Urban Environmental Consultants Pty Ltd

BOREHOLE LOG

BOREHOLE No.: BH2

Sheet 1 of 1

Client: *Meriton Apartments Pty Ltd*
Project: *ESA*
Location: *Bonar Street Precinct, Arncliffe*

Job Number:
Contractor: *Ability Plus*
Logged by: *PF*

Borehole diam.: 50mm
Commenced: 28/08/04

Borehole Depth: 3.0m
Completed: 28/08/04

Method	Water	Monitor Well Details	Depth	Sample Type / ID	PID (ppm)	Graphic Log	GEOLOGICAL DESCRIPTION Material Type: USCS Group, Colour, Particle Size, Moisture Content, Consistency (Geologic Origin)	COMMENTS (Field Rank, Odour, Visual Blow Count, Other
			0					
							Concrete Surface	
				BH2 0.2	0.1		FILL: Sand and gravel mix, grey, red brown and cream sandstone and brick gravel pieces up to 2cm, dry.	
							CLAY: brown with some red mottling, moderate plasticity, firm to soft, damp.	
			1	BH2 1.0	0.2		SAND: grey, well sorted, medium to fine grained, damp with <10% clays.	
SV								
			2	BH2 2.0	0.4		SAND: Black organic, soft, loose, loamy with 10-20% silts and clays.	
			3	BH2 3.0	0.2		SAND: grey, saturated, medium coarse grained with <10% clay content.	
							Borehole ceased at 3.0m	

Method
SV Solid Flight Auger with V-bit

Urban Environmental Consultants Pty Ltd

BOREHOLE LOG

BOREHOLE No.: BH3

Sheet 1 of 1

Client: *Meriton Apartments Pty Ltd*
Project: *ESA*
Location: *Bonar Street Precinct, Arncliffe*

Job Number:
Contractor: *Ability Plus*
Logged by: *PF*

Borehole diam.: 50mm
Commenced: 28/08/04

Borehole Depth: 3.0m
Completed: 28/08/04

Method	Water	Monitor Well Details	Depth	Sample Type / ID	PID (ppm)	Graphic Log	GEOLOGICAL DESCRIPTION Material Type: USCS Group, Colour, Particle Size, Moisture Content, Consistency (Geologic Origin)	COMMENTS (Field Rank, Odour, Visual Blow Count, Other
			0					
							Bitumen Surface	
				BH3 0.2	2.2		FILL: Sandy gravelly mix of brown and grey.	
				BH3 0.5	4		SAND: Dark grey organic with 10% silt and clay, loamy, sof.t, well sorted, dry	Hydrocarbon odour QC1 duplicate sample obtained
			1	BH3 1.0	2		SAND: yellow brown, fine to medium grained, soft with 10-20% silts and clay, dry.	
SV			2	BH3 2.0	7.7		SANDY CLAY: Red and grey mottled, tight, firm to soft, (30% sand, 10% silt, 60% clay), damp.	Hydrocarbon odour
			3	BH3 3.0	5.9		As above with more grey mottling	
							Borehole ceased at 3.0m	

Method
SV Solid Flight Auger with V-bit

Urban Environmental Consultants Pty Ltd

BOREHOLE LOG

BOREHOLE No.: BH4

Sheet 1 of 1

Client: *Meriton Apartments Pty Ltd*
Project: *ESA*
Location: *Bonar Street Precinct, Arncliffe*

Job Number:
Contractor: *Ability Plus*
Logged by: *PF*

Borehole diam.: 50mm
Commenced: 28/08/04

Borehole Depth: 3.0m
Completed: 28/08/04

Method	Water	Monitor Well Details	Depth	Sample Type / ID	PID (ppm)	Graphic Log	GEOLOGICAL DESCRIPTION Material Type: USCS Group, Colour, Particle Size, Moisture Content, Consistency (Geologic Origin)	COMMENTS (Field Rank, Odour, Visual Blow Count, Other
			0					
							Garden Surface	
							FILL: Sandy gravelly mix of brown, grey and white sandstone speckles. Gravels up to 3cm.	
				BH4 0.5	1.2			
			1	BH4 1.0	0.2		As above	
SV								
			2	BH4 2.0	0.4		CLAYEY SAND: grey, wet, medium grained, well sorted with 20% clay content.	
			3	BH4 3.0	0.2		As above but saturated	
							Borehole ceased at 3.0m	

Method
SV Solid Flight Auger with V-bit

Urban Environmental Consultants Pty Ltd

BOREHOLE LOG

BOREHOLE No.: BH5

Sheet 1 of 1

Client: *Meriton Apartments Pty Ltd*
Project: *ESA*
Location: *Bonar Street Precinct, Arncliffe*

Job Number:
Contractor: *Ability Plus*
Logged by: *PF*

Borehole diam.: 50mm
Commenced: 28/08/04

Borehole Depth: 3.0m
Completed: 28/08/04

Method	Water	Monitor Well Details	Depth	Sample Type / ID	PID (ppm)	Graphic Log	GEOLOGICAL DESCRIPTION Material Type: USCS Group, Colour, Particle Size, Moisture Content, Consistency (Geologic Origin)	COMMENTS (Field Rank, Odour, Visual Blow Count, Other
			0					
							Concrete Surface	
							FILL: sand and gravel beneath concrete	
				BH5 0.5	0.2		SAND: Black organic, loamy, damp, with some gravel pieces from overlying fill.	
			1	BH5 1.0	0.2		SAND: dark grey, fine grained with <10% clays and 20% silt, soft, loose, moist.	
SV								
			2	BH5 2.0	0.3		CLAYEY SAND: dark grey, soft, wet, medium grained, well sorted with 30% clay, 20% silt and 50% sand.	
			3	BH5 3.0	0.2		As above but saturated	
							Borehole ceased at 3.0m	

