

9 March 2010

Mr Lance Knight  
LM & LM Knight Pty Ltd  
49 Mologa Road  
HEIDELBERG WEST VIC 3081

Dear Lance

**RE: Slurry and Water Sampling from Cut and Clean, Heidelberg West**

Following a request from Lance Knight, Monarc Environmental Pty Ltd ('Monarc') conducted a slurry and water sampling investigation for LM & LM Knight Pty Ltd (trading as Cut and Clean) at Mologa Road, Heidelberg West.

Cut and Clean undertake a process of concrete cutting that generates a slurry mixture of water and concrete/cement/asphalt. They have commenced using a filtration process to enable the waste water to be recycled for future concrete cutting. The aim of this investigation was to compare the analytical results of slurry (from the initial concrete/asphalt cutting) and after the slurry had undergone a filtration process. The process involved running excess material from concrete/asphalt cutting ('slurry') through a filtration process, which separates the solids from the liquid. The solid material is currently collected and recycled by Alex Fraser Pty Ltd and the water is reused for future concrete cutting by Cut and Clean.

Slurry and water sampling was undertaken on 25 February 2010 by an appropriately qualified environmental scientist. One sample (identified as LLK-1) was collected from the slurry mixture before it underwent the filtration process, and one sample (LLK-2) was collected from the water after the slurry underwent the filtration process.

Both samples were assessed and ranked based on evidence of odour and visual contamination. The initial slurry sample (LLK-1) was dark grey with high turbidity and a slight petroleum odour. The water sample (LLK-2) was clear with low turbidity and no odour.

The primary laboratory used was Ecowise Environmental Pty Ltd. The laboratory is NATA accredited to undertake the necessary analyses. In order to compare analytical results the slurry was analysed by the laboratory as a liquid and both samples (slurry and water) were reported in milligrams per litre (mg/L).

The slurry and water samples were analysed for pH and EPA Screens (in accordance with Table 2 of EPA Publication IWRG621), which test for:

- Heavy metals: including arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, silver, tin and zinc;
- Cyanide;
- Fluoride;
- Phenols (Halogenated and Non-halogenated);

**Monarc Environmental Pty Ltd**

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- Monocyclic Aromatic Hydrocarbons (MAHs);
- Total Petroleum Hydrocarbons (TPHs);
- Polycyclic Aromatic Hydrocarbons (PAHs);
- Chlorinated Hydrocarbons (CHCs);
- Polychlorinated Biphenyls (PCBs);
- Halogenated Volatile Organics (HVOLs);
- Organochlorine Pesticides (OCPs).

During the analyses, Ecowise had difficulty obtaining analytical results for metals from the initial slurry sample (LLK-1). This was due to the metals binding to the suspended solids and the laboratory equipment not being able to achieve repeatable results. The sample was subsequently run three times under two differing factors of dilution (1/10 and 1/100) to allow the metals to be released from the solid particles. All results have been included in the *Summary of Results: Slurry and Water Classification*.

Results for the slurry and water analyses have been summarised in *Summary of Results: Slurry and Water Classification*, along with the NATA accredited laboratory certificate and chain of custody for slurry and water samples (refer to Appendix A: NATA Certified Laboratory Results and Chain of Custody).

Results for these slurry and water analyses were compared to criteria set by the *Australian and New Zealand Environment and Conservation Council (ANZECC) 1992/2000, Australian Water Quality Guidelines for Fresh and Marine Waters, National Water Quality Management Strategy*, for ecosystem protection (freshwater), potable/drinking water supply, primary contact recreation, agriculture water supply (irrigation & livestock) and buildings & structures (taken from Australian Standard AS2159).

The slurry and water analytical results have been summarised in *Summary of Results: Slurry and Water Classification* and the results were assessed with respect to whether they:

- Were below laboratory reporting limit;
- Recorded detections of analytes; or
- Exceeded the adopted assessment criteria (ANZECC 1992/2000).

#### Below Laboratory Reporting Limit

The following analytes were reported at concentrations below the laboratory reporting limit in both samples analysed. Although these samples were reported at concentrations below laboratory reporting limits it does not necessarily indicate that they are not present, but exist at very low concentrations below the laboratory reporting limit.

- Polychlorinated Biphenyls (PCBs);
- Organochlorine Pesticides (OCPs);
- Chlorinated Hydrocarbons (CHCs); and
- Halogenated Volatiles (HVOLs).

#### Detections Reported

The following analytes were reported at concentrations exceeding the laboratory reporting limit in at least one of the samples analysed. However, it should be noted that these concentrations were within the acceptable levels of the adopted assessment criteria.

- Fluoride both samples;
- Polycyclic Aromatic Hydrocarbons (PAHs) sample LLK-2 only;
- Monoaromatic Hydrocarbons (MAHs) sample LLK-2 only;
- Phenols (Halogenated) sample LLK-2 only;

- Total Petroleum Hydrocarbons (TPHs) were detected in both samples however there are no guideline values for TPHs in the ANZECC 1992/2000 Guidelines.

It is noted, that detects for PAHs, MAHs and Phenols (Halogenated) in sample LLK-2 were on or slightly above the laboratory detection limit. Therefore, additional sampling should be undertaken to confirm the presence of contaminants in the water sample.

#### Exceedances of the Adopted Assessment Criteria

All slurry and water results have been assessed against the adopted assessment criteria in the ANZECC1992/2000 Guidelines. Original NATA certified laboratory results and Chain-of-Custody forms are presented in *Appendix A: NATA Certified Laboratory Results and Chain of Custody*.

The summarised data in *Summary of Results: Slurry and Water Classification* indicates exceedances of:

##### Ecosystem Protection (Freshwater)

- pH both samples;
- Cyanide both samples;
- Metals both samples.

##### Potable/Drinking Water Supply

- pH both samples;
- Phenols (Non-halogenated) both samples;
- Metals both samples.

##### Primary Contact Recreation

- pH both samples;
- Phenols (Non-halogenated) both samples;
- Metals both samples.

##### Agriculture Water Supply (Irrigation)

- pH both samples;
- Metals both samples.

##### Agriculture Water Supply (Livestock)

- pH both samples;
- Phenols (Non-halogenated) both samples;
- Metals both samples.

##### Buildings & Structures

- pH both samples.

Both samples (LLK-1 and LLK-2) exceeded all the assessment criteria (for the contaminants listed above). Therefore, this slurry and water would have a detrimental effect on ecosystems (freshwater), potable/drinking water supply, primary contact recreation, agriculture water supply (irrigation & livestock) and buildings & structures.

Generally, the filtration process has removed the suspended solids in the water. However, not all the contaminants have been removed by the filtration process.

Given the concentrations of Phenols, Metals, TPHs, Cyanide and pH in the samples, it is recommended that this water is only used for the purposes of concrete cutting and ensuring there is no run-off into environmental receptors such as stormwater drains, pastoral drainage lines, creeks or other

waterbodies. Given the water is collected and re-filtered, this recycling process appears to effectively reduce such risks.

It should be noted that these results have been compiled from this single test. To gain greater confidence in the repeatability, reliability and accuracy of results, it is also recommended that additional rounds of sampling be undertaken on the slurry and water.

For further discussion or additional information please do not hesitate to call me on (03) 8809 1800.

Yours sincerely



Stuart Derham  
Environmental Consultant  
**MONARC ENVIRONMENTAL PTY LTD**

## ATTACHMENTS

Summary of Results: Slurry and Water Classification

Appendix A: NATA Certified Laboratory Results and Chain of Custody



SUMMARY OF RESULTS: Slurry and Water Classification in mg/l, LMK-933



		Field ID	LLK-1	LLK-2	LLK-1 1/10 Digest 1	LLK-1 1/10 Digest 2	LLK-1 1/10 Digest 3	LLK-1 1/100 Digest 1	LLK-1 1/100 Digest 2	LLK-1 1/100 Digest 3								
		Sampled Date	Slurry	Water	Slurry	Slurry	Slurry	Slurry	Slurry	Slurry								
		Sampled Date	25/02/2010	25/02/2010	5/03/2010	5/03/2010	5/03/2010	5/03/2010	5/03/2010	5/03/2010								
Method_Type	ChemName	Units	EQL	Ecosystem Protection (ANZECC 2000 FW 95%)	Potable Water Supply - Acceptable (ANZECC 1992)	Agricultural Water Supply (Irrigation, ANZECC 1992)	Agricultural Water Supply (Livestock, ANZECC 1992)	Primary Contact Recreation (ANZECC 1992)	Criteria for Buildings and Structures (AS2159)									
PAH	Acenaphthene	mg/L	0.001															
	Acenaphthylene	mg/L	0.001															
	Anthracene	mg/L	0.001															
	Benzo(a)anthracene	mg/L	0.001															
	Benzo(a) pyrene	mg/L	0.001		0.00001		0.00001	0.00001										
	Benzo(b)fluoranthene	mg/L	0.001															
	Benzo(g,h,i)perylene	mg/L	0.001															
	Benzo(k)fluoranthene	mg/L	0.001															
	Chrysene	mg/L	0.001															
	Dibenz(a,h)anthracene	mg/L	0.001															
	Fluoranthene	mg/L	0.001															
	Fluorene	mg/L	0.001															
	Indeno(1,2,3-c,d)pyrene	mg/L	0.001															
	Naphthalene	mg/L	0.001	0.016														
	Phenanthrene	mg/L	0.001															
Pyrene	mg/L	0.001																
PAHs (Sum of total)	mg/L	0.001	0.003															
PCB	Arochlor 1016	mg/L	0.001															
	Arochlor 1221	mg/L	0.001															
	Arochlor 1232	mg/L	0.001															
	Arochlor 1242	mg/L	0.001	0.0006														
	Arochlor 1248	mg/L	0.001															
	Arochlor 1254	mg/L	0.001	0.00003														
	Arochlor 1260	mg/L	0.001															
PCBs (Sum of total)	mg/L	0.00001	0.000001	0.0001		0.0001	0.0001											
Phenols (Hal)	2,3,4,5-tetrachlorophenol	mg/L	0.001															
	2,3,4,6-tetrachlorophenol	mg/L	0.001	0.02	0.001		0.001	0.001										
	2,3,5,6-Tetrachlorophenol	mg/L	0.001															
	2,4,5-trichlorophenol	mg/L	0.001		0.001		0.001	0.001										
	2,4,6-trichlorophenol	mg/L	0.001	0.02	0.01		0.01	0.01										
	2,4-dichlorophenol	mg/L	0.001	0.16	0.0003		0.2	0.2										
	2,6-dichlorophenol	mg/L	0.001															
	2-chlorophenol	mg/L	0.001	0.49	0.0001		0.3	0.3										
	4-chloro-3-methylphenol	mg/L	0.001															
	Pentachlorophenol	mg/L	0.001	0.01	0.01		0.01	0.01										
	Phenols (Total Halogenated)	mg/L	0.001															
Phenols (Non Hal)	2,4-dimethylphenol	mg/L	0.001															
	2-methylphenol	mg/L	0.001															
	2-nitrophenol	mg/L	0.001															
	3-Methylphenol	mg/L	0.001															
	4-methylphenol	mg/L	0.001															
	4-nitrophenol	mg/L	0.001															
	Phenol	mg/L	0.001	0.32	0.002		0.002	0.002										
	Phenols (Total Non Halogenated)	mg/L	0.001		0.002		0.002	0.002										
TPH	TPH C6 - C9	mg/L	0.1															
	TPH C10 - C14	mg/L	0.1															
	TPH C15 - C28	mg/L	0.1															
	TPH C29-C36	mg/L	0.1															
	TPH+C10 - C36 (Sum of total)	mg/L	0.2															



