limit.

Table 16.13
Sang Sue Market Garden
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	SS17	SS1□	SS19	SS20	SS21	SS44 (Duplicate of SS21-0.1)	SS21	SS44 (Duplicate of SS21-0.3)
							Depth (m)	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3
							Date Sampled	22-Apr-10	22-Apr-10	22-Apr-10	22-Apr-10	22-Apr-10	22-Apr-10	22-Apr-10	22-Apr-10
	Human Health		Ecological receptors			Background Trace Elements	Soil Type	Silt (ML)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals															
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		7.8	6	6.7	9.1	2.6	2.9	3.5	4.1
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.29	0.184	0.153	0.182	0.194	0.151	0.104	0.13
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		14.7	14.9	15.8	26	6.9	6.3	10.7	10.3
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		14.6	17.7	20	30	15	15.3	16.1	18.8
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		24	23	26	72	25	23	59	40
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		9.6	11.3	13.7	12.8	4.7	4.3	6.4	7
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		72	75	84	97	96	98	106	105
Organochlorine Pesticides															
Aldrin	0.1	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-
alpha-BHC	0.36	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-
beta-BHC	1.26	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-
delta-BHC	-		-	-		NA		-	-	-	-	-	-	-	-
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-
cis-chlordane	-		-	-		NA		-	-	-	-	-	-	-	-
trans-chlordane	-		-	-		NA		-	-	-	-	-	-	-	-
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-
Total DDT	1000	NZNES	12	0.7	CCME SQGE	NA		-	-	-	-	-	-	-	-
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		-	-	-	-	-	-	-	-
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	-	-	-	-	-	-
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	-	-	-	-	-	-
Endosulfan sulphate	-		-	-		NA		-	-	-	-	-	-	-	-
Endrin	184.68	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-
Endrin aldehyde	-		-	-		NA		-	-	-	-	-	-	-	-
Endrin Ketone	-		-	-		NA		-	-	-	-	-	-	-	-
Heptachlor	0.38	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-
Hexachlorobenzene			-	-		NA		-	-	-	-	-	-	-	-
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-
Organonitrogen & Organophosphorus Pesticides**															
Alachlor	21.41	USEPA Region IX	-	-	-	NA		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pendimethalin	24624.25	USEPA Region IX	-	-	-	NA		<0.07	<0.06	<0.06	<0.06	<0.06	<0.06	<0.07	<0.06
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Pirimiphos-methyl	6156.06	USEPA Region IX	-	-	-	NA		<0.07	<0.06	<0.06	<0.06	<0.06	<0.06	<0.07	<0.06
Polycyclic Aromatic Hydrocarbons															
	Sample Depth <1m														
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	-	-	-	0.0076	0.009	0.0867	0.047
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	-	-	-	<0.3	<0.3	<0.16	<0.14
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	-	-	-	<0.06	0.08	0.036	0.037

*See Table Key for definitions of abbreviations and colour coding.
**Only analytes above effective detectable limits are shown. All other analytes in this group are below the laboratory report limit.

Table 16.13
Sang Sue Market Garden
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	SS22	SS23	SS24	SS25	SS26	SS27	SS2□	SS45 (Duplicate of SS2□-0.1)	SS2□
							Depth (m)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3
							Date Sampled	22-Apr-10	22-Apr-10	22-Apr-10	22-Apr-10	22-Apr-10	22-Apr-10	22-Apr-10	22-Apr-10	22-Apr-10
	Human Health		Ecological receptors			Background Trace Elements	Soil Type	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		5.4	4.5	4.3	4.7	4.2	4.3	8.2	6.6	7.3
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		< 0.10	0.122	0.138	0.2	0.37	0.175	0.45	0.45	0.43
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		15	14.7	13.3	13.4	13.5	12.5	15.2	15	14.6
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		18.1	16.1	18	18.7	19.9	9.5	24	26	24
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		24	21	17.8	18	18.1	21	21	22	20
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		12.4	10.5	9.4	10.5	11	9.9	10.6	10	9.7
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		76	71	66	67	131	62	102	103	98
Organochlorine Pesticides																
Aldrin	0.1	USEPA Region IX	-	-		NA		-	< 0.011	-	-	-	-	-	-	-
alpha-BHC	0.36	USEPA Region IX	-	-		NA		-	< 0.011	-	-	-	-	-	-	-
beta-BHC	1.26	USEPA Region IX	-	-		NA		-	< 0.011	-	-	-	-	-	-	-
delta-BHC	-		-	-		NA		-	< 0.011	-	-	-	-	-	-	-
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		-	< 0.011	-	-	-	-	-	-	-
cis-chlordane	-		-	-		NA		-	< 0.011	-	-	-	-	-	-	-
trans-chlordane	-		-	-		NA		-	< 0.011	-	-	-	-	-	-	-
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	< 0.011	-	-	-	-	-	-	-
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	< 0.011	-	-	-	-	-	-	-
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	< 0.011	-	-	-	-	-	-	-
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	< 0.011	-	-	-	-	-	-	-
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	< 0.011	-	-	-	-	-	-	-
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	< 0.011	-	-	-	-	-	-	-
Total DDT	1000	NZNES	12	0.7	CCME SQGE	NA		-	<0.011	-	-	-	-	-	-	-
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		-	< 0.011	-	-	-	-	-	-	-
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		-	< 0.011	-	-	-	-	-	-	-
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		-	< 0.011	-	-	-	-	-	-	-
Endosulfan sulphate	-		-	-		NA		-	< 0.011	-	-	-	-	-	-	-
Endrin	184.68	USEPA Region IX	-	-		NA		-	< 0.011	-	-	-	-	-	-	-
Endrin aldehyde	-		-	-		NA		-	< 0.011	-	-	-	-	-	-	-
Endrin Ketone	-		-	-		NA		-	< 0.011	-	-	-	-	-	-	-
Heptachlor	0.38	USEPA Region IX	-	-		NA		-	< 0.011	-	-	-	-	-	-	-
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		-	< 0.011	-	-	-	-	-	-	-
Hexachlorobenzene			-	-		NA		-	< 0.011	-	-	-	-	-	-	-
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		-	< 0.011	-	-	-	-	-	-	-
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		-	< 0.03	-	-	-	-	-	-	-
Organonitrogen & Organophosphorus Pesticides**																
Alachlor	21.41	USEPA Region IX	-	-	-	NA		<0.05	<0.05	<0.05	<0.05	0.38	<0.05	0.188	0.196	0.129
Pendimethalin	24624.25	USEPA Region IX	-	-	-	NA		<0.06	<0.06	<0.06	<0.07	<0.06	<0.06	<0.06	0.054	<0.06
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Pirimiphos-methyl	6156.06	USEPA Region IX	-	-	-	NA		<0.06	<0.06	<0.06	<0.07	<0.06	<0.06	0.43	0.092	0.068
Polycyclic Aromatic Hydrocarbons																
	Sample Depth <1m															
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	-	-	-	-	-	<0.03	<0.03	<0.03
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	-	-	-	-	-	< 0.12	< 0.12	< 0.13
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	-	-	-	-	-	< 0.03	< 0.03	< 0.03

*See Table Key for definitions of abbreviations and colour coding.
**Only analytes above effective detectable limits are shown. All other analytes in this group are below the laboratory report limit.

Table 16.13
Sang Sue Market Garden
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	SS45 (Duplicate of SS2□-0.3)	SS29	SS30	SS31	SS31	SS32	SS33	SS34
							Depth (m)	0.3	0.1	0.1	0.1	0.3	0.1	0.1	0.1
							Date Sampled	22-Apr-10	22-Apr-10	23-Apr-10	23-Apr-10	23-Apr-10	23-Apr-10	23-Apr-10	23-Apr-10
	Human Health		Ecological receptors			Background Trace Elements	Soil Type	Silt (ML)	Silt (ML)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals															
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		8.7	5.7	3.9	3.8	2	6.7	6.9	6.7
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.5	0.29	0.31	0.35	<0.10	0.31	0.21	0.28
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		16.8	15.6	14.6	13.8	16.1	13.4	13.9	13.9
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		23	18.8	23	23	11.1	27	26	21
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		20	22	17.9	17.8	17.5	23	18.9	21
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		9.8	12.8	9.5	9.7	12.1	11	11.7	11
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		96	86	73	86	61	102	98	87
Organochlorine Pesticides															
Aldrin	0.1	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
alpha-BHC	0.36	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
beta-BHC	1.26	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
delta-BHC	-		-	-		NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
cis-chlordane	-		-	-		NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
trans-chlordane	-		-	-		NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	0.0161	0.028	< 0.011	0.0197	0.023	0.0128
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	0.0114	0.0177	< 0.011	0.011	< 0.010	< 0.010
Total DDT	1000	NZNES	12	0.7	CCME SQGE	NA		-	-	0.0275	0.0457	< 0.011	0.0307	0.023	0.0128
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
Endosulfan sulphate	-		-	-		NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
Endrin	184.68	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
Endrin aldehyde	-		-	-		NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
Endrin Ketone	-		-	-		NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
Heptachlor	0.38	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
Hexachlorobenzene			-	-		NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		-	-	< 0.02	< 0.02	< 0.03	< 0.02	< 0.02	< 0.02
Organonitrogen & Organophosphorus Pesticides**															
Alachlor	21.41	USEPA Region IX	-	-	-	NA		0.177	0.098	0.069	<0.05	<0.05	0.172	0.172	0.82
Pendimethalin	24624.25	USEPA Region IX	-	-	-	NA		<0.06	<0.06	0.061	<0.06	<0.05	<0.06	0.33	0.31
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Pirimiphos-methyl	6156.06	USEPA Region IX	-	-	-	NA		0.122	<0.06	<0.06	<0.06	<0.05	<0.06	<0.06	<0.06
Polycyclic Aromatic Hydrocarbons															
	Sample Depth <1m														
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		<0.03	-	-	<0.03	<0.03	-	-	-
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.13	-	-	<0.12	<0.12	-	-	-
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		< 0.03	-	-	<0.03	<0.03	-	-	-

*See Table Key for definitions of abbreviations and colour coding.
**Only analytes above effective detectable limits are shown. All other analytes in this group are below the laboratory report limit.

Table 16.13
Sang Sue Market Garden
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	SS35	SS46 (Duplicate of SS35-0.1)	SS35	SS46 (Duplicate of SS35-0.3)	SS36	SS37	SS3□	SS39
							Depth (m)	0.1	0.1	0.3	0.3	0.1	0.1	0.1	0.1
							Date Sampled	23-Apr-10	23-Apr-10	23-Apr-10	23-Apr-10	23-Apr-10	22-Apr-10	22-Apr-10	22-Apr-10
	Human Health		Ecological receptors			Background Trace Elements	Soil Type	Gravelly Silt (ML)	Gravelly Silt (ML)	Gravelly Silt (ML)	Gravelly Silt (ML)	Sand (S□)	Silty Sandy Gravel (G□)	Silty Gravel (GM)	Silty Gravel (GM)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals															
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		5.4	5.9	6.8	5.6	<2	32	8.9	8.4
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.35	0.51	0.38	0.36	0.161	0.38	0.109	0.127
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		15.6	15.3	15.4	14.8	4.8	31	13.8	15.3
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		23	22	24	22	3.9	56	54	136
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		21	21	22	20	4.6	139	98	74
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		12.8	11.5	12	10.9	8	12.5	9.1	10.3
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		90	89	89	84	13.2	220	95	79
Organochlorine Pesticides															
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
delta-BHC	-		-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
cis-chlordane	-		-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
trans-chlordane	-		-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	0.0106	< 0.011	< 0.011	< 0.010	-	-	-
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
Total DDT	1000	NZNES	12	0.7	CCME SQGE	NA		< 0.010	0.0106	< 0.011	<0.011	< 0.010	-	-	-
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
Endosulfan sulphate	-		-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
Endrin aldehyde	-		-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
Endrin Ketone	-		-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
Hexachlorobenzene			-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	-	-	-
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.02	< 0.03	< 0.03	< 0.03	< 0.02	-	-	-
Organonitrogen & Organophosphorus Pesticides**															
Alachlor	21.41	USEPA Region IX	-	-	-	NA		0.25	0.27	2	2.3	1.67	<0.05	<0.05	<0.05
Pendimethalin	24624.25	USEPA Region IX	-	-	-	NA		0.186	0.151	0.09	0.067	0.32	<0.06	<0.06	<0.06
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Pirimiphos-methyl	6156.06	USEPA Region IX	-	-	-	NA		<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Polycyclic Aromatic Hydrocarbons															
	Sample Depth <1m														
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		<0.03	<0.03	<0.03	<0.03	-	-	-	-
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		<0.12	< 0.12	<0.13	< 0.12	-	-	-	-
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		<0.03	< 0.03	<0.03	< 0.03	-	-	-	-

*See Table Key for definitions of abbreviations and colour coding.
**Only analytes above effective detectable limits are shown. All other analytes in this group are below the laboratory report limit.

Table 16.13
Sang Sue Market Garden
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	SS40	SS40	SS41	SS-Rinseate 1	SS-Rinseate 2	SS-Rinseate 3	SS-Rinseate 4	SS-Rinseate 5
							Depth (m)	0.1	0.3	0.1					
							Date Sampled	22-Apr-10	22-Apr-10	23-Apr-10	19-Apr-10	22-Apr-10	22-Apr-10	23-Apr-10	23-Apr-10
	Human Health		Ecological receptors			Background Trace Elements	Soil Type	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	□ ATER	□ ATER	□ ATER	□ ATER	□ ATER
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Heavy Metals															
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		7.1	8	6.3	< 0.021	< 0.021	< 0.021	< 0.021	< 0.021
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.49	0.6	0.41	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		15.5	20	16.8	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		31	37	35	0.149	< 0.011	< 0.012	< 0.011	< 0.011
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		28	32	31	0.0059	<0.003	<0.004	<0.003	<0.003
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		11.8	13	13.1	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		118	130	118	0.096	<0.021	<0.022	<0.021	<0.021
Organochlorine Pesticides															
Aldrin	0.1	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
alpha-BHC	0.36	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
beta-BHC	1.26	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
delta-BHC	-		-	-		NA		-	-	< 0.010	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
cis-chlordane	-		-	-		NA		-	-	< 0.010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
trans-chlordane	-		-	-		NA		-	-	< 0.010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Total DDT	1000	NZNES	12	0.7	CCME SQGE	NA		-	-	< 0.010	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		-	-	< 0.010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	< 0.010	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	< 0.010	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan sulphate	-		-	-		NA		-	-	< 0.010	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin	184.68	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Endrin aldehyde	-		-	-		NA		-	-	< 0.010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Endrin Ketone	-		-	-		NA		-	-	< 0.010	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Heptachlor	0.38	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Hexachlorobenzene			-	-		NA		-	-	< 0.010	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		-	-	< 0.010	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00010
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		-	-	< 0.02	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Organonitrogen & Organophosphorus Pesticides**															
Alachlor	21.41	USEPA Region IX	-	-	-	NA		<0.05	<0.05	<0.05	<0.0003	<0.0003	<0.0003	<0.0003	0.0004
Pendimethalin	24624.25	USEPA Region IX	-	-	-	NA		<0.06	<0.06	<0.06	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Pirimiphos-methyl	6156.06	USEPA Region IX	-	-	-	NA		<0.06	<0.06	<0.06	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Polycyclic Aromatic Hydrocarbons															
	Sample Depth <1m														
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		<0.03	<0.03	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.12	< 0.13	-	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		< 0.03	< 0.03	-	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002

*See Table Key for definitions of abbreviations and colour coding.
**Only analytes above effective detectable limits are shown. All other analytes in this group are below the laboratory report limit.