Method
SV Solid Flight Auger with V-bit

Urban Environmental Consultants Pty Ltd

BOREHOLE LOG

BOREHOLE No.: BH6/MW1

Sheet 1 of 1

Client: *Meriton Apartments Pty Ltd*
Project: *ESA*
Location: *Bonar Street Precinct, Arncliffe*

Job Number:
Contractor: *Ability Plus*
Logged by: *PF*

Borehole diam.: 50mm
Commenced: 28/08/04

Borehole Depth: 4.5m
Completed: 28/08/04

Method	Water	Monitor Well Details	Depth	Sample Type / ID	PID (ppm)	Graphic Log	GEOLOGICAL DESCRIPTION Material Type: USCS Group, Colour, Particle Size, Moisture Content, Consistency (Geologic Origin)	COMMENTS (Field Rank, Odour, Visual Blow Count, Other
			0					
		Cap					Grass Surface FILL: Yellow brown, medium grained, well sorted sand.	***Water Sample MW1 obtained***
				BH6 0.5	0.6			
		Bentonite Seal						
		Blank 0m to 1.5m	1	BH6 1.0	0.4		SAND: grey, moist, loose, medium grained, well sorted, with <10% silt and clay	
SV		*Slotted Screen 1.5m to 4.5m 2.5mm sand pack*						
			2	BH6 2.0	0.2		As above, lighter grey and wet	
			3	BH6 3.0	0.2		CLAYEY SAND: dark grey, soft, medium grained, well sorted with 30% clay, 20% silt and 50% sand, saturated.	
SV			4					
				BH6 4.0	0.2		As above	
		End Cap					Borehole ceased at 4.5m	

Method
SV Solid Flight Auger with V-bit

Urban Environmental Consultants Pty Ltd

BOREHOLE LOG

BOREHOLE No.: BH7

Sheet 1 of 1

Client:	*Meriton Apartments Pty Ltd*	Job Number:	*SJ259*
Project:	*Phase II Environmental Site Assessment*	Contractor:	*Ability Plus*
Location:	*Loftus and Bonar Streets Arncliffe*	Logged by:	*PF*

Borehole diam.:	50mm	Borehole Depth:	2.0m
Commenced:	09/08/05	Completed:	09/08/05

Method	Water	Monitor Well Details	Depth	Sample Type / ID	PID (ppm)	Graphic Log	GEOLOGICAL DESCRIPTION Material Type: USCS Group, Colour, Particle Size, Moisture Content, Consistency (Geologic Origin)	COMMENTS (Field Rank, Odour, Visual Blow Count, Other
			0					
							15cm Concrete surface.	
							Fill - mix of sand and sandstone pieces, grey, pinky brown and cream mottled.	
				BH7-0.5	0			
							Sand - grey brown, damp, soft, loose, fine to medium grains, well sorted quartz grains.	
			1					
SV							Water table at 1.8m.	
			2		0		As above - medium to coarse grains, wet.	
							Drilling terminated at 2.0m.	Method SV Solid Flight Auger with V-bit
			3					

Urban Environmental Consultants Pty Ltd

BOREHOLE LOG

BOREHOLE No.: BH8

Sheet 1 of 1

Client:	*Meriton Apartments Pty Ltd*	Job Number:	*SJ259*
Project:	*Phase II Environmental Site Assessment*	Contractor:	*Ability Plus*
Location:	*Loftus and Bonar Streets Arncliffe*	Logged by:	*PF*

Borehole diam.:	50mm	Borehole Depth:	2.0m
Commenced:	10/08/05	Completed:	10/08/05

Method	Water	Monitor Well Details	Depth	Sample Type / ID	PID (ppm)	Graphic Log	GEOLOGICAL DESCRIPTION Material Type: USCS Group, Colour, Particle Size, Moisture Content, Consistency (Geologic Origin)	COMMENTS (Field Rank, Odour, Visual Blow Count, Other
			0					
							15cm Concrete surface.	
							Fill - yellow clayey sand mixed with black sands and brown clays. Dry and loose.	
				BH8-0.5	0			
							Sand - grey brown, damp, soft, loose, fine to medium grains, well sorted quartz grains.	
			1					
							Water table at 1.8m.	
SV							Clayey Sand - medium grey, medium dense, moist, soft, medium to coarse grain size with 20% clay content.	
			2	BH8-2.0	0			
							Drilling terminated at 2.0m.	**Method** SV Solid Flight Auger with V-bit
			3					

Urban Environmental Consultants Pty Ltd

BOREHOLE LOG

BOREHOLE No.: BH9/MW2

Sheet 1 of 1

Client:	*Meriton Apartments Pty Ltd*	Job Number:	*SJ259*
Project:	*Phase II Environmental Site Assessment*	Contractor:	*Ability Plus*
Location:	*Loftus and Bonar Streets Arncliffe*	Logged by:	*PF*

Borehole diam.:	50mm	Borehole Depth:	3.0m
Commenced:	10/08/05	Completed:	10/08/05