## Sample Receipt Advice (SRA)

**Client:**

**Monarc Environmental Pty Ltd**  
Suite 3  
255 Whitehorse Road  
BALWYN VIC 3103

**Client Contact: Stuart Derham**

Phone : 8809 1850  
Mobile :  
Fax :  
Email : [stuard@monarcenviro.com.au](mailto:stuard@monarcenviro.com.au)

**Batch Summary:**

**Ecwise Batch No : 10-09076**

**Date Received :** 25-Feb-2010

**Scheduled Reporting Date :** 04-Mar-2010

**Client Job Ref :** LMK-993

**No. of Sample(s) :** 2

**Program :** Misc

**Purchase Order :** n/a

**NATA report :** Reqd.

**Lab. Contact :** **Samantha Smith**

**Phone:** (03) 8756 8115

**Email:** [ssmith@ecwise.com.au](mailto:ssmith@ecwise.com.au)

### Consignment /Sample Information:

COC Received :

COC is complete, correct and unambiguous:

- Samples are Chilled.
- All samples have been received as described in the COC.
- Samples have been received in appropriate containers with correct preservatives.
- All samples were received in good condition.
- Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

**Comments:**



Client: **Monarc Environmental Pty Ltd**

Address: Suite 3  
255 Whitehorse Road  
BALWYN VIC 3103

Attention: **Stuart Derham**

Page 1 of 22

## Certificate of Analysis

Batch No: **10-09076**

Final Report

Report Number: **147853**



Ecwise Australia Pty Ltd  
Caribbean Business Park  
22 Dalmore Drive  
Scoresby VIC 3179  
Tel: 03 8756 8000  
Fax: 03 9763 1862

Date Issued: **05-Mar-2010**

Client Program Ref: **LMK-993**

PO No: **Not Available**

Date Sampled: **25-Feb-2010 - 05-Mar-2010**

Ecwise Program Ref: **MONARC**

Date Received: **25-Feb-2010**

The sample(s) referred to in this report were analysed by the following method(s):

Analysis	Method	Laboratory	Analysis	Method	Laboratory	Analysis	Method	Laboratory
<b>CHC</b>	WSL 8210 BN (HCCP not NATA)	Melbourne	<b>Cyanide</b>	APHA 4120 B	Melbourne	<b>Cr 6+</b>	VIC-CM034	Melbourne
<b>Fluoride</b>	APHA 4500-F,C	Melbourne	<b>HVOL</b>	VIC-CM047	Melbourne	<b>MAH</b>	VIC-CM047	Melbourne
<b>MS Total Metals</b>	WEC079	Melbourne	<b>MS Total Metals</b>	WEC079	Melbourne	<b>OCP</b>	WSL 8080B	Melbourne
<b>PAH</b>	WSL 8100B	Melbourne	<b>PCBs</b>	WSL 8080B	Melbourne	<b>pH</b>	APHA 4500-H,B	Melbourne
<b>Phenols(Halo)</b>	CM8040D	Melbourne	<b>Phenols(NonHalo)</b>	CM8040D	Melbourne	<b>TPH</b>	VIC-CM030	Melbourne

Principal Contact for this Report:

Samantha Smith  
Client Manager



The results in this report were authorised by:

Name	Title
<b>Dennis Carty</b>	<b>Senior Chemist</b>
<b>Hao Zhang</b>	<b>Principal Organic Chemist</b>
<b>John Earl</b>	<b>Team Leader - Metals</b>
<b>Kosta Christopoulos</b>	<b>Chemist/Analyst</b>
<b>Michael Clahsen</b>	<b>Principal Inorganic Chemist</b>
<b>Stuart Paarman</b>	<b>Technical Officer - Chem</b>
<b>Vic Willms</b>	<b>Manager Chemistry</b>

Client: Monarc Environmental Pty Ltd

Report Number: 147853

Client Program Ref: LMK-993

Ecowise Program Ref: MONARC



LOR = Limit of reporting. When a reported LOR is higher than the standard LOR, this may be due to high moisture content, insufficient sample or matrix interference.

CAS Number = Chemistry Abstract Services Number. The analytical procedures in this report ( including in house methods ) are developed from internationally recognised procedures such as those published by USEPA, APHA and NEPM.

					Sample No.	2100760	2100761	2109488	2109489	2109490	2109491
					Client Sample ID	LLK-1	LLK-2	LLK-1 1/10 Digest 1	LLK-1 1/100 Digest 1	LLK-1 1/10 Digest 2	LLK-1 1/100 Digest 2
					Sample Date	25/02/10	25/02/10	05/03/10	05/03/10	05/03/10	05/03/10
					Sample Type	WATER	WATER	WATER	WATER	WATER	WATER
Analysis	Analyte	CAS #	LOR								
CHC	1,2,3,4-Tetrachlorobenzene	634-66-2	<0.001	mg/L	<0.003	<0.001					
CHC	1,2,3,5-Tetrachlorobenzene	634-90-2	<0.001	mg/L	<0.003	<0.001					
CHC	1,2,3-Trichlorobenzene	87-61-6	<0.001	mg/L	<0.003	<0.001					
CHC	1,2,4,5-Tetrachlorobenzene	95-94-3	<0.001	mg/L	<0.003	<0.001					
CHC	1,2,4-Trichlorobenzene	120-82-1	<0.001	mg/L	<0.003	<0.001					
CHC	1,2-Dichlorobenzene	95-50-1	<0.001	mg/L	<0.003	<0.001					
CHC	1,3,5-Trichlorobenzene	108-70-3	<0.001	mg/L	<0.003	<0.001					
CHC	1,3-Dichlorobenzene	541-73-1	<0.001	mg/L	<0.003	<0.001					
CHC	1,4-Dichlorobenzene	106-46-7	<0.001	mg/L	<0.003	<0.001					
CHC	2-Chloronaphthalene	91-58-7	<0.001	mg/L	<0.003	<0.001					
CHC	Benzal Chloride	98-87-3	<0.001	mg/L	<0.003	<0.001					
CHC	Benzotrichloride	98-07-7	<0.001	mg/L	<0.003	<0.001					
CHC	Benzylchloride	100-44-7	<0.001	mg/L	<0.003	<0.001					
CHC	Hexachloroethane	67-72-1	<0.001	mg/L	<0.003	<0.001					
CHC	Hexachlorobutadiene	87-68-3	<0.001	mg/L	<0.003	<0.001					
CHC	Hexachlorocyclopentadiene	77-47-4	<0.001	mg/L	<0.003	<0.001					
CHC	Pentachlorobenzene	608-93-5	<0.001	mg/L	<0.003	<0.001					
Analysis	Analyte	CAS #	LOR								
pH	pH, units	pH_Lab		Units	11.6	11.6					
Fluoride	Fluoride, as F	16984-48-8	<0.05	mg/L	0.45	0.38					
Cyanide	Total Cyanide, as CN	57-12-5	<0.005	mg/L	0.021	0.015					
Cr 6+	Chromium 6+, as Cr	18540-29-9	<0.01	mg/L	0.01	<0.01					
Analysis	Analyte	CAS #	LOR								
HVOL	1,1,1,2-Tetrachloroethane	630-20-6	<0.001	mg/L	<0.002	<0.001					
HVOL	1,1,2,2-Tetrachloroethane	79-34-5	<0.001	mg/L	<0.002	<0.001					
HVOL	1,1-Dichloroethane	75-34-3	<0.001	mg/L	<0.002	<0.001					
HVOL	1,1-Dichloroethene	75-35-4	<0.001	mg/L	<0.002	<0.001					
HVOL	1,1-Dichloropropene	563-58-6	<0.001	mg/L	<0.002	<0.001					
HVOL	1,2,3-Trichloropropane	96-18-4	<0.001	mg/L	<0.002	<0.001					
HVOL	1,2-Dibromo-3-chloropropane	96-12-8	<0.001	mg/L	<0.002	<0.001					

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise

Client: Monarc Environmental Pty Ltd

Report Number: 147853

Client Program Ref: LMK-993

Ecowise Program Ref: MONARC



				Sample No.	2100760	2100761	2109488	2109489	2109490	2109491
				Client Sample ID	LLK-1	LLK-2	LLK-1 1/10 Digest 1	LLK-1 1/100 Digest 1	LLK-1 1/10 Digest 2	LLK-1 1/100 Digest 2
				Sample Date	25/02/10	25/02/10	05/03/10	05/03/10	05/03/10	05/03/10
				Sample Type	WATER	WATER	WATER	WATER	WATER	WATER
HVOL	1,2-Dibromoethane	106-93-4	<0.001	mg/L	<0.002	<0.001				
HVOL	1,2-Dichloroethene [cis]	540-59-0(cis)	<0.001	mg/L	<0.002	<0.001				
HVOL	1,2-Dichloroethene [trans]	540-59-0(trans)	<0.001	mg/L	<0.002	<0.001				
HVOL	1,2-Dichloroethane	107-06-2	<0.001	mg/L	<0.002	<0.001				
HVOL	1,2-Dichloropropane	78-87-5	<0.001	mg/L	<0.002	<0.001				
HVOL	1,3-Dichloropropane	142-28-9	<0.001	mg/L	<0.002	<0.001				
HVOL	1,3-Dichloropropene [cis]	10061-01-5	<0.001	mg/L	<0.002	<0.001				
HVOL	1,3-Dichloropropene [trans]	10061-02-6	<0.001	mg/L	<0.002	<0.001				
HVOL	2,2-Dichloropropane	594-20-7	<0.001	mg/L	<0.002	<0.001				
HVOL	2-Chlorotoluene	95-49-8	<0.001	mg/L	<0.002	<0.001				
HVOL	4-Chlorotoluene	106-43-4	<0.001	mg/L	<0.002	<0.001				
HVOL	Bromochloromethane	74-97-5	<0.001	mg/L	<0.002	<0.001				
HVOL	Bromodichloromethane	75-27-4	<0.001	mg/L	<0.002	<0.001				
HVOL	Bromobenzene	108-86-1	<0.001	mg/L	<0.002	<0.001				
HVOL	Bromoform (Tribromomethane)	75-25-2	<0.001	mg/L	<0.002	<0.001				
HVOL	Carbon Tetrachloride	56-23-5	<0.001	mg/L	<0.002	<0.001				
HVOL	Chloroform (Trichloromethane)	67-66-3	<0.001	mg/L	<0.002	<0.001				
HVOL	Chlorobenzene	108-90-7	<0.001	mg/L	<0.002	<0.001				
HVOL	Dibromochloromethane	124-48-1	<0.001	mg/L	<0.002	<0.001				
HVOL	Dibromomethane	74-95-3	<0.001	mg/L	<0.002	<0.001				
HVOL	Dichloromethane	75-09-2	<0.002	mg/L	<0.004	<0.002				
HVOL	Trichlorofluoromethane (CFC11)	75-69-4	<0.002	mg/L	<0.004	<0.002				
HVOL	Tetrachloroethene	127-18-4	<0.001	mg/L	<0.002	<0.001				
HVOL	Vinyl Chloride (Monomer)	75-01-4	<0.002	mg/L	<0.004	<0.002				
HVOL	1,1,1-Trichloroethane	71-55-6	<0.001	mg/L	<0.002	<0.001				
HVOL	1,1,2-Trichloroethane	79-00-5	<0.001	mg/L	<0.002	<0.001				
HVOL	Trichloroethene	79-01-6	<0.001	mg/L	<0.002	<0.001				
Analysis	Analyte	CAS #	LOR							
MAH	Benzene	71-43-2	<0.001	mg/L	<0.002	<0.001				
MAH	Toluene	108-88-3	<0.001	mg/L	<0.002	0.002				
MAH	Ethyl Benzene	100-41-4	<0.001	mg/L	<0.002	<0.001				
MAH	Xylenes	1330-20-7	<0.003	mg/L	<0.004	<0.003				
MAH	Styrene	100-42-5	<0.001	mg/L	<0.002	<0.001				
MAH	Cumene	98-82-8	<0.001	mg/L	<0.002	<0.001				