Table 16.14
Golden Coast □urseries
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	GC□1	GC□2	GC□2	GC□3	GC□4	GC□5	GC□6	GC□41 (Duplicate of GC□6-0.1)	GC□6	GC□41 (Duplicate of GC□6-0.3)	GC□7	GC□□	GC□9	GC□9	GC□10	GC□11
							Depth (m)	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.1	0.1	0.1	0.3	0.1	0.1
							Date Sampled	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Gravel (G□)	Gravel (G□)	Gravel (G□)	Silty Gravel (GM)	Sandy Gravel (G□)	Sandy Gravel (G□)	Sand (SP)	Sand (SP)	Sand (SP)	Sand (SP)	Sand (SP)	Sandy Gravel (G□)	Sandy Silt (ML)	Sandy Silt (ML)	Gravelly Silt (ML)	Gravelly Silt (ML)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																							
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		26	2□	24	49	7.9	5.5	13.1	4.1	20	5.2	3.5	6	4.1	3.8	16.6	10.7
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.35	0.24	0.165	0.22	0.114	0.24	0.141	< 0.10	0.24	< 0.10	< 0.10	< 0.10	0.149	0.147	0.49	0.38
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		17.4	19.3	18.9	22	11.5	12.4	16.9	7	21	8.2	6.3	10.3	12.5	14.2	14.4	13.6
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		59	41	34	42	9.6	16.6	22	7.4	30	8.2	5.2	11.9	11.2	9.8	220	151
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		25	20	21	18.1	25	28	18.3	5.9	26	8.1	3.9	15.1	23	25	19.2	20
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		10	9.9	10.9	10	8.7	8.8	7.4	5.6	8.5	6.5	6.1	8.4	8.4	10.1	9.5	9.6
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		220	165	127	250	59	94	166	34	2□0	41	31	73	60	62	131	200
Organochlorine Pesticides																							
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
delta-BHC	-		-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
cis-chlordane	-		-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
trans-chlordane	-		-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.011	0.0137	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	0.0151	< 0.010
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	0.74
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		0.176	< 0.010	< 0.010	0.0177	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	0.029	1.04
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	0.0132	< 0.010
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		0.176	0.0137	< 0.010	0.0177	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	0.0573	1.7□
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		0.35	0.24	0.155	0.062	0.0101	< 0.010	< 0.011	< 0.010	0.032	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	0.026	0.029
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		0.6	1.06	0.45	0.95	< 0.010	< 0.010	< 0.011	< 0.010	0.0161	< 0.011	0.02	< 0.011	< 0.010	< 0.010	0.21	0.29
Endosulfan sulphate	-		-	-		NA		1.44	2.5	1.24	2.2	0.0118	0.028	< 0.011	< 0.010	0.026	< 0.011	0.32	0.017	< 0.010	< 0.010	0.87	0.91
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Endrin aldehyde	-		-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Endrin Ketone	-		-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Hexachlorobenzene	-		-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.03	< 0.02	< 0.02	< 0.03	< 0.02	< 0.02	< 0.03	< 0.02	< 0.02	< 0.03	< 0.03	< 0.03	< 0.02	< 0.02	< 0.03	< 0.02
Organonitrogen & Organophosphorus Pesticides																							
Bromopropylate						NA		0.105	0.26	0.21	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05	<0.06	<0.05	<0.06	<0.06	0.30	<0.06
Oxadiazon	3078.3	USEPA Region IX	-	-	-	NA		<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Pirimicarb	-		-	-	-	NA		0.061	<0.06	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06
Triazophos	-		-	-	-	NA		<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06
Polycyclic Aromatic Hydrocarbons																							
	Sample Depth <1m																						
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	<0.03	<0.03	-	-	-	<0.03	-	<0.03	-	-	-	0.004	0.006	-	-
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	< 0.13	< 0.13	-	-	-	< 0.13	< 0.11	< 0.14	< 0.12	-	-	< 0.14	< 0.13	-	-
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	< 0.3	< 0.3	-	-	-	< 0.3	< 0.3	< 0.3	< 0.3	-	-	< 0.3	< 0.3	-	-
Asbestos																							
	Presence / Absense		-	-		NA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.14
Golden Coast □urseries
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	GC□12	GC□13	GC□43 (Duplicate of GC□13-0.1)	GC□13	GC□43 (Duplicate of GC□13-0.3)	GC□14	GC□15	GC□15	GC□16	GC□17	GC□1□	GC□19	GC□19	GC□20	GC□21
							Depth (m)	0.1	0.1	0.1	0.3	0.3	0.1	0.1	0.3	0.1	0.1	0.1	0.3	0.3	0.1	0.1
							Date Sampled	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Sandy Gravel (G□)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Sandy Gravel (G□)	Sandy Gravel (G□)	Sandy Gravel (G□)	Sandy Gravel (G□)	Sand (SP)	Gravel (G□)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																						
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		27	31	35	21	19.4	42	26	9.9	10.1	14.2	5.1	3.9	4.4	2.7	6.4
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.129	1.08	1.18	0.57	0.52	0.5	0.86	0.116	0.195	0.33	< 0.10	< 0.10	< 0.10	< 0.10	0.3
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		21	310	3□0	160	159	18.6	26	16.7	14.7	17.6	10.3	10.6	13.6	6.7	15.1
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		32	360	450	144	140	1350	1910	111	240	17.3	12.6	12.4	12	5.2	21
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		19.1	127	154	71	63	25	36	18.1	19.1	45	16.8	11.6	18.4	3.7	35
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		11.2	107	117	52	50	8.8	8.7	10.1	10.3	9.5	7.7	8.5	10.7	5.7	11.7
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		82	1690	1910	900	790	270	300	74	73	81	55	56	61	27	88
Organochlorine Pesticides																						
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
delta-BHC	-		-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		0.0173	< 0.010	< 0.010	-	-	0.023	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
cis-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
trans-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	0.0145	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	0.032	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	0.022	0.02	-	-	0.111	0.145	0.0124	0.0128	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	0.0117	-	-	0.0138	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		< 0.010	0.022	0.0317	-	-	0.1713	0.145	0.0124	0.0128	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		0.0117	0.0134	0.0171	-	-	0.24	0.9	0.058	0.0128	< 0.010	< 0.010	0.81	0.057	< 0.010	< 0.010
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		0.02	0.033	0.042	-	-	0.197	1.68	0.2	0.0172	< 0.010	0.029	1.27	0.127	< 0.010	0.0185
Endosulfan sulphate	-		-	-		NA		0.097	0.147	0.21	-	-	0.63	3.2	0.4	0.072	< 0.010	0.027	1.31	0.21	0.089	0.097
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Endrin aldehyde			-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Endrin Ketone			-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Hexachlorobenzene	-		-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.02	< 0.02	< 0.02	-	-	< 0.02	< 0.03	< 0.03	< 0.02	< 0.02	< 0.02	< 0.02	< 0.03	< 0.02	< 0.02
Organonitrogen & Organophosphorus Pesticides																						
Bromopropylate			-	-	-	NA		<0.06	<0.06	<0.06	-	-	0.39	<0.08	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05
Oxadiazon	3078.3	USEPA Region IX	-	-	-	NA		<0.06	<0.06	<0.06	-	-	<0.06	<0.08	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	-	-	0.045	0.117	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Pirimicarb	-		-	-	-	NA		<0.06	<0.06	<0.06	-	-	<0.06	<0.08	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05
Triazophos	-		-	-	-	NA		<0.06	<0.06	<0.06	-	-	<0.06	0.101	<0.06	<0.06	<0.06	<0.06	0.082	<0.05	<0.06	<0.05
Polycyclic Aromatic Hydrocarbons																						
	Sample Depth <1m																					
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	-	-	-	-	-	<0.07	<0.03	-	-	-	<0.03	<0.03	-	-
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	-	-	-	-	-	<0.04	< 0.12	-	-	-	< 0.12	< 0.12	-	-
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	-	-	-	-	-	<0.07	< 0.3	-	-	-	< 0.3	< 0.3	-	-
Asbestos																						
	Presence / Absense		-	-		NA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.14
Golden Coast □urseries
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	GC□22	GC□23	GC□24	GC□25	GC□26	GC□26	GC□27	GC□45 (Duplicate of GC□27-0.1)	GC□27	GC□45 (Duplicate of GC□27-0.3)	G□2□	G□29	G□30	G□31	G□32
							Depth (m)	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.3	0.3	0.1	0.1	0.1	0.1	0.1
							Date Sampled	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Gravel (G□)	Gravel (G□)	Silt (ML)	Gravel (G□)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Sandy Gravel (G□)	Gravelly Silt (ML)	Gravelly Silt (ML)	Silty Sand (SM)	Silty Gravel (GM)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																						
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		5.5	5.5	3.7	6.8	100	43	16.4	20	12.9	12.9	10.7	16.5	7.6	3.7	7.7
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.105	< 0.10	< 0.10	0.37	0.89	0.3	0.163	0.198	0.113	< 0.10	0.141	< 0.10	< 0.10	0.166	< 0.10
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		24	13.2	12.2	14.4	30	23	22	24	17.6	16.5	16.7	14	15	11.1	13.9
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		15.9	14.1	9.6	6□	1040	350	300	360	□7	93	35	19.5	32	17.6	13.8
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		28	22	26	20	37	24	18.2	18.9	18.6	17.1	23	21	22	56	22
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		18.3	10.7	8.6	10.4	9.5	10.8	10.5	10.2	11.9	11	9.6	10.1	9.6	7.2	10.5
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		101	64	50	69	460	220	122	143	84	85	93	109	79	73	79
Organochlorine Pesticides																						
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
delta-BHC	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	0.098	0.027	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
cis-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
trans-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	0.015	< 0.010	0.0126	0.0124	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	0.021	< 0.010	0.044	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	0.025	0.121	0.044	0.113	0.076	-	0.026	0.0152	< 0.010	< 0.010	0.0146	< 0.011
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	0.051	0.021	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		< 0.010	< 0.010	< 0.010	0.025	0.208	0.065	0.1696	0.0884	-	0.026	0.0152	< 0.010	< 0.010	0.0146	< 0.011
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		0.037	0.018	< 0.010	0.04	0.042	0.024	0.27	0.22	-	0.063	0.071	0.21	< 0.010	0.26	< 0.011
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		0.39	0.149	< 0.010	0.25	0.21	0.149	1.09	0.78	-	0.28	0.61	1.6	0.013	0.51	0.026
Endosulfan sulphate	-		-	-		NA		0.79	0.199	< 0.010	0.66	0.66	0.4	2.1	1.45	-	0.56	1.07	2.1	0.04	0.96	0.21
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Endrin aldehyde			-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Endrin Ketone			-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Hexachlorobenzene			-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.02	< 0.02	< 0.02	< 0.03	< 0.02	< 0.02	< 0.02	< 0.02	-	< 0.03	< 0.03	< 0.02	< 0.02	< 0.03	< 0.03
Organonitrogen & Organophosphorus Pesticides																						
Bromopropylate			-	-	-	NA		<0.05	<0.06	<0.06	<0.05	0.154	<0.06	0.098	0.122	-	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Oxadiazon	3078.3	USEPA Region IX	-	-	-	NA		<0.05	<0.06	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06	-	<0.06	<0.06	<0.06	0.27	<0.06	<0.06
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	<0.02	0.066	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Pirimicarb	-		-	-	-	NA		<0.05	<0.06	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06	-	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Triazophos	-		-	-	-	NA		<0.05	<0.06	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06	-	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Polycyclic Aromatic Hydrocarbons																						
	Sample Depth <1m																					
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	-	-	-	<0.03	<0.03	-	<0.03	-	0.000	-	-	-	-	<0.03
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	-	-	-	< 0.15	< 0.13	-	< 0.12	-	< 0.12	-	-	-	-	< 0.13
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	-	-	-	< 0.3	< 0.3	-	< 0.3	-	< 0.3	-	-	-	-	< 0.3
Asbestos																						
	Presence / Absense		-	-		NA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.14
Golden Coast □urseries
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	G□32	G□33	G□34	G□35	G□36	G□37	G□3□	G□3□	G□39	G□40	G□42 (Duplicate of G□40-0.1)	G□40	G□42 (Duplicate of G□40-0.3)	GC□ Rinseate 1	GC□ Rinseate 2
							Depth (m)	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.3	0.3		
							Date Sampled	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	20-Apr-10	21-Apr-10	20-Apr-10	20-Apr-10	21-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Silty Gravel (GM)	Gravelly Silt (ML)	Silty Sand (SM)	Gravelly Silt (ML)	Gravelly Silt (ML)	Silty Sand (SM)	Gravelly Silt (ML)	Gravelly Silt (ML)	Sand (SP)	Silty Sand (SM)	Silty Sand (SM)	Silty Sand (SM)	Silty Sand (SM)	-	-
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/L)	(mg/L)
Heavy Metals																						
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		5.8	5.1	4.7	4.2	6.7	6.8	7.9	3.5	9.7	5.6	5.7	4.7	4.5	< 0.021	< 0.021
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		< 0.10	< 0.10	0.112	0.113	0.21	0.194	0.38	< 0.10	< 0.10	0.28	0.22	< 0.10	< 0.10	< 0.0011	0.00123
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		14	12.3	13.4	6.9	11	12.1	23	13.6	8.3	8.9	8.7	7.2	8.1	< 0.011	< 0.011
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		12.2	12.5	15.8	220	39	37	72	12.2	10.1	17.4	16.6	9.8	12.4	< 0.011	< 0.011
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		21	22	34	6.3	103	110	91	26	7.7	14.2	10.4	8.5	11.6	< 0.003	< 0.003
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		10.9	10	10	5.1	6.7	8.4	9.7	10.9	5.5	5.7	5.8	5.6	5.4	< 0.011	< 0.011
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		73	63	153	42	97	84	187	60	55	430	220	90	134	< 0.021	< 0.021
Organochlorine Pesticides																						
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
delta-BHC	-		-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	0.011	-	< 0.010	< 0.0002	< 0.0002
cis-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
trans-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	0.0121	< 0.011	0.027	0.0121	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	0.0154	< 0.0002	< 0.0002
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	0.0126	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		< 0.010	0.0121	< 0.011	0.027	0.0247	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	0.0154	< 0.0002	< 0.0002
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	0.03	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	0.21	0.76	0.42	-	0.125	< 0.0002	< 0.0002
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		0.0118	0.114	< 0.011	< 0.010	< 0.011	< 0.011	0.053	< 0.010	0.74	0.98	0.45	-	0.139	< 0.0002	< 0.0002
Endosulfan sulphate	-		-	-		NA		0.11	0.4	< 0.011	< 0.010	< 0.011	< 0.011	0.2	< 0.010	0.73	1.29	0.65	-	0.21	< 0.0002	< 0.0002
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
Endrin aldehyde			-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
Endrin Ketone			-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
Hexachlorobenzene			-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0008	< 0.0008
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.02	< 0.02	< 0.03	< 0.02	< 0.03	< 0.03	< 0.02	< 0.02	< 0.02	< 0.02	< 0.03	-	< 0.02	< 0.0004	< 0.0004
Organonitrogen & Organophosphorus Pesticides																						
Bromopropylate			-	-	-	NA		<0.06	<0.06	<0.05	<0.06	<0.07	<0.06	<0.06	<0.06	<0.06	0.174	0.093	-	<0.06	<0.0004	<0.0004
Oxadiazon	3078.3	USEPA Region IX	-	-	-	NA		<0.06	<0.06	<0.05	<0.06	<0.07	<0.06	<0.06	<0.06	0.071	1.12	1.56	-	0.169	<0.0004	<0.0004
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.0002	<0.0002
Pirimicarb	-		-	-	-	NA		<0.06	<0.06	<0.05	<0.06	<0.07	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	-	<0.06	<0.0004	<0.0004
Triazophos	-		-	-	-	NA		<0.06	<0.06	<0.05	<0.06	<0.07	<0.06	<0.06	<0.06	<0.06	0.058	<0.06	-	<0.06	<0.0004	<0.0004
Polycyclic Aromatic Hydrocarbons																						
	Sample Depth <1m																					
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		<0.03	-	-	-	-	-	<0.03	0.515	-	-	0.000	-	0.000	<0.0002	<0.0002
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.12	-	-	-	-	-	< 0.13	< 0.13	-	-	< 0.13	-	< 0.14	<0.0005	0.00075
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		< 0.3	-	-	-	-	-	< 0.3	0.039	-	-	< 0.3	-	0.31	<0.0002	< 0.0002
Asbestos																						
	Presence / Absense		-	-		NA		-	-	-	-	-	-					-		-	-	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.14
Golden Coast □urseries
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	GC□1	GC□2	GC□2	GC□3	GC□4	GC□5	GC□6	GC□41 (Duplicate of GC□6-0.1)	GC□6	GC□41 (Duplicate of GC□6-0.3)	GC□7	GC□□	GC□9	GC□9	GC□10	GC□11
							Depth (m)	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.1	0.1	0.1	0.3	0.1	0.1
							Date Sampled	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Gravel (G□)	Gravel (G□)	Gravel (G□)	Silty Gravel (GM)	Sandy Gravel (G□)	Sandy Gravel (G□)	Sand (SP)	Sand (SP)	Sand (SP)	Sand (SP)	Sand (SP)	Sandy Gravel (G□)	Sandy Silt (ML)	Sandy Silt (ML)	Gravelly Silt (ML)	Gravelly Silt (ML)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																							
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		26	2□	24	49	7.9	5.5	13.1	4.1	20	5.2	3.5	6	4.1	3.8	16.6	10.7
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.35	0.24	0.165	0.22	0.114	0.24	0.141	< 0.10	0.24	< 0.10	< 0.10	< 0.10	0.149	0.147	0.49	0.38
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		17.4	19.3	18.9	22	11.5	12.4	16.9	7	21	8.2	6.3	10.3	12.5	14.2	14.4	13.6
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		59	41	34	42	9.6	16.6	22	7.4	30	8.2	5.2	11.9	11.2	9.8	220	151
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		25	20	21	18.1	25	28	18.3	5.9	26	8.1	3.9	15.1	23	25	19.2	20
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		10	9.9	10.9	10	8.7	8.8	7.4	5.6	8.5	6.5	6.1	8.4	8.4	10.1	9.5	9.6
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		220	165	127	250	59	94	166	34	2□0	41	31	73	60	62	131	200
Organochlorine Pesticides																							
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
delta-BHC	-		-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
cis-chlordane	-		-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
trans-chlordane	-		-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.011	0.0137	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	0.0151	< 0.010
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	0.74
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		0.176	< 0.010	< 0.010	0.0177	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	0.029	1.04
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	0.0132	< 0.010
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		0.176	0.0137	< 0.010	0.0177	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	0.0573	1.7□
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		0.35	0.24	0.155	0.062	0.0101	< 0.010	< 0.011	< 0.010	0.032	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	0.026	0.029
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		0.6	1.06	0.45	0.95	< 0.010	< 0.010	< 0.011	< 0.010	0.0161	< 0.011	0.02	< 0.011	< 0.010	< 0.010	0.21	0.29
Endosulfan sulphate	-		-	-		NA		1.44	2.5	1.24	2.2	0.0118	0.028	< 0.011	< 0.010	0.026	< 0.011	0.32	0.017	< 0.010	< 0.010	0.87	0.91
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Endrin aldehyde	-		-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Endrin Ketone	-		-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Hexachlorobenzene	-		-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.03	< 0.02	< 0.02	< 0.03	< 0.02	< 0.02	< 0.03	< 0.02	< 0.02	< 0.03	< 0.03	< 0.03	< 0.02	< 0.02	< 0.03	< 0.02
Organonitrogen & Organophosphorus Pesticides																							
Bromopropylate						NA		0.105	0.26	0.21	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05	<0.06	<0.05	<0.06	<0.06	0.30	<0.06
Oxadiazon	3078.3	USEPA Region IX	-	-	-	NA		<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Pirimicarb	-		-	-	-	NA		0.061	<0.06	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06
Triazophos	-		-	-	-	NA		<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06
Polycyclic Aromatic Hydrocarbons																							
	Sample Depth <1m																						
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	<0.03	<0.03	-	-	-	<0.03	-	<0.03	-	-	-	0.004	0.006	-	-
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	< 0.13	< 0.13	-	-	-	< 0.13	< 0.11	< 0.14	< 0.12	-	-	< 0.14	< 0.13	-	-
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	< 0.3	< 0.3	-	-	-	< 0.3	< 0.3	< 0.3	< 0.3	-	-	< 0.3	< 0.3	-	-
Asbestos																							
	Presence / Absense		-	-		NA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.14
Golden Coast □urseries
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	GC□12	GC□13	GC□43 (Duplicate of GC□13-0.1)	GC□13	GC□43 (Duplicate of GC□13-0.3)	GC□14	GC□15	GC□15	GC□16	GC□17	GC□1□	GC□19	GC□19	GC□20	GC□21
							Depth (m)	0.1	0.1	0.1	0.3	0.3	0.1	0.1	0.3	0.1	0.1	0.1	0.3	0.3	0.1	0.1
							Date Sampled	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Sandy Gravel (G□)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Sandy Gravel (G□)	Sandy Gravel (G□)	Sandy Gravel (G□)	Sandy Gravel (G□)	Sand (SP)	Gravel (G□)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																						
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		27	31	35	21	19.4	42	26	9.9	10.1	14.2	5.1	3.9	4.4	2.7	6.4
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.129	1.08	1.18	0.57	0.52	0.5	0.86	0.116	0.195	0.33	< 0.10	< 0.10	< 0.10	< 0.10	0.3
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		21	310	3□0	160	159	18.6	26	16.7	14.7	17.6	10.3	10.6	13.6	6.7	15.1
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		32	360	450	144	140	1350	1910	111	240	17.3	12.6	12.4	12	5.2	21
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		19.1	127	154	71	63	25	36	18.1	19.1	45	16.8	11.6	18.4	3.7	35
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		11.2	107	117	52	50	8.8	8.7	10.1	10.3	9.5	7.7	8.5	10.7	5.7	11.7
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		82	1690	1910	900	790	270	300	74	73	81	55	56	61	27	88
Organochlorine Pesticides																						
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
delta-BHC	-		-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		0.0173	< 0.010	< 0.010	-	-	0.023	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
cis-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
trans-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	0.0145	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	0.032	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	0.022	0.02	-	-	0.111	0.145	0.0124	0.0128	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	0.0117	-	-	0.0138	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		< 0.010	0.022	0.0317	-	-	0.1713	0.145	0.0124	0.0128	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		0.0117	0.0134	0.0171	-	-	0.24	0.9	0.058	0.0128	< 0.010	< 0.010	0.81	0.057	< 0.010	< 0.010
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		0.02	0.033	0.042	-	-	0.197	1.68	0.2	0.0172	< 0.010	0.029	1.27	0.127	< 0.010	0.0185
Endosulfan sulphate	-		-	-		NA		0.097	0.147	0.21	-	-	0.63	3.2	0.4	0.072	< 0.010	0.027	1.31	0.21	0.089	0.097
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Endrin aldehyde			-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Endrin Ketone			-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Hexachlorobenzene	-		-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.02	< 0.02	< 0.02	-	-	< 0.02	< 0.03	< 0.03	< 0.02	< 0.02	< 0.02	< 0.02	< 0.03	< 0.02	< 0.02
Organonitrogen & Organophosphorus Pesticides																						
Bromopropylate			-	-	-	NA		<0.06	<0.06	<0.06	-	-	0.39	<0.08	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05
Oxadiazon	3078.3	USEPA Region IX	-	-	-	NA		<0.06	<0.06	<0.06	-	-	<0.06	<0.08	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	-	-	0.045	0.117	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Pirimicarb	-		-	-	-	NA		<0.06	<0.06	<0.06	-	-	<0.06	<0.08	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05
Triazophos	-		-	-	-	NA		<0.06	<0.06	<0.06	-	-	<0.06	0.101	<0.06	<0.06	<0.06	<0.06	0.082	<0.05	<0.06	<0.05
Polycyclic Aromatic Hydrocarbons																						
	Sample Depth <1m																					
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	-	-	-	-	-	<0.07	<0.03	-	-	-	<0.03	<0.03	-	-
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	-	-	-	-	-	<0.04	< 0.12	-	-	-	< 0.12	< 0.12	-	-
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	-	-	-	-	-	<0.07	< 0.3	-	-	-	< 0.3	< 0.3	-	-
Asbestos																						
	Presence / Absense		-	-		NA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.14
Golden Coast □urseries
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	GC□22	GC□23	GC□24	GC□25	GC□26	GC□26	GC□27	GC□45 (Duplicate of GC□27-0.1)	GC□27	GC□45 (Duplicate of GC□27-0.3)	G□2□	G□29	G□30	G□31	G□32
							Depth (m)	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.3	0.3	0.1	0.1	0.1	0.1	0.1
							Date Sampled	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Gravel (G□)	Gravel (G□)	Silt (ML)	Gravel (G□)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Sandy Gravel (G□)	Gravelly Silt (ML)	Gravelly Silt (ML)	Silty Sand (SM)	Silty Gravel (GM)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																						
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		5.5	5.5	3.7	6.8	100	43	16.4	20	12.9	12.9	10.7	16.5	7.6	3.7	7.7
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.105	< 0.10	< 0.10	0.37	0.89	0.3	0.163	0.198	0.113	< 0.10	0.141	< 0.10	< 0.10	0.166	< 0.10
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		24	13.2	12.2	14.4	30	23	22	24	17.6	16.5	16.7	14	15	11.1	13.9
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		15.9	14.1	9.6	6□	1040	350	300	360	□7	93	35	19.5	32	17.6	13.8
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		28	22	26	20	37	24	18.2	18.9	18.6	17.1	23	21	22	56	22
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		18.3	10.7	8.6	10.4	9.5	10.8	10.5	10.2	11.9	11	9.6	10.1	9.6	7.2	10.5
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		101	64	50	69	460	220	122	143	84	85	93	109	79	73	79
Organochlorine Pesticides																						
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
delta-BHC	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	0.098	0.027	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
cis-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
trans-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	0.015	< 0.010	0.0126	0.0124	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	0.021	< 0.010	0.044	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	0.025	0.121	0.044	0.113	0.076	-	0.026	0.0152	< 0.010	< 0.010	0.0146	< 0.011
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	0.051	0.021	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		< 0.010	< 0.010	< 0.010	0.025	0.208	0.065	0.1696	0.0884	-	0.026	0.0152	< 0.010	< 0.010	0.0146	< 0.011
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		0.037	0.018	< 0.010	0.04	0.042	0.024	0.27	0.22	-	0.063	0.071	0.21	< 0.010	0.26	< 0.011
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		0.39	0.149	< 0.010	0.25	0.21	0.149	1.09	0.78	-	0.28	0.61	1.6	0.013	0.51	0.026
Endosulfan sulphate	-		-	-		NA		0.79	0.199	< 0.010	0.66	0.66	0.4	2.1	1.45	-	0.56	1.07	2.1	0.04	0.96	0.21
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Endrin aldehyde			-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Endrin Ketone			-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Hexachlorobenzene			-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.02	< 0.02	< 0.02	< 0.03	< 0.02	< 0.02	< 0.02	< 0.02	-	< 0.03	< 0.03	< 0.02	< 0.02	< 0.03	< 0.03
Organonitrogen & Organophosphorus Pesticides																						
Bromopropylate			-	-	-	NA		<0.05	<0.06	<0.06	<0.05	0.154	<0.06	0.098	0.122	-	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Oxadiazon	3078.3	USEPA Region IX	-	-	-	NA		<0.05	<0.06	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06	-	<0.06	<0.06	<0.06	0.27	<0.06	<0.06
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	<0.02	0.066	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Pirimicarb	-		-	-	-	NA		<0.05	<0.06	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06	-	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Triazophos	-		-	-	-	NA		<0.05	<0.06	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06	-	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Polycyclic Aromatic Hydrocarbons																						
	Sample Depth <1m																					
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	-	-	-	<0.03	<0.03	-	<0.03	-	0.000	-	-	-	-	<0.03
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	-	-	-	< 0.15	< 0.13	-	< 0.12	-	< 0.12	-	-	-	-	< 0.13
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	-	-	-	< 0.3	< 0.3	-	< 0.3	-	< 0.3	-	-	-	-	< 0.3
Asbestos																						
	Presence / Absense		-	-		NA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.14
Golden Coast □urseries
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	G□32	G□33	G□34	G□35	G□36	G□37	G□3□	G□3□	G□39	G□40	G□42 (Duplicate of G□40-0.1)	G□40	G□42 (Duplicate of G□40-0.3)	GC□ Rinseate 1	GC□ Rinseate 2
							Depth (m)	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.3	0.3		
							Date Sampled	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	20-Apr-10	21-Apr-10	20-Apr-10	20-Apr-10	21-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Silty Gravel (GM)	Gravelly Silt (ML)	Silty Sand (SM)	Gravelly Silt (ML)	Gravelly Silt (ML)	Silty Sand (SM)	Gravelly Silt (ML)	Gravelly Silt (ML)	Sand (SP)	Silty Sand (SM)	Silty Sand (SM)	Silty Sand (SM)	Silty Sand (SM)	-	-
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/L)	(mg/L)
Heavy Metals																						
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		5.8	5.1	4.7	4.2	6.7	6.8	7.9	3.5	9.7	5.6	5.7	4.7	4.5	< 0.021	< 0.021
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		< 0.10	< 0.10	0.112	0.113	0.21	0.194	0.38	< 0.10	< 0.10	0.28	0.22	< 0.10	< 0.10	< 0.0011	0.00123
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		14	12.3	13.4	6.9	11	12.1	23	13.6	8.3	8.9	8.7	7.2	8.1	< 0.011	< 0.011
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		12.2	12.5	15.8	220	39	37	72	12.2	10.1	17.4	16.6	9.8	12.4	< 0.011	< 0.011
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		21	22	34	6.3	103	110	91	26	7.7	14.2	10.4	8.5	11.6	< 0.003	< 0.003
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		10.9	10	10	5.1	6.7	8.4	9.7	10.9	5.5	5.7	5.8	5.6	5.4	< 0.011	< 0.011
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		73	63	153	42	97	84	187	60	55	430	220	90	134	< 0.021	< 0.021
Organochlorine Pesticides																						
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
delta-BHC	-		-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	0.011	-	< 0.010	< 0.0002	< 0.0002
cis-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
trans-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	0.0121	< 0.011	0.027	0.0121	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	0.0154	< 0.0002	< 0.0002
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	0.0126	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		< 0.010	0.0121	< 0.011	0.027	0.0247	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	0.0154	< 0.0002	< 0.0002
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	0.03	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	0.21	0.76	0.42	-	0.125	< 0.0002	< 0.0002
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		0.0118	0.114	< 0.011	< 0.010	< 0.011	< 0.011	0.053	< 0.010	0.74	0.98	0.45	-	0.139	< 0.0002	< 0.0002
Endosulfan sulphate	-		-	-		NA		0.11	0.4	< 0.011	< 0.010	< 0.011	< 0.011	0.2	< 0.010	0.73	1.29	0.65	-	0.21	< 0.0002	< 0.0002
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
Endrin aldehyde			-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
Endrin Ketone			-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
Hexachlorobenzene			-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0008	< 0.0008
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.02	< 0.02	< 0.03	< 0.02	< 0.03	< 0.03	< 0.02	< 0.02	< 0.02	< 0.02	< 0.03	-	< 0.02	< 0.0004	< 0.0004
Organonitrogen & Organophosphorus Pesticides																						
Bromopropylate			-	-	-	NA		<0.06	<0.06	<0.05	<0.06	<0.07	<0.06	<0.06	<0.06	<0.06	0.174	0.093	-	<0.06	<0.0004	<0.0004
Oxadiazon	3078.3	USEPA Region IX	-	-	-	NA		<0.06	<0.06	<0.05	<0.06	<0.07	<0.06	<0.06	<0.06	0.071	1.12	1.56	-	0.169	<0.0004	<0.0004
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.0002	<0.0002
Pirimicarb	-		-	-	-	NA		<0.06	<0.06	<0.05	<0.06	<0.07	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	-	<0.06	<0.0004	<0.0004
Triazophos	-		-	-	-	NA		<0.06	<0.06	<0.05	<0.06	<0.07	<0.06	<0.06	<0.06	<0.06	0.058	<0.06	-	<0.06	<0.0004	<0.0004
Polycyclic Aromatic Hydrocarbons																						
	Sample Depth <1m																					
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		<0.03	-	-	-	-	-	<0.03	0.515	-	-	0.000	-	0.000	<0.0002	<0.0002
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.12	-	-	-	-	-	< 0.13	< 0.13	-	-	< 0.13	-	< 0.14	<0.0005	0.00075
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		< 0.3	-	-	-	-	-	< 0.3	0.039	-	-	< 0.3	-	0.31	<0.0002	< 0.0002
Asbestos																						
	Presence / Absense		-	-		NA		-	-	-	-	-	-					-		-	-	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.14
Golden Coast □urseries
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	GC□1	GC□2	GC□2	GC□3	GC□4	GC□5	GC□6	GC□41 (Duplicate of GC□6-0.1)	GC□6	GC□41 (Duplicate of GC□6-0.3)	GC□7	GC□□	GC□9	GC□9	GC□10	GC□11
							Depth (m)	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.1	0.1	0.1	0.3	0.1	0.1
							Date Sampled	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Gravel (G□)	Gravel (G□)	Gravel (G□)	Silty Gravel (GM)	Sandy Gravel (G□)	Sandy Gravel (G□)	Sand (SP)	Sand (SP)	Sand (SP)	Sand (SP)	Sand (SP)	Sandy Gravel (G□)	Sandy Silt (ML)	Sandy Silt (ML)	Gravelly Silt (ML)	Gravelly Silt (ML)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																							
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		26	2□	24	49	7.9	5.5	13.1	4.1	20	5.2	3.5	6	4.1	3.8	16.6	10.7
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.35	0.24	0.165	0.22	0.114	0.24	0.141	< 0.10	0.24	< 0.10	< 0.10	< 0.10	0.149	0.147	0.49	0.38
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		17.4	19.3	18.9	22	11.5	12.4	16.9	7	21	8.2	6.3	10.3	12.5	14.2	14.4	13.6
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		59	41	34	42	9.6	16.6	22	7.4	30	8.2	5.2	11.9	11.2	9.8	220	151
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		25	20	21	18.1	25	28	18.3	5.9	26	8.1	3.9	15.1	23	25	19.2	20
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		10	9.9	10.9	10	8.7	8.8	7.4	5.6	8.5	6.5	6.1	8.4	8.4	10.1	9.5	9.6
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		220	165	127	250	59	94	166	34	2□0	41	31	73	60	62	131	200
Organochlorine Pesticides																							
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
delta-BHC	-		-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
cis-chlordane	-		-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
trans-chlordane	-		-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.011	0.0137	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	0.0151	< 0.010
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	0.74
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		0.176	< 0.010	< 0.010	0.0177	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	0.029	1.04
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	0.0132	< 0.010
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		0.176	0.0137	< 0.010	0.0177	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	0.0573	1.7□
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		0.35	0.24	0.155	0.062	0.0101	< 0.010	< 0.011	< 0.010	0.032	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	0.026	0.029
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		0.6	1.06	0.45	0.95	< 0.010	< 0.010	< 0.011	< 0.010	0.0161	< 0.011	0.02	< 0.011	< 0.010	< 0.010	0.21	0.29
Endosulfan sulphate	-		-	-		NA		1.44	2.5	1.24	2.2	0.0118	0.028	< 0.011	< 0.010	0.026	< 0.011	0.32	0.017	< 0.010	< 0.010	0.87	0.91
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Endrin aldehyde	-		-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Endrin Ketone	-		-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Hexachlorobenzene	-		-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.010
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.03	< 0.02	< 0.02	< 0.03	< 0.02	< 0.02	< 0.03	< 0.02	< 0.02	< 0.03	< 0.03	< 0.03	< 0.02	< 0.02	< 0.03	< 0.02
Organonitrogen & Organophosphorus Pesticides																							
Bromopropylate						NA		0.105	0.26	0.21	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05	<0.06	<0.05	<0.06	<0.06	0.30	<0.06
Oxadiazon	3078.3	USEPA Region IX	-	-	-	NA		<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Pirimicarb	-		-	-	-	NA		0.061	<0.06	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06
Triazophos	-		-	-	-	NA		<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06
Polycyclic Aromatic Hydrocarbons																							
	Sample Depth <1m																						
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	<0.03	<0.03	-	-	-	<0.03	-	<0.03	-	-	-	0.004	0.006	-	-
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	< 0.13	< 0.13	-	-	-	< 0.13	< 0.11	< 0.14	< 0.12	-	-	< 0.14	< 0.13	-	-
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	< 0.3	< 0.3	-	-	-	< 0.3	< 0.3	< 0.3	< 0.3	-	-	< 0.3	< 0.3	-	-
Asbestos																							
	Presence / Absense		-	-		NA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.14
Golden Coast □urseries
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	GC□12	GC□13	GC□43 (Duplicate of GC□13-0.1)	GC□13	GC□43 (Duplicate of GC□13-0.3)	GC□14	GC□15	GC□15	GC□16	GC□17	GC□1□	GC□19	GC□19	GC□20	GC□21
							Depth (m)	0.1	0.1	0.1	0.3	0.3	0.1	0.1	0.3	0.1	0.1	0.1	0.3	0.3	0.1	0.1
							Date Sampled	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Sandy Gravel (G□)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Sandy Gravel (G□)	Sandy Gravel (G□)	Sandy Gravel (G□)	Sandy Gravel (G□)	Sand (SP)	Gravel (G□)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																						
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		27	31	35	21	19.4	42	26	9.9	10.1	14.2	5.1	3.9	4.4	2.7	6.4
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.129	1.08	1.18	0.57	0.52	0.5	0.86	0.116	0.195	0.33	< 0.10	< 0.10	< 0.10	< 0.10	0.3
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		21	310	3□0	160	159	18.6	26	16.7	14.7	17.6	10.3	10.6	13.6	6.7	15.1
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		32	360	450	144	140	1350	1910	111	240	17.3	12.6	12.4	12	5.2	21
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		19.1	127	154	71	63	25	36	18.1	19.1	45	16.8	11.6	18.4	3.7	35
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		11.2	107	117	52	50	8.8	8.7	10.1	10.3	9.5	7.7	8.5	10.7	5.7	11.7
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		82	1690	1910	900	790	270	300	74	73	81	55	56	61	27	88
Organochlorine Pesticides																						
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
delta-BHC	-		-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		0.0173	< 0.010	< 0.010	-	-	0.023	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
cis-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
trans-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	0.0145	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	0.032	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	0.022	0.02	-	-	0.111	0.145	0.0124	0.0128	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	0.0117	-	-	0.0138	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		< 0.010	0.022	0.0317	-	-	0.1713	0.145	0.0124	0.0128	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		0.0117	0.0134	0.0171	-	-	0.24	0.9	0.058	0.0128	< 0.010	< 0.010	0.81	0.057	< 0.010	< 0.010
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		0.02	0.033	0.042	-	-	0.197	1.68	0.2	0.0172	< 0.010	0.029	1.27	0.127	< 0.010	0.0185
Endosulfan sulphate	-		-	-		NA		0.097	0.147	0.21	-	-	0.63	3.2	0.4	0.072	< 0.010	0.027	1.31	0.21	0.089	0.097
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Endrin aldehyde			-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Endrin Ketone			-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Hexachlorobenzene	-		-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	-	-	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.02	< 0.02	< 0.02	-	-	< 0.02	< 0.03	< 0.03	< 0.02	< 0.02	< 0.02	< 0.02	< 0.03	< 0.02	< 0.02
Organonitrogen & Organophosphorus Pesticides																						
Bromopropylate			-	-	-	NA		<0.06	<0.06	<0.06	-	-	0.39	<0.08	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05
Oxadiazon	3078.3	USEPA Region IX	-	-	-	NA		<0.06	<0.06	<0.06	-	-	<0.06	<0.08	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	-	-	0.045	0.117	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Pirimicarb	-		-	-	-	NA		<0.06	<0.06	<0.06	-	-	<0.06	<0.08	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	<0.06	<0.05
Triazophos	-		-	-	-	NA		<0.06	<0.06	<0.06	-	-	<0.06	0.101	<0.06	<0.06	<0.06	<0.06	0.082	<0.05	<0.06	<0.05
Polycyclic Aromatic Hydrocarbons																						
	Sample Depth <1m																					
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	-	-	-	-	-	<0.07	<0.03	-	-	-	<0.03	<0.03	-	-
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	-	-	-	-	-	<0.04	< 0.12	-	-	-	< 0.12	< 0.12	-	-
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	-	-	-	-	-	<0.07	< 0.3	-	-	-	< 0.3	< 0.3	-	-
Asbestos																						
	Presence / Absense		-	-		NA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.14
Golden Coast □urseries
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	GC□22	GC□23	GC□24	GC□25	GC□26	GC□26	GC□27	GC□45 (Duplicate of GC□27-0.1)	GC□27	GC□45 (Duplicate of GC□27-0.3)	G□2□	G□29	G□30	G□31	G□32
							Depth (m)	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.3	0.3	0.1	0.1	0.1	0.1	0.1
							Date Sampled	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Gravel (G□)	Gravel (G□)	Silt (ML)	Gravel (G□)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Silty Gravel (GM)	Sandy Gravel (G□)	Gravelly Silt (ML)	Gravelly Silt (ML)	Silty Sand (SM)	Silty Gravel (GM)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																						
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		5.5	5.5	3.7	6.8	100	43	16.4	20	12.9	12.9	10.7	16.5	7.6	3.7	7.7
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.105	< 0.10	< 0.10	0.37	0.89	0.3	0.163	0.198	0.113	< 0.10	0.141	< 0.10	< 0.10	0.166	< 0.10
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		24	13.2	12.2	14.4	30	23	22	24	17.6	16.5	16.7	14	15	11.1	13.9
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		15.9	14.1	9.6	6□	1040	350	300	360	□7	93	35	19.5	32	17.6	13.8
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		28	22	26	20	37	24	18.2	18.9	18.6	17.1	23	21	22	56	22
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		18.3	10.7	8.6	10.4	9.5	10.8	10.5	10.2	11.9	11	9.6	10.1	9.6	7.2	10.5
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		101	64	50	69	460	220	122	143	84	85	93	109	79	73	79
Organochlorine Pesticides																						
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
delta-BHC	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	0.098	0.027	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
cis-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
trans-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	0.015	< 0.010	0.0126	0.0124	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	0.021	< 0.010	0.044	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	0.025	0.121	0.044	0.113	0.076	-	0.026	0.0152	< 0.010	< 0.010	0.0146	< 0.011
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	0.051	0.021	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		< 0.010	< 0.010	< 0.010	0.025	0.208	0.065	0.1696	0.0884	-	0.026	0.0152	< 0.010	< 0.010	0.0146	< 0.011
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		0.037	0.018	< 0.010	0.04	0.042	0.024	0.27	0.22	-	0.063	0.071	0.21	< 0.010	0.26	< 0.011
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		0.39	0.149	< 0.010	0.25	0.21	0.149	1.09	0.78	-	0.28	0.61	1.6	0.013	0.51	0.026
Endosulfan sulphate	-		-	-		NA		0.79	0.199	< 0.010	0.66	0.66	0.4	2.1	1.45	-	0.56	1.07	2.1	0.04	0.96	0.21
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Endrin aldehyde			-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Endrin Ketone			-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Hexachlorobenzene			-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	-	< 0.011	< 0.011	< 0.010	< 0.010	< 0.011	< 0.011
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.02	< 0.02	< 0.02	< 0.03	< 0.02	< 0.02	< 0.02	< 0.02	-	< 0.03	< 0.03	< 0.02	< 0.02	< 0.03	< 0.03
Organonitrogen & Organophosphorus Pesticides																						
Bromopropylate			-	-	-	NA		<0.05	<0.06	<0.06	<0.05	0.154	<0.06	0.098	0.122	-	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Oxadiazon	3078.3	USEPA Region IX	-	-	-	NA		<0.05	<0.06	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06	-	<0.06	<0.06	<0.06	0.27	<0.06	<0.06
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	<0.02	0.066	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Pirimicarb	-		-	-	-	NA		<0.05	<0.06	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06	-	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Triazophos	-		-	-	-	NA		<0.05	<0.06	<0.06	<0.05	<0.06	<0.06	<0.06	<0.06	-	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Polycyclic Aromatic Hydrocarbons																						
	Sample Depth <1m																					
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	-	-	-	<0.03	<0.03	-	<0.03	-	0.000	-	-	-	-	<0.03
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	-	-	-	< 0.15	< 0.13	-	< 0.12	-	< 0.12	-	-	-	-	< 0.13
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	-	-	-	< 0.3	< 0.3	-	< 0.3	-	< 0.3	-	-	-	-	< 0.3
Asbestos																						
	Presence / Absense		-	-		NA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.14
Golden Coast □urseries
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	G□32	G□33	G□34	G□35	G□36	G□37	G□3□	G□3□	G□39	G□40	G□42 (Duplicate of G□40-0.1)	G□40	G□42 (Duplicate of G□40-0.3)	GC□ Rinseate 1	GC□ Rinseate 2
							Depth (m)	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.3	0.3		
							Date Sampled	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	20-Apr-10	21-Apr-10	20-Apr-10	20-Apr-10	21-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Silty Gravel (GM)	Gravelly Silt (ML)	Silty Sand (SM)	Gravelly Silt (ML)	Gravelly Silt (ML)	Silty Sand (SM)	Gravelly Silt (ML)	Gravelly Silt (ML)	Sand (SP)	Silty Sand (SM)	Silty Sand (SM)	Silty Sand (SM)	Silty Sand (SM)	-	-
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/L)	(mg/L)
Heavy Metals																						
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		5.8	5.1	4.7	4.2	6.7	6.8	7.9	3.5	9.7	5.6	5.7	4.7	4.5	< 0.021	< 0.021
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		< 0.10	< 0.10	0.112	0.113	0.21	0.194	0.38	< 0.10	< 0.10	0.28	0.22	< 0.10	< 0.10	< 0.0011	0.00123
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		14	12.3	13.4	6.9	11	12.1	23	13.6	8.3	8.9	8.7	7.2	8.1	< 0.011	< 0.011
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		12.2	12.5	15.8	220	39	37	72	12.2	10.1	17.4	16.6	9.8	12.4	< 0.011	< 0.011
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		21	22	34	6.3	103	110	91	26	7.7	14.2	10.4	8.5	11.6	< 0.003	< 0.003
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		10.9	10	10	5.1	6.7	8.4	9.7	10.9	5.5	5.7	5.8	5.6	5.4	< 0.011	< 0.011
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		73	63	153	42	97	84	187	60	55	430	220	90	134	< 0.021	< 0.021
Organochlorine Pesticides																						
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
delta-BHC	-		-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	0.011	-	< 0.010	< 0.0002	< 0.0002
cis-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
trans-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	0.0121	< 0.011	0.027	0.0121	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	0.0154	< 0.0002	< 0.0002
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	0.0126	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		< 0.010	0.0121	< 0.011	0.027	0.0247	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	0.0154	< 0.0002	< 0.0002
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	0.03	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	0.21	0.76	0.42	-	0.125	< 0.0002	< 0.0002
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		0.0118	0.114	< 0.011	< 0.010	< 0.011	< 0.011	0.053	< 0.010	0.74	0.98	0.45	-	0.139	< 0.0002	< 0.0002
Endosulfan sulphate	-		-	-		NA		0.11	0.4	< 0.011	< 0.010	< 0.011	< 0.011	0.2	< 0.010	0.73	1.29	0.65	-	0.21	< 0.0002	< 0.0002
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
Endrin aldehyde			-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
Endrin Ketone			-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0002	< 0.0002
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
Hexachlorobenzene			-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.0008	< 0.0008
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.011	< 0.011	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.00010	< 0.00010
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.02	< 0.02	< 0.03	< 0.02	< 0.03	< 0.03	< 0.02	< 0.02	< 0.02	< 0.02	< 0.03	-	< 0.02	< 0.0004	< 0.0004
Organonitrogen & Organophosphorus Pesticides																						
Bromopropylate			-	-	-	NA		<0.06	<0.06	<0.05	<0.06	<0.07	<0.06	<0.06	<0.06	<0.06	0.174	0.093	-	<0.06	<0.0004	<0.0004
Oxadiazon	3078.3	USEPA Region IX	-	-	-	NA		<0.06	<0.06	<0.05	<0.06	<0.07	<0.06	<0.06	<0.06	0.071	1.12	1.56	-	0.169	<0.0004	<0.0004
Permethrin	30780.31	USEPA Region IX	-	-	-	NA		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.0002	<0.0002
Pirimicarb	-		-	-	-	NA		<0.06	<0.06	<0.05	<0.06	<0.07	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	-	<0.06	<0.0004	<0.0004
Triazophos	-		-	-	-	NA		<0.06	<0.06	<0.05	<0.06	<0.07	<0.06	<0.06	<0.06	<0.06	0.058	<0.06	-	<0.06	<0.0004	<0.0004
Polycyclic Aromatic Hydrocarbons																						
	Sample Depth <1m																					
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		<0.03	-	-	-	-	-	<0.03	0.515	-	-	0.000	-	0.000	<0.0002	<0.0002
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.12	-	-	-	-	-	< 0.13	< 0.13	-	-	< 0.13	-	< 0.14	<0.0005	0.00075
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		< 0.3	-	-	-	-	-	< 0.3	0.039	-	-	< 0.3	-	0.31	<0.0002	< 0.0002
Asbestos																						
	Presence / Absense		-	-		NA		-	-	-	-	-	-					-		-	-	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.15
Car Haula□ays
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	CH1(0.1)	CH2(0.1)	CH3(0.1) (duplicate of CH2(0.1))	CH2(0.3)	CH3(0.3) (duplicate of CH2(0.3))	CH4(0.1) Redone	CH5 (0.1)
							Depth (m)	0.1	0.1	0.1	0.3	0.3	0.1	0.1
							Date Sampled	19-Apr-10	19-Apr-10	19-Apr-10	19-Apr-10	19-Apr-10	21-Apr-10	19-Apr-10
	Human health Commercial/Industrial		Ecological Receptors			Background Trace Elements	Soil Type	GRAVEL (GP)	GRAVEL (GP)	GRAVEL (GP)	GRAVEL (GP)	GRAVEL (GP)	GRAVEL (GP)	GRAVEL (GP)
	(mg/kg)	Reference	Commercial Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals														
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		-	6.3	6.1	5.6	4.3	-	4.6
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		-	< 0.10	< 0.10	< 0.10	0.143	-	< 0.10
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		-	14.8	16.1	35	19.6	-	11.7
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		-	26	25	22	21	-	15.7
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		-	24	24	31	40	-	23
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		-	14.4	14.3	15.6	13.2	-	11
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		-	310	210	97	92	-	66
Polycyclic Aromatic Hydrocarbons														
	Sample Depth <1m													
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	<0.03	<0.03	<0.03	<0.03	-	0.003
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	< 0.12	< 0.12	< 0.13	< 0.12	-	< 0.11
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	< 0.03	< 0.03	< 0.03	0.039	-	0.026
Total Petroleum Hydrocarbons														
	Sample Depth <1m													
C7 □C9	500	MfE 1999	-	-		NA		< 8	< 8	< 8	< 8	< 8	< 8	< 8
C10 □ C14	1700	MfE 1999	-	-		NA		< 20	< 20	< 20	< 20	< 20	< 20	< 20
C15 □ C36	□20000	MfE 1999	-	-		NA		< 40	< 40	47	161	270	< 40	< 40
TPH Total	NA	MfE 1999				<30 - 190		< 60	< 60	< 60	161	270	< 60	< 60

*See Table Key for definitions of abbreviations and colour coding.