Method	Water	Monitor Well Details	Depth	Sample Type / ID	PID (ppm)	Graphic Log	GEOLOGICAL DESCRIPTION Material Type: USCS Group, Colour, Particle Size, Moisture Content, Consistency (Geologic Origin)	COMMENTS (Field Rank, Odour, Visual Blow Count, Other
			0					
		Cap					15cm Concrete surface.	
		Bentonite						**Water Sample**
		Seal, 0.2 to 0.5m					Fill - sand, dark grey black, fine with some small gravels, loose and dry.	**MW2 obtained**
				BH9-0.5	0			
							Sand - dark grey black, damp, soft, loose, fine to medium grains, well sorted quartz grains.	
		2.5mm sand						
		pack, 0.5m to	1					
		3.0m						
							Water table at 1.8m.	
SV		*Slotted*						
		Screen	2	BH9-2.0	0		Clayey Sand - medium grey, medium dense, moist, soft, medium to coarse grain size with 20% clay content. Saturated.	**Method** SV Solid Flight Auger with V-bit
		0 to 3.0m						
		End Cap	3					
							Well installed to 3.0m	

Unearth Environmental Consultants Pty Ltd

BOREHOLE LOG

BOREHOLE No.: BH10

Sheet 1 of 1

Client:	*Meriton Apartments Pty Ltd*	Job Number:	*SJ259*
Project:	*Phase II Environmental Site Assessment*	Contractor:	*Ability Plus*
Location:	*Loftus and Bonar Streets Arncliffe*	Logged by:	*PF*

Borehole diam.:	50mm	Borehole Depth:	2.0m
Commenced:	10/08/05	Completed:	10/08/05

Method	Water	Monitor Well Details	Depth	Sample Type / ID	PID (ppm)	Graphic Log	GEOLOGICAL DESCRIPTION Material Type: USCS Group, Colour, Particle Size, Moisture Content, Consistency (Geologic Origin)	COMMENTS (Field Rank, Odour, Visual Blow Count, Other
			0				15cm Concrete surface.	
							Fill - sand and sandstone gravels, dark brown/black speckled with light sandstone and sand fragments.	
				BH10-0.5	0			
							Sand - dark grey/black, damp, fine grained, soft, loose, dry, well sorted quartz grains.	
			1		0			
SV								
			2		0		Clay - light grey brown, soft moist.	
							Drilling terminated at 2.0m.	**Method** SV Solid Flight Auger with V-bit
			3					

Urban Environmental Consultants Pty Ltd

BOREHOLE LOG

BOREHOLE No.: BH11

Sheet 1 of 1

Client: *Meriton Apartments Pty Ltd*
Project: *Phase II Environmental Site Assessment*
Location: *Loftus and Bonar Streets Arncliffe*

Job Number: *SJ259*
Contractor: *Ability Plus*
Logged by: *PF*

Borehole diam.: 50mm
Commenced: 10/08/05

Borehole Depth: 2.0m
Completed: 10/08/05

Method	Water	Monitor Well Details	Depth	Sample Type / ID	PID (ppm)	Graphic Log	GEOLOGICAL DESCRIPTION Material Type: USCS Group, Colour, Particle Size, Moisture Content, Consistency (Geologic Origin)	COMMENTS (Field Rank, Odour, Visual Blow Count, Other
			0				15cm Concrete surface.	
				BH11-0.3	0		Fill - sand and sandstone gravels, dark brown/black speckled with light coloured sandstone and gravel fragments.	**QC4 = Dup Soil Sample**
			1		0		Clay - mottled brown and red brown, soft, moist with few gravel pieces.	
SV			2		0		Sand - grey brown, damp, fine to med grain size, soft, loose, well sorted. Drilling terminated at 2.0m.	**Method** SV Solid Flight Auger with V-bit
			3					

Urban Environmental Consultants Pty Ltd

BOREHOLE LOG

BOREHOLE No.: BH12/MW3

Sheet 1 of 1

Client:	*Meriton Apartments Pty Ltd*	Job Number:	*SJ259*
Project:	*Phase II Environmental Site Assessment*	Contractor:	*Ability Plus*
Location:	*Loftus and Bonar Streets Arncliffe*	Logged by:	*PF*

Borehole diam.:	50mm	Borehole Depth:	3.0m
Commenced:	10/08/05	Completed:	10/08/05

Method	Water	Monitor Well Details	Depth	Sample Type / ID	PID (ppm)	Graphic Log	GEOLOGICAL DESCRIPTION Material Type: USCS Group, Colour, Particle Size, Moisture Content, Consistency (Geologic Origin)	COMMENTS (Field Rank, Odour, Visual Blow Count, Other
			0					
		Cap					15cm Concrete surface.	
		Bentonite Seal, 0.2 to 0.5m					Fill - Yellow clayey sand mixed with black sands and brown clays.	**Water Sample MW3 obtained**
				BH12-0.5	0			
		2.5mm sand pack, 0.5m to 3.5m	1				Clay - mottled brown and red brown, soft, moist with few gravel pieces.	
		Blank Screen 0 to 0.5m						
SV		*Slotted Screen 0.5m to 3.0m*	2	BH12-2.0	0		Sand - grey brown, wet, fine to med grain size, soft, loose, well sorted. Water table at 2.0m.	**Method** SV Solid Flight Auger with V-bit
		End Cap	3				As above.	
							Well installed to 3.0m	

APPENDIX B
LABORATORY METHODS AND CERTIFICATES – SOIL

LabMark

CUSTOMER CENTRIC - ANALYTICAL CHEMISTS

ilac-MRA

NATA

No. 13542

Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. NATA is a signatory to the APLAC mutual recognition arrangement for the mutual recognition of the equivalence of testing, calibration and inspection reports.