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise

Client: Monarc Environmental Pty Ltd

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					Sample No.	2100760	2100761	2109488	2109489	2109490	2109491
					Client Sample ID	LLK-1	LLK-2	LLK-1 1/10 Digest 1	LLK-1 1/100 Digest 1	LLK-1 1/10 Digest 2	LLK-1 1/100 Digest 2
					Sample Date	25/02/10	25/02/10	05/03/10	05/03/10	05/03/10	05/03/10
					Sample Type	WATER	WATER	WATER	WATER	WATER	WATER
MAH	1,2,4-Trimethylbenzene	95-63-6	<0.001	mg/L		<0.002	<0.001				
<b>Analysis</b>	<b>Analyte</b>	<b>CAS #</b>	<b>LOR</b>								
MS Total Metals	Arsenic	7440-38-2	<0.01	mg/L				0.14	0.66	0.15	0.67
MS Total Metals	Cadmium	7440-43-9	<0.002	mg/L				0.008	0.035	0.009	0.036
MS Total Metals	Copper	7440-50-8	<0.01	mg/L				10	47	10	47
MS Total Metals	Lead	7439-92-1	<0.01	mg/L				18	16	19	17
MS Total Metals	Mercury	7439-97-6	<0.001	mg/L				0.036	0.030	0.036	0.028
MS Total Metals	Molybdenum	7439-98-7	<0.01	mg/L				0.08	0.19	0.08	0.19
MS Total Metals	Nickel	7440-02-0	<0.01	mg/L				9.8	43	9.0	42
MS Total Metals	Selenium	7782-49-2	<0.01	mg/L				0.12	0.83	0.14	0.88
MS Total Metals	Silver	7440-22-4	<0.01	mg/L				<0.01	0.03	0.01	0.03
MS Total Metals	Tin	7440-31-5	<0.01	mg/L				0.13	0.61	0.12	0.60
MS Total Metals	Zinc	7440-66-6	<0.01	mg/L				5.7	25	5.8	24
MS Total Metals	Arsenic	7440-38-2	<0.001	mg/L							0.005
MS Total Metals	Cadmium	7440-43-9	<0.0002	mg/L							<0.0002
MS Total Metals	Copper	7440-50-8	<0.001	mg/L							0.072
MS Total Metals	Lead	7439-92-1	<0.001	mg/L							0.002
MS Total Metals	Mercury	7439-97-6	<0.0001	mg/L							0.014
MS Total Metals	Molybdenum	7439-98-7	<0.001	mg/L							0.12
MS Total Metals	Nickel	7440-02-0	<0.001	mg/L							0.018
MS Total Metals	Selenium	7782-49-2	<0.001	mg/L							0.006
MS Total Metals	Silver	7440-22-4	<0.001	mg/L							<0.001
MS Total Metals	Tin	7440-31-5	<0.001	mg/L							0.002
MS Total Metals	Zinc	7440-66-6	<0.001	mg/L							0.006
<b>Analysis</b>	<b>Analyte</b>	<b>CAS #</b>	<b>LOR</b>								
OCP	BHC (alpha Isomer)	319-84-6	<0.001	mg/L		<0.001	<0.001				
OCP	Aldrin	309-00-2	<0.001	mg/L		<0.001	<0.001				
OCP	BHC (beta Isomer)	319-85-7	<0.001	mg/L		<0.001	<0.001				
OCP	cis-Chlordane	5103-71-9	<0.001	mg/L		<0.001	<0.001				
OCP	trans-Chlordane	5103-74-2	<0.001	mg/L		<0.001	<0.001				
OCP	BHC (delta Isomer)	319-86-8	<0.001	mg/L		<0.001	<0.001				
OCP	4,4-DDD	72-54-8	<0.001	mg/L		<0.001	<0.001				
OCP	4,4-DDE	72-55-9	<0.001	mg/L		<0.001	<0.001				
OCP	4,4-DDT	50-29-3	<0.001	mg/L		<0.001	<0.001				

Client: Monarc Environmental Pty Ltd

Report Number: 147853

Client Program Ref: LMK-993

Ecowise Program Ref: MONARC



				Sample No.	2100760	2100761	2109488	2109489	2109490	2109491
				Client Sample ID	LLK-1	LLK-2	LLK-1 1/10 Digest 1	LLK-1 1/100 Digest 1	LLK-1 1/10 Digest 2	LLK-1 1/100 Digest 2
				Sample Date	25/02/10	25/02/10	05/03/10	05/03/10	05/03/10	05/03/10
				Sample Type	WATER	WATER	WATER	WATER	WATER	WATER
OCP	Dieldrin	60-57-1	<0.001	mg/L	<0.001	<0.001				
OCP	Endosulfan I	959-98-8	<0.001	mg/L	<0.001	<0.001				
OCP	Endosulfan Sulfate	1031-07-8	<0.001	mg/L	<0.001	<0.001				
OCP	Endrin Aldehyde	7421-93-4	<0.001	mg/L	<0.001	<0.001				
OCP	Endrin	72-20-8	<0.001	mg/L	<0.001	<0.001				
OCP	Endrin Ketone	53494-70-5	<0.001	mg/L	<0.001	<0.001				
OCP	Endosulfan II	33213-65-9	<0.001	mg/L	<0.001	<0.001				
OCP	Hexachlorobenzene	118-74-1	<0.001	mg/L	<0.001	<0.001				
OCP	Heptachlor Epoxide	1024-57-3	<0.001	mg/L	<0.001	<0.001				
OCP	Heptachlor	76-44-8	<0.001	mg/L	<0.001	<0.001				
OCP	Lindane (BHC gamma Isomer)	58-89-9	<0.001	mg/L	<0.001	<0.001				
OCP	Methoxychlor	72-43-5	<0.001	mg/L	<0.001	<0.001				
<b>Analysis</b>	<b>Analyte</b>	<b>CAS #</b>	<b>LOR</b>							
PAH	Naphthalene	91-20-3	<0.001	mg/L	<0.001	0.001				
PAH	Acenaphthylene	208-96-8	<0.001	mg/L	<0.001	<0.001				
PAH	Acenaphthene	83-32-9	<0.001	mg/L	<0.001	<0.001				
PAH	Fluorene	86-73-7	<0.001	mg/L	<0.001	<0.001				
PAH	Phenanthrene	85-01-8	<0.001	mg/L	<0.001	<0.001				
PAH	Anthracene	120-12-7	<0.001	mg/L	<0.001	<0.001				
PAH	Fluoranthene	206-44-0	<0.001	mg/L	<0.001	<0.001				
PAH	Pyrene	129-00-0	<0.001	mg/L	<0.001	<0.001				
PAH	Benz(a)anthracene	56-55-3	<0.001	mg/L	<0.001	<0.001				
PAH	Chrysene	218-01-9	<0.001	mg/L	<0.001	<0.001				
PAH	Benzo(b)fluoranthene	205-99-2	<0.001	mg/L	<0.001	<0.001				
PAH	Benzo(k)fluoroanthene	207-08-9	<0.001	mg/L	<0.001	<0.001				
PAH	Benzo(a)pyrene	50-32-8	<0.001	mg/L	<0.001	<0.001				
PAH	Dibenz(a,h)anthracene	53-70-3	<0.001	mg/L	<0.001	<0.001				
PAH	Benzo(g,h,i)perylene	191-24-2	<0.001	mg/L	<0.001	<0.001				
PAH	Indeno(1,2,3-cd)pyrene	193-39-5	<0.001	mg/L	<0.001	<0.001				
PAH	Total PAH	TOTALPAH	<0.001	mg/L	<0.001	0.001				
<b>Analysis</b>	<b>Analyte</b>	<b>CAS #</b>	<b>LOR</b>							
PCBs	Aroclor 1016	12674-11-2	<0.001	mg/L	<0.001	<0.001				
PCBs	Aroclor 1221	11104-28-2	<0.001	mg/L	<0.001	<0.001				
PCBs	Aroclor 1232	11141-16-5	<0.001	mg/L	<0.001	<0.001				