Table 16.15
Car Haula□ays
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	CH5(0.3)	CH6(0.1)	CH7(0.1)	CH□(0.1)	CH9(0.1)	CH10(0.1)
							Depth (m)	0.3	0.1	0.1	0.1	0.1	0.1
							Date Sampled	19-Apr-10	19-Apr-10	19-Apr-10	19-Apr-10	20-Apr-10	20-Apr-10
	Human health Commercial/Industrial		Ecological Receptors			Background Trace Elements	Soil Type	GRAVEL (GP)	Sandy SILT (ML)	Gravelly SILT (ML)	GRAVEL (GP)	GRAVEL (GP)	Sandy SILT (ML)
	(mg/kg)	Reference	Commercial Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals													
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		4.2	-	-	-	-	9.1
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.46	-	-	-	-	0.185
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		27	-	-	-	-	17.6
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		11.1	-	-	-	-	26
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		18.4	-	-	-	-	40
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		11.7	-	-	-	-	11.6
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		61	-	-	-	-	360
Polycyclic Aromatic Hydrocarbons													
	Sample Depth <1m												
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		<0.03	-	-	-	-	<0.03
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.12	-	-	-	-	< 0.14
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		< 0.03	-	-	-	-	0.027
Total Petroleum Hydrocarbons													
	Sample Depth <1m												
C7 □ C9	500	MfE 1999	-	-		NA		< 8	< 8	< 8	< 8	< 8	< 8
C10 □ C14	1700	MfE 1999	-	-		NA		< 20	< 20	< 20	< 20	< 20	< 20
C15 □ C36	□20000	MfE 1999	-	-		NA		< 40	< 40	200	220	2200	< 40
TPH Total	NA	MfE 1999				<30 - 190		< 60	< 60	200	220	2200	< 60

*See Table Key for definitions of abbreviations and colour coding.

Table 16.15
Car Haula□ays
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	CH11(0.1) (duplicate of CH10(0.1))
							Depth (m)	0.1
							Date Sampled	20-Apr-10
	Human health Commercial/Industrial		Ecological Receptors			Background Trace Elements	Soil Type	Sandy SILT (ML)
	(mg/kg)	Reference	Commercial Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)
Heavy Metals								
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		9.7
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.22
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		17.9
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		26
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		46
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		11.8
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		400
Polycyclic Aromatic Hydrocarbons								
	Sample Depth <1m							
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		<0.03
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.12
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		< 0.03
Total Petroleum Hydrocarbons								
	Sample Depth <1m							
C7 □C9	500	MfE 1999	-	-		NA		< 8
C10 □C14	1700	MfE 1999	-	-		NA		< 20
C15 □C36	□20000	MfE 1999	-	-		NA		< 40
TPH Total	NA	MfE 1999				<30 - 190		< 60

*See Table Key for definitions of abbreviations and colour coding.

Table 16.15
Car Haula□ays
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	CH10(0.3)	CH11(0.3) (duplicate of CH10(0.3))	CH12(0.1)	CH13(0.1)	CH14(0.1)	CH15(0.1)
							Depth (m)	0.3	0.3	0.1	0.1	0.1	0.1
							Date Sampled	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10
	Human health Commercial/Industrial		Ecological Receptors			Background Trace Elements	Soil Type	Sandy SILT (ML)	Sandy SILT (ML)	Sandy SILT (ML)	Gravelly SILT (ML)	Gravelly SILT (ML)	Gravelly SILT (ML)
	(mg/kg)	Reference	Commercial Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals													
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		6.4	5.8	-	-	-	-
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.177	0.168	-	-	-	-
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		17.8	17.9	-	-	-	-
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		19.9	18.5	-	-	-	-
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		48	41	-	-	-	-
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		11	12.8	-	-	-	-
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		250	220	-	-	-	-
Polycyclic Aromatic Hydrocarbons													
	Sample Depth <1m												
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		<0.03	<0.03	-	-	-	-
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.12	< 0.12	-	-	-	-
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		< 0.03	< 0.03	-	-	-	-
Total Petroleum Hydrocarbons													
	Sample Depth <1m												
C7 □ C9	500	MfE 1999	-	-		NA		< 8	< 8	< 8	< 8	< 8	< 8
C10 □ C14	1700	MfE 1999	-	-		NA		< 20	< 20	< 20	< 20	< 20	< 20
C15 □ C36	□20000	MfE 1999	-	-		NA		< 40	< 40	< 40	< 40	< 40	< 40
TPH Total	NA	MfE 1999				<30 - 190		< 60	< 60	< 60	< 60	< 60	< 60

*See Table Key for definitions of abbreviations and colour coding.

Table 16.15
Car Haula□ays
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	CH16(0.1)	CH16(0.3)	CH17(0.1)	CH1□(0.1)	CH19(0.1)	CH20(0.1)
							Depth (m)	0.1	0.3	0.1	0.1	0.1	0.1
							Date Sampled	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10	20-Apr-10
	Human health Commercial/Industrial		Ecological Receptors			Background Trace Elements	Soil Type	Gravelly SILT (ML)	Gravelly SILT (ML)	Gravelly SILT (ML)	Gravelly SILT (ML)	Gravelly SILT (ML)	Gravelly SILT (ML)
	(mg/kg)	Reference	Commercial Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals													
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		3.9	4.6	-	-	-	-
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		< 0.10	< 0.10	-	-	-	-
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		12.6	14	-	-	-	-
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		12.5	10.3	-	-	-	-
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		17.5	20	-	-	-	-
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		9.6	10.9	-	-	-	-
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		63	58	-	-	-	-
Polycyclic Aromatic Hydrocarbons													
	Sample Depth <1m												
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		<0.03	<0.03	-	-	-	-
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.12	< 0.12	-	-	-	-
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		< 0.3	< 0.3	-	-	-	-
Total Petroleum Hydrocarbons													
	Sample Depth <1m												
C7 □ C9	500	MfE 1999	-	-		NA		< 8	< 8	< 8	< 8	< 8	< 8
C10 □ C14	1700	MfE 1999	-	-		NA		< 20	< 20	< 20	< 20	< 20	< 20
C15 □ C36	□20000	MfE 1999	-	-		NA		< 40	< 40	< 40	11,600	< 40	290
TPH Total	NA	MfE 1999				<30 - 190		< 60	< 60	< 60	11,600	< 60	290

*See Table Key for definitions of abbreviations and colour coding.

Table 16.15
Car Haula□ays
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	CH21(0.1)	CH21(0.3)	CH22(0.1)	CH22(0.3)	CH23(0.1)	R1CH Rinseate 1
							Depth (m)	0.1	0.3	0.1	0.3	0.1	
							Date Sampled	20-Apr-10	20-Apr-10	21-Apr-10	21-Apr-10	21-Apr-10	20-Apr-10
	Human health Commercial/Industrial		Ecological Receptors			Background Trace Elements	Soil Type	Gravelly SILT (ML)	Gravelly SILT (ML)	Gravelly SA□D (S□)	Gravelly SA□D (S□)	Gravelly SA□D (S□)	□ater
	(mg/kg)	Reference	Commercial Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/L)
Heavy Metals													
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		7.6	7.2	9.6	6.3	-	<0.021
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		< 0.10	< 0.10	< 0.10	< 0.10	-	<0.0011
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		15.7	17	13.7	15.4	-	<0.011
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		27	18.1	29	17.3	-	<0.011
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		31	28	30	27	-	<0.003
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		20	16.3	20	14.1	-	<0.011
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		88	78	96	78	-	<0.021
Polycyclic Aromatic Hydrocarbons													
	Sample Depth <1m												
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		<0.03	<0.03	<0.03	<0.03	-	<0.0004
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.12	< 0.12	< 0.11	< 0.12	-	0.00152
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		< 0.03	< 0.03	< 0.03	< 0.03	-	<0.0002
Total Petroleum Hydrocarbons													
	Sample Depth <1m												
C7 □C9	500	MfE 1999	-	-		NA		< 8	8.2	< 8	< 8	< 8	-
C10 □C14	1700	MfE 1999	-	-		NA		< 20	< 20	< 20	< 20	< 20	-
C15 □C36	□20000	MfE 1999	-	-		NA		< 40	117	< 40	< 40	< 40	-
TPH Total	NA	MfE 1999				<30 - 190		< 60	126	< 60	< 60	< 60	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.15
Car Haula□ays
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	CH Rinseate 2	CH Rinseate 3	CH Rinseate 4
							Depth (m)			
							Date Sampled	20-Apr-10	20-Apr-10	21-Apr-10
	Human health Commercial/Industrial		Ecological Receptors			Background Trace Elements	Soil Type	□ ater	□ ater	□ ater
	(mg/kg)	Reference	Commercial Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/L)	(mg/L)	(mg/L)
Heavy Metals										
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		<0.021	<0.021	<0.021
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		<0.0011	<0.0011	<0.0011
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		<0.011	<0.011	<0.011
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		<0.011	<0.011	<0.011
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		<0.003	0.0072	<0.003
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		<0.0011	<0.0011	<0.011
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		<0.021	0.053	<0.021
Polycyclic Aromatic Hydrocarbons										
	Sample Depth <1m									
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		<0.0004	<0.0004	<0.0005
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		<0.0005	<0.0005	<0.0005
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		<0.0002	<0.0002	<0.0002
Total Petroleum Hydrocarbons										
	Sample Depth <1m									
C7 □ C9	500	MfE 1999	-	-		NA		< 0.10	< 0.10	< 0.10
C10 □ C14	1700	MfE 1999	-	-		NA		< 0.2	< 0.2	< 0.2
C15 □ C36	□20000	MfE 1999	-	-		NA		< 0.4	0.56	< 0.4
TPH Total	NA	MfE 1999				<30 - 190		< 0.7	< 0.7	< 0.7

*See Table Key for definitions of abbreviations and colour coding.

Table 16.16
Porirua Gun Club Storage Shed and Drainage Channel
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	Storage Shed				Drainage Channel					
								GC S1	GC S2	GC S3	GC S4 (Duplicate of GC S3)	GC S5	GC S6	GC S7	GC S□ (Duplicate of GC S7)	GC S9	GC S10
							Depth (m)	0.025	0.03	0.035	0.035	0.06	0.06	0.04	0.04	0.05	0.04
							Date Sampled	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10
	Human health (Commerical/Industrial)		Ecological receptors			Background Trace Elements	Soil Type	Gravelly Sand (SP)	Silty Sand (SM)	Sandy Silt (ML)	Sandy Silt (ML)	Silty Sand (SM)	Silty Sand (SM)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																	
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		4.4	5.1	4	3	6.1	6.2	5.5	7.6	5.6	5.8
Antimony	450	USEPA SSL	21	-	US EPA SSL	2		-	-	-	-	-	-	27	1.7	4.7	0.8
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.23	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.56	< 0.10	0.146	< 0.10
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		20	19.6	21	20	20	23	19.1	20	28	17.9
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		360	11.5	7.5	7.4	10.3	13.9	26	23	51	19
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		153	121	52	28	87	167	2200	460	1590	148
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		10.3	10	9.7	10.6	9	12.6	9.4	10.4	13.5	13.4
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		99	67	41	40	51	67	43	47	84	65
Organochlorine Pesticides																	
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
delta-BHC	-		-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
cis-chlordane	-		-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
trans-chlordane	-		-	-	□□	NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
Total DDT	1000	NZNES	12	0.7	CCME SQGE	NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
Endosulfan sulphate	-		-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
Endrin aldehyde	-		-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
Endrin Ketone	-		-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
Hexachlorobenzene			-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	< 0.010	-	-	-	-	-	-
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.03	< 0.03	< 0.02	< 0.02	-	-	-	-	-	-
Organonitrogen & Organophosphorus Pesticides (all constituents)																	
	NA		NA			NA		BEDL	BEDL	BEDL	BEDL	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons	**Sample Depth <1m**																
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	-	-	-	0.062	0.088	0.920	<0.04	8.589	0.029
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	-	-	-	<0.14	< 0.15	< 0.16	< 0.16	0.166	< 0.13
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	-	-	-	0.13	0.179	1.23	0.032	4.8	0.055
Total Petroleum Hydrocarbons	**Sample Depth <1m**																
C7 □ C9	500	MfE 1999	-	-		NA		< 8	< 9	< 10	< 10	-	-	-	<0.8	<0.8	<0.8
C10 □ C14	1700	MfE 1999	-	-		NA		< 20	< 20	< 20	< 20	-	-	-	< 20	< 20	< 20
C15 □ C36	□20000	MfE 1999	-	-		NA		34	< 40	< 40	< 40	-	-	-	<40	<40	<40
TPH Total	NA	MfE 1999				<30 - 190		< 60	< 70	< 70	< 70	-	-	-	<60	<60	<60

*See Table Key for definitions of abbreviations and colour coding.

Table 16.16
Porirua Gun Club Lo□er Level □iring Range
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	GC S11	GC S12 (Duplicate of GC S11)	GC S13	GC S14 (Duplicate of GC S13)	GC S15	GC S16	GC S17	GC S1□	GC S19	GC S20	GC S21
							Depth (m)	0.05	0.05	0.1-0.17	0.1-0.17	0.06	0.1-0.16	0.03	0.1-0.2	0.03	0.1-0.13	0.03
							Date Sampled	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10
	Human health (Commerical/Industrial)		Ecological receptors			Background Trace Elements	Soil Type	Silty Sand (SM)	Silty Sand (SM)	Sandy Gravel (GP)	Sandy Gravel (GP)	Sandy Gravel (GP)	Sandy Gravel (GP)	Silty Sand (SM)	Silty Sand (SM)	Sandy Gravel (GP)	Silty Sand (SM)	Silty Sand (SM)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																		
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		7.2	8.3	4	4.1	6.5	-	5	-	7.6	-	7.3
Antimony	450	USEPA SSL	21	-	US EPA SSL	2		64	-	-	4.5	-	-	6□	2.7	-	-	107
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.23	0.24	< 0.10	< 0.10	0.189	-	0.143	-	< 0.10	-	0.23
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		18.6	14.2	19.3	25	17.3	-	17.4	-	16	-	19.8
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		3000	610	106	11.3	19.9	-	19.1	-	550	76	28
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		2000	3700	320	280	□30	200	3000	220	2100	350	7000
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		9.4	7.3	11	12.8	9.8	-	8.3	-	9.9	-	12.8
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		700	330	198	66	2□0	-	250	-	136	-	61
Polycyclic Aromatic Hydrocarbons																		
	Sample Depth <1m																	
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		1.425	<0.3	0.086	<0.3	1.198	-	2.199	-	1.127	-	1.759
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.14	< 0.14	< 0.13	< 0.14	< 0.16	-	< 0.15	-	< 0.13	-	< 0.15
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		1.12	0.46	0.084	0.35	1.68	-	1.48	-	1.22	-	1.56

*See Table Key for definitions of abbreviations and colour coding.

Table 16.16
Porirua Gun Club Lo□er Level □iring Range
Summary of Laboratory Results

Analyte	Guideline Values*						GC S22	GC S23	GC S24	GC S25	GC S26	GC S27	GC S2□	GC S29	GC S30	GC S31	GC S33 (Duplicate of GC S31)	GC S32	GC S34 (Duplicate of GC S32)	GC S35	GC S36
							0.15-0.25	0.06	0.2-0.3	0.05	0.1-0.2	0.07	0.1-0.25	0.09	0.1-0.2	0.05	0.05	0.1-0.3	0.1-0.2	0.06	0.1-0.2
							12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	12-Apr-10	13-Apr-10	12-Apr-10	13-Apr-10	13-Apr-10	13-Apr-10
	Human health (Commerical/Industrial)		Ecological receptors			Background Trace Elements	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																					
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7	-	6.7	-	4.4	-	5.4	-	10.9	-	4.3	5.1	4	3.4	5.6	-
Antimony	450	USEPA SSL	21	-	US EPA SSL	2	18.9	230	2.7	-	-	-	-	195	5.2	-	-	-	-	-	-
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1	-	0.165	-	< 0.10	-	< 0.10	-	0.102	-	< 0.10	0.141	< 0.10	< 0.10	< 0.10	-
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16	-	18.4	-	21	-	15.6	-	17.9	-	22	21	19.9	17.2	19.2	-
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25	-	67	-	2600	16.2	290	-	57	-	10.5	14.9	10.8	7.6	10.4	-
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6	1990	6600	530	730	510	4200	540	3000	500	24	84	17.6	18.1	141	-
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13	-	9.8	-	10.6	-	7.2	-	7.1	-	13.8	13.8	12.9	11.7	11.8	-
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105	-	78	-	41	-	107	-	47	-	48	45	39	36	52	-
Polycyclic Aromatic Hydrocarbons																					
	Sample Depth <1m																				
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27	-	0.429	-	0.743	-	2.030	0.692	11.458	0.597	3.915	-	0.057	-	1.799	-
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01	-	< 0.17	-	< 0.14	-	< 0.14	< 0.16	0.31	< 0.13	< 0.13	1.52	< 0.15	< 0.14	< 0.15	-
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57	-	0.62	-	0.74	-	1.96	0.56	16.7	0.62	4.9	133	0.07	8	1.26	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.16
Porirua Gun Club Lo□er Level □iring Range
Summary of Laboratory Results

Analyte	Guideline Values*						GC S37	GC S3□	GC S57	GC S5□	GC S65
							0.06	0.1-0.2	0.05	0.1-0.2	0.02
							13-Apr-10	13-Apr-10	13-Apr-10	13-Apr-10	14-Apr-10
	Human health (Commerical/Industrial)		Ecological receptors			Background Trace Elements	Sandy Silt (ML)	Sandy Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals											
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7	4.8	-	6	6.5	2.7
Antimony	450	USEPA SSL	21	-	US EPA SSL	2	-	-	-	-	-
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1	< 0.10	-	< 0.10	< 0.10	< 0.10
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16	18.8	-	27	25	15.3
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25	13.4	-	12	11	8.2
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6	71	-	36	26	330
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13	10.8	-	14.6	14.4	8.3
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105	144	-	80	51	36
Polycyclic Aromatic Hydrocarbons											
	Sample Depth <1m										
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27	1.146	-	0.350	0.500	0.052
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01	< 0.14	-	< 0.16	< 0.16	< 0.15
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57	3	-	0.174	0.5	0.075

*See Table Key for definitions of abbreviations and colour coding.

Table 16.16
Porirua Gun Club Lo□er Level Target Range Area
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	GC S39	GC S41	GC S43	GC S44	GC S45	GC S47	GC S49	GC S50 (Duplicate of GC S49)	GC S51	GC S52 (Duplicate of GC S51)	GC S53	GC S54	GC S55	GC S56
							Depth (m)	0.06	0.06	0.05	0.1-0.2	0.07	0.07	0.07	0.07	0.1-0.2	0.1-0.2	0.06	0.1-0.2	0.06	0.1-0.2
							Date Sampled	13-Apr-10	13-Apr-10	13-Apr-10	13-Apr-10	13-Apr-10	13-Apr-10	13-Apr-10	13-Apr-10	13-Apr-10	13-Apr-10	13-Apr-10	13-Apr-10	13-Apr-10	13-Apr-10
	Human health (Commerical/Industrial)		Ecological receptors			Background Trace Elements	Soil Type	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Gravelly Sand (SP)	Gravelly Sand (SP)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																					
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		3.8	3.7	3.2	3.4	2.7	5.1	4.9	5.5	3.9	3.7	4.7	-	2.5	-
Antimony	450	USEPA SSL	21	-	USEPA SSL	2		-	-	-	-	-	-	1.3	-	0.6	-	8.1	1.3	-	-
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.119	0.136	0.111	< 0.10	< 0.10	0.11	0.137	0.105	< 0.10	< 0.10	0.119	-	< 0.10	-
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		11.8	12.4	11.7	12.2	9.3	13.1	13.8	13.1	13.9	13.4	11.6	-	10.6	-
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		6.8	7.9	6.5	6.5	5.2	7.4	27	66	141	15.1	143	100	330	70
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		260	350	250	128	290	460	□□0	710	260	52	2400	570	560	-
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		6.8	7.3	6.7	7.9	4.5	6.8	7.5	7.8	8.5	8.7	6.5	-	5.5	-
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		34	40	38	41	25	39	38	36	37	32	35	-	3.2	-
Polycyclic Aromatic Hydrocarbons																					
	Sample Depth <1m																				
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		11.70	113.79	60.59	45.55	14□.39	62.92	66.14	17.130	7.203	14□.39	276.96	-	79.□70	-
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		0.27	< 0.13	0.34	< 0.12	1.51	1.97	< 0.13	0.13	< 0.13	< 0.13	4.9	-	0.56	-
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		19.3	121	53	45	132	□4	59	1□.6	7.6	4.3	2□0	-	96	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.16
Porirua Gun Club □pper Level Areas
Summary of Laboratory Results

Analyte	Guideline Values*							□pper Level Target/Bullet Catch						□pper Level Rifle Range Building Structure					
							Sample ID	GC S75	GC S76	GC S77	GC S7□ (Duplicate of GC S77)	GC S79	GC S□0 (Duplicate of GCS 79)	GC S□1	GC S□2 (Duplicate of GC S□1)	GC S□3	GC S□4 (Duplicate of GC S□3)	GC S□5	GC S□6
							Depth (m)	0.03	0.1-0.2	0.04	0.04	0.1-0.2	0.1-0.2	0.03	0.03	0.1-0.2	0.1-0.2	0.03	0.1-0.2
							Date Sampled	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10
	Human health (Commerical/Industrial)		Ecological receptors			Background Trace Elements	Soil Type	Silt (ML)	Silt (ML)	Silt (ML) E□treme □eathered Sandstone	Silt (ML) E□treme □eathered Sandstone	Silt (ML) E□treme □eathered Sandstone	Silt (ML) E□treme □eathered Sandstone	Silt (ML) E□treme □eathered Sandstone	Silt (ML) E□treme □eathered Sandstone	Silt (ML) E□treme □eathered Sandstone	Silt (ML) E□treme □eathered Sandstone	Silt (ML) E□treme □eathered Sandstone	Silt (ML) E□treme □eathered Sandstone
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																			
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		4.4	-	4.7	5.1	3.5	4.6	5.1	4.9	5.8	5.1	4.5	-
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		< 0.10	-	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	-
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		16.8	-	16.7	18.9	21	24	15.3	16.7	15	16.1	16.2	-
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		48	-	49	□6	25	33	152	17□	400	3100	1□90	1340
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		1430	42	1020	1040	136	135	1260	3500	3300	3100	1□60	250
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		10	-	11.2	13.2	14.1	15.3	10.7	12.3	10.6	10.1	10.5	-
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		53	-	56	61	76	87	320	440	1560	530	700	-
Polycyclic Aromatic Hydrocarbons																			
	Sample Depth <1m																		
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		0.300	-	<0.03	-	<0.03	<0.03	1□2.990	0.274	0.676	0.439	0.384	-
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.14	-	< 0.14	< 0.14	< 0.13	< 0.15	0.52	< 0.13	< 0.14	< 0.15	< 0.15	-
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		0.36	-	< 0.03	0.061	< 0.03	< 0.03	19□	0.25	0.38	0.25	0.29	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.16
Porirua Gun Club □pper Level Areas
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	GC S□7	GC S□□	Rinseate GC R1
							Depth (m)	0.03	0.1-0.2	
							Date Sampled	14-Apr-10	14-Apr-10	16-Apr-10
	Human health (Commerical/Industrial)		Ecological receptors			Background Trace Elements	Soil Type	Silt (ML) E□treme □eathered Sandstone	Silt (ML) E□treme □eathered Sandstone	-
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/L)
Heavy Metals										
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		6.3	-	< 0.021
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.24	-	< 0.0011
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		17.7	-	< 0.011
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		15400	690	< 0.011
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		700	33	0.0022
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		16.6	-	< 0.011
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		10400	-	0.049
Polycyclic Aromatic Hydrocarbons										
	Sample Depth <1m									
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		0.566	-	-
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.17	-	-
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		0.30	-	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.16
Porirua Gun Club Background Levels and Ammunition Burn Pit
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	Background Areas											
								GC S□9	GC S90	GC S91	GC S92	GC S93	GC S94	GC S95	GC S96 (Duplicate of GC S95)	GC S97	GC S9□ (Duplicate of GC S97)	GC S99	GC S100
							Depth (m)	0.04	0.1-0.2	0.05	0.1-0.2	0.05	0.1-0.2	0.05	0.05	0.1-0.2	0.1-0.2	0.05	0.1-0.2
							Date Sampled	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10
	Human health (Commerical/Industrial)		Ecological receptors			Background Trace Elements	Soil Type	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Silt (ML)	Silt (ML)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																			
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		4.2	4	2.1	2.2	2.2	2.9	3.9	3.4	3.3	3	3.5	2.2
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		15.1	15.8	9.4	12.6	10.6	14	15.1	17.1	19.7	18.6	15.9	9.3
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		8.1	6.8	4	3.2	3.4	3.8	7.3	7.8	7.2	7.1	6.7	4.8
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		67	32	55	15.4	14.1	15.9	28	30	27	28	49	25
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		7.4	8.6	3.7	5.7	5	6.8	8.3	9.3	11.3	10.6	8	4.2
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		31	35	17.4	21	24	27	32	36	38	37	38	19.2
Polycyclic Aromatic Hydrocarbons																			
	Sample Depth <1m																		
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.14	< 0.15	< 0.14	< 0.14	< 0.15	< 0.14	< 0.14	< 0.13	< 0.14	< 0.13	< 0.15	< 0.15
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03

*See Table Key for definitions of abbreviations and colour coding.

Table 16.16
Porirua Gun Club Background Levels and Ammunition Burn Pit
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	Ammunition Burn Pit											
								GC S101	GC S102 (Duplicate of GC S101)	GC S103	GC S104 (Duplicate of GC S 103)	GC S105	GC S106	GC S107	GC S10□	GC S109	GC S110	GC S111	GC S112
							Depth (m)	0.03	0.03	0.1-0.2	0.1-0.2	0.04	0.1-0.2	0.05	0.1-0.2	0.05	0.1-0.2	0.05	0.1-0.2
							Date Sampled	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10
	Human health (Commerical/Industrial)		Ecological receptors			Background Trace Elements	Soil Type	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																			
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		3.5	3.3	2.7	3.8	3.9	3.7	5.3	2.8	3.5	3.9	3.7	4.3
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		19.3	23	20	22	18.7	21	21	18.9	18.9	19.4	19.5	19.3
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		10.7	10.4	9.7	9.8	10.9	10.2	65	10.3	13	12.7	13	12.4
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		32	30	21	24	25	62	460	19.6	21	16.3	18.4	28
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		6.8	8.9	7.3	7.8	7.2	7.3	8	6.9	8.7	9.7	8.8	8.8
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		29	29	30	30	32	31	40	27	33	35	43	35
Polycyclic Aromatic Hydrocarbons																			
	Sample Depth <1m																		
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		<0.04	<0.03	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.17	< 0.15	< 0.18	< 0.16	< 0.16	< 0.18	< 0.16	< 0.17	< 0.16	< 0.17	< 0.17	< 0.16
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		< 0.04	< 0.03	< 0.04	< 0.04	< 0.04	< 0.04	0.044	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04

*See Table Key for definitions of abbreviations and colour coding.