AQIS

AUSTRALIAN QUARANTINE AND INSPECTION SERVICE

SYDNEY License No. N0356

Quarantine Approved premises criteria 5.1 for quarantine containment level 1 (QC1) facilities. Class five criteria cover premises utilised for research, analysis and/or testing of biological material, soil, animal, plant and human products.

FINAL CERTIFICATE OF ANALYSIS - ENVIRONMENTAL DIVISION

Laboratory Report No:	E023266	Cover Page 1 of 3 plus Sample Results
Client Name:	Urban Environmental	
Client Reference:	Meriton Arncliffe	
Contact Name:	Franco Fuccenecco	
Chain of Custody No:	na	Date Received: 12/08/2005
Sample Matrix:	SOIL	Date Reported: 30/08/2005

This Final Certificate of Analysis consists of sample results, DQI's, method descriptions, laboratory definitions, and internationally recognised NATA accreditation and endorsement. The DQO compliance relates specifically to QA/QC results as performed as part of the sample analysis, and may provide an indication of sample result quality. Transfer of report ownership from Labmark to the client shall only occur once full & final payment has been settled and verified. All report copies may be retracted where full payment has not occured within the agreed settlement period.

QUALITY ASSURANCE CRITERIA

Accuracy:	matrix spike:	1 in first 5-20, then 1 every 20 samples
	lcs, crm, method:	1 per analytical batch
	surrogate spike:	addition per target organic method
Precision:	laboratory duplicate:	1 in first 5-10, then 1 every 10 samples
	laboratory triplicate:	re-extracted & reported when duplicate RPD values exceed acceptance criteria
Holding Times:	soils, waters:	Refer to LabMark Preservation & THT table VOC's 14 days water / soil VAC's 7 days water or 14 days acidified VAC's 14 days soil SVOC's 7 days water, 14 days soil Pesticides 7 days water, 14 days soil Metals 6 months general elements Mercury 28 days
Confirmation:	target organic analysis:	GC/MS, or confirmatory column
Sensitivity:	EQL:	Typically 2-5 x Method Detection Limit (MDL)

QUALITY CONTROL GLOBAL ACCEPTANCE CRITERIA (GAC)

Accuracy:	spike, lcs, crm surrogate:	general analytes 70% - 130% recovery phenol analytes 50% - 130% recovery organophosphorous pesticide analytes 60% - 130% recovery phenoxy acid herbicides 50% - 130% recovery
	anion/cation bal:	+/- 10% (0-3 meq/l), +/- 5% (>3 meq/l)
Precision:	method blank:	not detected >95% of the reported EQL
	duplicate lab RPD (metals):	0-30% (>10xEQL), 0-75% (5-10xEQL) 0-100% (<5xEQL)
	duplicate lab RPD:	0-50% (>10xEQL), 0-75% (5-10xEQL) 0-100% (<5xEQL)

QUALITY CONTROL ANALYTE SPECIFIC ACCEPTANCE CRITERIA (ASAC)

Accuracy:	spike, lcs, crm surrogate:	analyte specific recovery data <3xsd of historical mean
Uncertainty:	spike, lcs:	measurement calculated from historical analyte specific control charts

RESULT ANNOTATION

DQO:	Data Quality Objective	s:	matrix spike recovery	p:	pending
DQI:	Data Quality Indicator	d:	laboratory duplicate	lcs:	laboratory control sample
EQL:	Estimated Quantitation Limit	t:	laboratory triplicate	crm:	certified reference material
- - :	not applicable	r:	RPD relative % difference	mb:	method blank

Ivan Povolny
Quality Control (Report signatory)
ivan.povolny@labmark.com.au

Geoff Weir
Authorising Chemist (NATA signatory)
geoff.weir@labmark.com.au

Simon Mills
Authorising Chemist (NATA signatory)
simon.mills@labmark.com.au

NEPC GUIDELINE COMPLIANCE - DQO

1. GENERAL

A. Results relate specifically to samples as received. Sample results are not corrected for matrix spike, lcs, or surrogate recovery data.

B. EQL's are matrix dependant and may be increased due to sample dilution or matrix interference.

C. Laboratory QA/QC samples are specific to this project.

D. Inter-laboratory proficiency results are available upon request. NATA accreditation details available at www.nata.asn.au.

E. VOC spikes & surrogates added to samples during extraction, SVOC spikes & surrogates added prior to extraction.

F. Recovery data outside GAC limits shall be investigated and compared to ASAC (historical mean +/- 3sd). If recovery data <20%, then the relevant results for that compound are considered not reliable.

G. Recovery data (ms, surrogate, crm, lcs) outside ASAC limits shall initiate an investigative action. Anomolous QC data is examined in conjunction with other QC samples and a final decision whether to accept or reject results is provided by the professional judgement of the senior analyst. The USEPA-CLP National Functional Guidelines are referred to for specific recommendations.

H. Extraction (preparation) date refers to the date that sample preparation was initiated. Note that certain methods not requiring sample preparation (eg. VOCs in water, etc) may report a common extraction and analysis date.

I. LabMark shall maintain an official copy of this Certificate of Analysis for all tracable reference purposes.

2. CHAIN OF CUSTODY (COC) & SAMPLE RECEIPT NOTICE (SRN) REQUIREMENTS

A. SRN issued to client upon sample receipt & login verification.

B. Preservation & sampling date details specified on COC and SRN, unless noted.

C. Sample Integrity & Validated Time of Sample Receipt (VTSR) Holding Times verified (preservation may extend holding time, refer to preservation chart).