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise

Client: Monarc Environmental Pty Ltd

Report Number: 147853

Client Program Ref: LMK-993

Ecowise Program Ref: MONARC

					Sample No.	2100760	2100761	2109488	2109489	2109490	2109491
					Client Sample ID	LLK-1	LLK-2	LLK-1 1/10 Digest 1	LLK-1 1/100 Digest 1	LLK-1 1/10 Digest 2	LLK-1 1/100 Digest 2
					Sample Date	25/02/10	25/02/10	05/03/10	05/03/10	05/03/10	05/03/10
					Sample Type	WATER	WATER	WATER	WATER	WATER	WATER
PCBs	Aroclor 1242	53469-21-9	<0.001	mg/L	<0.001	<0.001					
PCBs	Aroclor 1248	12672-29-6	<0.001	mg/L	<0.001	<0.001					
PCBs	Aroclor 1254	11097-69-1	<0.001	mg/L	<0.001	<0.001					
PCBs	Aroclor 1260	11096-82-5	<0.001	mg/L	<0.001	<0.001					
PCBs	Total PCB	1336-36-3	<0.0001	mg/L	<0.001	<0.001					
<b>Analysis</b>	<b>Analyte</b>	<b>CAS #</b>	<b>LOR</b>								
Phenols(Halo)	4-Chloro-3-Methylphenol	59-50-7	<0.001	mg/L	<0.001	<0.001					
Phenols(Halo)	2-Chlorophenol	95-57-8	<0.001	mg/L	<0.001	<0.001					
Phenols(Halo)	2,4-Dichlorophenol	120-83-2	<0.001	mg/L	<0.001	<0.001					
Phenols(Halo)	2,6-Dichlorophenol	87-65-0	<0.001	mg/L	<0.001	<0.001					
Phenols(Halo)	Pentachlorophenol	87-86-5	<0.001	mg/L	<0.001	0.003					
Phenols(Halo)	2,3,4,5-Tetrachlorophenol	4901-51-3	<0.001	mg/L	<0.001	<0.001					
Phenols(Halo)	2,3,4,6-Tetrachlorophenol	58-90-2	<0.001	mg/L	<0.001	<0.001					
Phenols(Halo)	2,3,5,6-Tetrachlorophenol	935-95-5	<0.001	mg/L	<0.001	<0.001					
Phenols(Halo)	2,4,5-Trichlorophenol	95-95-4	<0.001	mg/L	<0.001	<0.001					
Phenols(Halo)	2,4,6-Trichlorophenol	88-06-2	<0.001	mg/L	<0.001	<0.001					
Phenols(Halo)	Total Phenols (Halogenated)	64743-03-9(Hal	<0.001	mg/L	<0.001	0.003					
<b>Analysis</b>	<b>Analyte</b>	<b>CAS #</b>	<b>LOR</b>								
Phenols(NonHalo)	Phenol	108-95-2	<0.001	mg/L	0.029	0.031					
Phenols(NonHalo)	2-Methylphenol (O-Cresol)	95-48-7	<0.001	mg/L	0.005	0.005					
Phenols(NonHalo)	3-Methylphenol (M-Cresol)	108-39-4	<0.001	mg/L	0.043	0.046					
Phenols(NonHalo)	4-Methylphenol (P-Cresol)	106-44-5	<0.001	mg/L	0.033	0.036					
Phenols(NonHalo)	2,4-Dimethylphenol	105-67-9	<0.001	mg/L	0.005	0.006					
Phenols(NonHalo)	2-Nitrophenol	88-75-5	<0.001	mg/L	<0.001	<0.001					
Phenols(NonHalo)	4-Nitrophenol	100-02-7	<0.001	mg/L	<0.001	<0.001					
Phenols(NonHalo)	Total Phenols (non Halogenated)	64743-03-9(Non	<0.001	mg/L	0.12	0.12					
<b>Analysis</b>	<b>Analyte</b>	<b>CAS #</b>	<b>LOR</b>								
TPH	Petroleum Hydrocarbons, C6-C9	TPHC6_C9	<0.1	mg/L	<0.5	<0.1					
TPH	Petroleum Hydrocarbons, C10-C14	TPHC10_C14	<0.1	mg/L	<0.5	0.3					
TPH	Petroleum Hydrocarbons, C15-C28	TPHC15_C28	<0.1	mg/L	0.6	0.5					
TPH	Petroleum Hydrocarbons, C29-C36	TPHC29_C36	<0.1	mg/L	<0.5	<0.1					

Client: Monarc Environmental Pty Ltd

Report Number: 147853

Client Program Ref: LMK-993

Ecowise Program Ref: MONARC



LOR = Limit of reporting. When a reported LOR is higher than the standard LOR, this may be due to high moisture content, insufficient sample or matrix interference.

CAS Number = Chemistry Abstract Services Number. The analytical procedures in this report ( including in house methods ) are developed from internationally recognised procedures such as those published by USEPA, APHA and NEPM.

					Sample No.	2109492	2109493
					Client Sample ID	LLK-1 1/10 Digest 3	LLK-1 1/100 Digest 3
					Sample Date	05/03/10	05/03/10
					Sample Type	WATER	WATER
Analysis	Analyte	CAS #	LOR				
MS Total Metals	Arsenic	7440-38-2	<0.01	mg/L	0.14	0.72	
MS Total Metals	Cadmium	7440-43-9	<0.002	mg/L	0.009	0.038	
MS Total Metals	Copper	7440-50-8	<0.01	mg/L	9.9	51	
MS Total Metals	Lead	7439-92-1	<0.01	mg/L	21	19	
MS Total Metals	Mercury	7439-97-6	<0.001	mg/L	0.041	0.034	
MS Total Metals	Molybdenum	7439-98-7	<0.01	mg/L	0.07	0.19	
MS Total Metals	Nickel	7440-02-0	<0.01	mg/L	8.9	44	
MS Total Metals	Selenium	7782-49-2	<0.01	mg/L	0.11	0.95	
MS Total Metals	Silver	7440-22-4	<0.01	mg/L	<0.01	0.03	
MS Total Metals	Tin	7440-31-5	<0.01	mg/L	0.12	0.59	
MS Total Metals	Zinc	7440-66-6	<0.01	mg/L	6.0	27	

Client: Monarc Environmental Pty Ltd

Report Number: 147853

Client Program Ref: LMK-993

Ecowise Program Ref: MONARC



## QUALITY CONTROL - BLANKS

QC Blanks are an 'analyte free' matrix in which all applicable reagents have been added in the same proportion as in standard samples and are an internal monitor for laboratory contamination.

Lab Sample ID	Client Sample ID	Analysis	Analyte	Value	
2102647	QC - Blank	Cr 6+	Chromium 6+, as Cr	mg/L	<0.01
2103204	QC - Blank	Fluoride	Fluoride, as F	mg/L	<0.05
2108978	QC - Blank	pH	pH, units	Units	5.4
Lab Sample ID	Client Sample ID	Analysis	Analyte		
2103220	QC - Blank	MS Total Metals	Arsenic	mg/L	<0.001
2103220	QC - Blank	MS Total Metals	Cadmium	mg/L	<0.0002
2103220	QC - Blank	MS Total Metals	Copper	mg/L	<0.001
2103220	QC - Blank	MS Total Metals	Lead	mg/L	<0.001
2103220	QC - Blank	MS Total Metals	Mercury	mg/L	<0.0001
2103220	QC - Blank	MS Total Metals	Molybdenum	mg/L	<0.001
2103220	QC - Blank	MS Total Metals	Nickel	mg/L	<0.001
2103220	QC - Blank	MS Total Metals	Selenium	mg/L	<0.001
2103220	QC - Blank	MS Total Metals	Silver	mg/L	<0.001
2103220	QC - Blank	MS Total Metals	Tin	mg/L	<0.001
2103220	QC - Blank	MS Total Metals	Zinc	mg/L	<0.001
Lab Sample ID	Client Sample ID	Analysis	Analyte		
2105125	QC - Blank	MAH	Benzene	mg/L	<0.001
2105125	QC - Blank	MAH	Toluene	mg/L	<0.001
2105125	QC - Blank	MAH	Ethyl Benzene	mg/L	<0.001
2105125	QC - Blank	MAH	Xylenes	mg/L	<0.003
2105125	QC - Blank	MAH	Styrene	mg/L	<0.001
2105125	QC - Blank	MAH	Cumene	mg/L	<0.001
2105125	QC - Blank	MAH	1,2,4-Trimethylbenzene	mg/L	<0.001
2105925	QC - Blank	MAH	Benzene	mg/L	<0.001
2105925	QC - Blank	MAH	Toluene	mg/L	<0.001
2105925	QC - Blank	MAH	Ethyl Benzene	mg/L	<0.001
2105925	QC - Blank	MAH	Xylenes	mg/L	<0.003
2105925	QC - Blank	MAH	Styrene	mg/L	<0.001
2105925	QC - Blank	MAH	Cumene	mg/L	<0.001
2105925	QC - Blank	MAH	1,2,4-Trimethylbenzene	mg/L	<0.001



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Client Program Ref: LMK-993

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Lab Sample ID	Client Sample ID	Analysis	Analyte		Value
2103532	QC - Blank	TPH	Petroleum Hydrocarbons, C6-C9	mg/L	<0.1
2103532	QC - Blank	TPH	Petroleum Hydrocarbons, C10-C14	mg/L	<0.1
2103532	QC - Blank	TPH	Petroleum Hydrocarbons, C15-C28	mg/L	<0.1
2103532	QC - Blank	TPH	Petroleum Hydrocarbons, C29-C36	mg/L	<0.1
Lab Sample ID	Client Sample ID	Analysis	Analyte		
2104079	QC - Blank	PAH	Naphthalene	mg/L	<0.001
2104079	QC - Blank	PAH	Acenaphthylene	mg/L	<0.001
2104079	QC - Blank	PAH	Acenaphthene	mg/L	<0.001
2104079	QC - Blank	PAH	Fluorene	mg/L	<0.001
2104079	QC - Blank	PAH	Phenanthrene	mg/L	<0.001
2104079	QC - Blank	PAH	Anthracene	mg/L	<0.001
2104079	QC - Blank	PAH	Fluoranthene	mg/L	<0.001
2104079	QC - Blank	PAH	Pyrene	mg/L	<0.001
2104079	QC - Blank	PAH	Benz(a)anthracene	mg/L	<0.001
2104079	QC - Blank	PAH	Chrysene	mg/L	<0.001
2104079	QC - Blank	PAH	Benzo(b)fluoranthene	mg/L	<0.001
2104079	QC - Blank	PAH	Benzo(k)fluoroanthene	mg/L	<0.001
2104079	QC - Blank	PAH	Benzo(a)pyrene	mg/L	<0.001
2104079	QC - Blank	PAH	Dibenz(a,h)anthracene	mg/L	<0.001
2104079	QC - Blank	PAH	Benzo(g,h,i)perylene	mg/L	<0.001
2104079	QC - Blank	PAH	Indeno(1,2,3-cd)pyrene	mg/L	<0.001
2104079	QC - Blank	PAH	Total PAH	mg/L	<0.001
2105436	QC - Blank	PAH	Naphthalene	mg/L	<0.001
2105436	QC - Blank	PAH	Acenaphthylene	mg/L	<0.001
2105436	QC - Blank	PAH	Acenaphthene	mg/L	<0.001
2105436	QC - Blank	PAH	Fluorene	mg/L	<0.001
2105436	QC - Blank	PAH	Phenanthrene	mg/L	<0.001
2105436	QC - Blank	PAH	Anthracene	mg/L	<0.001
2105436	QC - Blank	PAH	Fluoranthene	mg/L	<0.001
2105436	QC - Blank	PAH	Pyrene	mg/L	<0.001
2105436	QC - Blank	PAH	Benz(a)anthracene	mg/L	<0.001
2105436	QC - Blank	PAH	Chrysene	mg/L	<0.001
2105436	QC - Blank	PAH	Benzo(b)fluoranthene	mg/L	<0.001
2105436	QC - Blank	PAH	Benzo(k)fluoroanthene	mg/L	<0.001
2105436	QC - Blank	PAH	Benzo(a)pyrene	mg/L	<0.001
2105436	QC - Blank	PAH	Dibenz(a,h)anthracene	mg/L	<0.001