Table 16.16
Porirua Gun Club □ aste□ater And Rubbish Disposal Areas
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	□ aste□ater (Leachfield) Area						Rubbish Disposal Area							
								GC S59	GC S60 (Duplicate of GC S59)	GC S61	GC S62	GC S63	GC S64	GC S67	GC S6□ (Duplicate of GC S67)	GC S69	GC S70 (Duplicate of GC S69)	GC S71	GC S72	GC S73	GC S74
							Depth (m)	0.15-0.25	0.15-0.25	0.15-0.25	0.15-0.25	0.15-0.25	0.15-0.25	0.04	0.04	0.1-0.2	0.1-0.2	0.05	0.1-0.2	0.03	0.1-0.2
							Date Sampled	13-Apr-10	13-Apr-10	13-Apr-10	13-Apr-10	13-Apr-10	13-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10	14-Apr-10
	Human health (Commerical/Industrial)		Ecological receptors			Background Trace Elements	Soil Type	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Sandy Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																					
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		3.8	4	3.7	3.4	2.5	3.9	3	3.7	3.6	3.9	3.5	3.9	1□	6
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		16.8	14.6	16.9	12.4	10.9	15.9	13.5	13.6	13.5	16	13.4	16.1	22	22
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		8.2	6.9	6.6	5.1	4.7	7.7	7.1	7	6.2	7.8	7.2	7.2	61	14.1
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		16.3	14.1	17.8	21	18.1	81	61	60	16.7	17.9	89	21	111	30
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		8.9	8.1	9.1	6.4	5.9	9.2	7.4	7.3	7.9	9.2	7.8	9.2	7.6	12.9
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		167	157	34	42	69	45	41	52	33	37	41	35	34	38
Organochlorine Pesticides																					
Aldrin	0.1	USEPA Region IX	-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
alpha-BHC	0.36	USEPA Region IX	-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
beta-BHC	1.26	USEPA Region IX	-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
delta-BHC	-		-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
cis-chlordane	-		-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
trans-chlordane	-		-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
2,4'-DDD	9.95	USEPA Region IX	-	-	□□□	NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	0.0113	< 0.010	< 0.011	< 0.010
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
Total DDT	1000	NZNES	12	0.7	CCME SQGE	NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	0.0113	< 0.010	< 0.011	< 0.010
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
Endosulfan sulphate	-		-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
Endrin	184.68	USEPA Region IX	-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
Endrin aldehyde	-		-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
Endrin Ketone	-		-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
Heptachlor	0.38	USEPA Region IX	-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
Hexachlorobenzene			-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		-	-	-	-	-	-	< 0.011	< 0.011	< 0.011	< 0.010	< 0.011	< 0.010	< 0.011	< 0.010
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		-	-	-	-	-	-	< 0.03	< 0.03	< 0.03	< 0.02	< 0.03	< 0.02	< 0.03	< 0.02
Organonitrogen & Organophosphorus Pesticides																					
								-	-	-	-	-	-	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL
Total Petroleum Hydrocarbons																					
	Sample Depth <1m																				
C7 □C9	35	NZNES	-	-		NA		-	-	-	-	-	-	< 9	< 9	< 9	< 9	< 9	< 8	< 9	< 9
C10 □C14	1700	MfE 1999	-	-		NA		-	-	-	-	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
C15 □C36	□20000	MfE 1999	-	-		NA		-	-	-	-	-	-	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40
TPH Total	NA	MfE 1999				<30 - 190		-	-	-	-	-	-	< 70	< 70	< 70	< 70	< 70	< 60	< 70	< 70
□aecal Coliforms and E. coli profile								MPN / g	MPN / g	MPN / g	MPN / g	MPN / g	MPN / g	- -	- -	- -	- -	- -	- -	- -	- -
Escherichia coli*	<100 MPN/g	NZ□ □ A BG						2	< 2	< 2	< 2	< 2	< 2	-	-	-	-	-	-	-	-
Faecal Coliforms*								2	< 2	< 2	< 2	< 2	< 2	-	-	-	-	-	-	-	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.17
Porirua Gun Club Ammunition Burn Pit
Summary Dio□in and □uran Results

Analyte	Sample S101□ 30 mm S	Sample S103□ 100 - 200mm S	Sample S105□ 40 mm S	Sample 106□ 100 - 200mm S	Sample S107□ 50mm S	Sample S10□□ 100 - 200 mmS	Sample S109□ 50 mmS	Sample S110□ 100 - 200 mmS	Sample S111□ 50 mm S	Sample S112□ 100 - 200 mmS	□ HO 2005 TE□[a]	Proposed □ES[b] Recreational Guideline pg/g	□□ □npaved Industrial[c] pg/g	□□ Maintenance □orker Protection[c] pg/g	□□-Paved Industrial[c]	
															□o Management Plan pg/g	Management Plan pg/g
	Picogram/ gram (pg/g)	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g						
Dio□ins																
TCDD, 2,3,7,8	<0.149	<0.141	<0.172	<0.148	<0.142	<0.170	<0.208	<0.205	<0.204	<0.220	1					
Total TCDD	<0.496	<0.469	<0.573	<0.493	<0.474	<0.566	<0.405	<0.278	0.227	<0.220						
PeCDD, 1,2,3,7,8	<0.189	<0.167	<0.166	<0.160	<0.171	<0.176	<0.221	<0.139	0.334	0.523	1					
Total PeCDD	<0.631	<0.557	<0.553	<0.534	<0.570	<0.585	<0.441	<0.213	0.334	0.523						
HxCDD, 1,2,3,4,7,8	<0.895	<0.730	<0.635	<0.683	<0.837	<0.747	<0.857	<0.334	<0.434	<0.220	0.1					
HXxCDD, 1,2,3,6,7,8	<0.932	<0.783	<0.645	<0.721	<0.834	<0.754	<0.916	<0.339	<0.464	0.282	0.1					
HxCDD,1,2,3,7,8,9	<0.929	<0.757	<0.659	<0.709	<0.868	<0.776	<0.890	<0.347	0.545	0.498	0.1					
Total HxCDD									1.200	0.781						
HpCDD,1,2,3,4,6,7,8 (Italics indicates Estimated Maximum Possible Concentration)	*0.539*	0.651	0.504	0.474	0.633	0.841	0.885	*0.931*	*0.682*	0.791	0.01					
OCDD	3.730	5.280	4.950	4.980	6.220	7.210	7.940	8.160	7.790	6.100	0.0003					
□urans																
TCDF, 2,3,7,8	<0.325	<0.271	<0.322	<0.255	<0.294	<0.216	<0.188	<0.166	<0.184	<0.141	0.1					
Total TCDF	<1.71	<0.271	<0.322	<0.255	<0.294	<0.216	<0.188	0.124	1.35	1.80						
PeCDF, 1,2,3,7,8	<0.347	<0.338	<0.324	<0.344	<0.340	<0.255	<0.299	0.158	0.536	0.595	0.03					
PeCDF, 2,3,4,7,8	<0.344	<0.326	<0.316	<0.342	<0.336	<0.247	<0.283	<0.127	0.465	0.677	0.3					
Total PeCDF	<0.347	<0.338	<0.324	<0.344	<0.340	<0.255	0.630	0.613	2.60	2.60						
HxCDF, 1,2,3,4,7,8	<0.318	<0.465	<0.518	<0.447	<0.398	<0.517	<0.384	<0.189	0.454	0.594	0.1					
HxCDF,1,2,3,6,7,8	<0.344	<0.488	<0.536	<0.465	<0.405	<0.528	<0.399	<0.191	*0.239*	0.417	0.1					
HxCDF, 2,3,4,6,7,8	<0.329	<0.464	<0.502	<0.446	<0.373	<0.511	<0.376	<0.180	0.184	0.310	0.1					
HxCDF, 1,2,3,7,8,9	<0.488	<0.692	<0.770	<0.668	<0.575	<0.801	<0.570	<0.273	<0.285	<0.385	0.1					
Total HxCDF	<0.488	<0.692	<0.770	<0.668	<0.575	<0.801	<0.570	<0.273	*0.878*	1.320						
HpCDF, 1,2,3,4,6,7,8	<0.550	<0.515	<0.540	<0.609	<0.503	<0.633	<0.436	<0.312	0.454	0.539	0.01					
HpCDF,1,2,3,4,7,8,9	<0.940	<0.890	<0.971	<1.08	<0.881	<1.22	<0.833	<0.594	<0.486	<0.431	0.01					
Total HpCDF	<0.940	<0.890	<0.971	<1.08	<0.881	<0.122	<0.833	<0.273	0.545	0.539						
OCDF	<1.71	<0.191	<0.164	<0.198	<1.96	<2.98	<2.02	<0.410	<0.234	<0.396	0.0003					
Total □ HO-Lo□er TE□[d]	**0.00651**	**0.00□09**	**0.00653**	**0.00623**	**0.00□2**	**0.0106**	**0.0112**	**0.0165**	**0.645**	**0.969**						
Total □ HO-□pper TE□[e]	**0.930**	**0.904**	**0.923**	**0.□□4**	**0.905**	**0.943**	**1.00**	**0.610**	**0.991**	**1.270**		**1□100**	**1□000**	**21□000**	**1□000**	**90□000**

□otes□

[a]□ orld Health Organization Toxicity Equivalance Factor, 2005

[b]New Zealand Ministry for the Environment and Ministry of the Environmental Proposed National Environmental Standard for Assessing and Managing Contaminants in Soil, 2010

[c]New Zealand Ministry for the Environment and Ministry of Health Health and Environmental Guidelines for Selected Timber Treatment Chemicals, 1997

Table 16.1
Pauatahanui Inlet Garden Supplies
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	STORAGE SHED/ORMER AST AREA									
							Depth (m)	0.1	0.1	0.3	0.3	0.1	0.3	0.1	0.3	0.1	0.3
							Date Sampled	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Silty Sandy GRAVEL	Silty Sandy GRAVEL
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																	
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		8.7	6.7	5.3	5.6	6.6	4.2	6.9	4.2	7.1	5.3
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.174	0.167	0.164	0.136	0.199	0.135	0.27	0.22	0.188	0.112
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		14.5	12.9	11.4	12.7	12.7	10	15	12.6	14.3	14.9
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		25	22	17.4	16.1	20	14.4	34	21	20	14.5
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		43	28	33	28	38	15.6	52	36	41	35
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		7.6	7.3	7.1	7.6	7.9	7	9.1	9.1	7.9	9.2
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		197	175	140	129	270	166	320	186	103	95
Organochlorine Pesticides																	
Aldrin	0.1	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
alpha-BHC	0.36	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
beta-BHC	1.26	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
delta-BHC	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
cis-chlordane	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
trans-chlordane	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		-	-	-	-	-	-	-	-	-	-
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		-	-	-	-	-	-	-	-	-	-
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	-	-	-	-	-	-	-	-
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	-	-	-	-	-	-	-	-
Endosulfan sulphate	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
Endrin	184.68	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Endrin aldehyde	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
Endrin Ketone	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
Heptachlor	0.38	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene			-	-		NA		-	-	-	-	-	-	-	-	-	-
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Organonitrogen & Organophosphorus Pesticides (all constituents)																	
	-		-	-	-	-			-	-	-			-	-	-	-
Polycyclic Aromatic Hydrocarbons																	
	Sample Depth <1m																
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		0.0146	0.008	<0.03	<0.03	0.013	<0.03	0.0124	0.0031	0.08174	0.0042
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.17	< 0.17	< 0.15	< 0.15	< 0.15	0.46	< 0.18	< 0.15	< 0.14	< 0.13
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		< 0.04	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03	1.21	0.121	0.1	0.028
Total Petroleum Hydrocarbons																	
	Sample Depth <1m																
C7 □C9	500	MfE 1999	-	-		NA		< 10	< 10	< 9	< 9	< 9	< 9	< 11	< 9	< 9	8.4
C10 □C14	1700	MfE 1999	-	-		NA		< 20	< 20	< 20	< 20	< 20	< 20	750	54	< 20	< 20
C15 □C36	□20000	MfE 1999	-	-		NA		260	380	99	186	310	149	8100	620	450	125
TPH Total	NA	MfE 1999				<30 - 190		260	380	99	186	310	149	8900	680	450	134

*See Table Key for definitions of abbreviations and colour coding.

Table 16.1
Pauatahanui Inlet Garden Supplies
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	STAI ED AREAS									
							Depth (m)	0.1	0.3	0.1	0.3	0.1	0.3	0.1	0.1	0.3	0.3
							Date Sampled	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	2 -Apr-10	2 -Apr-10	2 -Apr-10	2 -Apr-10	2 -Apr-10	2 -Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Sandy GRAVEL	Sandy GRAVEL	Sandy SILT	Sandy SILT	GRAVEL	Sandy SILT	SILT	SILT	SILT	SILT
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																	
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		5.5	4.8	7.9	< 2	5.2	5	3.2	2.8	4.4	4.6
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.122	0.123	0.133	< 0.10	0.102	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		19.2	16.3	15	9.5	25	19.4	16.2	18.5	18.9	16
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		25	14.5	23	5.1	7	18.7	11.3	10.3	13	12.9
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		85	22	37	8.8	142	28	21	18.1	19.1	18.1
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		13.7	13.5	8.6	6.6	12.8	13.1	11.5	11.2	11.1	10.7
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		128	89	96	37	109	65	58	59	55	56
Organochlorine Pesticides																	
Aldrin	0.1	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
alpha-BHC	0.36	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
beta-BHC	1.26	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
delta-BHC	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
cis-chlordane	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
trans-chlordane	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		-	-	-	-	-	-	-	-	-	-
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		-	-	-	-	-	-	-	-	-	-
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	-	-	-	-	-	-	-	-
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	-	-	-	-	-	-	-	-
Endosulfan sulphate	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
Endrin	184.68	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Endrin aldehyde	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
Endrin Ketone	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
Heptachlor	0.38	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene			-	-		NA		-	-	-	-	-	-	-	-	-	-
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Organonitrogen & Organophosphorus Pesticides (all constituents)																	
-	-		-	-	-	-		-	-	-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons																	
	Sample Depth <1m																
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		0.0024	0.7563	0.0384	<0.03	0.0065	<0.03	<0.03	<0.03	<0.03	<0.03
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.12	0.23	< 0.4	< 0.13	< 0.3	< 0.15	< 0.13	< 0.13	< 0.13	< 0.12
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		0.028	1.05	0.164	< 0.03	0.101	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Total Petroleum Hydrocarbons																	
	Sample Depth <1m																
C7 C9	500	MfE 1999	-	-		NA		< 8	< 8	< 30	< 8	< 15	< 9	< 8	< 8	< 8	< 8
C10 C14	1700	MfE 1999	-	-		NA		< 20	< 20	< 50	< 20	< 30	< 20	< 20	< 20	< 20	< 20
C15 C36	20000	MfE 1999	-	-		NA		350	250	550	43	1750	210	< 40	< 40	32	< 40
TPH Total	NA	MfE 1999				<30 - 190		350	250	550	< 60	1750	210	< 60	< 60	< 60	< 60

*See Table Key for definitions of abbreviations and colour coding.

Table 16.1□
Pauatahanui Inlet Garden Supplies
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	STREAM BA□□ / DRAI□AGE AREA								
								PIG11	PIG12	PIG13	PIG14	PIG15	PIG16 (Duplicate of PIG15)	PIG17	PIG1□	PIG19
							Depth (m)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
							Date Sampled	27-Apr-10	27-Apr-10	27-Apr-10	2□-Apr-10	2□-Apr-10	2□-Apr-10	2□-Apr-10	2□-Apr-10	2□-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Silty GRAVEL	Silty GRAVEL	Silty GRAVEL	Sandy SILT	Sandy SILT	Sandy SILT	Silty SA□D	Silty SA□D	SILT
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		2.9	2.9	< 2	4.1	2.7	2.5	3.8	5.2	4.5
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.127	< 0.10
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		11.3	12.3	10.9	12.3	9.5	8.9	11.4	14.1	12.5
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		8.6	9	6	9.1	6.5	5.8	8.2	11.5	10.3
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		15.4	17.3	13.6	15.1	12.1	11	13.6	18.9	16.6
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		8.4	8.6	6.8	8.1	7.3	6.9	8.3	10.4	9.2
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		51	51	44	57	49	44	53	71	61
Organochlorine Pesticides																
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
delta-BHC	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
cis-chlordane	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
trans-chlordane	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Endosulfan sulphate	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Endrin aldehyde	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Endrin Ketone	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Hexachlorobenzene	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.03	< 0.03	< 0.02	-	-	-	-	-	-
Organonitrogen & Organophosphorus Pesticides (all constituents)																
	-		-	-	-			BEDL	BEDL	BEDL	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons																
	Sample Depth <1m															
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	-	-	0.19803	<0.03	0.0043	<0.03	<0.04	<0.04
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	-	-	< 0.17	< 0.15	< 0.15	< 0.15	< 0.19	< 0.16
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	-	-	0.28	0.042	0.056	< 0.03	< 0.04	< 0.04
Total Petroleum Hydrocarbons																
	Sample Depth <1m															
C7 □ C9	500	MfE 1999	-	-		NA		< 8	< 8	< 8	< 11	< 9	< 9	< 9	< 12	< 10
C10 □ C14	1700	MfE 1999	-	-		NA		< 20	< 20	< 20	< 30	< 20	< 20	< 20	< 30	< 20
C15 □ C36	□20000	MfE 1999	-	-		NA		69	< 40	< 40	< 50	< 40	< 40	< 40	< 50	< 40
TPH Total	NA	MfE 1999				<30 - 190		69	< 60	< 60	< 80	< 70	< 70	< 70	< 80	< 70

*See Table Key for definitions of abbreviations and colour coding.

Table 16.1□
Pauatahanui Inlet Garden Supplies
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	GE□ERAL AREA A□D BAC□GRO□□D LOCATIO□ SAMPLES								
							Depth (m)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
							Date Sampled	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	2□-Apr-10	2□-Apr-10	2□-Apr-10	2□-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Silty SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Sandy SILT	Sandy GRAVEL	Silty SA□D	Sandy GRAVEL
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		< 2	4.5	2.7	3.8	3.9	2.2	5.3	3.4	3.5
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		< 0.10	< 0.10	< 0.10	0.133	< 0.10	< 0.10	< 0.10	< 0.10	0.117
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		8.1	11.7	9.3	8.8	11.2	11.4	15.8	10.8	12.4
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		3.4	8.4	16.6	16.5	10.8	8.4	10.7	8.5	8.8
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		210	27	29	29	20	13	18	12.5	16.6
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		3.7	8.1	6.6	6.6	9.4	7.9	10	7.3	7.7
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		19.1	53	48	49	53	47	52	48	50
Organochlorine Pesticides																
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
delta-BHC	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
cis-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
trans-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		0.0184	< 0.010	0.025	0.025	< 0.011	< 0.010	< 0.010	0.0133	0.047
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	0.033	0.024	< 0.011	< 0.010	< 0.010	< 0.010	0.0122
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		0.0184	< 0.010	0.058	0.049	< 0.011	< 0.010	< 0.010	0.0133	0.0592
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Endosulfan sulphate	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Endrin aldehyde	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Endrin Ketone	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Hexachlorobenzene			-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.02	< 0.02	< 0.02	< 0.02	< 0.03	< 0.02	< 0.02	< 0.02	< 0.03
Organonitrogen & Organophosphorus Pesticides (all constituents)																
	-		-	-	-			BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL
Polycyclic Aromatic Hydrocarbons																
	Sample Depth <1m															
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	-	-	-	-	-	-	-	-
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	-	-	-	-	-	-	-	-
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons																
	Sample Depth <1m															
C7 □ C9	500	MfE 1999	-	-		NA		-	-	-	-	-	-	-	-	-
C10 □ C14	1700	MfE 1999	-	-		NA		-	-	-	-	-	-	-	-	-
C15 □ C36	□20000	MfE 1999	-	-		NA		-	-	-	-	-	-	-	-	-
TPH Total	NA	MfE 1999				<30 - 190		-	-	-	-	-	-	-	-	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.1
Pauatahanui Inlet Garden Supplies
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	RI SEATE SAMPLES			
								PIG29	PIG Rinseate 1	PIG Rinseate 2	PIG Rinseate 3
							Depth (m)				
							Date Sampled	2 -Apr-10	27-Apr-10	27-Apr-10	2 -Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	ATER	ATER	ATER	ATER
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/L)	(mg/L)	(mg/L)	(mg/L)
Heavy Metals											
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		< 0.021	< 0.021	< 0.021	< 0.021
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		< 0.0011	< 0.0011	< 0.0011	< 0.0011
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		< 0.011	< 0.011	< 0.011	< 0.011
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		< 0.011	< 0.011	< 0.011	< 0.011
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		< 0.0021	< 0.003	< 0.003	< 0.0021
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		< 0.011	< 0.011	< 0.011	< 0.011
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		< 0.021	< 0.021	0.029	< 0.021
Organochlorine Pesticides											
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
delta-BHC	-		-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
cis-chlordane	-		-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
trans-chlordane	-		-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan sulphate	-		-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
Endrin aldehyde	-		-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
Endrin Ketone	-		-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
Hexachlorobenzene			-	-		NA		< 0.0008	< 0.0008	< 0.0008	< 0.0008
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.0004	< 0.0004	< 0.0004	< 0.0004
Organonitrogen & Organophosphorus Pesticides (all constituents)											
	-		-	-	-			BEDL	-	BEDL	BEDL
Polycyclic Aromatic Hydrocarbons											
	Sample Depth <1m										
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	<0.0001	<0.0001	<0.0001
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	< 0.0005	< 0.0005	< 0.0005
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	< 0.0002	< 0.0002	< 0.0002
Total Petroleum Hydrocarbons											
	Sample Depth <1m										
C7 C9	500	MfE 1999	-	-		NA		< 0.10	< 0.10	< 0.10	< 0.10
C10 C14	1700	MfE 1999	-	-		NA		< 0.2	< 0.2	< 0.2	< 0.2
C15 C36	20000	MfE 1999	-	-		NA		< 0.4	< 0.4	< 0.4	< 0.4
TPH Total	NA	MfE 1999				<30 - 190		< 0.7	< 0.7	< 0.7	< 0.7

*See Table Key for definitions of abbreviations and colour coding.

Table 16.1
Pauatahanui Inlet Garden Supplies
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	STORAGE SHED/ORMER AST AREA									
							Depth (m)	0.1	0.1	0.3	0.3	0.1	0.3	0.1	0.3	0.1	0.3
							Date Sampled	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Silty Sandy GRAVEL	Silty Sandy GRAVEL
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																	
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		8.7	6.7	5.3	5.6	6.6	4.2	6.9	4.2	7.1	5.3
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.174	0.167	0.164	0.136	0.199	0.135	0.27	0.22	0.188	0.112
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		14.5	12.9	11.4	12.7	12.7	10	15	12.6	14.3	14.9
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		25	22	17.4	16.1	20	14.4	34	21	20	14.5
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		43	28	33	28	38	15.6	52	36	41	35
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		7.6	7.3	7.1	7.6	7.9	7	9.1	9.1	7.9	9.2
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		197	175	140	129	270	166	320	186	103	95
Organochlorine Pesticides																	
Aldrin	0.1	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
alpha-BHC	0.36	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
beta-BHC	1.26	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
delta-BHC	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
cis-chlordane	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
trans-chlordane	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		-	-	-	-	-	-	-	-	-	-
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		-	-	-	-	-	-	-	-	-	-
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	-	-	-	-	-	-	-	-
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	-	-	-	-	-	-	-	-
Endosulfan sulphate	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
Endrin	184.68	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Endrin aldehyde	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
Endrin Ketone	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
Heptachlor	0.38	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene			-	-		NA		-	-	-	-	-	-	-	-	-	-
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Organonitrogen & Organophosphorus Pesticides (all constituents)																	
	-		-	-	-	-			-	-	-			-	-	-	-
Polycyclic Aromatic Hydrocarbons																	
	Sample Depth <1m																
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		0.0146	0.008	<0.03	<0.03	0.013	<0.03	0.0124	0.0031	0.08174	0.0042
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.17	< 0.17	< 0.15	< 0.15	< 0.15	0.46	< 0.18	< 0.15	< 0.14	< 0.13
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		< 0.04	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03	1.21	0.121	0.1	0.028
Total Petroleum Hydrocarbons																	
	Sample Depth <1m																
C7 □C9	500	MfE 1999	-	-		NA		< 10	< 10	< 9	< 9	< 9	< 9	< 11	< 9	< 9	8.4
C10 □C14	1700	MfE 1999	-	-		NA		< 20	< 20	< 20	< 20	< 20	< 20	750	54	< 20	< 20
C15 □C36	□20000	MfE 1999	-	-		NA		260	380	99	186	310	149	8100	620	450	125
TPH Total	NA	MfE 1999				<30 - 190		260	380	99	186	310	149	8900	680	450	134

*See Table Key for definitions of abbreviations and colour coding.

Table 16.1
Pauatahanui Inlet Garden Supplies
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	STAI ED AREAS									
							Depth (m)	0.1	0.3	0.1	0.3	0.1	0.3	0.1	0.1	0.3	0.3
							Date Sampled	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	2 -Apr-10	2 -Apr-10	2 -Apr-10	2 -Apr-10	2 -Apr-10	2 -Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Sandy GRAVEL	Sandy GRAVEL	Sandy SILT	Sandy SILT	GRAVEL	Sandy SILT	SILT	SILT	SILT	SILT
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																	
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		5.5	4.8	7.9	< 2	5.2	5	3.2	2.8	4.4	4.6
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.122	0.123	0.133	< 0.10	0.102	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		19.2	16.3	15	9.5	25	19.4	16.2	18.5	18.9	16
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		25	14.5	23	5.1	7	18.7	11.3	10.3	13	12.9
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		85	22	37	8.8	142	28	21	18.1	19.1	18.1
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		13.7	13.5	8.6	6.6	12.8	13.1	11.5	11.2	11.1	10.7
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		128	89	96	37	109	65	58	59	55	56
Organochlorine Pesticides																	
Aldrin	0.1	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
alpha-BHC	0.36	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
beta-BHC	1.26	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
delta-BHC	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
cis-chlordane	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
trans-chlordane	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		-	-	-	-	-	-	-	-	-	-
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		-	-	-	-	-	-	-	-	-	-
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	-	-	-	-	-	-	-	-
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	-	-	-	-	-	-	-	-
Endosulfan sulphate	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
Endrin	184.68	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Endrin aldehyde	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
Endrin Ketone	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
Heptachlor	0.38	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene			-	-		NA		-	-	-	-	-	-	-	-	-	-
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Organonitrogen & Organophosphorus Pesticides (all constituents)																	
-	-		-	-	-	-		-	-	-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons																	
	Sample Depth <1m																
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		0.0024	0.7563	0.0384	<0.03	0.0065	<0.03	<0.03	<0.03	<0.03	<0.03
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.12	0.23	< 0.4	< 0.13	< 0.3	< 0.15	< 0.13	< 0.13	< 0.13	< 0.12
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		0.028	1.05	0.164	< 0.03	0.101	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Total Petroleum Hydrocarbons																	
	Sample Depth <1m																
C7 C9	500	MfE 1999	-	-		NA		< 8	< 8	< 30	< 8	< 15	< 9	< 8	< 8	< 8	< 8
C10 C14	1700	MfE 1999	-	-		NA		< 20	< 20	< 50	< 20	< 30	< 20	< 20	< 20	< 20	< 20
C15 C36	20000	MfE 1999	-	-		NA		350	250	550	43	1750	210	< 40	< 40	32	< 40
TPH Total	NA	MfE 1999				<30 - 190		350	250	550	< 60	1750	210	< 60	< 60	< 60	< 60

*See Table Key for definitions of abbreviations and colour coding.

Table 16.1□
Pauatahanui Inlet Garden Supplies
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	STREAM BA□□ / DRAI□AGE AREA								
								PIG11	PIG12	PIG13	PIG14	PIG15	PIG16 (Duplicate of PIG15)	PIG17	PIG1□	PIG19
							Depth (m)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
							Date Sampled	27-Apr-10	27-Apr-10	27-Apr-10	2□-Apr-10	2□-Apr-10	2□-Apr-10	2□-Apr-10	2□-Apr-10	2□-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Silty GRAVEL	Silty GRAVEL	Silty GRAVEL	Sandy SILT	Sandy SILT	Sandy SILT	Silty SA□D	Silty SA□D	SILT
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		2.9	2.9	< 2	4.1	2.7	2.5	3.8	5.2	4.5
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.127	< 0.10
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		11.3	12.3	10.9	12.3	9.5	8.9	11.4	14.1	12.5
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		8.6	9	6	9.1	6.5	5.8	8.2	11.5	10.3
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		15.4	17.3	13.6	15.1	12.1	11	13.6	18.9	16.6
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		8.4	8.6	6.8	8.1	7.3	6.9	8.3	10.4	9.2
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		51	51	44	57	49	44	53	71	61
Organochlorine Pesticides																
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
delta-BHC	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
cis-chlordane	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
trans-chlordane	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Endosulfan sulphate	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Endrin aldehyde	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Endrin Ketone	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Hexachlorobenzene	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.03	< 0.03	< 0.02	-	-	-	-	-	-
Organonitrogen & Organophosphorus Pesticides (all constituents)																
	-		-	-	-			BEDL	BEDL	BEDL	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons																
	Sample Depth <1m															
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	-	-	0.19803	<0.03	0.0043	<0.03	<0.04	<0.04
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	-	-	< 0.17	< 0.15	< 0.15	< 0.15	< 0.19	< 0.16
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	-	-	0.28	0.042	0.056	< 0.03	< 0.04	< 0.04
Total Petroleum Hydrocarbons																
	Sample Depth <1m															
C7 □ C9	500	MfE 1999	-	-		NA		< 8	< 8	< 8	< 11	< 9	< 9	< 9	< 12	< 10
C10 □ C14	1700	MfE 1999	-	-		NA		< 20	< 20	< 20	< 30	< 20	< 20	< 20	< 30	< 20
C15 □ C36	□20000	MfE 1999	-	-		NA		69	< 40	< 40	< 50	< 40	< 40	< 40	< 50	< 40
TPH Total	NA	MfE 1999				<30 - 190		69	< 60	< 60	< 80	< 70	< 70	< 70	< 80	< 70

*See Table Key for definitions of abbreviations and colour coding.

Table 16.1□
Pauatahanui Inlet Garden Supplies
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	GE□ERAL AREA A□D BAC□GRO□□D LOCATIO□ SAMPLES								
							Depth (m)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
							Date Sampled	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	2□-Apr-10	2□-Apr-10	2□-Apr-10	2□-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Silty SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Sandy SILT	Sandy GRAVEL	Silty SA□D	Sandy GRAVEL
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		< 2	4.5	2.7	3.8	3.9	2.2	5.3	3.4	3.5
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		< 0.10	< 0.10	< 0.10	0.133	< 0.10	< 0.10	< 0.10	< 0.10	0.117
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		8.1	11.7	9.3	8.8	11.2	11.4	15.8	10.8	12.4
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		3.4	8.4	16.6	16.5	10.8	8.4	10.7	8.5	8.8
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		210	27	29	29	20	13	18	12.5	16.6
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		3.7	8.1	6.6	6.6	9.4	7.9	10	7.3	7.7
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		19.1	53	48	49	53	47	52	48	50
Organochlorine Pesticides																
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
delta-BHC	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
cis-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
trans-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		0.0184	< 0.010	0.025	0.025	< 0.011	< 0.010	< 0.010	0.0133	0.047
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	0.033	0.024	< 0.011	< 0.010	< 0.010	< 0.010	0.0122
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		0.0184	< 0.010	0.058	0.049	< 0.011	< 0.010	< 0.010	0.0133	0.0592
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Endosulfan sulphate	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Endrin aldehyde	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Endrin Ketone	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Hexachlorobenzene			-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.02	< 0.02	< 0.02	< 0.02	< 0.03	< 0.02	< 0.02	< 0.02	< 0.03
Organonitrogen & Organophosphorus Pesticides (all constituents)																
	-		-	-	-			BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL
Polycyclic Aromatic Hydrocarbons																
	Sample Depth <1m															
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	-	-	-	-	-	-	-	-
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	-	-	-	-	-	-	-	-
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons																
	Sample Depth <1m															
C7 □ C9	500	MfE 1999	-	-		NA		-	-	-	-	-	-	-	-	-
C10 □ C14	1700	MfE 1999	-	-		NA		-	-	-	-	-	-	-	-	-
C15 □ C36	□20000	MfE 1999	-	-		NA		-	-	-	-	-	-	-	-	-
TPH Total	NA	MfE 1999				<30 - 190		-	-	-	-	-	-	-	-	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.1
Pauatahanui Inlet Garden Supplies
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	RI SEATE SAMPLES			
								PIG29	PIG Rinseate 1	PIG Rinseate 2	PIG Rinseate 3
							Depth (m)				
							Date Sampled	2 -Apr-10	27-Apr-10	27-Apr-10	2 -Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	ATER	ATER	ATER	ATER
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/L)	(mg/L)	(mg/L)	(mg/L)
Heavy Metals											
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		< 0.021	< 0.021	< 0.021	< 0.021
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		< 0.0011	< 0.0011	< 0.0011	< 0.0011
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		< 0.011	< 0.011	< 0.011	< 0.011
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		< 0.011	< 0.011	< 0.011	< 0.011
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		< 0.0021	< 0.003	< 0.003	< 0.0021
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		< 0.011	< 0.011	< 0.011	< 0.011
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		< 0.021	< 0.021	0.029	< 0.021
Organochlorine Pesticides											
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
delta-BHC	-		-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
cis-chlordane	-		-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
trans-chlordane	-		-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan sulphate	-		-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
Endrin aldehyde	-		-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
Endrin Ketone	-		-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
Hexachlorobenzene			-	-		NA		< 0.0008	< 0.0008	< 0.0008	< 0.0008
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.0004	< 0.0004	< 0.0004	< 0.0004
Organonitrogen & Organophosphorus Pesticides (all constituents)											
	-		-	-	-			BEDL	-	BEDL	BEDL
Polycyclic Aromatic Hydrocarbons											
	Sample Depth <1m										
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	<0.0001	<0.0001	<0.0001
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	< 0.0005	< 0.0005	< 0.0005
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	< 0.0002	< 0.0002	< 0.0002
Total Petroleum Hydrocarbons											
	Sample Depth <1m										
C7 C9	500	MfE 1999	-	-		NA		< 0.10	< 0.10	< 0.10	< 0.10
C10 C14	1700	MfE 1999	-	-		NA		< 0.2	< 0.2	< 0.2	< 0.2
C15 C36	20000	MfE 1999	-	-		NA		< 0.4	< 0.4	< 0.4	< 0.4
TPH Total	NA	MfE 1999				<30 - 190		< 0.7	< 0.7	< 0.7	< 0.7

*See Table Key for definitions of abbreviations and colour coding.