3. NATA ACCREDITED METHODS

A. NATA accreditation held for each method and sample matrix type reported, unless noted below.

B. NATA accredited in-house laboratory methods are referenced from NEPC, ASTM, modified USEPA / APHA documents. Corporate Accreditation No. 13542.

C. Subcontracted analyses: Refer to Sample Receipt Notice and additional DQO comments.

Reported by Sydney Analytical Laboratories, NATA accreditation No.1884.

LabMark PTY LTD ABN 27 079 798 397
* SYDNEY: Unit 1, 8 Leighton Place Asquith NSW 2077 * MELBOURNE: 116 Moray Street, South Melbourne VIC 3205
* Telephone: (02) 9476 6533 * Fax: (02) 9476 8219 * Telephone: (03) 9686 8344 * Fax: (03) 9686 7344

4. QA/QC FREQUENCY COMPLIANCE TABLE SPECIFIC TO THIS REPORT

Matrix: **SOIL**

Page:	Method:	Totals:	#d	%d-ratio	#t	#s	%s-ratio
1	BTEX by P&T	4	0	0%	0	0	0%
1	Volatile TPH by P&T (vTPH)	4	0	0%	0	0	0%
2	Petroleum Hydrocarbons (TPH)	4	0	0%	0	0	0%
3	Polyaromatic Hydrocarbons (PAH)	4	0	0%	0	0	0%
4	Acid extractable metals (M7)	7	1	14%	0	1	14%
6	Acid extractable mercury	7	1	14%	0	1	14%
7	Moisture	7	--	--	--	--	--
8	POCAS	2	1	50%	0	0	0%

GLOSSARY:

#d	number of discrete duplicate extractions/analyses performed.
%d-ratio	NEPC guideline for laboratory duplicates is 1 in 10 samples (min 10%).
#t	number of triplicate extractions/analyses performed.
#s	number of spiked samples analysed.
%s-ratio	USEPA guideline for laboratory matrix spikes is 1 in 20 samples (min 5%).

5. ADDITIONAL COMMENTS SPECIFIC TO THIS REPORT

A. SAL reference SAL16456, results for POCAS issued on 29/08/05.

Laboratory QA/QC data shall relate specifically to this report, and may provide an indication of site specific sample result quality. LabMark DOES NOT report NON-RELEVANT BATCH QA/QC data. Acceptance of this self assessment certificate does not preclude any requirement for a QA/QC review by a accredited contaminated site EPA auditor, when and wherever necessary. Laboratory QA/QC self assessment references available upon request.

LabMark PTY LTD ABN 27 079 798 397
* SYDNEY: Unit 1, 8 Leighton Place Asquith NSW 2077 * MELBOURNE: 116 Moray Street, South Melbourne VIC 3205
* Telephone: (02) 9476 6533 * Fax: (02) 9476 8219 * Telephone: (03) 9686 8344 * Fax: (03) 9686 7344

Laboratory Report No:	E023266	**Page:** 1 of 8	Final
Client Name:	Urban Environmental	plus cover page	Certificate
Contact Name:	Franco Fucenecco	**Date:** 30/08/05	of Analysis
Client Reference	Meriton Arncliffe	This report supercedes reports issued on 23/08/05	

Laboratory Identification			**33683**	**33685**	**33687**	**33689**	**lcs**	**mb**				
Sample Identification			BH7	BH9	BH11	QC4	QC	QC				
Depth (m)			0.5	0.5	0.3	--	--	--				
Sampling Date recorded on COC			10/8/05	10/8/05	10/8/05	10/8/05	--	--				
Laboratory Extraction (Preparation) Date			16/8/05	16/8/05	16/8/05	16/8/05	16/8/05	16/8/05				
Laboratory Analysis Date			18/8/05	18/8/05	18/8/05	18/8/05	16/8/05	16/8/05				
Method	**BTEX by P&T**	**EQL**										
E002.2	Benzene	0.2	<0.2	<0.2	<0.2	<0.2	116%	<0.2				
	Toluene	0.5	<0.5	<0.5	<0.5	<0.5	114%	<0.5				
	Ethylbenzene	0.5	<0.5	<0.5	<0.5	<0.5	111%	<0.5				
	meta- and para-Xylene	1	<1	<1	<1	<1	119%	<1				
	ortho-Xylene	0.5	<0.5	<0.5	<0.5	<0.5	110%	<0.5				
	Total Xylene	--	--	--	--	--	--	--				
	CDFB (Surr @ 10mg/kg)	--	*97%*	*89%*	*86%*	*93%*	*99%*	*99%*				
Method	**Volatile TPH by P&T (vTPH)**	**EQL**										
E003.2	C6 - C9 Fraction	10	<10	<10	<10	<10	98%	<10				

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E002.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/PID/MSD.
E003.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/FID.

Laboratory Identification			33683	33685	33687	33689	lcs	mb				
Sample Identification			BH7	BH9	BH11	QC4	QC	QC				
Depth (m)			0.5	0.5	0.3	--	--	--				
Sampling Date recorded on COC			10/8/05	10/8/05	10/8/05	10/8/05	--	--				
Laboratory Extraction (Preparation) Date			16/8/05	16/8/05	16/8/05	16/8/05	16/8/05	16/8/05				
Laboratory Analysis Date			18/8/05	18/8/05	18/8/05	18/8/05	16/8/05	16/8/05				
Method	**Petroleum Hydrocarbons (TPH)**	**EQL**										
E006.2	C10 - C14 Fraction	50	<50	<50	<50	<50	--	<50				
	C15 - C28 Fraction	100	<100	<100	<100	<100	84%	<100				
	C29 - C36 Fraction	100	<100	<100	<100	<100	--	<100				
	Sum of TPH C10 - C36	--	--	--	--	--	--	--				

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E006.2: 8-10g soil extracted with 20ml DCM/Acetone (8:2). Analysis by GC/FID.