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise

Client: Monarc Environmental Pty Ltd

Report Number: 147853

Client Program Ref: LMK-993

Ecowise Program Ref: MONARC



Lab Sample ID	Client Sample ID	Analysis	Analyte	mg/L	Value
2105436	QC - Blank	PAH	Benzo(g,h,i)perylene	mg/L	<0.001
2105436	QC - Blank	PAH	Indeno(1,2,3-cd)pyrene	mg/L	<0.001
2105436	QC - Blank	PAH	Total PAH	mg/L	<0.001
2104080	QC - Blank	OCP	BHC (alpha Isomer)	mg/L	<0.001
2104080	QC - Blank	OCP	Aldrin	mg/L	<0.001
2104080	QC - Blank	OCP	BHC (beta Isomer)	mg/L	<0.001
2104080	QC - Blank	OCP	cis-Chlordane	mg/L	<0.001
2104080	QC - Blank	OCP	trans-Chlordane	mg/L	<0.001
2104080	QC - Blank	OCP	BHC (delta Isomer)	mg/L	<0.001
2104080	QC - Blank	OCP	4,4-DDD	mg/L	<0.001
2104080	QC - Blank	OCP	4,4-DDE	mg/L	<0.001
2104080	QC - Blank	OCP	4,4-DDT	mg/L	<0.001
2104080	QC - Blank	OCP	Dieldrin	mg/L	<0.001
2104080	QC - Blank	OCP	Endosulfan I	mg/L	<0.001
2104080	QC - Blank	OCP	Endosulfan Sulfate	mg/L	<0.001
2104080	QC - Blank	OCP	Endrin Aldehyde	mg/L	<0.001
2104080	QC - Blank	OCP	Endrin	mg/L	<0.001
2104080	QC - Blank	OCP	Endrin Ketone	mg/L	<0.001
2104080	QC - Blank	OCP	Endosulfan II	mg/L	<0.001
2104080	QC - Blank	OCP	Hexachlorobenzene	mg/L	<0.001
2104080	QC - Blank	OCP	Heptachlor Epoxide	mg/L	<0.001
2104080	QC - Blank	OCP	Heptachlor	mg/L	<0.001
2104080	QC - Blank	OCP	Lindane (BHC gamma Isomer)	mg/L	<0.001
2104080	QC - Blank	OCP	Methoxychlor	mg/L	<0.001
2105437	QC - Blank	OCP	BHC (alpha Isomer)	mg/L	<0.001
2105437	QC - Blank	OCP	Aldrin	mg/L	<0.001
2105437	QC - Blank	OCP	BHC (beta Isomer)	mg/L	<0.001
2105437	QC - Blank	OCP	cis-Chlordane	mg/L	<0.001
2105437	QC - Blank	OCP	trans-Chlordane	mg/L	<0.001
2105437	QC - Blank	OCP	BHC (delta Isomer)	mg/L	<0.001
2105437	QC - Blank	OCP	4,4-DDD	mg/L	<0.001
2105437	QC - Blank	OCP	4,4-DDE	mg/L	<0.001
2105437	QC - Blank	OCP	4,4-DDT	mg/L	<0.001
2105437	QC - Blank	OCP	Dieldrin	mg/L	<0.001
2105437	QC - Blank	OCP	Endosulfan I	mg/L	<0.001
2105437	QC - Blank	OCP	Endosulfan Sulfate	mg/L	<0.001

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise

Client: Monarc Environmental Pty Ltd

Report Number: 147853

Client Program Ref: LMK-993

Ecowise Program Ref: MONARC



Lab Sample ID	Client Sample ID	Analysis	Analyte	Value	
2105437	QC - Blank	OCP	Endrin Aldehyde	mg/L	<0.001
2105437	QC - Blank	OCP	Endrin	mg/L	<0.001
2105437	QC - Blank	OCP	Endrin Ketone	mg/L	<0.001
2105437	QC - Blank	OCP	Endosulfan II	mg/L	<0.001
2105437	QC - Blank	OCP	Hexachlorobenzene	mg/L	<0.001
2105437	QC - Blank	OCP	Heptachlor Epoxide	mg/L	<0.001
2105437	QC - Blank	OCP	Heptachlor	mg/L	<0.001
2105437	QC - Blank	OCP	Lindane (BHC gamma Isomer)	mg/L	<0.001
2105437	QC - Blank	OCP	Methoxychlor	mg/L	<0.001
2104081	QC - Blank	PCBs	Aroclor 1016	mg/L	<0.001
2104081	QC - Blank	PCBs	Aroclor 1221	mg/L	<0.001
2104081	QC - Blank	PCBs	Aroclor 1232	mg/L	<0.001
2104081	QC - Blank	PCBs	Aroclor 1242	mg/L	<0.001
2104081	QC - Blank	PCBs	Aroclor 1248	mg/L	<0.001
2104081	QC - Blank	PCBs	Aroclor 1254	mg/L	<0.001
2104081	QC - Blank	PCBs	Aroclor 1260	mg/L	<0.001
2104081	QC - Blank	PCBs	Total PCB	mg/L	<0.001
2105438	QC - Blank	PCBs	Aroclor 1016	mg/L	<0.001
2105438	QC - Blank	PCBs	Aroclor 1221	mg/L	<0.001
2105438	QC - Blank	PCBs	Aroclor 1232	mg/L	<0.001
2105438	QC - Blank	PCBs	Aroclor 1242	mg/L	<0.001
2105438	QC - Blank	PCBs	Aroclor 1248	mg/L	<0.001
2105438	QC - Blank	PCBs	Aroclor 1254	mg/L	<0.001
2105438	QC - Blank	PCBs	Aroclor 1260	mg/L	<0.001
2105438	QC - Blank	PCBs	Total PCB	mg/L	<0.001
2104077	QC - Blank	CHC	1,2,3,4-Tetrachlorobenzene	mg/L	<0.001
2104077	QC - Blank	CHC	1,2,3,5-Tetrachlorobenzene	mg/L	<0.001
2104077	QC - Blank	CHC	1,2,3-Trichlorobenzene	mg/L	<0.001
2104077	QC - Blank	CHC	1,2,4,5-Tetrachlorobenzene	mg/L	<0.001
2104077	QC - Blank	CHC	1,2,4-Trichlorobenzene	mg/L	<0.001
2104077	QC - Blank	CHC	1,2-Dichlorobenzene	mg/L	<0.001
2104077	QC - Blank	CHC	1,3,5-Trichlorobenzene	mg/L	<0.001
2104077	QC - Blank	CHC	1,3-Dichlorobenzene	mg/L	<0.001
2104077	QC - Blank	CHC	1,4-Dichlorobenzene	mg/L	<0.001
2104077	QC - Blank	CHC	2-Chloronaphthalene	mg/L	<0.001

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise

Client: Monarc Environmental Pty Ltd

Report Number: 147853

Client Program Ref: LMK-993

Ecowise Program Ref: MONARC



Lab Sample ID	Client Sample ID	Analysis	Analyte	Value	
2104077	QC - Blank	CHC	Benzal Chloride	mg/L	<0.001
2104077	QC - Blank	CHC	Benzotrichloride	mg/L	<0.001
2104077	QC - Blank	CHC	Benzylchloride	mg/L	<0.001
2104077	QC - Blank	CHC	Hexachloroethane	mg/L	<0.001
2104077	QC - Blank	CHC	Hexachlorobutadiene	mg/L	<0.001
2104077	QC - Blank	CHC	Hexachlorocyclopentadiene	mg/L	<0.001
2104077	QC - Blank	CHC	Pentachlorobenzene	mg/L	<0.001
2105433	QC - Blank	CHC	1,2,3,4-Tetrachlorobenzene	mg/L	<0.001
2105433	QC - Blank	CHC	1,2,3,5-Tetrachlorobenzene	mg/L	<0.001
2105433	QC - Blank	CHC	1,2,3-Trichlorobenzene	mg/L	<0.001
2105433	QC - Blank	CHC	1,2,4,5-Tetrachlorobenzene	mg/L	<0.001
2105433	QC - Blank	CHC	1,2,4-Trichlorobenzene	mg/L	<0.001
2105433	QC - Blank	CHC	1,2-Dichlorobenzene	mg/L	<0.001
2105433	QC - Blank	CHC	1,3,5-Trichlorobenzene	mg/L	<0.001
2105433	QC - Blank	CHC	1,3-Dichlorobenzene	mg/L	<0.001
2105433	QC - Blank	CHC	1,4-Dichlorobenzene	mg/L	<0.001
2105433	QC - Blank	CHC	2-Chloronaphthalene	mg/L	<0.001
2105433	QC - Blank	CHC	Benzal Chloride	mg/L	<0.001
2105433	QC - Blank	CHC	Benzotrichloride	mg/L	<0.001
2105433	QC - Blank	CHC	Benzylchloride	mg/L	<0.001
2105433	QC - Blank	CHC	Hexachloroethane	mg/L	<0.001
2105433	QC - Blank	CHC	Hexachlorobutadiene	mg/L	<0.001
2105433	QC - Blank	CHC	Hexachlorocyclopentadiene	mg/L	<0.001
2105433	QC - Blank	CHC	Pentachlorobenzene	mg/L	<0.001
2104119	QC - Blank	Phenols(Halo)	4-Chloro-3-Methylphenol	mg/L	<0.001
2104119	QC - Blank	Phenols(Halo)	2-Chlorophenol	mg/L	<0.001
2104119	QC - Blank	Phenols(Halo)	2,4-Dichlorophenol	mg/L	<0.001
2104119	QC - Blank	Phenols(Halo)	2,6-Dichlorophenol	mg/L	<0.001
2104119	QC - Blank	Phenols(Halo)	Pentachlorophenol	mg/L	<0.001
2104119	QC - Blank	Phenols(Halo)	2,3,4,5-Tetrachlorophenol	mg/L	<0.001
2104119	QC - Blank	Phenols(Halo)	2,3,4,6-Tetrachlorophenol	mg/L	<0.001
2104119	QC - Blank	Phenols(Halo)	2,3,5,6-Tetrachlorophenol	mg/L	<0.001
2104119	QC - Blank	Phenols(Halo)	2,4,5-Trichlorophenol	mg/L	<0.001
2104119	QC - Blank	Phenols(Halo)	2,4,6-Trichlorophenol	mg/L	<0.001
2104119	QC - Blank	Phenols(Halo)	Total Phenols (Halogenated)	mg/L	<0.001
2104119	QC - Blank	Phenols(Halo)	Total Phenols (Halogenated)	mg/L	<0.001