Table 16.1
Pauatahanui Inlet Garden Supplies
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	STORAGE SHED/ORMER AST AREA									
							Depth (m)	0.1	0.1	0.3	0.3	0.1	0.3	0.1	0.3	0.1	0.3
							Date Sampled	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Silty Sandy GRAVEL	Silty Sandy GRAVEL
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																	
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		8.7	6.7	5.3	5.6	6.6	4.2	6.9	4.2	7.1	5.3
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.174	0.167	0.164	0.136	0.199	0.135	0.27	0.22	0.188	0.112
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		14.5	12.9	11.4	12.7	12.7	10	15	12.6	14.3	14.9
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		25	22	17.4	16.1	20	14.4	34	21	20	14.5
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		43	28	33	28	38	15.6	52	36	41	35
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		7.6	7.3	7.1	7.6	7.9	7	9.1	9.1	7.9	9.2
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		197	175	140	129	270	166	320	186	103	95
Organochlorine Pesticides																	
Aldrin	0.1	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
alpha-BHC	0.36	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
beta-BHC	1.26	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
delta-BHC	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
cis-chlordane	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
trans-chlordane	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		-	-	-	-	-	-	-	-	-	-
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		-	-	-	-	-	-	-	-	-	-
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	-	-	-	-	-	-	-	-
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	-	-	-	-	-	-	-	-
Endosulfan sulphate	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
Endrin	184.68	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Endrin aldehyde	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
Endrin Ketone	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
Heptachlor	0.38	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene			-	-		NA		-	-	-	-	-	-	-	-	-	-
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Organonitrogen & Organophosphorus Pesticides (all constituents)																	
	-		-	-	-	-			-	-	-			-	-	-	-
Polycyclic Aromatic Hydrocarbons																	
	Sample Depth <1m																
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		0.0146	0.008	<0.03	<0.03	0.013	<0.03	0.0124	0.0031	0.08174	0.0042
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.17	< 0.17	< 0.15	< 0.15	< 0.15	0.46	< 0.18	< 0.15	< 0.14	< 0.13
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		< 0.04	< 0.04	< 0.03	< 0.03	< 0.03	< 0.03	1.21	0.121	0.1	0.028
Total Petroleum Hydrocarbons																	
	Sample Depth <1m																
C7 □C9	500	MfE 1999	-	-		NA		< 10	< 10	< 9	< 9	< 9	< 9	< 11	< 9	< 9	8.4
C10 □C14	1700	MfE 1999	-	-		NA		< 20	< 20	< 20	< 20	< 20	< 20	750	54	< 20	< 20
C15 □C36	□20000	MfE 1999	-	-		NA		260	380	99	186	310	149	8100	620	450	125
TPH Total	NA	MfE 1999				<30 - 190		260	380	99	186	310	149	8900	680	450	134

*See Table Key for definitions of abbreviations and colour coding.

Table 16.1
Pauatahanui Inlet Garden Supplies
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	STAI ED AREAS									
							Depth (m)	0.1	0.3	0.1	0.3	0.1	0.3	0.1	0.1	0.3	0.3
							Date Sampled	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	2 -Apr-10	2 -Apr-10	2 -Apr-10	2 -Apr-10	2 -Apr-10	2 -Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Sandy GRAVEL	Sandy GRAVEL	Sandy SILT	Sandy SILT	GRAVEL	Sandy SILT	SILT	SILT	SILT	SILT
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																	
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		5.5	4.8	7.9	< 2	5.2	5	3.2	2.8	4.4	4.6
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.122	0.123	0.133	< 0.10	0.102	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		19.2	16.3	15	9.5	25	19.4	16.2	18.5	18.9	16
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		25	14.5	23	5.1	7	18.7	11.3	10.3	13	12.9
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		85	22	37	8.8	142	28	21	18.1	19.1	18.1
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		13.7	13.5	8.6	6.6	12.8	13.1	11.5	11.2	11.1	10.7
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		128	89	96	37	109	65	58	59	55	56
Organochlorine Pesticides																	
Aldrin	0.1	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
alpha-BHC	0.36	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
beta-BHC	1.26	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
delta-BHC	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
cis-chlordane	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
trans-chlordane	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		-	-	-	-	-	-	-	-	-	-
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		-	-	-	-	-	-	-	-	-	-
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	-	-	-	-	-	-	-	-
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		-	-	-	-	-	-	-	-	-	-
Endosulfan sulphate	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
Endrin	184.68	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Endrin aldehyde	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
Endrin Ketone	-		-	-		NA		-	-	-	-	-	-	-	-	-	-
Heptachlor	0.38	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene			-	-		NA		-	-	-	-	-	-	-	-	-	-
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		-	-	-	-	-	-	-	-	-	-
Organonitrogen & Organophosphorus Pesticides (all constituents)																	
-	-		-	-	-	-		-	-	-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons																	
	Sample Depth <1m																
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		0.0024	0.7563	0.0384	<0.03	0.0065	<0.03	<0.03	<0.03	<0.03	<0.03
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		< 0.12	0.23	< 0.4	< 0.13	< 0.3	< 0.15	< 0.13	< 0.13	< 0.13	< 0.12
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		0.028	1.05	0.164	< 0.03	0.101	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Total Petroleum Hydrocarbons																	
	Sample Depth <1m																
C7 C9	500	MfE 1999	-	-		NA		< 8	< 8	< 30	< 8	< 15	< 9	< 8	< 8	< 8	< 8
C10 C14	1700	MfE 1999	-	-		NA		< 20	< 20	< 50	< 20	< 30	< 20	< 20	< 20	< 20	< 20
C15 C36	20000	MfE 1999	-	-		NA		350	250	550	43	1750	210	< 40	< 40	32	< 40
TPH Total	NA	MfE 1999				<30 - 190		350	250	550	< 60	1750	210	< 60	< 60	< 60	< 60

*See Table Key for definitions of abbreviations and colour coding.

Table 16.1□
Pauatahanui Inlet Garden Supplies
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	STREAM BA□□ / DRAI□AGE AREA								
								PIG11	PIG12	PIG13	PIG14	PIG15	PIG16 (Duplicate of PIG15)	PIG17	PIG1□	PIG19
							Depth (m)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
							Date Sampled	27-Apr-10	27-Apr-10	27-Apr-10	2□-Apr-10	2□-Apr-10	2□-Apr-10	2□-Apr-10	2□-Apr-10	2□-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Silty GRAVEL	Silty GRAVEL	Silty GRAVEL	Sandy SILT	Sandy SILT	Sandy SILT	Silty SA□D	Silty SA□D	SILT
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		2.9	2.9	< 2	4.1	2.7	2.5	3.8	5.2	4.5
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.127	< 0.10
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		11.3	12.3	10.9	12.3	9.5	8.9	11.4	14.1	12.5
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		8.6	9	6	9.1	6.5	5.8	8.2	11.5	10.3
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		15.4	17.3	13.6	15.1	12.1	11	13.6	18.9	16.6
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		8.4	8.6	6.8	8.1	7.3	6.9	8.3	10.4	9.2
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		51	51	44	57	49	44	53	71	61
Organochlorine Pesticides																
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
delta-BHC	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
cis-chlordane	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
trans-chlordane	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Endosulfan sulphate	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Endrin aldehyde	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Endrin Ketone	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Hexachlorobenzene	-		-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.011	< 0.011	< 0.010	-	-	-	-	-	-
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.03	< 0.03	< 0.02	-	-	-	-	-	-
Organonitrogen & Organophosphorus Pesticides (all constituents)																
	-		-	-	-			BEDL	BEDL	BEDL	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons																
	Sample Depth <1m															
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	-	-	0.19803	<0.03	0.0043	<0.03	<0.04	<0.04
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	-	-	< 0.17	< 0.15	< 0.15	< 0.15	< 0.19	< 0.16
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	-	-	0.28	0.042	0.056	< 0.03	< 0.04	< 0.04
Total Petroleum Hydrocarbons																
	Sample Depth <1m															
C7 □ C9	500	MfE 1999	-	-		NA		< 8	< 8	< 8	< 11	< 9	< 9	< 9	< 12	< 10
C10 □ C14	1700	MfE 1999	-	-		NA		< 20	< 20	< 20	< 30	< 20	< 20	< 20	< 30	< 20
C15 □ C36	□20000	MfE 1999	-	-		NA		69	< 40	< 40	< 50	< 40	< 40	< 40	< 50	< 40
TPH Total	NA	MfE 1999				<30 - 190		69	< 60	< 60	< 80	< 70	< 70	< 70	< 80	< 70

*See Table Key for definitions of abbreviations and colour coding.

Table 16.1□
Pauatahanui Inlet Garden Supplies
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	GE□ERAL AREA A□D BAC□GRO□□D LOCATIO□ SAMPLES								
							Depth (m)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
							Date Sampled	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	2□-Apr-10	2□-Apr-10	2□-Apr-10	2□-Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	Silty SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Silty SA□D	Sandy SILT	Sandy GRAVEL	Silty SA□D	Sandy GRAVEL
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		< 2	4.5	2.7	3.8	3.9	2.2	5.3	3.4	3.5
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		< 0.10	< 0.10	< 0.10	0.133	< 0.10	< 0.10	< 0.10	< 0.10	0.117
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		8.1	11.7	9.3	8.8	11.2	11.4	15.8	10.8	12.4
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		3.4	8.4	16.6	16.5	10.8	8.4	10.7	8.5	8.8
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		210	27	29	29	20	13	18	12.5	16.6
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		3.7	8.1	6.6	6.6	9.4	7.9	10	7.3	7.7
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		19.1	53	48	49	53	47	52	48	50
Organochlorine Pesticides																
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
delta-BHC	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
cis-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
trans-chlordane	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		0.0184	< 0.010	0.025	0.025	< 0.011	< 0.010	< 0.010	0.0133	0.047
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.010	< 0.010	0.033	0.024	< 0.011	< 0.010	< 0.010	< 0.010	0.0122
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		0.0184	< 0.010	0.058	0.049	< 0.011	< 0.010	< 0.010	0.0133	0.0592
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Endosulfan sulphate	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Endrin aldehyde	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Endrin Ketone	-		-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Hexachlorobenzene			-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.02	< 0.02	< 0.02	< 0.02	< 0.03	< 0.02	< 0.02	< 0.02	< 0.03
Organonitrogen & Organophosphorus Pesticides (all constituents)																
	-		-	-	-			BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL
Polycyclic Aromatic Hydrocarbons																
	Sample Depth <1m															
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	-	-	-	-	-	-	-	-
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	-	-	-	-	-	-	-	-
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons																
	Sample Depth <1m															
C7 □ C9	500	MfE 1999	-	-		NA		-	-	-	-	-	-	-	-	-
C10 □ C14	1700	MfE 1999	-	-		NA		-	-	-	-	-	-	-	-	-
C15 □ C36	□20000	MfE 1999	-	-		NA		-	-	-	-	-	-	-	-	-
TPH Total	NA	MfE 1999				<30 - 190		-	-	-	-	-	-	-	-	-

*See Table Key for definitions of abbreviations and colour coding.

Table 16.1
Pauatahanui Inlet Garden Supplies
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	RI SEATE SAMPLES			
								PIG29	PIG Rinseate 1	PIG Rinseate 2	PIG Rinseate 3
							Depth (m)				
							Date Sampled	2 -Apr-10	27-Apr-10	27-Apr-10	2 -Apr-10
	Human health		Ecological receptors			Background Trace Elements	Soil Type	ATER	ATER	ATER	ATER
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/L)	(mg/L)	(mg/L)	(mg/L)
Heavy Metals											
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		< 0.021	< 0.021	< 0.021	< 0.021
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		< 0.0011	< 0.0011	< 0.0011	< 0.0011
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		< 0.011	< 0.011	< 0.011	< 0.011
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		< 0.011	< 0.011	< 0.011	< 0.011
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		< 0.0021	< 0.003	< 0.003	< 0.0021
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		< 0.011	< 0.011	< 0.011	< 0.011
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		< 0.021	< 0.021	0.029	< 0.021
Organochlorine Pesticides											
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
delta-BHC	-		-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
cis-chlordane	-		-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
trans-chlordane	-		-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan sulphate	-		-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
Endrin aldehyde	-		-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
Endrin Ketone	-		-	-		NA		< 0.0002	< 0.0002	< 0.0002	< 0.0002
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
Hexachlorobenzene			-	-		NA		< 0.0008	< 0.0008	< 0.0008	< 0.0008
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.00010	< 0.00010	< 0.00010	< 0.00010
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.0004	< 0.0004	< 0.0004	< 0.0004
Organonitrogen & Organophosphorus Pesticides (all constituents)											
	-		-	-	-			BEDL	-	BEDL	BEDL
Polycyclic Aromatic Hydrocarbons											
	Sample Depth <1m										
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.27		-	<0.0001	<0.0001	<0.0001
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.01		-	< 0.0005	< 0.0005	< 0.0005
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.57		-	< 0.0002	< 0.0002	< 0.0002
Total Petroleum Hydrocarbons											
	Sample Depth <1m										
C7 C9	500	MfE 1999	-	-		NA		< 0.10	< 0.10	< 0.10	< 0.10
C10 C14	1700	MfE 1999	-	-		NA		< 0.2	< 0.2	< 0.2	< 0.2
C15 C36	20000	MfE 1999	-	-		NA		< 0.4	< 0.4	< 0.4	< 0.4
TPH Total	NA	MfE 1999				<30 - 190		< 0.7	< 0.7	< 0.7	< 0.7

*See Table Key for definitions of abbreviations and colour coding.

Table 16.19
Mana Coach
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	MC S1	MC S2 (Duplicate of MS S1)	MC S3	MC S4	MC S5	MC S6	MC S7	MC S□	MC S9	MC S10	MC R1
							Depth (m)	0.05	0.05	0.1-0.2	0.1-0.2	0.05	0.1-0.2	0.05	0.1-0.2	0.05	0.1-0.2	
							Date Sampled	16-Apr-10	16-Apr-10	16-Apr-10	16-Apr-10	16-Apr-10	16-Apr-10	16-Apr-10	16-Apr-10	16-Apr-10	16-Apr-10	16-Apr-10
	Human health Commercial/Industrial		Ecological receptors			Background Trace Elements	Soil Type	Silt (ML)	Silt (ML)	Silt (ML)	Dup of MC S3	Silt (ML)	Silt (ML)	Gravelly Silt (ML)	Gravel (GP)	Silty Gravel (GM)	Silty Gravel (GM)	□ater
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mgL)
Heavy Metal Screen																		
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 6		4.7	4.5	3.7	3.8	3.2	3.4	3.7	3.6	4.4	4.4	< 0.021
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.0		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.0011
Chromium	NL	NZNES	87	52	CCME SQGE	5 - 16		12.6	13.2	13.2	14.4	10.8	12.8	15.7	14.1	16.6	17.6	< 0.011
Copper	NL	NZNES	91	63	CCME SQGE	2 - 25		12	13.9	12.8	11.7	8	8.5	11.2	10.8	16.8	17	< 0.011
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.5		15.8	15.5	15.5	17.5	13.5	14.2	16.1	16.4	21	22	< 0.003
Nickel	500	DEFRA	50	50	CCME SQGE	3 - 13		10.8	13.1	11.1	12.2	8.5	8.3	11.1	10.3	14.7	15.3	< 0.011
Zinc	35000	NEPC HIL	360	200	CCME SQGE	23 - 105		60	62	59	58	41	44	54	51	77	71	0.054
Polycyclic Aromatic Hydrocarbons																		
	Sample Depth <1m																	
Benzo(a)pyrene eq.	35	NZNES	72	20	CCME SQGE	0.002 - 0.26		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	3.04E-06
Naphthalene	210	MfE 1999	22	0.6	CCME SQGE	<0.002 - 0.00		< 0.14	< 0.13	< 0.13	< 0.13	< 0.14	< 0.14	< 0.12	< 0.13	< 0.13	< 0.13	8.40E-04
Pyrene	NA	MfE 1999	100	10	CCME SQGE	0.002 - 0.56		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	4.00E-05
Total Petroleum Hydrocarbons																		
	Source Depth <1m																	
C7 □C9	500	MfE 1999	-	-		NA		< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 0.15
C10 □C14	1700	MfE 1999	-	-		NA		< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 0.4
C15 □C36	□20000	MfE 1999	-	-		NA		< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	< 40	0.8
TPH Total	NA	MfE 1999				<30 - 189		< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 1.4

*See Table Key for definitions of abbreviations and colour coding.

Sample MC S1□note from Laboratory□ It has been noted that the duplicates for Chromium and Nickel run as part of our in-house QC procedure showed greater variation than would normally be expected. This may reflect the heterogeneity of the sample.

Table 16.20
G□ RC □ormer Sheep Dip Site
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	GSD1	GSD1	GSD4 (Duplicate of GSD1 at 0.5)	GSD1	GSD2	GSD2	GSD2	GSD4 (Duplicate of GSD2 at 0.9)	GSD3	GSD5 (Duplicate of GSD3 at 0.1)	GSD3	GSD3
							Depth (m)	0.1	0.5	0.5	0.9	0.1	0.5	0.9	0.9	0.1	0.1	0.5	0.9
							Date Sampled	26-Apr-10	26-Apr-10	26-Apr-10	26-Apr-10	26-Apr-10	26-Apr-10	26-Apr-10	26-Apr-10	26-Apr-10	26-Apr-10	26-Apr-10	26-Apr-10
	Human health (Commercial/Industrial)		Ecological receptors			Background Trace Elements	Soil Type	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Gravelly Silt (ML)	Gravelly Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/ Parkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals																			
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		6.5	2.9	2.7	2.2	5.4	9.1	14.2	11.7	15.9	16.3	3.8	3.7
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.24	< 0.10	< 0.10	< 0.10	0.24	< 0.10	< 0.10	0.101	0.162	0.123	< 0.10	< 0.10
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		13.7	13.3	10.6	13.3	14	15	15	14.2	15.7	16.5	12.5	18.1
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		15.2	11.6	10.7	7.3	14.7	16.5	26	21	12.8	12.9	7.3	7.4
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		33	15.1	13.8	11.1	35	21	30	25	34	34	12.7	14.3
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		8.7	9.6	8.4	8.6	8.9	11.3	15.4	12.9	10.5	11.1	8.3	11.6
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		161	66	64	43	104	63	79	67	112	112	78	51
Organochlorine Pesticides																			
Aldrin	0.1	USEPA Region IX	-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
alpha-BHC	0.36	USEPA Region IX	-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
beta-BHC	1.26	USEPA Region IX	-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
delta-BHC	-		-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
gamma-BHC (Lindane)	1.74	USEPA Region IX	-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
cis-chlordane			-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
trans-chlordane			-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
2,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
4,4'-DDD	9.95	USEPA Region IX	-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
2,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
4,4'-DDE	7.02	USEPA Region IX	-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
2,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
4,4'-DDT	7.02	USEPA Region IX	-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
Total DDTs	1000	NZNES	12	0.7	CCME SQGE	NA		<0.011	-	< 0.010	<0.010	<0.010	<0.011	-	<0.010	<0.010	<0.010	-	<0.011
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		**0.02**	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	**0.051**	**0.072**	-	< 0.011
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
Endosulfan sulphate			-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
Endrin	184.68	USEPA Region IX	-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
Endrin aldehyde	-		-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
Endrin Ketone	-		-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
Heptachlor	0.38	USEPA Region IX	-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
Heptachlor epoxide	0.19	USEPA Region IX	-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
Hexachlorobenzene	-		-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
Methoxychlor	3078.03	USEPA Region IX	-	-		NA		< 0.011	-	< 0.010	< 0.010	< 0.010	< 0.011	-	< 0.010	< 0.010	< 0.010	-	< 0.011
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX	-	-		NA		< 0.03	-	< 0.02	< 0.02	< 0.02	< 0.03	-	< 0.02	< 0.02	< 0.02	-	< 0.03
Organonitrogen & Organophosphorus Pesticides and Synthetic Pyrethroids																			
All constituents analysed	-		-					BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL

*See Table Key for definitions of abbreviations and colour coding.

Table 16.21
□ormer Stockyard Site
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	BH01	BH02	BH03 (Duplicate of BH02-0.1)	BH02	BH03 (Duplicate of BH02-0.3)	BH04	BH05	BH06
							Depth (m)	0.1	0.1	0.1	0.3	0.3	0.1	0.1	0.1
							Date Sampled	26-Apr-10	26-Apr-10	26-Apr-10	26-Apr-10	26-Apr-10	26-Apr-10	26-Apr-10	26-Apr-10
	Human health (Commercial/Industrial)		Ecological receptors			Background Trace Elements	Soil Type	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Sandy Gravel (G□)	Silt (ML)	Silt (ML)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/P arkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals															
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		10.7	6.7	7.6	4	3.6	4.3	4.9	7
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.178	0.142	0.155	< 0.10	< 0.10	< 0.10	0.16	0.25
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		12.8	10.8	11.6	11.3	11.8	12.2	13.2	16.2
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		10.7	7.5	8.2	7.4	6.6	9.4	7.5	12.3
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		19.6	15.4	15.9	11.8	11.4	11.7	13.1	37
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		4.7	4.8	5.1	5.6	5.9	7.5	4.9	6.2
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		107	72	77	53	52	62	61	143
Organochlorine Pesticides															
Aldrin	0.1	USEPA Region IX				NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
alpha-BHC	0.36	USEPA Region IX				NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
beta-BHC	1.26	USEPA Region IX				NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
delta-BHC						NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
gamma-BHC (Lindane)	1.74	USEPA Region IX				NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
cis-chlordane						NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
trans-chlordane						NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
2,4'-DDD	9.95	USEPA Region IX				NA		0.0116	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
4,4'-DDD	9.95	USEPA Region IX				NA		0.045	0.026	< 0.010	< 0.010	< 0.010	< 0.010	0.017	< 0.011
2,4'-DDE	7.02	USEPA Region IX				NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
4,4'-DDE	7.02	USEPA Region IX				NA		0.66	0.66	0.66	0.064	0.058	0.0133	0.84	0.44
2,4'-DDT	7.02	USEPA Region IX				NA		0.108	0.093	0.089	< 0.010	< 0.010	< 0.010	0.076	0.034
4,4'-DDT	7.02	USEPA Region IX				NA		0.49	0.33	0.32	0.0146	0.0176	< 0.010	0.54	0.26
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		1.3146	1.109	1.069	0.0786	0.0756	0.0133	1.473	0.734
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
Endosulfan sulphate	BEDL					NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
Endrin	184.68	USEPA Region IX				NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
Endrin aldehyde						NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
Endrin Ketone						NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
Heptachlor	0.38	USEPA Region IX				NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
Heptachlor epoxide	0.19	USEPA Region IX				NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
Hexachlorobenzene						NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
Methoxychlor	3078.03	USEPA Region IX				NA		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX				NA		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.03
Organonitrogen & Organophosphorus Pesticides and Synthetic Pyrothroids															
All constituents	NA		NA			NA		BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL

*See Table Key for definitions of abbreviations and colour coding.

Table 16.21
□ormer Stockyard Site
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	BH07	BH0□	BH09	BH10 (Duplicate of BH09-0.1)	BH09	BH10 (Duplicate of BH09-0.3)	BH11	BH12
							Depth (m)	0.1	0.1	0.1	0.1	0.3	0.3	0.1	0.1
							Date Sampled	26-Apr-10	26-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10
	Human health (Commercial/Industrial)		Ecological receptors			Background Trace Elements	Soil Type	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/P arkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Heavy Metals															
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		5.4	12.2	4.9	4.7	4.5	5	4	4.9
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.158	0.126	< 0.10	< 0.10	< 0.10	< 0.10	0.124	0.198
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		13.8	18.4	13.4	13	14.4	14.6	12	14.5
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		8.8	12.4	15.7	12.1	13.7	14.3	10.2	11.3
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		14.1	33	13.1	12.4	16.1	17.1	11.2	11.9
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		6.3	6.7	7.1	6.8	9.2	9.9	4.5	4.4
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		57	74	51	51	55	57	36	61
Organochlorine Pesticides															
Aldrin	0.1	USEPA Region IX				NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
alpha-BHC	0.36	USEPA Region IX				NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
beta-BHC	1.26	USEPA Region IX				NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
delta-BHC						NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
gamma-BHC (Lindane)	1.74	USEPA Region IX				NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
cis-chlordane						NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
trans-chlordane						NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
2,4'-DDD	9.95	USEPA Region IX				NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
4,4'-DDD	9.95	USEPA Region IX				NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
2,4'-DDE	7.02	USEPA Region IX				NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
4,4'-DDE	7.02	USEPA Region IX				NA		0.058	0.102	0.121	0.119	0.0145	0.0169	0.27	0.28
2,4'-DDT	7.02	USEPA Region IX				NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	0.0121	0.0171
4,4'-DDT	7.02	USEPA Region IX				NA		0.0163	0.037	0.062	0.063	< 0.010	< 0.010	0.1	0.13
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		0.0743	0.139	0.183	0.182	0.0145	0.0169	0.3821	0.4271
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
Endosulfan sulphate	BEDL					NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
Endrin	184.68	USEPA Region IX				NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
Endrin aldehyde						NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
Endrin Ketone						NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
Heptachlor	0.38	USEPA Region IX				NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
Heptachlor epoxide	0.19	USEPA Region IX				NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
Hexachlorobenzene						NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
Methoxychlor	3078.03	USEPA Region IX				NA		< 0.010	< 0.010	< 0.011	< 0.010	< 0.010	< 0.010	< 0.011	< 0.011
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX				NA		< 0.02	< 0.02	< 0.03	< 0.02	< 0.02	< 0.02	< 0.03	< 0.03
Organonitrogen & Organophosphorus Pesticides and Synthetic Pyrothroids															
All constituents	NA		NA			NA		BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL	BEDL

*See Table Key for definitions of abbreviations and colour coding.

Table 16.21
□ormer Stockyard Site
Summary of Laboratory Results

Analyte	Guideline Values*						Sample ID	BH13	BH14	BH15	BH16	BH Rinseate 01	BH Rinseate 02
							Depth (m)	0.1	0.1	0.1	0.1		
							Date Sampled	27-Apr-10	27-Apr-10	27-Apr-10	27-Apr-10	26-Apr-10	27-Apr-10
	Human health (Commercial/Industrial)		Ecological receptors			Background Trace Elements	Soil Type	Silt (ML)	Silt (ML)	Silt (ML)	Silt (ML)	□ATER	□ATER
	(mg/kg)	Reference	Commercial/ Industrial (mg/kg)	Recreation/P arkland (mg/kg)	Reference	(mg/kg)		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/L)	(mg/L)
Heavy Metals													
Arsenic	70	NZNES	26	17	CCME SQGE	<2 - 7		3.6	4.5	6.5	6.3	< 0.021	< 0.021
Cadmium	1300	NZNES	22	10	CCME SQGE	<0.1 - 0.1		0.133	0.133	0.144	0.182	< 0.0011	< 0.0011
Chromium	NL	NZNES	87	52	CCME SQGE	6 - 16		11.5	12.6	17.4	14.2	< 0.011	< 0.011
Copper	NL	NZNES	91	63	CCME SQGE	3 - 25		43	9.3	14.6	11.1	< 0.011	< 0.011
Lead	3300	NZNES	600	300	CCME SQGE	5.9 - 78.6		10.6	10.4	12.8	10.8	<0.003	<0.003
Nickel	500	DEFRA	50	50	CCME SQGE	4 - 13		5.1	4.7	5.1	4.1	< 0.011	< 0.011
Zinc	35000	NEPC HIL	360	200	CCME SQGE	24 - 105		210	64	58	48	<0.021	<0.021
Organochlorine Pesticides													
Aldrin	0.1	USEPA Region IX				NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.00010	< 0.00010
alpha-BHC	0.36	USEPA Region IX				NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.0002	< 0.0002
beta-BHC	1.26	USEPA Region IX				NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.0002	< 0.0002
delta-BHC						NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.0002	< 0.0002
gamma-BHC (Lindane)	1.74	USEPA Region IX				NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.0002	< 0.0002
cis-chlordane						NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.00010	< 0.00010
trans-chlordane						NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.00010	< 0.00010
2,4'-DDD	9.95	USEPA Region IX				NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.0002	< 0.0002
4,4'-DDD	9.95	USEPA Region IX				NA		< 0.010	0.0175	0.0186	< 0.011	< 0.0002	< 0.0002
2,4'-DDE	7.02	USEPA Region IX				NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.0002	< 0.0002
4,4'-DDE	7.02	USEPA Region IX				NA		0.127	0.79	0.83	0.26	< 0.0002	< 0.0002
2,4'-DDT	7.02	USEPA Region IX				NA		< 0.010	0.056	0.052	0.0172	< 0.0002	< 0.0002
4,4'-DDT	7.02	USEPA Region IX				NA		0.039	0.34	0.59	0.172	< 0.0002	< 0.0002
Total DDT Isomers	1000	NZNES	12	0.7	CCME SQGE	NA		0.166	1.2035	1.4906	0.4492	< 0.0002	< 0.0002
Dieldrin	160	NZNES	0.011		US EPA SSL	NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.00010	< 0.00010
Endosulfan I	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.0002	< 0.0002
Endosulfan II	3693.4	USEPA Region IX	4		MoHSPE	NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.0002	< 0.0002
Endosulfan sulphate	BEDL					NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.0002	< 0.0002
Endrin	184.68	USEPA Region IX				NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.00010	< 0.00010
Endrin aldehyde						NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.00010	< 0.00010
Endrin Ketone						NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.0002	< 0.0002
Heptachlor	0.38	USEPA Region IX				NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.00010	< 0.00010
Heptachlor epoxide	0.19	USEPA Region IX				NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.00010	< 0.00010
Hexachlorobenzene						NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.0008	< 0.0008
Methoxychlor	3078.03	USEPA Region IX				NA		< 0.010	< 0.010	< 0.010	< 0.011	< 0.00010	< 0.00010
Total Chlordane [(cis+trans)* 100/42]	6.47	USEPA Region IX				NA		< 0.02	< 0.02	< 0.02	< 0.03	< 0.0004	< 0.0004
Organonitrogen & Organophosphorus Pesticides and Synthetic Pyrothroids													
All constituents	NA		NA			NA		BEDL	BEDL	BEDL	BEDL	BEDL	BEDL

*See Table Key for definitions of abbreviations and colour coding.