Laboratory Identification			33683	33685	33687	33689	les	mb				
Sample Identification			BH7	BH9	BH11	QC4	QC	QC				
Depth (m)			0.5	0.5	0.3	--	--	--				
Sampling Date recorded on COC			10/8/05	10/8/05	10/8/05	10/8/05	--	--				
Laboratory Extraction (Preparation) Date			16/8/05	16/8/05	16/8/05	16/8/05	16/8/05	16/8/05				
Laboratory Analysis Date			17/8/05	17/8/05	17/8/05	17/8/05	16/8/05	16/8/05				
Method	**Polyaromatic Hydrocarbons (PAH)**	**EQL**										
E007.2	Naphthalene	0.5	<0.5	<0.5	<0.5	<0.5	106%	<0.5				
	Acenaphthylene	0.5	<0.5	<0.5	<0.5	<0.5	110%	<0.5				
	Acenaphthene	0.5	<0.5	<0.5	<0.5	<0.5	109%	<0.5				
	Fluorene	0.5	<0.5	<0.5	<0.5	<0.5	112%	<0.5				
	Phenanthrene	0.5	<0.5	0.9	<0.5	<0.5	123%	<0.5				
	Anthracene	0.5	<0.5	<0.5	<0.5	<0.5	116%	<0.5				
	Fluoranthene	0.5	<0.5	1.3	<0.5	<0.5	110%	<0.5				
	Pyrene	0.5	<0.5	1.1	<0.5	<0.5	111%	<0.5				
	Benz(a)anthracene	0.5	<0.5	<0.5	<0.5	<0.5	103%	<0.5				
	Chrysene	0.5	<0.5	<0.5	<0.5	<0.5	122%	<0.5				
	Benzo(b)&(k)fluoranthene	1	<1	<1	<1	<1	103%	<1				
	Benzo(a) pyrene	0.5	<0.5	<0.5	<0.5	<0.5	103%	<0.5				
	Indeno(1,2,3-c,d)pyrene	0.5	<0.5	<0.5	<0.5	<0.5	105%	<0.5				
	Dibenz(a,h)anthracene	0.5	<0.5	<0.5	<0.5	<0.5	100%	<0.5				
	Benzo(g,h,i)perylene	0.5	<0.5	<0.5	<0.5	<0.5	112%	<0.5				
	Sum of reported PAHs	--	--	3.3	--	--	--	--				
	2-FBP (Surr @ 5mg/kg)	--	*91%*	*94%*	*102%*	*95%*	*95%*	*106%*				
	TP-d14 (Surr @ 5mg/kg)	--	*126%*	*127%*	*123%*	*129%*	*120%*	*122%*				

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E007.2: 8-10g soil extracted with 20ml DCM/acetone (8:2). Analysis by GC/MS.

Laboratory Identification			33683	33684	33685	33686	33687	33688	33689	33684d	33684r	33686s
Sample Identification			BH7	BH8	BH9	BH10	BH11	BH12	QC4	QC	QC	QC
Depth (m)			0.5	0.5	0.5	0.5	0.3	0.5	--	--	--	--
Sampling Date recorded on COC			10/8/05	10/8/05	10/8/05	10/8/05	10/8/05	10/8/05	10/8/05	--	--	--
Laboratory Extraction (Preparation) Date			17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	--	17/8/05
Laboratory Analysis Date			17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	--	17/8/05
Method	**Acid extractable metals (M7)**	**EQL**										
E022.2	Arsenic	1	<1	<1	16	3	2	3	2	<1	--	104%
	Cadmium	0.1	<0.1	<0.1	0.5	0.3	<0.1	0.2	<0.1	<0.1	--	102%
	Chromium	1	4	4	14	9	9	11	10	2	67%	113%
	Copper	2	10	<2	160	16	13	660	18	<2	--	95%
	Nickel	1	1	<1	12	7	8	9	9	<1	--	98%
	Lead	2	23	<2	260	61	21	91	26	<2	--	#
	Zinc	5	14	<5	550	96	19	59	23	<5	--	#

Results expressed in mg/kg dry weight unless otherwise specified

Comments: # Percent recovery not available due to significant background levels of analyte in sample.

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Identification			crm	lcs	mb							
Sample Identification			QC	QC	QC							
Depth (m)			--	--	--							
Sampling Date recorded on COC			--	--	--							
Laboratory Extraction (Preparation) Date			17/8/05	17/8/05	17/8/05							
Laboratory Analysis Date			17/8/05	17/8/05	17/8/05							
Method	**Acid extractable metals (M7)**	**EQL**										
E022.2	Arsenic	1	96%	91%	<1							
	Cadmium	0.1	101%	107%	<0.1							
	Chromium	1	102%	105%	<1							
	Copper	2	98%	102%	<2							
	Nickel	1	99%	97%	<1							
	Lead	2	113%	109%	<2							
	Zinc	5	96%	112%	<5							

Results expressed in mg/kg dry weight unless otherwise specified

Comments: # Percent recovery not available due to significant background levels of analyte in sample.