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise

Client: Monarc Environmental Pty Ltd

Report Number: 147853

Client Program Ref: LMK-993

Ecowise Program Ref: MONARC



Lab Sample ID	Client Sample ID	Analysis	Analyte	mg/L	Value
2104113	QC - Blank	Phenols(NonHalo)	Phenol	mg/L	<0.001
2104113	QC - Blank	Phenols(NonHalo)	2-Methylphenol (O-Cresol)	mg/L	<0.001
2104113	QC - Blank	Phenols(NonHalo)	3-Methylphenol (M-Cresol)	mg/L	<0.001
2104113	QC - Blank	Phenols(NonHalo)	4-Methylphenol (P-Cresol)	mg/L	<0.001
2104113	QC - Blank	Phenols(NonHalo)	2,4-Dimethylphenol	mg/L	<0.001
2104113	QC - Blank	Phenols(NonHalo)	2-Nitrophenol	mg/L	<0.001
2104113	QC - Blank	Phenols(NonHalo)	4-Nitrophenol	mg/L	<0.001
2104113	QC - Blank	Phenols(NonHalo)	Total Phenols (non Halogenated)	mg/L	<0.001
2105121	QC - Blank	HVOL	1,1,1,2-Tetrachloroethane	mg/L	<0.001
2105121	QC - Blank	HVOL	1,1,2,2-Tetrachloroethane	mg/L	<0.001
2105121	QC - Blank	HVOL	1,1- Dichloroethane	mg/L	<0.001
2105121	QC - Blank	HVOL	1,1-Dichloroethene	mg/L	<0.001
2105121	QC - Blank	HVOL	1,1-Dichloropropene	mg/L	<0.001
2105121	QC - Blank	HVOL	1,2,3-Trichloropropane	mg/L	<0.001
2105121	QC - Blank	HVOL	1,2-Dibromo-3-chloropropane	mg/L	<0.001
2105121	QC - Blank	HVOL	1,2-Dibromoethane	mg/L	<0.001
2105121	QC - Blank	HVOL	1,2-Dichloroethene [cis]	mg/L	<0.001
2105121	QC - Blank	HVOL	1,2-Dichloroethene [trans]	mg/L	<0.001
2105121	QC - Blank	HVOL	1,2-Dichloroethane	mg/L	<0.001
2105121	QC - Blank	HVOL	1,2-Dichloropropane	mg/L	<0.0001
2105121	QC - Blank	HVOL	1,3-Dichloropropane	mg/L	<0.001
2105121	QC - Blank	HVOL	1,3-Dichloropropene [cis]	mg/L	<0.001
2105121	QC - Blank	HVOL	1,3-Dichloropropene [trans]	mg/L	<0.001
2105121	QC - Blank	HVOL	2,2-Dichloropropane	mg/L	<0.001
2105121	QC - Blank	HVOL	2-Chlorotoluene	mg/L	<0.001
2105121	QC - Blank	HVOL	4-Chlorotoluene	mg/L	<0.001
2105121	QC - Blank	HVOL	Bromochloromethane	mg/L	<0.001
2105121	QC - Blank	HVOL	Bromodichloromethane	mg/L	<0.001
2105121	QC - Blank	HVOL	Bromobenzene	mg/L	<0.001
2105121	QC - Blank	HVOL	Bromoform (Tribromomethane)	mg/L	<0.001
2105121	QC - Blank	HVOL	Carbon Tetrachloride	mg/L	<0.001
2105121	QC - Blank	HVOL	Chloroform (Trichloromethane)	mg/L	<0.001
2105121	QC - Blank	HVOL	Chlorobenzene	mg/L	<0.001
2105121	QC - Blank	HVOL	Dibromochloromethane	mg/L	<0.001
2105121	QC - Blank	HVOL	Dibromomethane	mg/L	<0.001
2105121	QC - Blank	HVOL	Dichloromethane	mg/L	<0.002

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise

Client: Monarc Environmental Pty Ltd

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Client Program Ref: LMK-993

Ecowise Program Ref: MONARC



					Value
2105121	QC - Blank	HVOL	Trichlorofluoromethane (CFC11)	mg/L	<0.002
2105121	QC - Blank	HVOL	Tetrachloroethene	mg/L	<0.001
2105121	QC - Blank	HVOL	Vinyl Chloride (Monomer)	mg/L	<0.002
2105121	QC - Blank	HVOL	1,1,1-Trichloroethane	mg/L	<0.001
2105121	QC - Blank	HVOL	1,1,2-Trichloroethane	mg/L	<0.001
2105121	QC - Blank	HVOL	Trichloroethene	mg/L	<0.001
2105923	QC - Blank	HVOL	1,1,1,2-Tetrachloroethane	mg/L	<0.001
2105923	QC - Blank	HVOL	1,1,2,2-Tetrachloroethane	mg/L	<0.001
2105923	QC - Blank	HVOL	1,1- Dichloroethane	mg/L	<0.001
2105923	QC - Blank	HVOL	1,1-Dichloroethene	mg/L	<0.001
2105923	QC - Blank	HVOL	1,1-Dichloropropene	mg/L	<0.001
2105923	QC - Blank	HVOL	1,2,3-Trichloropropane	mg/L	<0.001
2105923	QC - Blank	HVOL	1,2-Dibromo-3-chloropropane	mg/L	<0.001
2105923	QC - Blank	HVOL	1,2-Dibromoethane	mg/L	<0.001
2105923	QC - Blank	HVOL	1,2-Dichloroethene [cis]	mg/L	<0.001
2105923	QC - Blank	HVOL	1,2-Dichloroethene [trans]	mg/L	<0.001
2105923	QC - Blank	HVOL	1,2-Dichloroethane	mg/L	<0.001
2105923	QC - Blank	HVOL	1,2-Dichloropropane	mg/L	<0.001
2105923	QC - Blank	HVOL	1,3-Dichloropropane	mg/L	<0.001
2105923	QC - Blank	HVOL	1,3-Dichloropropene [cis]	mg/L	<0.001
2105923	QC - Blank	HVOL	1,3-Dichloropropene [trans]	mg/L	<0.001
2105923	QC - Blank	HVOL	2,2-Dichloropropane	mg/L	<0.001
2105923	QC - Blank	HVOL	2-Chlorotoluene	mg/L	<0.001
2105923	QC - Blank	HVOL	4-Chlorotoluene	mg/L	<0.001
2105923	QC - Blank	HVOL	Bromochloromethane	mg/L	<0.001
2105923	QC - Blank	HVOL	Bromodichloromethane	mg/L	<0.001
2105923	QC - Blank	HVOL	Bromobenzene	mg/L	<0.001
2105923	QC - Blank	HVOL	Bromoform (Tribromomethane)	mg/L	<0.001
2105923	QC - Blank	HVOL	Carbon Tetrachloride	mg/L	<0.001
2105923	QC - Blank	HVOL	Chloroform (Trichloromethane)	mg/L	<0.001
2105923	QC - Blank	HVOL	Chlorobenzene	mg/L	<0.001
2105923	QC - Blank	HVOL	Dibromochloromethane	mg/L	<0.001
2105923	QC - Blank	HVOL	Dibromomethane	mg/L	<0.001
2105923	QC - Blank	HVOL	Dichloromethane	mg/L	<0.002
2105923	QC - Blank	HVOL	Trichlorofluoromethane (CFC11)	mg/L	<0.002
2105923	QC - Blank	HVOL	Tetrachloroethene	mg/L	<0.001
2105923	QC - Blank	HVOL	Vinyl Chloride (Monomer)	mg/L	<0.002

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise

Client: Monarc Environmental Pty Ltd

Report Number: 147853

Client Program Ref: LMK-993

Ecowise Program Ref: MONARC



					Value
2105923	QC - Blank	HVOL	1,1,1-Trichloroethane	mg/L	<0.001
2105923	QC - Blank	HVOL	1,1,2-Trichloroethane	mg/L	<0.001
2105923	QC - Blank	HVOL	Trichloroethene	mg/L	<0.001

## QUALITY CONTROL - DUPLICATES

QC Data for duplicates is calculated on raw 'unrounded' values. Laboratory duplicates are randomly selected samples tested by the laboratory to maintain method precision and provide information on sample homogeneity.

RPD = Relative Percentage Difference for duplicate determinations. RPD's that fall outside the general acceptance criteria will be attributed to non-homogeneity of samples or results of low magnitudes.

Lab Sample ID	Client Sample ID	Analysis	Analyte		Sample Value	Duplicate Value	% RPD
2102601	NCP	Cyanide	Total Cyanide, as CN	mg/L	<0.03	<0.03	0
2102645	LLK-2	Cr 6+	Chromium 6+, as Cr	mg/L	<0.01	<0.01	0
2104155	NCP	Fluoride	Fluoride, as F	mg/L	0.90	0.91	1.7
2109827	NCP	pH	pH, units	Units	4.8	4.9	0.4
Lab Sample ID	Client Sample ID	Analysis	Analyte				
2103223	NCP	MS Total Metals	Arsenic	mg/L	0.002	0.002	3.7
2103223	NCP	MS Total Metals	Cadmium	mg/L	<0.0002	<0.0002	0
2103223	NCP	MS Total Metals	Copper	mg/L	0.007	0.007	0.6
2103223	NCP	MS Total Metals	Lead	mg/L	<0.001	<0.001	0
2103223	NCP	MS Total Metals	Mercury	mg/L	<0.0001	<0.0001	0
2103223	NCP	MS Total Metals	Molybdenum	mg/L	<0.001	<0.001	0
2103223	NCP	MS Total Metals	Nickel	mg/L	0.001	0.001	3.9
2103223	NCP	MS Total Metals	Selenium	mg/L	<0.001	<0.001	0
2103223	NCP	MS Total Metals	Silver	mg/L	<0.001	<0.001	0
2103223	NCP	MS Total Metals	Tin	mg/L	<0.001	<0.001	0
2103223	NCP	MS Total Metals	Zinc	mg/L	0.001	0.001	2.8
Lab Sample ID	Client Sample ID	Analysis	Analyte				
2105124	NCP	MAH	Benzene	mg/L	<0.001	<0.001	0
2105124	NCP	MAH	Toluene	mg/L	<0.001	<0.001	0
2105124	NCP	MAH	Ethyl Benzene	mg/L	<0.001	<0.001	0
2105124	NCP	MAH	Xylenes	mg/L	<0.003	<0.003	0
2105124	NCP	MAH	Styrene	mg/L	<0.001	<0.001	0
2105124	NCP	MAH	Cumene	mg/L	<0.001	<0.001	0
2105124	NCP	MAH	1,2,4-Trimethylbenzene	mg/L	<0.001	<0.001	0
2105924	NCP	MAH	Benzene	mg/L	3.3	3.2	0.7