Table 16.22
Sand Sue Market Garden
Relative Percent Difference

Parameters	SS7	SS42 (Duplicate of SS7-0.1)	RPD	SS7	SS42 (Duplicate of SS7-0.3)	RPD	SS14	SS43 (Duplicate of SS14-0.1)	RPD	SS14	SS43 (Duplicate of SS14-0.3)	RPD
	0.1	0.1		0.3	0.3		0.1	0.1		0.3	0.3	
	19-Apr-10	19-Apr-10		19-Apr-10	402□7		22-Apr-10	22-Apr-10		22-Apr-10	22-Apr-10	
	Sand (SP)	Sand (SP)		Sand (SP)	Sand (SP)		Silt (ML)	Silt (ML)		Silt (ML)	Silt (ML)	
Heavy Metal Screen												
Arsenic	5.5	6.4	**15**	6.3	5.4	**15**	8.5	8.2	**4**	9.1	9.4	**3**
Cadmium	0.17	0.22	**26**	0.21	0.194	□	0.33	0.29	**13**	0.25	0.199	**23**
Chromium	10.2	11.4	**11**	11.2	10.3	□	15.4	16.2	**5**	15.3	15	**2**
Copper	13.1	15.2	**15**	13.6	13.6	**0**	23	23	**0**	17.9	16.7	**7**
Lead	15	16.6	**10**	14.6	14.1	**3**	24	25	**4**	25	26	**4**
Nickel	8.1	8.7	**7**	8.4	8.5	**1**	11.3	11.2	**1**	10.8	10.4	**4**
Zinc	53	58	**9**	54	53	**2**	104	103	**1**	80	78	**3**
Organochlorine Pesticides												
Aldrin	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
alpha-BHC	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
beta-BHC	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
delta-BHC	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
gamma-BHC (Lindane)	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
cis-chlordane	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
trans-chlordane	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
2,4'-DDD	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
4,4'-DDD	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
2,4'-DDE	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
4,4'-DDE	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
2,4'-DDT	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
4,4'-DDT	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
Total DDT	<0.010	<0.011	-	< 0.011	<0.011	-	-	-	-	-	-	-
Dieldrin	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
Endosulfan I	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
Endosulfan II	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
Endosulfan sulphate	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
Endrin	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
Endrin aldehyde	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
Endrin Ketone	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
Heptachlor	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
Heptachlor epoxide	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
Hexachlorobenzene	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
Methoxychlor	< 0.010	< 0.011	-	< 0.011	< 0.011	-	-	-	-	-	-	-
Total Chlordane [(cis+trans)* 100/42]	< 0.02	< 0.03	-	< 0.03	< 0.03	-	-	-	-	-	-	-
Organonitrogen & Organophosphorus Pesticides												
Alachlor	<0.05	<0.05	-	<0.05	<0.05	-	0.12	0.124	**3**	0.3	0.41	**31**
Pendimthalin	<0.06	<0.06	-	<0.06	<0.06	-	<0.06	<0.07	-	<0.07	<0.07	-
Pirimiphos-methyl	<0.06	<0.06	-	<0.06	<0.06	-	<0.06	<0.07	-	<0.07	<0.07	-
Polycyclic Aromatic Hydrocarbons												
Benzo(a)pyrene eq.	<0.03	<0.03	-	<0.03	<0.03	-	<0.03	<0.03	-	<0.04	<0.03	-
Naphthalene	< 0.14	< 0.13	-	< 0.13	< 0.13	-	< 0.14	< 0.14	-	< 0.16	< 0.15	-
Pyrene	< 0.03	< 0.03	-	< 0.03	< 0.03	-	< 0.03	< 0.03	-	< 0.04	< 0.03	-
AVERAGE RPD□			**13**			**5**			**4**			**10**

□otes□
RPD - Relative Percent Difference
Italics □result below level of detection. Result reported above is half the detection level (for statistical purposes)
Red - above 50□ RPD specified in the data quality objectives

Table 16.22
Sand Sue Market Garden
Relative Percent Difference

Parameters	SS21	SS44 (Duplicate of SS21-0.1)	RPD	SS21	SS44 (Duplicate of SS21-0.3)	RPD	SS2□	SS45 (Duplicate of SS2□-0.1)	RPD	SS2□	SS45 (Duplicate of SS2□-0.3)	RPD
	0.1	0.1		0.3	0.3		0.1	0.1		0.3	0.13	
	22-Apr-10	22-Apr-10		22-Apr-10	22-Apr-10		22-Apr-10	22-Apr-10		22-Apr-10	22-Apr-10	
	Silty Gravel (GM)	Silty Gravel (GM)		Silty Gravel (GM)	Silty Gravel (GM)		Silt (ML)	Silt (ML)		Silt (ML)	Silt (ML)	
Heavy Metal Screen												
Arsenic	2.6	2.9	**11**	3.5	4.1	**16**	8.2	6.6	**22**	7.3	8.7	**1□**
Cadmium	0.194	0.151	**25**	0.104	0.13	**22**	0.45	0.45	**0**	0.43	0.5	**15**
Chromium	6.9	6.3	**9**	10.7	10.3	**4**	15.2	15	**1**	14.6	16.8	**14**
Copper	15	15.3	**2**	16.1	18.8	**15**	24	26	**□**	24	23	**4**
Lead	25	23	**□**	59	840	**174**	21	22	**5**	20	20	**0**
Nickel	4.7	4.3	**9**	6.4	7	**9**	10.6	10	**6**	9.7	9.8	**1**
Zinc	96	98	**2**	106	105	**1**	102	103	**1**	98	96	**2**
Organochlorine Pesticides												
Aldrin	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
alpha-BHC	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
beta-BHC	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
delta-BHC	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
gamma-BHC (Lindane)	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
cis-chlordane	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
trans-chlordane	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
2,4'-DDD	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
4,4'-DDD	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
2,4'-DDE	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
4,4'-DDE	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
2,4'-DDT	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
4,4'-DDT	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
Total DDT	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
Dieldrin	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
Endosulfan I	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
Endosulfan II	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
Endosulfan sulphate	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
Endrin	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
Endrin aldehyde	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
Endrin Ketone	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
Heptachlor	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
Heptachlor epoxide	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
Hexachlorobenzene	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
Methoxychlor	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
Total Chlordane [(cis+trans)* 100/42]	-	-	**-**	-	-	**-**	-	-	**-**	-	-	**-**
Organonitrogen & Organophosphorus Pesticides												
Alachlor	<0.05	<0.05	**-**	<0.05	<0.05	**-**	0.188	0.196	**4**	0.129	0.177	**31**
Pendimthalin	<0.06	<0.06	**-**	<0.07	<0.06	**-**	*0.03*	0.054	**57**	BEDL	BEDL	**-**
Pirimiphos-methyl	<0.06	<0.06	**-**	<0.07	<0.06	**-**	0.43	0.092	**130**	0.068	0.122	**57**
Polycyclic Aromatic Hydrocarbons												
Benzo(a)pyrene eq.	0.008	0.009	**17**	0.087	0.047	**59**	<0.03	<0.03	**-**	<0.03	<0.03	**-**
Naphthalene	<0.3	<0.3	**-**	<0.16	<0.14	**-**	< 0.12	< 0.12	**-**	< 0.13	< 0.13	**-**
Pyrene	*0.03*	0.08	**91**	0.036	0.037	**3**	< 0.03	< 0.03	**-**	< 0.03	< 0.03	**-**
AVERAGE RPD□			**19**			**34**			**23**			**16**

□otes□
RPD - Relative Percent Difference
Italics □result below level of detection. Result reported above is h
Red - above 50□ RPD specified in the data quality objectives

Table 16.22
Sand Sue Market Garden
Relative Percent Difference

Parameters	SS35	SS46 (Duplicate of SS35-0.1)	RPD	SS35	SS46 (Duplicate of SS35-0.3)	RPD
	0.1	0.1		0.3	0.3	
	23-Apr-10	23-Apr-10		23-Apr-10	23-Apr-10	
	Gravelly Silt (ML)	Gravelly Silt (ML)		Gravelly Silt (ML)	Gravelly Silt (ML)	
Heavy Metal Screen						
Arsenic	5.4	5.9	**9**	6.8	5.6	**19**
Cadmium	0.35	0.51	**37**	0.38	0.36	**5**
Chromium	15.6	15.3	**2**	15.4	14.8	**4**
Copper	23	22	**4**	24	22	**9**
Lead	21	21	**0**	22	20	**10**
Nickel	12.8	11.5	**11**	12	10.9	**10**
Zinc	90	89	**1**	89	84	**6**
Organochlorine Pesticides						
Aldrin	< 0.010	< 0.011	-	< 0.011	< 0.011	-
alpha-BHC	< 0.010	< 0.011	-	< 0.011	< 0.011	-
beta-BHC	< 0.010	< 0.011	-	< 0.011	< 0.011	-
delta-BHC	< 0.010	< 0.011	-	< 0.011	< 0.011	-
gamma-BHC (Lindane)	< 0.010	< 0.011	-	< 0.011	< 0.011	-
cis-chlordane	< 0.010	< 0.011	-	< 0.011	< 0.011	-
trans-chlordane	< 0.010	< 0.011	-	< 0.011	< 0.011	-
2,4'-DDD	< 0.010	< 0.011	-	< 0.011	< 0.011	-
4,4'-DDD	< 0.010	< 0.011	-	< 0.011	< 0.011	-
2,4'-DDE	< 0.010	< 0.011	-	< 0.011	< 0.011	-
4,4'-DDE	0.005	**0.0106**	72	< 0.011	< 0.011	-
2,4'-DDT	<0.010	< 0.011		< 0.011	< 0.011	-
4,4'-DDT	< 0.010	< 0.011	-	< 0.011	< 0.011	-
Total DDT	0.005	**0.0106**	72	< 0.011	<0.011	-
Dieldrin	< 0.010	< 0.011	-	< 0.011	< 0.011	-
Endosulfan I	< 0.010	< 0.011	-	< 0.011	< 0.011	-
Endosulfan II	< 0.010	< 0.011	-	< 0.011	< 0.011	-
Endosulfan sulphate	< 0.010	< 0.011	-	< 0.011	< 0.011	-
Endrin	< 0.010	< 0.011	-	< 0.011	< 0.011	-
Endrin aldehyde	< 0.010	< 0.011	-	< 0.011	< 0.011	-
Endrin Ketone	< 0.010	< 0.011	-	< 0.011	< 0.011	-
Heptachlor	< 0.010	< 0.011	-	< 0.011	< 0.011	-
Heptachlor epoxide	< 0.010	< 0.011	-	< 0.011	< 0.011	-
Hexachlorobenzene	< 0.010	< 0.011	-	< 0.011	< 0.011	-
Methoxychlor	< 0.010	< 0.011	-	< 0.011	< 0.011	-
Total Chlordane [(cis+trans)* 100/42]	< 0.02	< 0.03	-	< 0.03	< 0.03	-
Organonitrogen & Organophosphorus Pesticides						
Alachlor	0.25	0.27		2	2.3	**14**
Pendimthalin	0.186	0.151	**21**	0.09	0.067	**29**
Pirimiphos-methyl	BEDL	BEDL	-	BEDL	BEDL	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene eq.	<0.03	<0.03	-	<0.03	<0.03	-
Naphthalene	<0.12	< 0.12	-	<0.13	< 0.12	-
Pyrene	<0.03	< 0.03	-	<0.03	< 0.03	-
AVERAGE RPD			**21**			**12**

otes
RPD - Relative Percent Difference
Italics result below level of detection. Result reported above is h
Red - above 50 RPD specified in the data quality objectives

Table 16.23
Golden Coast □urseries
Relative Percent Difference

Parameters	GCN41 Duplicate 0.1 20-Apr-10 Sand (SP)	GCN6 0.1 20-Apr-10 Sand (SP)	RPD	GCN41 Duplicate 0.3 20-Apr-10 Sand (SP)	GCN6 0.3 20-Apr-10 Sand (SP)	RPD	GN42 Duplicate 0.1 20-Apr-10 Silty Sand (SM)	GN40 0.1 21-Apr-10 Silty Sand (SM)	RPD	GN42 Duplicate 0.3 20-Apr-10 Silty Sand (SM)	GN40 0.3 21-Apr-10 Silty Sand (SM)	RPD	GCN43 Duplicate 0.1 20-Apr-10 Silty Gravel (GM)
Heavy Metal Screen													
Arsenic	4.1	13.1	105	5.2	20	117	5.7	5.6	2	4.5	4.7	4	35
Cadmium	*0.05*	0.141	95	*0.05*	0.24	131	0.22	0.28	24	*0.05*	*0.05*	0	1.18
Chromium	7	16.9	□3	8.2	21	□□	8.7	8.9	2	8.1	7.2	12	380
Copper	7.4	22	99	8.2	30	114	16.6	17.4	5	12.4	9.8	23	450
Lead	5.9	18.3	102	8.1	26	105	10.4	14.2	31	11.6	8.5	31	154
Nickel	5.6	7.4	2□	6.5	8.5	27	5.8	5.7	2	5.4	5.6	4	117
Zinc	34	166	132	41	280	149	220	430	65	134	90	39	1910
Organochlorine Pesticides													
Aldrin	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
alpha-BHC	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
beta-BHC	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
delta-BHC	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
gamma-BHC (Lindane)	< 0.010	< 0.011	-	< 0.011	< 0.010	-	0.011	*0.005*	75	< 0.010	-	-	< 0.010
cis-chlordane	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
trans-chlordane	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
2,4'-DDD	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
4,4'-DDD	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
2,4'-DDE	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
4,4'-DDE	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	0.0154	-	-	0.02
2,4'-DDT	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
4,4'-DDT	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	0.0117
Total DDT	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	0.0154	-	-	0.0317
Dieldrin	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Endosulfan I	< 0.010	< 0.011	-	0.0055	0.032	141	0.42	0.76	5□	0.125	-	-	0.0171
Endosulfan II	< 0.010	< 0.011	-	0.0055	0.0161	9□	0.45	0.98	74	0.139	-	-	0.042
Endosulfan sulphate	< 0.010	< 0.011	-	0.0055	0.026	130	0.65	1.29	66	0.21	-	-	0.21
Endrin	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Endrin aldehyde	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Endrin Ketone	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Heptachlor	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Heptachlor epoxide	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Hexachlorobenzene	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Methoxychlor	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Total Chlordane [(cis+trans)* 100/42]	< 0.02	< 0.03	-	< 0.03	< 0.02	-	< 0.03	< 0.02	-	< 0.02	-	-	< 0.02
Organonitrogen & Organophosphorus Pesticides													
	BEDL	BEDL	-	BEDL	BEDL	-	BEDL	-	-	BEDL	-	-	
Polycyclic Aromatic Hydrocarbons													
Benzo(a)pyrene eq.	<0.03	<0.03	-	<0.03	<0.03	-	<0.03	-	-	0.290	*0.015*	1□0	-
Naphthalene	< 0.11	< 0.13	-	< 0.12	< 0.14	-	< 0.13	-	-	< 0.14	< 0.14	-	-
Pyrene	< 0.3	< 0.3	-	< 0.3	< 0.3	-	< 0.3	-	-	0.31	*0.15*	70	-
AVERAGE RPD□			92			110			37			40	

□otes□
RPD - Relative Percent Difference
Italics □result below level of detection. Result reported above is half the detection level (for statistical purposes)
Red - above 50□ RPD specified in the data quality objectives

Table 16.23
Golden Coast □urseries
Relative Percent Difference

Parameters	GCN13	RPD	GCN43 Duplicate	GCN13	RPD	GCN45 Duplicate	GCN27	RPD	GCN45 Duplicate	GCN27	RPD
	0.1		0.3	0.3		0.1	0.1		0.3	0.3	
	20-Apr-10		20-Apr-10	20-Apr-10		21-Apr-10	21-Apr-10		21-Apr-10	21-Apr-10	
	Silty Gravel (GM)		Silty Gravel (GM)	Silty Gravel (GM)		Silty Gravel (GM)	Silty Gravel (GM)		Silty Gravel (GM)	Silty Gravel (GM)	
Heavy Metal Screen											
Arsenic	31	**12**	19.4	21	□	20	16.4	**20**	12.9	12.9	**0**
Cadmium	1.08	**0**	0.52	0.57	**9**	0.198	0.163	**19**	*0.05*	0.113	**77**
Chromium	310	**20**	159	160	**1**	24	22	**9**	16.5	17.6	**6**
Copper	360	**22**	140	144	**3**	360	300	**1□**	93	87	**7**
Lead	127	**19**	63	71	**12**	18.9	18.2	**4**	17.1	18.6	□
Nickel	107	**9**	50	52	**4**	10.2	10.5	**3**	11	11.9	□
Zinc	1690	**12**	790	900	**13**	143	122	**16**	85	84	**1**
Organochlorine Pesticides											
Aldrin	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
alpha-BHC	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
beta-BHC	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
delta-BHC	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
gamma-BHC (Lindane)	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
cis-chlordane	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
trans-chlordane	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
2,4'-DDD	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
4,4'-DDD	< 0.010	**-**	-	-	**-**	0.0124	0.0126	**2**	< 0.011	-	**-**
2,4'-DDE	< 0.010	**-**	-	-	**-**	0.005	0.044	**159**	< 0.011	-	**-**
4,4'-DDE	0.022	**10**	-	-	**-**	0.076	0.113	**39**	0.026	-	**-**
2,4'-DDT	< 0.010		-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
4,4'-DDT	0.005	**□0**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Total DDT	0.022	**36**	-	-	**-**	0.0884	0.1696	**63**	0.026	-	**-**
Dieldrin	< 0.010		-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Endosulfan I	0.0134	**24**	-	-	**-**	0.22	0.27	**20**	0.063	-	**-**
Endosulfan II	0.033	**24**	-	-	**-**	0.78	1.09	**33**	0.28	-	**-**
Endosulfan sulphate	0.147	**35**	-	-	**-**	1.45	2.1	**37**	0.56	-	**-**
Endrin	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Endrin aldehyde	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Endrin Ketone	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Heptachlor	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Heptachlor epoxide	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Hexachlorobenzene	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Methoxychlor	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Total Chlordane [(cis+trans)* 100/42]	< 0.02	**-**	-	-	**-**	< 0.02	< 0.02	**-**	< 0.03	-	**-**
Organonitrogen & Organophosp											
	-	-	-	-	-	BEDL		**-**	BEDL	-	**-**
Polycyclic Aromatic Hydrocarbo											
Benzo(a)pyrene eq.	-	**-**	-	-	**-**	<0.03	-	**-**	<0.03	-	**-**
Naphthalene	-	**-**	-	-	**-**	< 0.12	-	**-**	< 0.12	-	**-**
Pyrene	-	**-**	-	-	**-**	< 0.3	-	**-**	< 0.3	-	**-**
AVERAGE RPD□		**23**			**7**			**32**			**15**

□otes□
RPD - Relative Percent Difference
Italics □result below level of detection
Red - above 50□ RPD specified in the

Table 16.23
Golden Coast □urseries
Relative Percent Difference

Parameters	GCN41 Duplicate 0.1 20-Apr-10 Sand (SP)	GCN6 0.1 20-Apr-10 Sand (SP)	RPD	GCN41 Duplicate 0.3 20-Apr-10 Sand (SP)	GCN6 0.3 20-Apr-10 Sand (SP)	RPD	GN42 Duplicate 0.1 20-Apr-10 Silty Sand (SM)	GN40 0.1 21-Apr-10 Silty Sand (SM)	RPD	GN42 Duplicate 0.3 20-Apr-10 Silty Sand (SM)	GN40 0.3 21-Apr-10 Silty Sand (SM)	RPD	GCN43 Duplicate 0.1 20-Apr-10 Silty Gravel (GM)
Heavy Metal Screen													
Arsenic	4.1	13.1	105	5.2	20	117	5.7	5.6	2	4.5	4.7	4	35
Cadmium	*0.05*	0.141	95	*0.05*	0.24	131	0.22	0.28	24	*0.05*	*0.05*	0	1.18
Chromium	7	16.9	□3	8.2	21	□□	8.7	8.9	2	8.1	7.2	12	380
Copper	7.4	22	99	8.2	30	114	16.6	17.4	5	12.4	9.8	23	450
Lead	5.9	18.3	102	8.1	26	105	10.4	14.2	31	11.6	8.5	31	154
Nickel	5.6	7.4	2□	6.5	8.5	27	5.8	5.7	2	5.4	5.6	4	117
Zinc	34	166	132	41	280	149	220	430	65	134	90	39	1910
Organochlorine Pesticides													
Aldrin	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
alpha-BHC	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
beta-BHC	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
delta-BHC	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
gamma-BHC (Lindane)	< 0.010	< 0.011	-	< 0.011	< 0.010	-	0.011	*0.005*	75	< 0.010	-	-	< 0.010
cis-chlordane	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
trans-chlordane	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
2,4'-DDD	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
4,4'-DDD	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
2,4'-DDE	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
4,4'-DDE	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	0.0154	-	-	0.02
2,4'-DDT	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
4,4'-DDT	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	0.0117
Total DDT	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	0.0154	-	-	0.0317
Dieldrin	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Endosulfan I	< 0.010	< 0.011	-	0.0055	0.032	141	0.42	0.76	5□	0.125	-	-	0.0171
Endosulfan II	< 0.010	< 0.011	-	0.0055	0.0161	9□	0.45	0.98	74	0.139	-	-	0.042
Endosulfan sulphate	< 0.010	< 0.011	-	0.0055	0.026	130	0.65	1.29	66	0.21	-	-	0.21
Endrin	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Endrin aldehyde	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Endrin Ketone	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Heptachlor	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Heptachlor epoxide	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Hexachlorobenzene	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Methoxychlor	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Total Chlordane [(cis+trans)* 100/42]	< 0.02	< 0.03	-	< 0.03	< 0.02	-	< 0.03	< 0.02	-	< 0.02	-	-	< 0.02
Organonitrogen & Organophosphorus Pesticides													
	BEDL	BEDL	-	BEDL	BEDL	-	BEDL	-	-	BEDL	-	-	
Polycyclic Aromatic Hydrocarbons													
Benzo(a)pyrene eq.	<0.03	<0.03	-	<0.03	<0.03	-	<0.03	-	-	0.290	*0.015*	1□0	-
Naphthalene	< 0.11	< 0.13	-	< 0.12	< 0.14	-	< 0.13	-	-	< 0.14	< 0.14	-	-
Pyrene	< 0.3	< 0.3	-	< 0.3	< 0.3	-	< 0.3	-	-	0.31	*0.15*	70	-
AVERAGE RPD□			92			110			37			40	

□otes□
RPD - Relative Percent Difference
Italics □result below level of detection. Result reported above is half the detection level (for statistical purposes)
Red - above 50□ RPD specified in the data quality objectives

Table 16.23
Golden Coast □urseries
Relative Percent Difference

Parameters	GCN13	RPD	GCN43 Duplicate	GCN13	RPD	GCN45 Duplicate	GCN27	RPD	GCN45 Duplicate	GCN27	RPD
	0.1		0.3	0.3		0.1	0.1		0.3	0.3	
	20-Apr-10		20-Apr-10	20-Apr-10		21-Apr-10	21-Apr-10		21-Apr-10	21-Apr-10	
	Silty Gravel (GM)		Silty Gravel (GM)	Silty Gravel (GM)		Silty Gravel (GM)	Silty Gravel (GM)		Silty Gravel (GM)	Silty Gravel (GM)	
Heavy Metal Screen											
Arsenic	31	**12**	19.4	21	□	20	16.4	**20**	12.9	12.9	**0**
Cadmium	1.08	**0**	0.52	0.57	**9**	0.198	0.163	**19**	*0.05*	0.113	**77**
Chromium	310	**20**	159	160	**1**	24	22	**9**	16.5	17.6	**6**
Copper	360	**22**	140	144	**3**	360	300	**1□**	93	87	**7**
Lead	127	**19**	63	71	**12**	18.9	18.2	**4**	17.1	18.6	□
Nickel	107	**9**	50	52	**4**	10.2	10.5	**3**	11	11.9	□
Zinc	1690	**12**	790	900	**13**	143	122	**16**	85	84	**1**
Organochlorine Pesticides											
Aldrin	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
alpha-BHC	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
beta-BHC	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
delta-BHC	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
gamma-BHC (Lindane)	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
cis-chlordane	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
trans-chlordane	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
2,4'-DDD	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
4,4'-DDD	< 0.010	**-**	-	-	**-**	0.0124	0.0126	**2**	< 0.011	-	**-**
2,4'-DDE	< 0.010	**-**	-	-	**-**	0.005	0.044	**159**	< 0.011	-	**-**
4,4'-DDE	0.022	**10**	-	-	**-**	0.076	0.113	**39**	0.026	-	**-**
2,4'-DDT	< 0.010		-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
4,4'-DDT	0.005	**□0**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Total DDT	0.022	**36**	-	-	**-**	0.0884	0.1696	**63**	0.026	-	**-**
Dieldrin	< 0.010		-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Endosulfan I	0.0134	**24**	-	-	**-**	0.22	0.27	**20**	0.063	-	**-**
Endosulfan II	0.033	**24**	-	-	**-**	0.78	1.09	**33**	0.28	-	**-**
Endosulfan sulphate	0.147	**35**	-	-	**-**	1.45	2.1	**37**	0.56	-	**-**
Endrin	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Endrin aldehyde	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Endrin Ketone	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Heptachlor	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Heptachlor epoxide	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Hexachlorobenzene	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Methoxychlor	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Total Chlordane [(cis+trans)* 100/42]	< 0.02	**-**	-	-	**-**	< 0.02	< 0.02	**-**	< 0.03	-	**-**
Organonitrogen & Organophosp											
	-	-	-	-	-	BEDL		**-**	BEDL	-	**-**
Polycyclic Aromatic Hydrocarbo											
Benzo(a)pyrene eq.	-	**-**	-	-	**-**	<0.03	-	**-**	<0.03	-	**-**
Naphthalene	-	**-**	-	-	**-**	< 0.12	-	**-**	< 0.12	-	**-**
Pyrene	-	**-**	-	-	**-**	< 0.3	-	**-**	< 0.3	-	**-**
AVERAGE RPD□		**23**			**7**			**32**			**15**

□otes□
RPD - Relative Percent Difference
Italics □result below level of detection
Red - above 50□ RPD specified in the

Table 16.23
Golden Coast □urseries
Relative Percent Difference

Parameters	GCN41 Duplicate 0.1 20-Apr-10 Sand (SP)	GCN6 0.1 20-Apr-10 Sand (SP)	RPD	GCN41 Duplicate 0.3 20-Apr-10 Sand (SP)	GCN6 0.3 20-Apr-10 Sand (SP)	RPD	GN42 Duplicate 0.1 20-Apr-10 Silty Sand (SM)	GN40 0.1 21-Apr-10 Silty Sand (SM)	RPD	GN42 Duplicate 0.3 20-Apr-10 Silty Sand (SM)	GN40 0.3 21-Apr-10 Silty Sand (SM)	RPD	GCN43 Duplicate 0.1 20-Apr-10 Silty Gravel (GM)
Heavy Metal Screen													
Arsenic	4.1	13.1	105	5.2	20	117	5.7	5.6	2	4.5	4.7	4	35
Cadmium	*0.05*	0.141	95	*0.05*	0.24	131	0.22	0.28	24	*0.05*	*0.05*	0	1.18
Chromium	7	16.9	□3	8.2	21	□□	8.7	8.9	2	8.1	7.2	12	380
Copper	7.4	22	99	8.2	30	114	16.6	17.4	5	12.4	9.8	23	450
Lead	5.9	18.3	102	8.1	26	105	10.4	14.2	31	11.6	8.5	31	154
Nickel	5.6	7.4	2□	6.5	8.5	27	5.8	5.7	2	5.4	5.6	4	117
Zinc	34	166	132	41	280	149	220	430	65	134	90	39	1910
Organochlorine Pesticides													
Aldrin	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
alpha-BHC	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
beta-BHC	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
delta-BHC	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
gamma-BHC (Lindane)	< 0.010	< 0.011	-	< 0.011	< 0.010	-	0.011	*0.005*	75	< 0.010	-	-	< 0.010
cis-chlordane	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
trans-chlordane	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
2,4'-DDD	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
4,4'-DDD	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
2,4'-DDE	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
4,4'-DDE	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	0.0154	-	-	0.02
2,4'-DDT	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
4,4'-DDT	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	0.0117
Total DDT	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	0.0154	-	-	0.0317
Dieldrin	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Endosulfan I	< 0.010	< 0.011	-	0.0055	0.032	141	0.42	0.76	5□	0.125	-	-	0.0171
Endosulfan II	< 0.010	< 0.011	-	0.0055	0.0161	9□	0.45	0.98	74	0.139	-	-	0.042
Endosulfan sulphate	< 0.010	< 0.011	-	0.0055	0.026	130	0.65	1.29	66	0.21	-	-	0.21
Endrin	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Endrin aldehyde	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Endrin Ketone	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Heptachlor	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Heptachlor epoxide	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Hexachlorobenzene	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Methoxychlor	< 0.010	< 0.011	-	< 0.011	< 0.010	-	< 0.011	< 0.010	-	< 0.010	-	-	< 0.010
Total Chlordane [(cis+trans)* 100/42]	< 0.02	< 0.03	-	< 0.03	< 0.02	-	< 0.03	< 0.02	-	< 0.02	-	-	< 0.02
Organonitrogen & Organophosphorus Pesticides													
	BEDL	BEDL	-	BEDL	BEDL	-	BEDL	-	-	BEDL	-	-	
Polycyclic Aromatic Hydrocarbons													
Benzo(a)pyrene eq.	<0.03	<0.03	-	<0.03	<0.03	-	<0.03	-	-	0.290	*0.015*	1□0	-
Naphthalene	< 0.11	< 0.13	-	< 0.12	< 0.14	-	< 0.13	-	-	< 0.14	< 0.14	-	-
Pyrene	< 0.3	< 0.3	-	< 0.3	< 0.3	-	< 0.3	-	-	0.31	*0.15*	70	-
AVERAGE RPD□			92			110			37			40	

□otes□
RPD - Relative Percent Difference
Italics □result below level of detection. Result reported above is half the detection level (for statistical purposes)
Red - above 50□ RPD specified in the data quality objectives

Table 16.23
Golden Coast □urseries
Relative Percent Difference

Parameters	GCN13	RPD	GCN43 Duplicate	GCN13	RPD	GCN45 Duplicate	GCN27	RPD	GCN45 Duplicate	GCN27	RPD
	0.1		0.3	0.3		0.1	0.1		0.3	0.3	
	20-Apr-10		20-Apr-10	20-Apr-10		21-Apr-10	21-Apr-10		21-Apr-10	21-Apr-10	
	Silty Gravel (GM)		Silty Gravel (GM)	Silty Gravel (GM)		Silty Gravel (GM)	Silty Gravel (GM)		Silty Gravel (GM)	Silty Gravel (GM)	
Heavy Metal Screen											
Arsenic	31	**12**	19.4	21	□	20	16.4	**20**	12.9	12.9	**0**
Cadmium	1.08	**0**	0.52	0.57	**9**	0.198	0.163	**19**	*0.05*	0.113	**77**
Chromium	310	**20**	159	160	**1**	24	22	**9**	16.5	17.6	**6**
Copper	360	**22**	140	144	**3**	360	300	**1□**	93	87	**7**
Lead	127	**19**	63	71	**12**	18.9	18.2	**4**	17.1	18.6	□
Nickel	107	**9**	50	52	**4**	10.2	10.5	**3**	11	11.9	□
Zinc	1690	**12**	790	900	**13**	143	122	**16**	85	84	**1**
Organochlorine Pesticides											
Aldrin	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
alpha-BHC	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
beta-BHC	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
delta-BHC	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
gamma-BHC (Lindane)	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
cis-chlordane	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
trans-chlordane	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
2,4'-DDD	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
4,4'-DDD	< 0.010	**-**	-	-	**-**	0.0124	0.0126	**2**	< 0.011	-	**-**
2,4'-DDE	< 0.010	**-**	-	-	**-**	0.005	0.044	**159**	< 0.011	-	**-**
4,4'-DDE	0.022	**10**	-	-	**-**	0.076	0.113	**39**	0.026	-	**-**
2,4'-DDT	< 0.010		-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
4,4'-DDT	0.005	**□0**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Total DDT	0.022	**36**	-	-	**-**	0.0884	0.1696	**63**	0.026	-	**-**
Dieldrin	< 0.010		-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Endosulfan I	0.0134	**24**	-	-	**-**	0.22	0.27	**20**	0.063	-	**-**
Endosulfan II	0.033	**24**	-	-	**-**	0.78	1.09	**33**	0.28	-	**-**
Endosulfan sulphate	0.147	**35**	-	-	**-**	1.45	2.1	**37**	0.56	-	**-**
Endrin	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Endrin aldehyde	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Endrin Ketone	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Heptachlor	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Heptachlor epoxide	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Hexachlorobenzene	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Methoxychlor	< 0.010	**-**	-	-	**-**	< 0.010	< 0.010	**-**	< 0.011	-	**-**
Total Chlordane [(cis+trans)* 100/42]	< 0.02	**-**	-	-	**-**	< 0.02	< 0.02	**-**	< 0.03	-	**-**
Organonitrogen & Organophosp											
	-	-	-	-	-	BEDL		**-**	BEDL	-	**-**
Polycyclic Aromatic Hydrocarbo											
Benzo(a)pyrene eq.	-	**-**	-	-	**-**	<0.03	-	**-**	<0.03	-	**-**
Naphthalene	-	**-**	-	-	**-**	< 0.12	-	**-**	< 0.12	-	**-**
Pyrene	-	**-**	-	-	**-**	< 0.3	-	**-**	< 0.3	-	**-**
AVERAGE RPD□		**23**			**7**			**32**			**15**

□otes□
RPD - Relative Percent Difference
Italics □result below level of detection
Red - above 50□ RPD specified in the