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Identification			33683	33684	33685	33686	33687	33688	33689	33684d	33684r	33686s
Sample Identification			BH7	BH8	BH9	BH10	BH11	BH12	QC4	QC	QC	QC
Depth (m)			0.5	0.5	0.5	0.5	0.3	0.5	--	--	--	--
Sampling Date recorded on COC			10/8/05	10/8/05	10/8/05	10/8/05	10/8/05	10/8/05	10/8/05	--	--	--
Laboratory Extraction (Preparation) Date			17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	--	17/8/05
Laboratory Analysis Date			17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	--	17/8/05
Method	**Acid extractable mercury**	**EQL**										
E026.2	Mercury	0.05	<0.05	0.12	0.14	0.26	<0.05	0.08	<0.05	0.11	9%	88%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

Laboratory Identification			crm	lcs	mb							
Sample Identification			QC	QC	QC							
Depth (m)			--	--	--							
Sampling Date recorded on COC			--	--	--							
Laboratory Extraction (Preparation) Date			17/8/05	17/8/05	17/8/05							
Laboratory Analysis Date			17/8/05	17/8/05	17/8/05							
Method	**Acid extractable mercury**	**EQL**										
E026.2	Mercury	0.05	93%	81%	<0.05							

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

Laboratory Report No:	E023266	**Page:** 7 of 8	Final
Client Name:	Urban Environmental	plus cover page	Certificate
Contact Name:	Franco Fuccenecco	**Date:** 30/08/05	of Analysis
Client Reference	Meriton Arncliffe	This report supercedes reports issued on 23/08/05	

Laboratory Identification			**33683**	**33684**	**33685**	**33686**	**33687**	**33688**	**33689**	**33684d**	**33684r**	
Sample Identification			BH7	BH8	BH9	BH10	BH11	BH12	QC4	QC	QC	
Depth (m)			0.5	0.5	0.5	0.5	0.3	0.5	--	--	--	
Sampling Date recorded on COC			10/8/05	10/8/05	10/8/05	10/8/05	10/8/05	10/8/05	10/8/05	--	--	
Laboratory Extraction (Preparation) Date			16/8/05	16/8/05	16/8/05	16/8/05	16/8/05	16/8/05	16/8/05	16/8/05	--	
Laboratory Analysis Date			17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	--	
Method	**Moisture**	**EQL**										
E005.2	Moisture	--	6	4	11	11	9	16	10	3	29%	

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

Laboratory Report No:	E023266					**Page:** 8 of 8				Final		
Client Name:	Urban Environmental					plus cover page				Certificate		
Contact Name:	Franco Fuccenecco					**Date:** 30/08/05				of Analysis		
Client Reference	Meriton Arncliffe					This report supercedes reports issued on 23/08/05						

Laboratory Identification			**33690**	**33691**	**33690d**	**33690r**						
Sample Identification			BH9	BH12	QC	QC						
Depth (m)			2.0	2.0	--	--						
Sampling Date recorded on COC			10/8/05	10/8/05	--	--						
Laboratory Extraction (Preparation) Date			19/8/05	19/8/05	19/8/05	--						
Laboratory Analysis Date			26/8/05	26/8/05	26/8/05	--						
Method	**POCAS**	**EQL**										
POCAS	TAA (mol H+/tonne)	5	<5	<5	<5	--						
	TPA (mol H+/tonne)	5	<5	40	<5	--						
	S-KCl (%)	0.01	<0.01	<0.01	<0.01	--						
	S-P (%)	0.01	<0.01	0.07	<0.01	--						
	S-POS (%)	0.01	<0.01	0.07	<0.01	--						
	TSA (mol H+/tonne)	5	<5	40	<5	--						

Results expressed in table above unless otherwise specified

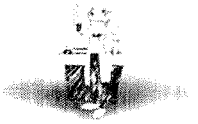
Comments:

POCAS: Multiple extractions and digestion with peroxide combined with titration and ICP measurement.

LabMark

Quality, Service, Support

Sample **Receipt** Notice (SRN)



Client Details		Laboratory Reference Information	
		Please have this information ready when contacting Labmark.	
Client Name:	Urban Environmental	**Laboratory Report:**	**E023266**
Client Phone:	02 9555 7570	**Quotation Number:**	- Not provided, standard prices apply
Client Fax:	02 9555 6313	**Laboratory Address:**	Unit 1, 8 Leighton Pl. Asquith NSW 2077
Contact Name:	Franco Fuccenecco	**Phone:**	61 2 9476 6533
Contact Email:	urban.environmental@bigpond.com	**Fax:**	61 2 9476 8219
Client Address:	PO Box 1070 ROZELLE NSW 2039	**Sample Receipt Contact:**	Ros Schacht
Project Name:	Meriton Arncliffe	**Email:**	ros.schacht@labmark.com.au
Project Number:	- Not provided -	**Reporting Contact:**	Jyothi Lal
CoC Number:	- Not provided -	**Email:**	jyothi.lal@labmark.com.au
Purchase Order:	- Not provided -		
Surcharge:	No surcharge applied (results by 6:30pm on due date)		
Sample Matrix:	SOIL		
Date Sampled (earliest date):	10/08/2005	**NATA Accreditation:**	13542
Date Samples Received:	12/08/2005	**TGA GMP License:**	185-336; **Enterprise No.** 41681
Date Sample Receipt Notice issued:	16/08/2005	**APVMA License:**	6105
Date Preliminary Report Due:	23/08/2005	**AQIS Approval:**	NO356
		AQIS Entry Permit:	200409998

Sample Condition:
COC received with samples. Report number and lab ID's defined on COC.
Samples received in good order .
Samples received with cooling media: Crushed ice .
Samples received chilled.
Security seals not required. Direct Labmark's custody taken .
Sample container & sample integrity suitable .