Client: Monarc Environmental Pty Ltd

Report Number: 147853

Client Program Ref: LMK-993

Ecowise Program Ref: MONARC



				Sample Value	Duplicate Value	% RPD	
2105924	NCP	MAH	Toluene	mg/L	1.2	1.2	0.8
2105924	NCP	MAH	Ethyl Benzene	mg/L	<0.1	<0.1	0
2105924	NCP	MAH	Xylenes	mg/L	0.74	0.72	1.9
2105924	NCP	MAH	Styrene	mg/L	<0.1	<0.1	0
2105924	NCP	MAH	Cumene	mg/L	<0.1	<0.1	0
2105924	NCP	MAH	1,2,4-Trimethylbenzene	mg/L	0.11	0.11	1.8
Lab Sample ID	Client Sample ID	Analysis	Analyte				
2103529	NCP	TPH	Petroleum Hydrocarbons, C6-C9	mg/L	<0.1	<0.1	0
2103529	NCP	TPH	Petroleum Hydrocarbons, C10-C14	mg/L	<0.1	<0.1	0
2103529	NCP	TPH	Petroleum Hydrocarbons, C15-C28	mg/L	0.2	0.1	15.4
2103529	NCP	TPH	Petroleum Hydrocarbons, C29-C36	mg/L	<0.1	<0.1	0
Lab Sample ID	Client Sample ID	Analysis	Analyte				
2105435	NCP	PAH	Naphthalene	mg/L	<0.001	<0.001	0
2105435	NCP	PAH	Acenaphthylene	mg/L	<0.001	<0.001	0
2105435	NCP	PAH	Acenaphthene	mg/L	<0.001	<0.001	0
2105435	NCP	PAH	Fluorene	mg/L	<0.001	<0.001	0
2105435	NCP	PAH	Phenanthrene	mg/L	<0.001	<0.001	0
2105435	NCP	PAH	Anthracene	mg/L	<0.001	<0.001	0
2105435	NCP	PAH	Fluoranthene	mg/L	<0.001	<0.001	0
2105435	NCP	PAH	Pyrene	mg/L	<0.001	<0.001	0
2105435	NCP	PAH	Benz(a)anthracene	mg/L	<0.001	<0.001	0
2105435	NCP	PAH	Chrysene	mg/L	<0.001	<0.001	0
2105435	NCP	PAH	Benzo(b)fluoranthene	mg/L	<0.001	<0.001	0
2105435	NCP	PAH	Benzo(k)fluoroanthene	mg/L	<0.001	<0.001	0
2105435	NCP	PAH	Benzo(a)pyrene	mg/L	<0.001	<0.001	0
2105435	NCP	PAH	Dibenz(a,h)anthracene	mg/L	<0.001	<0.001	0
2105435	NCP	PAH	Benzo(g,h,i)perylene	mg/L	<0.001	<0.001	0
2105435	NCP	PAH	Indeno(1,2,3-cd)pyrene	mg/L	<0.001	<0.001	0
2105435	NCP	PAH	Total PAH	mg/L	<0.001	<0.001	0
Lab Sample ID	Client Sample ID	Analysis	Analyte				
2104076	NCP	CHC	1,2,3,4-Tetrachlorobenzene	mg/L	<0.001	<0.001	0
2104076	NCP	CHC	1,2,3,5-Tetrachlorobenzene	mg/L	<0.001	<0.001	0
2104076	NCP	CHC	1,2,3-Trichlorobenzene	mg/L	<0.001	<0.001	0
2104076	NCP	CHC	1,2,4,5-Tetrachlorobenzene	mg/L	<0.001	<0.001	0
2104076	NCP	CHC	1,2,4-Trichlorobenzene	mg/L	<0.001	<0.001	0
2104076	NCP	CHC	1,2-Dichlorobenzene	mg/L	<0.001	<0.001	0
2104076	NCP	CHC	1,3,5-Trichlorobenzene	mg/L	<0.001	<0.001	0

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise



Client: Monarc Environmental Pty Ltd

Report Number: 147853

Client Program Ref: LMK-993

Ecowise Program Ref: MONARC



				Sample Value	Duplicate Value	% RPD	
2104076	NCP	CHC	1,3-Dichlorobenzene	mg/L	<0.001	<0.001	0
2104076	NCP	CHC	1,4-Dichlorobenzene	mg/L	<0.001	<0.001	0
2104076	NCP	CHC	2-Chloronaphthalene	mg/L	<0.001	<0.001	0
2104076	NCP	CHC	Benzal Chloride	mg/L	<0.001	<0.001	0
2104076	NCP	CHC	Benzotrichloride	mg/L	<0.001	<0.001	0
2104076	NCP	CHC	Benzylchloride	mg/L	<0.001	<0.001	0
2104076	NCP	CHC	Hexachloroethane	mg/L	<0.001	<0.001	0
2104076	NCP	CHC	Hexachlorobutadiene	mg/L	<0.001	<0.001	0
2104076	NCP	CHC	Hexachlorocyclopentadiene	mg/L	<0.001	<0.001	0
2104076	NCP	CHC	Pentachlorobenzene	mg/L	<0.001	<0.001	0
Lab Sample ID	Client Sample ID	Analysis	Analyte				
2104114	NCP	Phenols(Halo)	4-Chloro-3-Methylphenol	mg/L	<0.001	<0.001	0
2104114	NCP	Phenols(Halo)	2-Chlorophenol	mg/L	<0.001	<0.001	0
2104114	NCP	Phenols(Halo)	2,4-Dichlorophenol	mg/L	<0.001	<0.001	0
2104114	NCP	Phenols(Halo)	2,6-Dichlorophenol	mg/L	<0.001	<0.001	0
2104114	NCP	Phenols(Halo)	Pentachlorophenol	mg/L	<0.001	<0.001	0
2104114	NCP	Phenols(Halo)	2,3,4,5-Tetrachlorophenol	mg/L	<0.001	<0.001	0
2104114	NCP	Phenols(Halo)	2,3,4,6-Tetrachlorophenol	mg/L	<0.001	<0.001	0
2104114	NCP	Phenols(Halo)	2,3,5,6-Tetrachlorophenol	mg/L	<0.001	<0.001	0
2104114	NCP	Phenols(Halo)	2,4,5-Trichlorophenol	mg/L	<0.001	<0.001	0
2104114	NCP	Phenols(Halo)	2,4,6-Trichlorophenol	mg/L	<0.001	<0.001	0
2104114	NCP	Phenols(Halo)	Total Phenols (Halogenated)	mg/L	<0.001	<0.001	0
Lab Sample ID	Client Sample ID	Analysis	Analyte				
2104111	NCP	Phenols(NonHalo)	Phenol	mg/L	<0.001	<0.001	0
2104111	NCP	Phenols(NonHalo)	2-Methylphenol (O-Cresol)	mg/L	<0.001	<0.001	0
2104111	NCP	Phenols(NonHalo)	3-Methylphenol (M-Cresol)	mg/L	<0.001	<0.001	0
2104111	NCP	Phenols(NonHalo)	4-Methylphenol (P-Cresol)	mg/L	<0.001	<0.001	0
2104111	NCP	Phenols(NonHalo)	2,4-Dimethylphenol	mg/L	<0.001	<0.001	0
2104111	NCP	Phenols(NonHalo)	2-Nitrophenol	mg/L	<0.001	<0.001	0
2104111	NCP	Phenols(NonHalo)	4-Nitrophenol	mg/L	<0.001	<0.001	0
2104111	NCP	Phenols(NonHalo)	Total Phenols (non Halogenated)	mg/L	<0.001	<0.001	0
Lab Sample ID	Client Sample ID	Analysis	Analyte				
2105119	NCP	HVOL	1,1,1,2-Tetrachloroethane	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	1,1,2,2-Tetrachloroethane	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	1,1-Dichloroethane	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	1,1-Dichloroethene	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	1,1-Dichloropropene	mg/L	<0.001	<0.001	0

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise

Client: Monarc Environmental Pty Ltd

Report Number: 147853

Client Program Ref: LMK-993

Ecowise Program Ref: MONARC



					Sample Value	Duplicate Value	% RPD
2105119	NCP	HVOL	1,2,3-Trichloropropane	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	1,2-Dibromo-3-chloropropane	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	1,2-Dibromoethane	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	1,2-Dichloroethene [cis]	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	1,2-Dichloroethene [trans]	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	1,2-Dichloroethane	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	1,2-Dichloropropane	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	1,3-Dichloropropane	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	1,3-Dichloropropene [cis]	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	1,3-Dichloropropene [trans]	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	2,2-Dichloropropane	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	2-Chlorotoluene	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	4-Chlorotoluene	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	Bromochloromethane	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	Bromodichloromethane	mg/L	0.017	0.018	3.1
2105119	NCP	HVOL	Bromobenzene	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	Bromoform (Tribromomethane)	mg/L	0.006	0.006	0.7
2105119	NCP	HVOL	Carbon Tetrachloride	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	Chloroform (Trichloromethane)	mg/L	0.53	0.52	2.1
2105119	NCP	HVOL	Chlorobenzene	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	Dibromochloromethane	mg/L	0.007	0.007	2.3
2105119	NCP	HVOL	Dibromomethane	mg/L	0.001	0.001	2.0
2105119	NCP	HVOL	Dichloromethane	mg/L	0.003	0.003	2.3
2105119	NCP	HVOL	Trichlorofluoromethane (CFC11)	mg/L	<0.002	<0.002	0
2105119	NCP	HVOL	Tetrachloroethene	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	Vinyl Chloride (Monomer)	mg/L	<0.002	<0.002	0
2105119	NCP	HVOL	1,1,1-Trichloroethane	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	1,1,2-Trichloroethane	mg/L	<0.001	<0.001	0
2105119	NCP	HVOL	Trichloroethene	mg/L	<0.001	<0.001	0
2105922	NCP	HVOL	1,1,1,2-Tetrachloroethane	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	1,1,2,2-Tetrachloroethane	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	1,1-Dichloroethane	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	1,1-Dichloroethene	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	1,1-Dichloropropene	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	1,2,3-Trichloropropane	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	1,2-Dibromo-3-chloropropane	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	1,2-Dibromoethane	mg/L	<0.1	<0.1	0

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise

Client: Monarc Environmental Pty Ltd

Report Number: 147853

Client Program Ref: LMK-993

Ecowise Program Ref: MONARC



					Sample Value	Duplicate Value	% RPD
2105922	NCP	HVOL	1,2-Dichloroethene [cis]	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	1,2-Dichloroethene [trans]	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	1,2-Dichloroethane	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	1,2-Dichloropropane	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	1,3-Dichloropropane	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	1,3-Dichloropropene [cis]	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	1,3-Dichloropropene [trans]	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	2,2-Dichloropropane	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	2-Chlorotoluene	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	4-Chlorotoluene	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	Bromochloromethane	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	Bromodichloromethane	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	Bromobenzene	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	Bromoform (Tribromomethane)	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	Carbon Tetrachloride	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	Chloroform (Trichloromethane)	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	Chlorobenzene	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	Dibromochloromethane	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	Dibromomethane	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	Dichloromethane	mg/L	<0.2	<0.2	0
2105922	NCP	HVOL	Trichlorofluoromethane (CFC11)	mg/L	<0.2	<0.2	0
2105922	NCP	HVOL	Tetrachloroethene	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	Vinyl Chloride (Monomer)	mg/L	<0.2	<0.2	0
2105922	NCP	HVOL	1,1,1-Trichloroethane	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	1,1,2-Trichloroethane	mg/L	<0.1	<0.1	0
2105922	NCP	HVOL	Trichloroethene	mg/L	<0.1	<0.1	0

## QUALITY CONTROL - SPIKES

QC Data for spikes is calculated on raw 'unrounded' values. Laboratory spikes are randomly selected samples in which the analytes in question have been artificially introduced and recovered via standard analysis and are used to provide information on potential matrix effects on analyte recoveries.