Table 16.24
Car Haula□ays
Relative Percent Difference

Parameters	CH3 Duplicate	CH2	RPD	CH3 Duplicate	CH2	RPD	CH11 Duplicate	CH10	RPD	CH11 Duplicate	CH10	RPD
	0.1	0.1		0.3	0.3		0.1	0.1		0.3	0.3	
	19-Apr-10	19-Apr-10		19-Apr-10	19-Apr-10		20-Apr-10	20-Apr-10		20-Apr-10	20-Apr-10	
	GRA□EL	GRA□EL		GRA□EL	GRA□EL		Sandy SILT	Sandy SILT		Sandy SILT	Sandy SILT	
Heavy Metal Screen												
Arsenic	6.1	6.3	**3**	4.3	5.6	**26**	9.7	9.1	**6**	5.8	6.4	**10**
Cadmium	<0.1	<0.1	**-**	**0.143**	*0.05*	**96**	0.22	0.185	**17**	0.168	0.177	**5**
Chromium	16.1	14.8	□	**19.6**	**35**	**56**	17.9	17.6	**2**	17.9	17.8	**1**
Copper	25	26	**4**	21	22	**5**	26	26	**0**	18.5	19.9	**7**
Lead	24	24	**0**	40	31	**25**	46	40	**14**	41	48	**16**
Nickel	14.3	14.4	**1**	13.2	15.6	**17**	11.8	11.6	**2**	12.8	11	**15**
Zinc	210	310	**3□**	92	97	**5**	400	360	**11**	220	250	**13**
Polycyclic Aromatic Hydrocarbons												
Benzo(a)pyrene eq.	<0.03	<0.03	**-**	<0.03	<0.03	**-**	<0.03	<0.03	**-**	<0.03	<0.03	**-**
Naphthalene	< 0.12	< 0.12	**-**	< 0.12	< 0.12	**-**	< 0.12	< 0.14	**-**	< 0.12	< 0.12	**-**
Pyrene	< 0.3	< 0.3	**-**	0.039	*0.015*	**□9**	*0.015*	0.027	**57**	< 0.3	< 0.3	**-**
Total Petroleum Hydrocarbons												
C7 □C9	< 8	< 8	**-**	< 8	< 8	**-**	< 8.0	< 8.0	**-**	< 9.8	< 8.6	**-**
C10 □C14	< 20	< 20	**-**	< 20	< 20	**-**	< 20	< 20	**-**	< 20	< 20	**-**
C15 □C36	47	40	**16**	**270**	**161**	**51**	< 32	< 32	**-**	< 40	< 35	**-**
TPH Total	< 60	< 60	**-**	**270**	**161**	**51**	< 60	< 60	**-**	< 60	< 60	**-**
AVERAGE RPD□			**10**			**42**			**14**			**10**

□otes□
RPD - Relative Percent Difference
Italics - result is less than the laboratory detection limit□however, 1/2 the detection limit was used for calculation purposes
Red - above 50□ RPD specified in the data quality objectives

Table 16.25
Porirua Gun Club
Relative Percent Difference

Parameters	GC S4 Duplicate	GC S3	RPD	GC S8 Duplicate	GC S7	RPD	GC S12 Duplicate	GC S11	RPD	GC S14 Duplicate	GC S13	RPD	GC S33 Duplicate	GC S31	RPD	GC S34 Duplicate	GC S32
	0.035	0.035		0.04	0.04		0.05	0.05		0.1-0.17	0.1-0.17		0.05	0.05		0.1-0.3	0.1-0.3
	12-Apr-10	12-Apr-10		12-Apr-10	12-Apr-10		12-Apr-10	12-Apr-10		12-Apr-10	12-Apr-10		13-Apr-10	12-Apr-10		13-Apr-10	12-Apr-10
	Sandy SILT	Sandy SILT		SILT	SILT		Silty SAND	Silty SAND		Sandy GRA□EL	Sandy GRA□EL		SILT	SILT		SILT	SILT
Heavy Metal Screen																	
Arsenic	3	**4**	**29**	**7.6**	**5.5**	**32**	**□.3**	**7.2**	**0**	**4.1**	**4**	**2**	**5.1**	**4.3**	**0**	3.4	**4**
Cadmium	< 0.10	< 0.10	**0**	*0.05*	0.56	**167**	0.24	0.23	**0**	< 0.10	< 0.10	**0**	0.141	< 0.10	**0**	< 0.10	< 0.10
Chromium	20	**21**	**5**	20	19.1	**5**	14.2	18.6	**27**	**25**	19.3	**26**	**21**	**22**	**5**	17.2	19.9
Copper	7.4	**7.5**	**1**	**23**	**26**	**12**	**610**	**3000**	**132**	**11.3**	**106**	**161**	**14.9**	**10.5**	**35**	**7.6**	**10.□**
Lead	28	**52**	**60**	**460**	**2200**	**131**	**3700**	**2000**	**60**	**2□0**	**320**	**13**	**□4**	24	**111**	18.1	17.6
Nickel	**10.6**	**9.7**	**9**	**10.4**	9.4	**10**	7.3	9.4	**25**	**12.□**	**11**	**15**	**13.□**	**13.□**	**0**	**11.7**	**12.9**
Zinc	40	**41**	**2**	**47**	**43**	**9**	**330**	**700**	**72**	**66**	**19□**	**100**	**45**	**4□**	**6**	36	39
Organochlorine Pesticides																	
Aldrin	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
alpha-BHC	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
beta-BHC	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
delta-BHC	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
gamma-BHC (Lindane)	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-chlordane	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-chlordane	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4'-DDD	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDD	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4'-DDE	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4'-DDT	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total DDT Isomers	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan I	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan II	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan sulphate	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin aldehyde	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin Ketone	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptachlor	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptachlor epoxide	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methoxychlor	< 0.010	< 0.010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Chlordane [(cis+trans)* 100/42]	< 0.02	< 0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organonitrogen & Organophosphorus Pesticides																	
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons																	
Benzo(a)pyrene eq.	-	-	-	0.096	0.920	**162**	0.544	1.425	**□9**	0.228	0.086	**90**	80.270	3.915	**1□1**	7.898	0.057
Naphthalene	-	-	-	BEDL	BEDL	-	BEDL	BEDL	-	BEDL	BEDL	-	1.52	0.13	**16□**	BEDL	BEDL
Pyrene	-	-	-	0.032	1.23	**190**	0.46	1.12	**□4**	0.35	0.084	**123**	133	4.9	**1□6**	8	0.07
Total Petroleum Hydrocarbons																	
C7 □C9	< 10	< 10	-	< 31	< 15	-	-	-	-	-	-	-	-	-	-	-	-
C10 □C14	< 20	< 20	-	< 62	< 30	-	-	-	-	-	-	-	-	-	-	-	-
C15 □C36	< 40	< 40	-	< 130	< 60	-	-	-	-	-	-	-	-	-	-	-	-
TPH Total	< 70	< 70	-	< 70	< 70	-	-	-	-	-	-	-	-	-	-	-	-
AVERAGE RPD□			15			**□0**			**54**			59			**69**		

□otes
RPD - Relative Percent Difference
Italics - below laboratory detection limit, so 1/2 the detection limit utilised for calculation
Red - above 50□ RPD specified in the data quality objectives

Table 16.25
Porirua Gun Club
Relative Percent Difference

Parameters	RPD	GC S49 Duplicate 0.07 13-Apr-10 Sandy SILT	GC S50 0.07 13-Apr-10 Sandy SILT	RPD	GC S51 Duplicate 0.1-0.2 13-Apr-10 Sandy SILT	GC S52 0.1-0.2 13-Apr-10 Sandy SILT	RPD	GC S60 Duplicate 0.1-0.25 13-Apr-10 Sandy SILT	GC S59 0.1-0.25 13-Apr-10 Sandy SILT	RPD	GC S78 Duplicate 0.04 14-Apr-10 SILT (ML) Extreme weathered Sandstone	GC S77 0.04 14-Apr-10 SILT (ML) Extreme weathered Sandstone	RPD	GC S80 Duplicate 0.1-0.2 14-Apr-10 SILT (ML) Extreme weathered Sandstone	GC S79 0.1-0.2 14-Apr-10 SILT (ML) Extreme weathered Sandstone	RPD
Heavy Metal Screen																
Arsenic	**16**	**4.9**	**5.5**	**12**	3.4	**4**	**16**	**4**	3.8	**5**	**5.1**	**4.7**	□	**4.6**	3.5	**27**
Cadmium	**0**	0.137	0.105	**26**	< 0.10	< 0.10	**0**	< 0.10	< 0.10	**0**	< 0.10	< 0.10	**0**	< 0.10	< 0.10	**0**
Chromium	**15**	13.8	13.1	**5**	17.2	19.9	**15**	14.6	16.8	**14**	18.9	16.7	**12**	**24**	**21**	**13**
Copper	**35**	**27**	**66**	□**4**	**7.6**	**10.**□	**35**	6.9	□**.2**	**17**	□**6**	**49**	**55**	**33**	**25**	**2**□
Lead	**3**	□**.0**	**710**	**21**	18.1	17.6	**3**	14.1	16.3	**14**	**1040**	**1020**	**2**	**135**	**136**	**1**
Nickel	**10**	7.5	7.8	**4**	**11.7**	**12.9**	**10**	8.1	8.9	**9**	**13.2**	**11.2**	**16**	**15.3**	**14.1**	□
Zinc	□	38	36	**5**	36	39	□	**157**	**167**	**6**	**61**	**56**	**9**	□**7**	**76**	**13**
Organochlorine Pesticides																
Aldrin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
alpha-BHC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
beta-BHC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
delta-BHC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
gamma-BHC (Lindane)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-chlordane	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-chlordane	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4'-DDD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4'-DDE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4'-DDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total DDT Isomers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan I	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan II	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan sulphate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin aldehyde	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin Ketone	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptachlor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptachlor epoxide	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methoxychlor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Chlordane [(cis+trans)* 100/42]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organonitrogen & Organophosphorus Pesticides																
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons																
Benzo(a)pyrene eq.	197	**66.140**	17.313	117	-	-	-	-	-	-	0.036	0.03	1□	<0.03	<0.03	-
Naphthalene	-	0.065	0.134	69	-	-	-	-	-	-	< 0.14	< 0.14	-	< 0.15	< 0.13	-
Pyrene	197	59	18.6	104	-	-	-	-	-	-	0.061	0.02	121	< 0.03	< 0.03	-
Total Petroleum Hydrocarbons																
C7 □C9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10 □C14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C15 □C36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPH Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AVERAGE RPD□	53			45			12			9			27			13

_otes
RPD - Relative Percent Difference
Italics - below laboratory detection limit, so 1/2 the detection limit
Red - above 50□ RPD specified in the data quality objectives

Table 16.25
Porirua Gun Club
Relative Percent Difference

Parameters	GC S82 Duplicate	GC S81	RPD	GC S84 Duplicate	GC S83	RPD	GC S96 Duplicate	GC S95	RPD	GC S98 Duplicate	GC S97	RPD
	0.05	0.05		0.1-0.2	0.1-0.2		0.05	0.05		0.1-0.2	0.1-0.2	
	14-Apr-10	14-Apr-10		14-Apr-10	14-Apr-10		14-Apr-10	14-Apr-10		14-Apr-10	14-Apr-10	
	SILT (ML) Extreme weathered Sandstone	SILT (ML) Extreme weathered Sandstone		SILT (ML) Extreme weathered Sandstone	SILT (ML) Extreme weathered Sandstone		Sandy SILT (ML)	Sandy SILT (ML)		Sandy SILT (ML)	Sandy SILT (ML)	
Heavy Metal Screen												
Arsenic	**4.9**	**5.1**	**4**	**5.1**	**5.**	**13**	3.4	3.9	**14**	3	3.3	**10**
Cadmium	< 0.10	< 0.10	**0**	< 0.10	< 0.10	**0**	< 0.10	< 0.10	**0**	< 0.10	< 0.10	**0**
Chromium	16.7	15.3	**9**	16.1	15	**7**	17.1	15.1	**12**	18.6	19.7	**6**
Copper	**17**	**152**	**16**	**3100**	**400**	**92**	**7.**	7.3	**7**	7.1	7.2	**1**
Lead	**3500**	**1260**	94	**3100**	**3300**	**6**	30	28	**7**	28	27	**4**
Nickel	**12.3**	**10.7**	**14**	**10.1**	**10.6**	**5**	9.3	8.3	**11**	**10.6**	**11.3**	**6**
Zinc	**440**	**320**	**32**	**530**	**1560**	99	36	32	**12**	37	38	**3**
Organochlorine Pesticides												
Aldrin	-	-	-	-	-	-	-	-	-	-	-	-
alpha-BHC	-	-	-	-	-	-	-	-	-	-	-	-
beta-BHC	-	-	-	-	-	-	-	-	-	-	-	-
delta-BHC	-	-	-	-	-	-	-	-	-	-	-	-
gamma-BHC (Lindane)	-	-	-	-	-	-	-	-	-	-	-	-
cis-chlordane	-	-	-	-	-	-	-	-	-	-	-	-
trans-chlordane	-	-	-	-	-	-	-	-	-	-	-	-
2,4'-DDD	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDD	-	-	-	-	-	-	-	-	-	-	-	-
2,4'-DDE	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	-	-	-	-	-	-	-	-	-	-	-	-
2,4'-DDT	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	-	-	-	-	-	-	-	-	-	-	-	-
Total DDT Isomers	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan I	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan II	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan sulphate	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	-	-	-	-	-	-	-	-	-	-	-	-
Endrin aldehyde	-	-	-	-	-	-	-	-	-	-	-	-
Endrin Ketone	-	-	-	-	-	-	-	-	-	-	-	-
Heptachlor	-	-	-	-	-	-	-	-	-	-	-	-
Heptachlor epoxide	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-
Methoxychlor	-	-	-	-	-	-	-	-	-	-	-	-
Total Chlordane [(cis+trans)* 100/42]	-	-	-	-	-	-	-	-	-	-	-	-
Organonitrogen & Organophosphorus Pesticides												
	-	-	-	-	-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons												
Benzo(a)pyrene eq.	0.274	182.990	199	0.676	0.439	**43**	<0.03	<0.03	-	<0.03	<0.03	-
Naphthalene	0.13	0.52	120	< 0.15	< 0.14	-	< 0.13	< 0.14	-	< 0.13	< 0.14	-
Pyrene	0.25	198	199	0.25	0.38	**41**	0.03	0.03	**0**	< 0.03	< 0.03	-
Total Petroleum Hydrocarbons												
C7 C9	-	-	-	-	-	-	-	-	-	-	-	-
C10 C14	-	-	-	-	-	-	-	-	-	-	-	-
C15 C36	-	-	-	-	-	-	-	-	-	-	-	-
TPH Total	-	-	-	-	-	-	-	-	-	-	-	-
AVERAGE RPD			69			33						**4**

Notes
RPD - Relative Percent Difference
Italics - below laboratory detection limit, so 1/2 the detection limit
Red - above 50 RPD specified in the data quality objectives

Table 16.26
Pauatahanui Inlet Garden Supplies
Relative Percent Difference

Parameters	PIG5 Duplicate 0.1 27-Apr-10	PIG1 0.1 27-Apr-10	RPD	PIG5 Duplicate 0.3 27-Apr-10	PIG1 0.3 27-Apr-10	RPD	PIG10 Duplicate 0.1 28-Apr-10	PIG09 0.1 28-Apr-10	RPD
Heavy Metal Screen									
Arsenic	6.7	8.7	**26**	5.6	5.3	**6**	2.8	3.2	**13**
Cadmium	0.167	0.174	**4**	0.136	0.164	**19**	*0.05*	*0.05*	**0**
Chromium	12.9	14.5	**12**	12.7	11.4	**11**	18.5	16.2	**13**
Copper	22	25	**13**	16.1	17.4		10.3	11.3	**9**
Lead	28	43	**42**	28	33	**16**	18.1	21	**15**
Nickel	7.3	7.6	**4**	7.6	7.1	**7**	11.2	11.5	**3**
Zinc	175	197	**12**	129	140		59	58	**2**
Organochlorine Pesticides									
Aldrin	-	-	**-**	-	-	**-**	-	-	**-**
alpha-BHC	-	-	**-**	-	-	**-**	-	-	**-**
beta-BHC	-	-	**-**	-	-	**-**	-	-	**-**
delta-BHC	-	-	**-**	-	-	**-**	-	-	**-**
gamma-BHC (Lindane)	-	-	**-**	-	-	**-**	-	-	**-**
cis-chlordane	-	-	**-**	-	-	**-**	-	-	**-**
trans-chlordane	-	-	**-**	-	-	**-**	-	-	**-**
2,4'-DDD	-	-	**-**	-	-	**-**	-	-	**-**
4,4'-DDD	-	-	**-**	-	-	**-**	-	-	**-**
2,4'-DDE	-	-	**-**	-	-	**-**	-	-	**-**
4,4'-DDE	-	-	**-**	-	-	**-**	-	-	**-**
2,4'-DDT	-	-	**-**	-	-	**-**	-	-	**-**
4,4'-DDT	-	-	**-**	-	-	**-**	-	-	**-**
Dieldrin	-	-	**-**	-	-	**-**	-	-	**-**
Endosulfan I	-	-	**-**	-	-	**-**	-	-	**-**
Endosulfan II	-	-	**-**	-	-	**-**	-	-	**-**
Endosulfan sulphate	-	-	**-**	-	-	**-**	-	-	**-**
Endrin	-	-	**-**	-	-	**-**	-	-	**-**
Endrin aldehyde	-	-	**-**	-	-	**-**	-	-	**-**
Endrin Ketone	-	-	**-**	-	-	**-**	-	-	**-**
Heptachlor	-	-	**-**	-	-	**-**	-	-	**-**
Heptachlor epoxide	-	-	**-**	-	-	**-**	-	-	**-**
Hexachlorobenzene	-	-	**-**	-	-	**-**	-	-	**-**
Methoxychlor	-	-	**-**	-	-	**-**	-	-	**-**
Total Chlordane [(cis+trans)* 100/42]	-	-	**-**	-	-	**-**	-	-	**-**
Organonitrogen & Organophosphorus Pesticides									
All constituents	-	-	**-**	-	-	**-**	-	-	**-**
Polycyclic Aromatic Hydrocarbons									
Benzo(a)pyrene eq.	0.008	0.015	**63**	<0.03	<0.03	**-**	<0.03	<0.03	**-**
Naphthalene	< 0.17	< 0.17	**-**	< 0.15	< 0.15	**-**	< 0.13	< 0.13	**-**
Pyrene	< 0.04	< 0.04	**-**	< 0.03	< 0.03	**-**	< 0.03	< 0.03	**-**
Total Petroleum Hydrocarbons									
C7 C9	<10	<10	**-**	<9	<9	**-**	<8	<8	**-**
C10 C14	<20	<20	**-**	<20	<20	**-**	<20	<20	**-**
C15 C36	380	260	**3**	186	99	**61**	<40	<40	**-**
TPH Total	380	260	**3**	186	99	**61**	<60	<60	**-**
AERAGE RPD			**25**			**22**			

otes
RPD - Relative Percent Difference
Italics result below level of detection. Result reported above is half the detection level (for statistical purposes)
Red - above 50 RPD specified in the data quality objectives

Table 16.26
Pauatahanui Inlet Garden Supplies
Relative Percent Difference

Parameters	PIG10 Duplicate	PIG09	RPD	PIG16 Duplicate	PIG15	RPD	PIG23 Duplicate	PIG022	RPD
	0.3	0.3		0.1	0.1		0.1	0.1	
	28-Apr-10	28-Apr-10		28-Apr-10	28-Apr-10		28-Apr-10	28-Apr-10	
Heavy Metal Screen									
Arsenic	4.6	4.4	**4**	2.5	2.7		3.8	2.7	**34**
Cadmium	*0.05*	*0.05*	**0**	*0.05*	*0.05*	**0**	0.133	*0.05*	**0**
Chromium	16	18.9	**17**	8.9	9.5	**7**	8.8	9.3	**6**
Copper	12.9	13	**1**	5.8	6.5	**11**	16.5	16.6	**1**
Lead	18.1	19.1	**5**	11	12.1	**10**	29	29	**0**
Nickel	10.7	11.1	**4**	6.9	7.3	**6**	6.6	6.6	**0**
Zinc	56	55	**2**	44	49	**11**	49	48	**2**
Organochlorine Pesticides									
Aldrin	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
alpha-BHC	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
beta-BHC	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
delta-BHC	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
gamma-BHC (Lindane)	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
cis-chlordane	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
trans-chlordane	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
2,4'-DDD	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
4,4'-DDD	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
2,4'-DDE	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
4,4'-DDE	-	-	**-**	-	-	**-**	0.025	0.025	**0**
2,4'-DDT	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
4,4'-DDT	-	-	**-**	-	-	**-**	0.024	0.033	**32**
Dieldrin	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Endosulfan I	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Endosulfan II	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Endosulfan sulphate	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Endrin	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Endrin aldehyde	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Endrin Ketone	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Heptachlor	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Heptachlor epoxide	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Hexachlorobenzene	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Methoxychlor	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Total Chlordane [(cis+trans)* 100/42]	-	-	**-**	-	-	**-**	< 0.02	< 0.02	**-**
Organonitrogen & Organophosphorus Pestic									
All constituents	-	-	**-**	-	-	**-**	BEDL	BEDL	**-**
Polycyclic Aromatic Hydrocarbons									
Benzo(a)pyrene eq.	<0.03	<0.03	**-**	<0.03	<0.03	**-**	-	-	**-**
Naphthalene	< 0.13	< 0.13	**-**	< 0.15	< 0.15	**-**	-	-	**-**
Pyrene	< 0.03	< 0.03	**-**	0.056	0.042	**29**	-	-	**-**
Total Petroleum Hydrocarbons									
C7 C9	<8	<8	**-**	<9	<9	**-**	-	-	**-**
C10 C14	<20	<20	**-**	<20	<20	**-**	-	-	**-**
C15 C36	<40	32	**0**	<40	<40	**-**	-	-	**-**
TPH Total	<60	<60	**-**	<70	<70	**-**	-	-	**-**
AERAGE RPD			**4**			**10**			

otes
RPD - Relative Percent Difference
Italics result below level of detection. Result reporte
Red - above 50 RPD specified in the data quality ob

Table 16.26
Pauatahanui Inlet Garden Supplies
Relative Percent Difference

Parameters	PIG5 Duplicate 0.1 27-Apr-10	PIG1 0.1 27-Apr-10	RPD	PIG5 Duplicate 0.3 27-Apr-10	PIG1 0.3 27-Apr-10	RPD	PIG10 Duplicate 0.1 28-Apr-10	PIG09 0.1 28-Apr-10	RPD
Heavy Metal Screen									
Arsenic	6.7	8.7	**26**	5.6	5.3	**6**	2.8	3.2	**13**
Cadmium	0.167	0.174	**4**	0.136	0.164	**19**	*0.05*	*0.05*	**0**
Chromium	12.9	14.5	**12**	12.7	11.4	**11**	18.5	16.2	**13**
Copper	22	25	**13**	16.1	17.4		10.3	11.3	**9**
Lead	28	43	**42**	28	33	**16**	18.1	21	**15**
Nickel	7.3	7.6	**4**	7.6	7.1	**7**	11.2	11.5	**3**
Zinc	175	197	**12**	129	140		59	58	**2**
Organochlorine Pesticides									
Aldrin	-	-	**-**	-	-	**-**	-	-	**-**
alpha-BHC	-	-	**-**	-	-	**-**	-	-	**-**
beta-BHC	-	-	**-**	-	-	**-**	-	-	**-**
delta-BHC	-	-	**-**	-	-	**-**	-	-	**-**
gamma-BHC (Lindane)	-	-	**-**	-	-	**-**	-	-	**-**
cis-chlordane	-	-	**-**	-	-	**-**	-	-	**-**
trans-chlordane	-	-	**-**	-	-	**-**	-	-	**-**
2,4'-DDD	-	-	**-**	-	-	**-**	-	-	**-**
4,4'-DDD	-	-	**-**	-	-	**-**	-	-	**-**
2,4'-DDE	-	-	**-**	-	-	**-**	-	-	**-**
4,4'-DDE	-	-	**-**	-	-	**-**	-	-	**-**
2,4'-DDT	-	-	**-**	-	-	**-**	-	-	**-**
4,4'-DDT	-	-	**-**	-	-	**-**	-	-	**-**
Dieldrin	-	-	**-**	-	-	**-**	-	-	**-**
Endosulfan I	-	-	**-**	-	-	**-**	-	-	**-**
Endosulfan II	-	-	**-**	-	-	**-**	-	-	**-**
Endosulfan sulphate	-	-	**-**	-	-	**-**	-	-	**-**
Endrin	-	-	**-**	-	-	**-**	-	-	**-**
Endrin aldehyde	-	-	**-**	-	-	**-**	-	-	**-**
Endrin Ketone	-	-	**-**	-	-	**-**	-	-	**-**
Heptachlor	-	-	**-**	-	-	**-**	-	-	**-**
Heptachlor epoxide	-	-	**-**	-	-	**-**	-	-	**-**
Hexachlorobenzene	-	-	**-**	-	-	**-**	-	-	**-**
Methoxychlor	-	-	**-**	-	-	**-**	-	-	**-**
Total Chlordane [(cis+trans)* 100/42]	-	-	**-**	-	-	**-**	-	-	**-**
Organonitrogen & Organophosphorus Pesticides									
All constituents	-	-	**-**	-	-	**-**	-	-	**-**
Polycyclic Aromatic Hydrocarbons									
Benzo(a)pyrene eq.	0.008	0.015	**63**	<0.03	<0.03	**-**	<0.03	<0.03	**-**
Naphthalene	< 0.17	< 0.17	**-**	< 0.15	< 0.15	**-**	< 0.13	< 0.13	**-**
Pyrene	< 0.04	< 0.04	**-**	< 0.03	< 0.03	**-**	< 0.03	< 0.03	**-**
Total Petroleum Hydrocarbons									
C7 C9	<10	<10	**-**	<9	<9	**-**	<8	<8	**-**
C10 C14	<20	<20	**-**	<20	<20	**-**	<20	<20	**-**
C15 C36	380	260	**3**	186	99	**61**	<40	<40	**-**
TPH Total	380	260	**3**	186	99	**61**	<60	<60	**-**
AERAGE RPD			**25**			**22**			

otes
RPD - Relative Percent Difference
Italics result below level of detection. Result reported above is half the detection level (for statistical purposes)
Red - above 50 RPD specified in the data quality objectives

Table 16.26
Pauatahanui Inlet Garden Supplies
Relative Percent Difference

Parameters	PIG10 Duplicate	PIG09	RPD	PIG16 Duplicate	PIG15	RPD	PIG23 Duplicate	PIG022	RPD
	0.3	0.3		0.1	0.1		0.1	0.1	
	28-Apr-10	28-Apr-10		28-Apr-10	28-Apr-10		28-Apr-10	28-Apr-10	
Heavy Metal Screen									
Arsenic	4.6	4.4	**4**	2.5	2.7		3.8	2.7	**34**
Cadmium	*0.05*	*0.05*	**0**	*0.05*	*0.05*	**0**	0.133	*0.05*	**0**
Chromium	16	18.9	**17**	8.9	9.5	**7**	8.8	9.3	**6**
Copper	12.9	13	**1**	5.8	6.5	**11**	16.5	16.6	**1**
Lead	18.1	19.1	**5**	11	12.1	**10**	29	29	**0**
Nickel	10.7	11.1	**4**	6.9	7.3	**6**	6.6	6.6	**0**
Zinc	56	55	**2**	44	49	**11**	49	48	**2**
Organochlorine Pesticides									
Aldrin	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
alpha-BHC	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
beta-BHC	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
delta-BHC	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
gamma-BHC (Lindane)	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
cis-chlordane	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
trans-chlordane	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
2,4'-DDD	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
4,4'-DDD	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
2,4'-DDE	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
4,4'-DDE	-	-	**-**	-	-	**-**	0.025	0.025	**0**
2,4'-DDT	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
4,4'-DDT	-	-	**-**	-	-	**-**	0.024	0.033	**32**
Dieldrin	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Endosulfan I	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Endosulfan II	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Endosulfan sulphate	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Endrin	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Endrin aldehyde	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Endrin Ketone	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Heptachlor	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Heptachlor epoxide	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Hexachlorobenzene	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Methoxychlor	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Total Chlordane [(cis+trans)* 100/42]	-	-	**-**	-	-	**-**	< 0.02	< 0.02	**-**
Organonitrogen & Organophosphorus Pestic									
All constituents	-	-	**-**	-	-	**-**	BEDL	BEDL	**-**
Polycyclic Aromatic Hydrocarbons									
Benzo(a)pyrene eq.	<0.03	<0.03	**-**	<0.03	<0.03	**-**	-	-	**-**
Naphthalene	< 0.13	< 0.13	**-**	< 0.15	< 0.15	**-**	-	-	**-**
Pyrene	< 0.03	< 0.03	**-**	0.056	0.042	**29**	-	-	**-**
Total Petroleum Hydrocarbons									
C7 C9	<8	<8	**-**	<9	<9	**-**	-	-	**-**
C10 C14	<20	<20	**-**	<20	<20	**-**	-	-	**-**
C15 C36	<40	32	**0**	<40	<40	**-**	-	-	**-**
TPH Total	<60	<60	**-**	<70	<70	**-**	-	-	**-**
AERAGE RPD			**4**			**10**			

otes
RPD - Relative Percent Difference
Italics result below level of detection. Result reporte
Red - above 50 RPD specified in the data quality ob

Table 16.26
Pauatahanui Inlet Garden Supplies
Relative Percent Difference

Parameters	PIG5 Duplicate 0.1 27-Apr-10	PIG1 0.1 27-Apr-10	RPD	PIG5 Duplicate 0.3 27-Apr-10	PIG1 0.3 27-Apr-10	RPD	PIG10 Duplicate 0.1 28-Apr-10	PIG09 0.1 28-Apr-10	RPD
Heavy Metal Screen									
Arsenic	6.7	8.7	**26**	5.6	5.3	**6**	2.8	3.2	**13**
Cadmium	0.167	0.174	**4**	0.136	0.164	**19**	*0.05*	*0.05*	**0**
Chromium	12.9	14.5	**12**	12.7	11.4	**11**	18.5	16.2	**13**
Copper	22	25	**13**	16.1	17.4		10.3	11.3	**9**
Lead	28	43	**42**	28	33	**16**	18.1	21	**15**
Nickel	7.3	7.6	**4**	7.6	7.1	**7**	11.2	11.5	**3**
Zinc	175	197	**12**	129	140		59	58	**2**
Organochlorine Pesticides									
Aldrin	-	-	**-**	-	-	**-**	-	-	**-**
alpha-BHC	-	-	**-**	-	-	**-**	-	-	**-**
beta-BHC	-	-	**-**	-	-	**-**	-	-	**-**
delta-BHC	-	-	**-**	-	-	**-**	-	-	**-**
gamma-BHC (Lindane)	-	-	**-**	-	-	**-**	-	-	**-**
cis-chlordane	-	-	**-**	-	-	**-**	-	-	**-**
trans-chlordane	-	-	**-**	-	-	**-**	-	-	**-**
2,4'-DDD	-	-	**-**	-	-	**-**	-	-	**-**
4,4'-DDD	-	-	**-**	-	-	**-**	-	-	**-**
2,4'-DDE	-	-	**-**	-	-	**-**	-	-	**-**
4,4'-DDE	-	-	**-**	-	-	**-**	-	-	**-**
2,4'-DDT	-	-	**-**	-	-	**-**	-	-	**-**
4,4'-DDT	-	-	**-**	-	-	**-**	-	-	**-**
Dieldrin	-	-	**-**	-	-	**-**	-	-	**-**
Endosulfan I	-	-	**-**	-	-	**-**	-	-	**-**
Endosulfan II	-	-	**-**	-	-	**-**	-	-	**-**
Endosulfan sulphate	-	-	**-**	-	-	**-**	-	-	**-**
Endrin	-	-	**-**	-	-	**-**	-	-	**-**
Endrin aldehyde	-	-	**-**	-	-	**-**	-	-	**-**
Endrin Ketone	-	-	**-**	-	-	**-**	-	-	**-**
Heptachlor	-	-	**-**	-	-	**-**	-	-	**-**
Heptachlor epoxide	-	-	**-**	-	-	**-**	-	-	**-**
Hexachlorobenzene	-	-	**-**	-	-	**-**	-	-	**-**
Methoxychlor	-	-	**-**	-	-	**-**	-	-	**-**
Total Chlordane [(cis+trans)* 100/42]	-	-	**-**	-	-	**-**	-	-	**-**
Organonitrogen & Organophosphorus Pesticides									
All constituents	-	-	**-**	-	-	**-**	-	-	**-**
Polycyclic Aromatic Hydrocarbons									
Benzo(a)pyrene eq.	0.008	0.015	**63**	<0.03	<0.03	**-**	<0.03	<0.03	**-**
Naphthalene	< 0.17	< 0.17	**-**	< 0.15	< 0.15	**-**	< 0.13	< 0.13	**-**
Pyrene	< 0.04	< 0.04	**-**	< 0.03	< 0.03	**-**	< 0.03	< 0.03	**-**
Total Petroleum Hydrocarbons									
C7 C9	<10	<10	**-**	<9	<9	**-**	<8	<8	**-**
C10 C14	<20	<20	**-**	<20	<20	**-**	<20	<20	**-**
C15 C36	380	260	**3**	186	99	**61**	<40	<40	**-**
TPH Total	380	260	**3**	186	99	**61**	<60	<60	**-**
AERAGE RPD			**25**			**22**			

otes
RPD - Relative Percent Difference
Italics result below level of detection. Result reported above is half the detection level (for statistical purposes)
Red - above 50 RPD specified in the data quality objectives

Table 16.26
Pauatahanui Inlet Garden Supplies
Relative Percent Difference

Parameters	PIG10 Duplicate	PIG09	RPD	PIG16 Duplicate	PIG15	RPD	PIG23 Duplicate	PIG022	RPD
	0.3	0.3		0.1	0.1		0.1	0.1	
	28-Apr-10	28-Apr-10		28-Apr-10	28-Apr-10		28-Apr-10	28-Apr-10	
Heavy Metal Screen									
Arsenic	4.6	4.4	**4**	2.5	2.7		3.8	2.7	**34**
Cadmium	*0.05*	*0.05*	**0**	*0.05*	*0.05*	**0**	0.133	*0.05*	**0**
Chromium	16	18.9	**17**	8.9	9.5	**7**	8.8	9.3	**6**
Copper	12.9	13	**1**	5.8	6.5	**11**	16.5	16.6	**1**
Lead	18.1	19.1	**5**	11	12.1	**10**	29	29	**0**
Nickel	10.7	11.1	**4**	6.9	7.3	**6**	6.6	6.6	**0**
Zinc	56	55	**2**	44	49	**11**	49	48	**2**
Organochlorine Pesticides									
Aldrin	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
alpha-BHC	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
beta-BHC	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
delta-BHC	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
gamma-BHC (Lindane)	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
cis-chlordane	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
trans-chlordane	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
2,4'-DDD	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
4,4'-DDD	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
2,4'-DDE	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
4,4'-DDE	-	-	**-**	-	-	**-**	0.025	0.025	**0**
2,4'-DDT	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
4,4'-DDT	-	-	**-**	-	-	**-**	0.024	0.033	**32**
Dieldrin	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Endosulfan I	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Endosulfan II	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Endosulfan sulphate	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Endrin	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Endrin aldehyde	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Endrin Ketone	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Heptachlor	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Heptachlor epoxide	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Hexachlorobenzene	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Methoxychlor	-	-	**-**	-	-	**-**	< 0.010	< 0.010	**-**
Total Chlordane [(cis+trans)* 100/42]	-	-	**-**	-	-	**-**	< 0.02	< 0.02	**-**
Organonitrogen & Organophosphorus Pestic									
All constituents	-	-	**-**	-	-	**-**	BEDL	BEDL	**-**
Polycyclic Aromatic Hydrocarbons									
Benzo(a)pyrene eq.	<0.03	<0.03	**-**	<0.03	<0.03	**-**	-	-	**-**
Naphthalene	< 0.13	< 0.13	**-**	< 0.15	< 0.15	**-**	-	-	**-**
Pyrene	< 0.03	< 0.03	**-**	0.056	0.042	**29**	-	-	**-**
Total Petroleum Hydrocarbons									
C7 C9	<8	<8	**-**	<9	<9	**-**	-	-	**-**
C10 C14	<20	<20	**-**	<20	<20	**-**	-	-	**-**
C15 C36	<40	32	**0**	<40	<40	**-**	-	-	**-**
TPH Total	<60	<60	**-**	<70	<70	**-**	-	-	**-**
AERAGE RPD			**4**			**10**			

otes
RPD - Relative Percent Difference
Italics result below level of detection. Result reporte
Red - above 50 RPD specified in the data quality ob

Table 16.27
Mana Coach
Relative Percent Difference

Parameters	MC S2 Duplicate	MC S1	RPD	MC S4 Duplicate	MC S3	RPD
	0.05	0.05		0.1-0.2	0.1-0.2	
	16-Apr-10	16-Apr-10		16-Apr-10	16-Apr-10	
	SILT	SILT		SILT	SILT	
Heavy Metal Screen						
Arsenic	4.5	4.7	**4**	3.8	3.7	**3**
Cadmium	*0.05*	*0.05*	**0**	*0.05*	*0.05*	**0**
Chromium	13.2	12.6	**5**	14.4	13.2	**9**
Copper	13.9	12	**15**	11.7	12.8	**9**
Lead	15.5	15.8	**2**	17.5	15.5	**12**
Nickel	13.1	10.8	**19**	12.2	11.1	**9**
Zinc	62	60	**3**	58	59	**2**
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene eq.	<0.03	<0.03	-	<0.03	<0.03	-
Naphthalene	< 0.13	< 0.14	-	< 0.13	< 0.13	-
Pyrene	< 0.03	< 0.03	-	< 0.03	< 0.03	-
Total Petroleum Hydrocarbons						
C7 – C9	< 8	< 8	-	< 8	< 8	
C10 – C14	< 20	< 20	-	< 20	< 20	
C15 – C36	< 40	< 40	-	< 40	< 40	
TPH Total	< 60	< 60	-	< 60	< 60	
AVERAGE RPD			**7**			**6**

Notes
RPD - Relative Percent Difference
Italics – result below level of detection. Result reported above is half the detection level (for statistical purposes)

Table 16.2
G RC ormer Sheep Dip Site
Relative Percent Difference

Parameters	GSD4 Duplicate	GSD1	RPD	GSD4 Duplicate	GSD2	RPD	GSD5 Duplicate	GSD3	RPD
	0.5	0.5		0.9	0.9		0.1	0.1	
	26-Apr-10	26-Apr-10		26-Apr-10	26-Apr-10		26-Apr-10	26-Apr-10	
	Silt	Silt		Gravelly SILT	Gravelly SILT		Silt	Silt	
Heavy Metal Screen									
Arsenic	2.7	2.9	**7**	11.7	14.2	**19**	16.3	15.9	**2**
Cadmium	*0.05*	*0.05*	**0**	0.101	*0.05*	**6**	0.123	0.162	**27**
Chromium	10.6	13.3	**23**	14.2	15	**5**	16.5	15.7	**5**
Copper	10.7	11.6		21	26	**21**	12.9	12.8	**1**
Lead	13.8	15.1	**9**	25	30	**1**	34	34	**0**
Nickel	8.4	9.6	**13**	12.9	15.4	**1**	11.1	10.5	**6**
Zinc	64	66	**3**	67	79	**16**	112	112	**0**
Organochlorine Pesticides									
Aldrin	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
alpha-BHC	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
beta-BHC	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
delta-BHC	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
gamma-BHC (Lindane)	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
cis-chlordane	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
trans-chlordane	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
2,4'-DDD	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
4,4'-DDD	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
2,4'-DDE	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
4,4'-DDE	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
2,4'-DDT	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
4,4'-DDT	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
Dieldrin	<0.010	-	**-**	<0.010	-	**-**	0.072	0.051	**34**
Endosulfan I	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
Endosulfan II	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
Endosulfan sulphate	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
Endrin	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
Endrin aldehyde	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
Endrin Ketone	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
Heptachlor	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
Heptachlor epoxide	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
Hexachlorobenzene	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
Methoxychlor	<0.010	-	**-**	<0.010	-	**-**	<0.010	<0.010	**-**
Total Chlordane [(cis+trans)* 100/42]	<0.02	-	**-**	<0.02	-	**-**	<0.02	<0.02	**-**
Organonitrogen & Organophosphorus Pesticides									
	BEDL	BEDL	**-**	BEDL	BEDL	**-**	BEDL	BEDL	**-**
AVERAGE RPD			**9**			**24**			**9**

otes
RPD - Relative Percent Difference
Italics result below level of detection. Result reported above is half the detection level (for statistical purposes)
Red - above 50 RPD specified in the data quality objectives

Table 16.29
□ormer Stockyard Site
Relative Percent Difference

Parameters	BH03 Duplicate	BH02	RPD	BH03 Duplicate	BH02	RPD	BH10 Duplicate	BH09	RPD	BH10 Duplicate	BH09	RPD
	0.1	0.1		0.3	0.3		0.1	0.1		0.3	0.3	
	26-Apr-10	26-Apr-10		26-Apr-10	26-Apr-10		27-Apr-10	27-Apr-10		27-Apr-10	27-Apr-10	
	SILT	SILT		SILT	SILT		SILT	SILT		SILT	SILT	
Heavy Metal Screen												
Arsenic	7.6	6.7	**13**	3.6	4	**11**	4.7	4.9	**0**	5	4.5	**11**
Cadmium	0.155	0.142	**9**	< 0.10	< 0.10	**0**	< 0.10	< 0.10	**0**	< 0.10	< 0.10	**0**
Chromium	11.6	10.8	**7**	11.8	11.3	**4**	13	13.4	**3**	14.6	14.4	**1**
Copper	8.2	7.5	**9**	6.6	7.4	**11**	12.1	15.7	**26**	14.3	13.7	**4**
Lead	15.9	15.4	**3**	11.4	11.8	**3**	12.4	13.1	**5**	17.1	16.1	**6**
Nickel	5.1	4.8	**6**	5.9	5.6	**5**	6.8	7.1	**4**	9.9	9.2	**7**
Zinc	77	72	**7**	52	53	**2**	51	51	**0**	57	55	**4**
Organochlorine Pesticides												
Aldrin	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
alpha-BHC	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
beta-BHC	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
delta-BHC	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
gamma-BHC (Lindane)	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
cis-chlordane	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
trans-chlordane	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
2,4'-DDD	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
4,4'-DDD	< 0.010	0.026	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
2,4'-DDE	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
4,4'-DDE	0.66	0.66	**0**	0.058	0.064	**10**	0.119	0.121	**2**	0.0169	0.0145	**15**
2,4'-DDT	0.089	0.093	**4**	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
4,4'-DDT	0.32	0.33	**3**	0.0176	0.0146	**19**	0.063	0.062	**2**	< 0.010	< 0.010	-
Dieldrin	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
Endosulfan I	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
Endosulfan II	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
Endosulfan sulphate	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
Endrin	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
Endrin aldehyde	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
Endrin Ketone	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
Heptachlor	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
Heptachlor epoxide	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
Hexachlorobenzene	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
Methoxychlor	< 0.010	< 0.010	-	< 0.010	< 0.010	-	< 0.010	< 0.011	-	< 0.010	< 0.010	-
Total Chlordane [(cis+trans)* 100/42]	< 0.02	< 0.02	-	< 0.02	< 0.02	-	< 0.02	< 0.03	-	< 0.02	< 0.02	-
Organonitrogen & Organophosphorus Pesticides												
All constituents	BEDL	BEDL	-	BEDL	BEDL	-	BEDL	BEDL	-	BEDL	BEDL	-
A□ERAGE RPD□			**6**			**7**			**5**			**6**

□**otes**□
RPD - Relative Percent Difference

Table 16.30
Summary Statistics for Metals

Summary statistics for heavy metals at the Sang Sue Market Garden site

Heavy Metal Screen	Minimum (mg/kg)	Ma□imum (mg/kg)	Median (mg/kg)	Mean (mg/kg)	Standard Error (mg/kg)	Standard Deviation (mg/kg)	Sample Variance (mg/kg)	Count (□o.)	Confidence Level (95.0□)	I□R	Ma□imum plus 1/2 I□R
Arsenic	2	32	5.9	6.55	0.60	4.17	17.36	50	1.16	3.4	34
Cadmium	<0.1	0.6	0.235	0.26	-	-	-	50	-	-	-
Chromium	4.8	31	13.9	13.56	0.65	4.62	21.30	50	1.28	4.6	33
Copper	3.9	136	18.6	23.02	2.69	19.05	362.96	50	5.28	8.7	140
Lead	4.2	139	21	25.66	3.40	24.01	576.42	50	6.65	9.1	144
Nickel	4.7	13.7	10.5	9.86	0.34	2.37	5.63	50	0.66	3.6	16
Zinc	13.2	220	85	84.82	4.44	31.38	984.50	50	8.70	31.8	236

Summary statistics for heavy metals at the Golden Cost □urseries site

Heavy Metal Screen	Minimum (mg/kg)	Ma□imum (mg/kg)	Median (mg/kg)	Mean (mg/kg)	Standard Error (mg/kg)	Standard Deviation (mg/kg)	Sample Variance (mg/kg)	Count (□o.)	Confidence Level (95.0□)	I□R	Ma□imum plus 1/2 I□R
Arsenic	2.7	100	7.7	14.2	2.3	16.5	272.7	51	4.5	11.4	105.7
Cadmium	0.105	1.08	0.22	0.30	0.04	0.24	0.06	51	0.06	0.22	1.19
Chromium	6.3	310	14.2	23.7	6.4	45.9	2109.8	51	12.6	6.5	313.3
Copper	5.2	1910	22	144.1	48.8	348.8	121650.7	51	95.7	67.0	1943.5
Lead	3.7	127	22	29.7	3.6	26.0	674.2	51	7.1	8.6	131.3
Nickel	5.1	107	9.6	12.0	2.1	15.0	224.2	51	4.1	2.0	108.0
Zinc	27	1690	84	168.9	36.5	260.3	67759.8	51	71.4	102.3	1741.1

Table 16.30
Summary Statistics for Metals

Summary statistics for heavy metals at the Car Haula□ays site

Heavy Metal Screen	Minimum (mg/kg)	Ma□imum (mg/kg)	Median (mg/kg)	Mean (mg/kg)	Standard Error (mg/kg)	Standard Deviation (mg/kg)	Sample Variance (mg/kg)	Count (□o.)	Confidence Level (95.0□)	I□R	Ma□imum plus 1/2 I□R
Arsenic	3.9	9.6	6.3	6.28	0.53	1.9	3.4	12	1.05	2.7	11.0
Cadmium	0.177	0.46	0.185	0.27	0.09	0.2	0.0	3	0.18	0.1	0.5
Chromium	11.7	35	15.55	17.69	1.94	6.7	45.1	12	3.80	3.7	36.9
Copper	10.3	29	19	19.58	1.87	6.5	42.1	12	3.67	11.1	34.6
Lead	17.5	48	27.5	28.16	2.57	8.9	79.5	12	5.04	8.8	52.4
Nickel	9.6	20	12.9	13.85	1.02	3.5	12.5	12	2.00	4.8	22.4
Zinc	36	210	61	75.8	11.0	43.9	1925.3	16	21.5	18.0	219.0

Summary statistics for heavy metals at the Storage Shed area□Porirua Gun Club

Heavy Metal Screen	Minimum (mg/kg)	Ma□imum (mg/kg)	Median (mg/kg)	Mean (mg/kg)	Standard Error (mg/kg)	Standard Deviation (mg/kg)	Sample Variance (mg/kg)	Count (□o.)	Confidence Level (95.0□)	I□R	Ma□imum plus 1/2 I□R
Arsenic	4	5.1	4.4	4.5	0.32	0.6	0.31	3	0.6	0.55	5.4
Cadmium	<0.1	0.23	0.23	0.23	-	-	-	3	-	0	0.2
Chromium	19.6	21	20	20.2	0.42	0.7	0.52	3	0.8	0.7	21.4
Copper	7.5	360	11.5	126.3	116.84	202.4	40954.1	3	229.0	176.25	448.1
Lead	52	153	121	108.7	29.80	51.6	2664.3	3	58.4	50.5	178.3
Nickel	9.7	10.3	10	10	0.17	0.3	0.09	3	0.3	0.3	10.5
Zinc	41	99	67	69	16.77	29.1	844.0	3	32.9	29	113.5

Table 16.30
Summary Statistics for Metals

Summary statistics for heavy metals at the Drainage Channel area Porirua Gun Club

Heavy Metal Screen	Minimum (mg/kg)	Ma imum (mg/kg)	Median (mg/kg)	Mean (mg/kg)	Standard Error (mg/kg)	Standard Deviation (mg/kg)	Sample Variance (mg/kg)	Count (o.)	Confidence Level (95.0)	I R	Ma imum plus 1/2 I R
Arsenic	5.5	6.2	5.8	5.8	0.1	0.3	0.1	5	0.3	0.5	6.5
Cadmium	<0.1	0.56	0.35	0.35	0.21	0.29	0.09	5	0.26	0.21	0.66
Chromium	17.9	28.0	20.0	21.6	1.8	4.0	16.4	5	3.5	3.9	30.0
Copper	10.3	51.0	19.0	24.0	7.2	16.2	261.9	5	14.2	12.1	57.1
Lead	87.0	2200.0	167.0	838.4	442.2	988.8	977722.3	5	866.7	1442.0	2921.0
Nickel	9.0	13.5	12.6	11.6	1.0	2.2	4.9	5	1.9	4.0	15.5
Zinc	43.0	84.0	65.0	62.0	7.1	15.8	250.0	5	13.9	16.0	92.0

Summary statistics for heavy metals at the Lo er Level iring Range area Porirua Gun Club

Heavy Metal Screen	Minimum (mg/kg)	Ma imum (mg/kg)	Median (mg/kg)	Mean (mg/kg)	Standard Error (mg/kg)	Standard Deviation (mg/kg)	Sample Variance (mg/kg)	Count (o.)	Confidence Level (95.0)	I R	Ma imum plus 1/2 I R
Arsenic	2.7	10.9	5.6	5.8	0.5	1.9	3.6	17	0.9	2.3	12.1
Cadmium	<0.1	0.230	0.177	0.177	0.021	0.050	0.003	17	0.02	0.1	0.3
Chromium	15.3	27.0	18.8	19.3	0.8	3.1	9.6	17	1.5	2.5	28.3
Copper	8.2	3000.0	19.9	363.4	199.9	871.3	759123.2	19	391.8	79.5	3039.8
Lead	17.6	7000.0	510.0	1410.6	394.9	1974.6	3899082.4	25	774.0	1800.0	7900.0
Nickel	7.1	14.6	10.6	10.7	0.6	2.4	5.6	17	1.1	3.4	16.3
Zinc	36.0	700.0	78.0	138.1	39.6	163.4	26687.9	17	77.7	96.0	748.0

Table 16.30
Summary Statistics for Metals

Summary statistics for heavy metals at the Lo□er Level Target Range Area□Porirua Gun Club site

Heavy Metal Screen	Minimum (mg/kg)	Ma□imum (mg/kg)	Median (mg/kg)	Mean (mg/kg)	Standard Error (mg/kg)	Standard Deviation (mg/kg)	Sample Variance (mg/kg)	Count (□o.)	Confidence Level (95.0□)	I□R	Ma□imum plus 1/2 I□R
Arsenic	2.5	5.1	3.8	3.8	0.3	278.4	0.8	10	172.5	1.3	5.7
Cadmium	<0.1	<0.1	0.1	0.1	0.0	292.3	0.0	10	181.2	0.0	NA
Chromium	9.3	13.9	12.0	12.0	0.4	301.6	2.0	10	186.9	1.3	14.6
Copper	5.2	330.0	17.5	70.9	28.2	319.9	9521.9	12	181.0	103.5	381.8
Lead	128.0	2400.0	350.0	582.5	192.4	348.3	407223.3	11	205.8	305.0	2552.5
Nickel	4.5	8.5	6.8	6.8	0.4	62.8	1.3	10	38.9	0.9	9.0
Zinc	3.2	41.0	37.5	33.0	3.6	66.8	130.2	10	41.4	4.5	43.3

Summary statistics for heavy metals at the □ aste□ ater (Leachfield) Area□Porirua Gun Club site

Heavy Metal Screen	Minimum (mg/kg)	Ma□imum (mg/kg)	Median (mg/kg)	Mean (mg/kg)	Standard Error (mg/kg)	Standard Deviation (mg/kg)	Sample Variance (mg/kg)	Count (□o.)	Confidence Level (95.0□)	I□R	Ma□imum plus 1/2 I□R
Arsenic	3	4	4	3	0	1	0	5	0	0	4
Cadmium	<0.1	<0.1	-	-	-	-	-	0	-	-	-
Chromium	11	17	16	15	1	3	8	5	2	4	19
Copper	5	8	7	6	1	2	2	5	1	3	10
Lead	16	81	18	31	13	28	789	5	25	3	83
Nickel	6	9	9	8	1	2	3	5	1	3	11
Zinc	34	167	45	71	25	55	3026	5	48	27	181

Table 16.30
Summary Statistics for Metals

Summary statistics for heavy metals at the Rubbish Disposal Area□Porirua Gun Club site

Heavy Metal Screen	Minimum (mg/kg)	Ma□imum (mg/kg)	Median (mg/kg)	Mean (mg/kg)	Standard Error (mg/kg)	Standard Deviation (mg/kg)	Sample Variance (mg/kg)	Count (□o.)	Confidence Level (95.0□)	I□R	Ma□imum plus 1/2 I□R
Arsenic	3	18.8	3.8	6.5	2.5	6.1	37.6	6	4.9	2.0	19.8
Cadmium	<0.1	<0.1	-	-	-	-	-	6	-	-	-
Chromium	13.4	22.0	14.8	16.8	1.7	4.2	17.6	6	3.4	7.0	25.5
Copper	6.2	61.0	7.2	17.1	8.9	21.7	470.2	6	17.4	5.3	63.6
Lead	16.7	111.0	45.5	54.8	15.9	38.9	1515.1	6	31.1	58.8	140.4
Nickel	7.4	12.9	7.9	8.8	0.9	2.1	4.4	6	1.7	1.2	13.5
Zinc	33	41.0	36.5	37.0	1.4	3.5	12.4	6	2.8	6.0	44.0

Summary statistics for heavy metals at the □pper Level Target/Bullet Catch□Porirua Gun Club site

Heavy Metal Screen	Minimum (mg/kg)	Ma□imum (mg/kg)	Median (mg/kg)	Mean (mg/kg)	Standard Error (mg/kg)	Standard Deviation (mg/kg)	Sample Variance (mg/kg)	Count (□o.)	Confidence Level (95.0□)	I□R	Ma□imum plus 1/2 I□R
Arsenic	3.5	4.7	4.4	4.2	0.4	0.6	0.4	3	0.7	0.6	5.0
Cadmium	<0.1	<0.1	-	-	-	-	-	3	-	-	-
Chromium	16.7	21.0	16.8	18.2	1.4	2.5	6.0	3	2.8	2.2	22.1
Copper	25.0	49.0	48.0	40.7	7.8	13.6	184.3	3	15.4	12.0	55.0
Lead	42.0	1430.0	578.0	657.0	339.0	678.0	459654.7	4	664.4	1010.0	1935.0
Nickel	10.0	14.1	11.2	11.8	1.2	2.1	4.4	3	2.4	2.1	15.1
Zinc	53.0	76.0	56.0	61.7	7.2	12.5	156.3	3	14.1	11.5	81.8

Table 16.30
Summary Statistics for Metals

Summary statistics for heavy metals at the □pper Level Rifle Range Building Structure□Porirua Gun Club site

Heavy Metal Screen	Minimum (mg/kg)	Ma□imum (mg/kg)	Median (mg/kg)	Mean (mg/kg)	Standard Error (mg/kg)	Standard Deviation (mg/kg)	Sample Variance (mg/kg)	Count (□o.)	Confidence Level (95.0□)	I□R	Ma□imum plus 1/2 I□R
Arsenic	4.5	6.3	5.5	5.4	0.4	0.8	0.6	4	0.8	1.0	6.8
Cadmium	<0.1	0.2	0.2	0.2	-	-	-	4	-	0.0	0.2
Chromium	15.0	17.7	15.8	16.1	0.6	1.2	1.5	4	1.2	1.4	18.4
Copper	152	15400	1615	4645	2477	6068	36822435	6	4855	5920	18360
Lead	33	3300	980	1234	495	1213	1471344	6	971	1348	3974
Nickel	10.5	16.6	10.7	12.1	1.5	3.0	9.0	4	2.9	1.6	17.4
Zinc	320	10400	1130	3245	2399	4798	23021967	4	4702	3165	11983

Summary statistics for heavy metals at the Background Areas□Porirua Gun Club site

Heavy Metal Screen	Minimum (mg/kg)	Ma□imum (mg/kg)	Median (mg/kg)	Mean (mg/kg)	Standard Error (mg/kg)	Standard Deviation (mg/kg)	Sample Variance (mg/kg)	Count (□o.)	Confidence Level (95.0□)	I□R	Ma□imum plus 1/2 I□R
Arsenic	2.1	4.2	3.1	3.1	0.3	0.8	0.7	10	0.5	1.6	5.0
Cadmium	<0.1	<0.1	NA	NA	NA	NA	NA	10	NA	NA	NA
Chromium	9.3	19.7	14.6	13.8	1.0	3.3	10.9	10	2.0	4.5	22.0
Copper	3.2	8.1	5.8	5.5	0.6	1.9	3.5	10	1.2	3.3	9.7
Lead	14.1	67.0	27.5	32.8	5.8	18.2	331.2	10	11.3	26.6	80.3
Nickel	3.7	11.3	7.1	6.9	0.7	2.3	5.4	10	1.4	3.1	12.8
Zinc	17.4	38.0	29.0	28.3	2.4	7.7	58.8	10	4.8	12.5	44.3

Table 16.30
Summary Statistics for Metals

Summary statistics for heavy metals at the Ammunition Burn Pit□Porirua Gun Club site

Heavy Metal Screen	Minimum (mg/kg)	Ma□imum (mg/kg)	Median (mg/kg)	Mean (mg/kg)	Standard Error (mg/kg)	Standard Deviation (mg/kg)	Sample Variance (mg/kg)	Count (□o.)	Confidence Level (95.0□)	I□R	Ma□imum plus 1/2 I□R
Arsenic	2.7	5.3	3.7	3.7	0.2	0.7	0.5	10	0.5	0.4	5.5
Cadmium	<0.1	<0.1	-	-	-	-	-	10	-	-	-
Chromium	18.7	21.0	19.4	19.6	0.3	0.8	0.7	10	0.5	0.9	21.4
Copper	9.7	65.0	11.7	16.8	5.4	17.0	288.5	10	10.5	2.5	66.3
Lead	16.3	460.0	23.0	70.3	43.5	137.6	18920.5	10	85.3	11.1	465.5
Nickel	6.8	9.7	7.7	8.0	0.3	1.0	1.0	10	0.6	1.6	10.5
Zinc	27.0	43.0	32.5	33.5	1.6	4.9	24.5	10	3.1	4.8	45.4

Summary statistics for heavy metals at the Pauatahanui Inlet Garden Supply site

Heavy Metal Screen	Minimum (mg/kg)	Ma□imum (mg/kg)	Median (mg/kg)	Mean (mg/kg)	Standard Error (mg/kg)	Standard Deviation (mg/kg)	Sample Variance (mg/kg)	Count (□o.)	Confidence Level (95.0□)	I□R	Ma□imum plus 1/2 I□R
Arsenic	2.2	8.7	4.5	4.7	0.3	1.6	2.5	32	0.6	1.8	9.6
Cadmium	0.10	0.27	0.134	0.2	0.01	0.0	0.0	32	0.0	0.1	0.3
Chromium	8.1	25	12.45	13.4	0.6	3.6	12.8	32	1.2	3.7	26.9
Copper	3.4	87	11.4	15.9	2.6	14.7	215.9	32	5.1	10.5	92.2
Lead	8.8	210	20.5	35.2	7.2	40.9	1670.5	32	14.2	20.7	220.4
Nickel	3.7	13.7	8.35	8.9	0.4	2.2	5.0	32	0.8	2.0	14.7
Zinc	19.1	320	57.5	91.3	12.2	69.2	4793.3	32	24.0	53.8	346.9

Table 16.30
Summary Statistics for Metals

Summary statistics for heavy metals at the Mana Coach site

Heavy Metal Screen	Minimum (mg/kg)	Ma□imum (mg/kg)	Median (mg/kg)	Mean (mg/kg)	Standard Error (mg/kg)	Standard Deviation (mg/kg)	Sample Variance (mg/kg)	Count (□o.)	Confidence Level (95.0□)	I□R	Ma□imum plus 1/2 I□R
Arsenic	3.2	4.7	3.7	3.9	0.2	0.5	0.3	8.0	0.4	0.9	5.1
Cadmium	<0.10	<0.10	<0.10	<0.10	-	-	-	8.0	-	-	-
Chromium	10.8	17.6	13.7	14.2	0.8	2.3	5.2	8.0	1.6	3.2	19.2
Copper	8.0	17.0	11.6	12.1	1.2	3.4	11.3	8.0	2.3	3.6	18.8
Lead	13.5	22.0	16.0	16.8	1.1	3.1	9.4	8.0	2.1	2.4	23.2
Nickel	8.3	15.3	11.0	11.3	0.9	2.6	6.5	8.0	1.8	2.2	16.4
Zinc	41.0	77.0	56.5	57.1	4.4	12.4	154.1	8.0	8.6	13.5	83.8

Summary statistics for heavy metals at the G□ RC former sheep dip site

Heavy Metal Screen	Minimum (mg/kg)	Ma□imum (mg/kg)	Median (mg/kg)	Mean (mg/kg)	Standard Error (mg/kg)	Standard Deviation (mg/kg)	Sample Variance (mg/kg)	Count (□o.)	Confidence Level (95.0□)	I□R	Ma□imum plus 1/2 I□R
Arsenic	2.2	15.9	5.4	7.1	1.7	5.0	24.9	9.0	3.3	5.4	18.6
Cadmium	0.16	0.24	0.24	0.21	0.03	0.05	0.00	9.00	0.03	0.04	0.26
Chromium	12.5	18.1	14.0	14.5	0.6	1.7	2.8	9.0	1.1	1.7	19.0
Copper	7.3	26.0	12.8	13.2	2.0	6.0	35.9	9.0	3.9	7.8	29.9
Lead	11.1	35.0	21.0	22.9	3.3	10.0	100.5	9.0	6.5	18.7	44.4
Nickel	8.3	15.4	9.6	10.3	0.8	2.3	5.1	9.0	1.5	2.6	16.7
Zinc	43.0	161.0	78.0	84.1	12.2	36.6	1338.6	9.0	23.9	41.0	181.5

Table 16.30
Summary Statistics for Metals

Summary statistics for heavy metals at the □ormer Stockyard site

Heavy Metal Screen	Minimum (mg/kg)	Ma□imum (mg/kg)	Median (mg/kg)	Mean (mg/kg)	Standard Error (mg/kg)	Standard Deviation (mg/kg)	Sample Variance (mg/kg)	Count (□o.)	Confidence Level (95.0□)	I□R	Ma□imum plus 1/2 I□R
Arsenic	3.6	12.2	4.9	5.9	0.6	2.4	5.8	16	1.2	2.1	13.3
Cadmium	< 0.10	0.25	0.151	0.2	-	-	-	16	-	-	-
Chromium	10.8	18.4	13.3	13.7	0.5	2.2	4.7	16	1.1	2.3	19.5
Copper	7.4	43	10.9	12.8	2.1	8.4	71.1	16	4.1	3.6	44.8
Lead	10.4	37	12.95	15.8	2.0	7.9	62.5	16	3.9	4.0	39.0
Nickel	4.1	9.2	5.1	5.7	0.3	1.4	1.9	16	0.7	1.7	10.1
Zinc	36	210	61	75.8	11.0	43.9	1925.3	16	21.5	18.0	219.0