Spike recoveries that fall outside the general acceptance criteria will be attributed to sample matrix interference or results of high magnitudes.

NCP: Non-Customer Parent (sample quality is representative of the analytical batch but the sample that was QC tested belongs to a customer not pertaining to the report.)

Client: Monarc Environmental Pty Ltd

Report Number: 147853

Client Program Ref: LMK-993

Ecowise Program Ref: MONARC



Lab Sample ID	Client Sample ID	Analysis	Analyte	mg/L	Sample Value	Expected Value	% Recovery
2102594	LLK-2	Cyanide	Total Cyanide, as CN	mg/L	0.015	0.11	94.7
2102638	LLK-2	Cr 6+	Chromium 6+, as Cr	mg/L	<0.01	0.41	96.3
Lab Sample ID	Client Sample ID	Analysis	Analyte	mg/L	Sample Value	Expected Value	% Recovery
2103222	NCP	MS Total Metals	Arsenic	mg/L	<0.001	0.040	102
2103222	NCP	MS Total Metals	Cadmium	mg/L	<0.0002	0.040	105
2103222	NCP	MS Total Metals	Copper	mg/L	<0.001	0.040	85.1
2103222	NCP	MS Total Metals	Lead	mg/L	<0.001	0.040	100
2103222	NCP	MS Total Metals	Molybdenum	mg/L	<0.001	0.040	100
2103222	NCP	MS Total Metals	Nickel	mg/L	<0.001	0.040	90.2
2103222	NCP	MS Total Metals	Selenium	mg/L	<0.001	0.040	114
2103222	NCP	MS Total Metals	Silver	mg/L	<0.001	0.020	82.8
2103222	NCP	MS Total Metals	Tin	mg/L	<0.001	0.040	106
2103222	NCP	MS Total Metals	Zinc	mg/L	0.002	0.042	104
Lab Sample ID	Client Sample ID	Analysis	Analyte	mg/L	Sample Value	Expected Value	% Recovery
2105123	NCP	MAH	Benzene	mg/L	<0.001	0.019	103
2105123	NCP	MAH	Toluene	mg/L	<0.001	0.019	105
2105123	NCP	MAH	Ethyl Benzene	mg/L	<0.001	0.019	105
2105123	NCP	MAH	Xylenes	mg/L	<0.003	0.056	107
2105123	NCP	MAH	Styrene	mg/L	<0.001	0.019	104
2105123	NCP	MAH	Cumene	mg/L	<0.001	0.019	107
2105123	NCP	MAH	1,2,4-Trimethylbenzene	mg/L	<0.001	0.019	103
Lab Sample ID	Client Sample ID	Analysis	Analyte	mg/L	Sample Value	Expected Value	% Recovery
2103530	NCP	TPH	Petroleum Hydrocarbons, C15-C28	mg/L	0.2	1.4	83.1
Lab Sample ID	Client Sample ID	Analysis	Analyte	mg/L	Sample Value	Expected Value	% Recovery
2104118	NCP	Phenols(Halo)	4-Chloro-3-Methylphenol	mg/L	<0.001	0.033	95.0
2104118	NCP	Phenols(Halo)	2-Chlorophenol	mg/L	<0.001	0.033	94.0
2104118	NCP	Phenols(Halo)	2,4-Dichlorophenol	mg/L	<0.001	0.033	95.0
2104118	NCP	Phenols(Halo)	2,6-Dichlorophenol	mg/L	<0.001	0.033	96.0
2104118	NCP	Phenols(Halo)	Pentachlorophenol	mg/L	<0.001	0.033	85.0
2104118	NCP	Phenols(Halo)	2,3,4,6-Tetrachlorophenol	mg/L	<0.001	0.033	94.0
2104118	NCP	Phenols(Halo)	2,4,5-Trichlorophenol	mg/L	<0.001	0.033	92.0
2104118	NCP	Phenols(Halo)	2,4,6-Trichlorophenol	mg/L	<0.001	0.033	91.0
Lab Sample ID	Client Sample ID	Analysis	Analyte	mg/L	Sample Value	Expected Value	% Recovery
2104112	NCP	Phenols(NonHalo)	Phenol	mg/L	<0.001	0.033	81.0
2104112	NCP	Phenols(NonHalo)	2-Methylphenol (O-Cresol)	mg/L	<0.001	0.033	91.0
2104112	NCP	Phenols(NonHalo)	3-Methylphenol (M-Cresol)	mg/L	<0.001	0.033	87.0

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise

Client: Monarc Environmental Pty Ltd

Report Number: 147853

Client Program Ref: LMK-993

Ecowise Program Ref: MONARC



					Sample Value	Expected Value	% Recovery
2104112	NCP	Phenols(NonHalo)	4-Methylphenol (P-Cresol)	mg/L	<0.001	0.033	101
2104112	NCP	Phenols(NonHalo)	2,4-Dimethylphenol	mg/L	<0.001	0.033	89.0
2104112	NCP	Phenols(NonHalo)	2-Nitrophenol	mg/L	<0.001	0.033	87.0
2104112	NCP	Phenols(NonHalo)	4-Nitrophenol	mg/L	<0.001	0.033	81.0
Lab Sample ID	Client Sample ID	Analysis	Analyte				
2105118	NCP	HVOL	1,1,1,2-Tetrachloroethane	mg/L	<0.001	0.019	94.5
2105118	NCP	HVOL	1,1,2,2-Tetrachloroethane	mg/L	<0.001	0.019	105
2105118	NCP	HVOL	1,1- Dichloroethane	mg/L	<0.001	0.019	101
2105118	NCP	HVOL	1,1-Dichloroethene	mg/L	<0.001	0.019	101
2105118	NCP	HVOL	1,1-Dichloropropene	mg/L	<0.001	0.019	103
2105118	NCP	HVOL	1,2,3-Trichloropropane	mg/L	<0.001	0.019	108
2105118	NCP	HVOL	1,2-Dibromo-3-chloropropane	mg/L	<0.001	0.019	94.9
2105118	NCP	HVOL	1,2-Dibromoethane	mg/L	<0.001	0.019	101
2105118	NCP	HVOL	1,2-Dichloroethene [cis]	mg/L	<0.001	0.019	98.9
2105118	NCP	HVOL	1,2-Dichloroethene [trans]	mg/L	<0.001	0.019	99.3
2105118	NCP	HVOL	1,2-Dichloroethane	mg/L	<0.001	0.019	105
2105118	NCP	HVOL	1,2-Dichloropropane	mg/L	<0.001	0.019	102
2105118	NCP	HVOL	1,3-Dichloropropane	mg/L	<0.001	0.019	106
2105118	NCP	HVOL	1,3-Dichloropropene [cis]	mg/L	<0.001	0.019	91.7
2105118	NCP	HVOL	1,3-Dichloropropene [trans]	mg/L	<0.001	0.019	90.4
2105118	NCP	HVOL	2,2-Dichloropropane	mg/L	<0.001	0.019	88.0
2105118	NCP	HVOL	2-Chlorotoluene	mg/L	<0.001	0.019	102
2105118	NCP	HVOL	4-Chlorotoluene	mg/L	<0.001	0.019	104
2105118	NCP	HVOL	Bromochloromethane	mg/L	<0.001	0.019	105
2105118	NCP	HVOL	Bromodichloromethane	mg/L	<0.001	0.019	98.6
2105118	NCP	HVOL	Bromobenzene	mg/L	<0.001	0.019	105
2105118	NCP	HVOL	Bromoform (Tribromomethane)	mg/L	<0.001	0.019	99.5
2105118	NCP	HVOL	Carbon Tetrachloride	mg/L	<0.001	0.019	101
2105118	NCP	HVOL	Chloroform (Trichloromethane)	mg/L	<0.001	0.019	105
2105118	NCP	HVOL	Chlorobenzene	mg/L	<0.001	0.019	104
2105118	NCP	HVOL	Dibromochloromethane	mg/L	<0.001	0.019	98.9
2105118	NCP	HVOL	Dibromomethane	mg/L	<0.001	0.019	104
2105118	NCP	HVOL	Dichloromethane	mg/L	<0.002	0.019	105
2105118	NCP	HVOL	Trichlorofluoromethane (CFC11)	mg/L	<0.002	0.019	108
2105118	NCP	HVOL	Tetrachloroethene	mg/L	<0.001	0.019	108
2105118	NCP	HVOL	Vinyl Chloride (Monomer)	mg/L	<0.002	0.019	95.2
2105118	NCP	HVOL	1,1,1-Trichloroethane	mg/L	<0.001	0.019	97.2

Samples tested as received. A blank space indicates no test performed. Soil results expressed in mg/kg dry weight unless specified otherwise



Client: Monarc Environmental Pty Ltd

Report Number: 147853

Client Program Ref: LMK-993

Ecowise Program Ref: MONARC

					Sample Value	Expected Value	% Recovery
2105118	NCP	HVOL	1,1,2-Trichlorethane	mg/L	<0.001	0.019	107
2105118	NCP	HVOL	Trichloroethene	mg/L	<0.001	0.019	103

**CHAIN OF CUSTODY**

10-09076



Project Number: LMK-993

Project Name: Slurry Sampling

COC Number: LKM99325021001

Client Company: LM & LM Knight Pty Ltd

Location: West Heidelberg

Consultant Name & Email Address:

Stuart Derham (stuart.d@monarcenviro.com.au)

Monarc Environmental Pty Ltd  
Suite 3  
255 Whitehorse Road  
BALWYN VIC 3103  
Phone : 03 8809 1800  
Fax : 03 9836 0801  
Email : mail@monarcenviro.com.au

Client Providing Samples:

Standard laboratory detection limits as per quote										
EPA Screen 448.3	Suite 6	Asbestos	MAH	Phenols, total / Phenolics, total	Phenolics, speciated / Phenols & Cresols	METALS Screen (24)	Heavy Metal Screen (see below)	Other Analytes		
✓										
✓							✓			

Please provide report in the following format(s):  
- PDF (pdf)  
- Excel (xls/csv)  
- ESDAT (csv)

LOCATION REFERENCE	SAMPLE			CONTAINER		PRESERVATIVE	SAMPLED BY
	DATE	TIME	MATRIX *	TYPE	SIZE		
LLK-1	25/2	11:00	S/W	Plastic	1L	Ice	SD
LLK-2	25/2	11:00	S/W	Plastic	1L	Ice	SD

Turn-Around-Time (TAT)  
REMARKS/SPECIFIC INSTRUCTIONS

RELINQUISHED BY	TO	DATE	TIME
Stuart	Muttal GRL	25/2/10	11:45

TRANSFER TO LABORATORY BY	TO	DATE	TIME

LABORATORY:-  
Ecowise

METHOD OF SAMPLE REMOVAL: Hand  
 SAMPLES REMOVED BY: S. Derham

QUOTE NUMBER:-

Al	Sb	As	B	Be	Cd	Cr	Co	Cu	Fe	Pb	
Mn	Mo	Ni	Se	Ag	Sr	Tl	Sn	Ti	V	Zn	Hg

\* MATRIX : (S) soil; (W) water; (G) gas