Comments:
POCAS samples frozen on receipt, tested outside THT as per client request. POCAS sub-contracted to SAL.

Holding Times:
Date received allows for insufficient time to meet Technical Holding Times.
Note: Samples received 0 day(s) after Technical Holding Times expire. LabMark can not guarantee holding time compliance.

Preservation:
Chemical preservation of samples satisfactory for requested analytes.

Important Notes:
Sample disposal of environmental samples shall be 31 days (water) and 3 months (soil, HN03 preserved samples) after laboratory receipt, unless otherwise requested in writing by the client. Samples requested to be held in non-refrigerated storage shall incur $5.00/ sample/ 3 months. Additional refrigerated storage shall incur $20/ sample/ 3 months. Combination prices apply only if requested. Transfer of report ownership from LabMark to the client shall occur once full and final payment has been settled and verified. All report copies may be retracted where full payment does not occur within the agreed settlement period.

Analysis comments:

Subcontracted Analyses:
Reported by Sydney Analytical Laboratories, NATA accreditation No.1884.

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

PAGE 1 OF 1

CHAIN OF CUSTODY

Form QS0073, Rev 8 : Date issued 12/05/2004.

LABMARK NATA 13542, AQIS N0356

Dispatch samples to:
Unit1/8 Leighton Place
Asquith NSW 2077
Australia

Telephone: 612-9476 6533
Facsimile: 612-9476 8219
After hours (DB): 0409 449684
After hours (IP): 0419 689300
E-mail: ros.schacht@labmark.com.au
Web : www.labmark.com.au

Client Details

Safety Precaution: laboratory sample bottles may contain preservation acid / chemicals, refer to SAFETEY label on bottle.

Company & Address: Urban environmental
Tel: 07 2C 342772
Project Manager: France
Sampler: Penelope
Fx: 9555 6313
Project Name: Merton Arncliffe
Date Required: 18/8/05
Project Number:
Lab. Quote No:

Global Specifications I require (default is Not required if Not ticked):

	YES (tick)
1. Urgent TAT required? (please circle: 1 day 2 days 3 days ...5... days)	✓
2. Fast TAT Guarantee required? (Surcharge may apply - Receipt cutoff time 3.00pm)	
3. Do you wish sediment present in waters to be included in organic/ inorganic extractions?	
4. Additional QA/QC reported where sample batches submitted are < 10 samples?	
5. Do you require DIFFERENT standard EQL's from those stated @ www.labmark.com.au?	
6. Do you wish chromatograms to be supplied? (Additional fee applies).	
7. Electronic data transfer (circle: fax .xls .csv .pdf)?	

Note1: Additional water sample must be submitted for lab. duplicate & spike analysis.
Note2: Contact lab if consolidating multiple analyses into a single sample container.

Analysis Request

Lab. Number	Sample ID	Sample Depth	Sampling Date	Matrix: soil	water	air	paint, filters	other	Container Type (Nat. = unpreserved, G=glass, P=plastic): Soil (G) Nat. Orang*	0.5-1L (G) Nat. Orang*	43ml VOA (G) Nat. Orang*	43ml VOA (G) HCl Marco*	0.1-1L (P) H2SO4 Purple	0.1-1L (G) H2SO4 Purple	0.1-1L (P) Nat. Green	0.1-0.2L (P) HNO3 Red Filtered *sur NO	0.1-1L (P) NaOH, CdNO3 Blue	Other	Combo (circle) <1> <2> <3> <4> <5> <6> <7> <8> <9> <10> <11> <12> <13> <14>	BTEX+vTPH(C6-9) FT-GC/FID/PID/MS	VHC FT-GC/MS	THM FT-GC/MS	MTBE FT-GC/MS	VAC FT-GC/MS	VOC FT-GC/MS	TPH(C10-36) GC/FID	PAH's GC/MS	Phenols GC/MS	Aromatic/ Aliphatic TPH GC/FID (circle) OC, OP, PCB GC/ECD/MS	SVOC GC/MS	Phenoxy Acid Herbicides GC/MS	Explosives HPLC (circle) Metals* (dissolved / total)	TCLP (specify test - other)	ZHE TCLP (specify test - other)	(circle) pH, EC	(circle) NH_3, TKN, N_{Total}, TN	(circle) NO_3, NO_2, NO_x	(circle) TP, ortho-P, TKP	(circle) Cl^-, F^-, SO_4^{2-}	(circle) Total Alk. CO_3^{2-}	(circle) Free CN, WAD, Total CN	Total Phenolics	Major Cations	Other (eg. TCLP tests here)
33683	BH7	0.5	16.8.05	✓					✓										✓																									PCAS
33684	BH8	0.5																													✓												
33685	BH9	0.5																	✓																									
33686	BH10	0.5																													✓												
33687	BH11	0.3																	✓																									
33688	BH12	0.5																													✓												
33689	QC9	-	↓	↓					↓										✓																									
33690	BH9	2.0																																								✓	
33691	BH12	2.0	↓	↓					↓																																	✓	
Totals																																										

*Metals (circle): As, Cd, Cr, Cu, Ni, Pb, Zn, Hg, Cr^{6+}, Cr^{3+}, Fe^{2+}, Fe^{3+}, Be, B, Al, V, Mn, Fe, Co, Se, Sr, Sn, Mo, Ag, Ba, Tl, Bi, Sb

Comments (Highly contaminated samples):

Lab Report No. E023266

Security Seal Applied YES/NO
Security Seal Serial # IK 08/9

Relinquished by (print): Penelope Ford Signed: Penelope Ford Date: 12 8 05 Received By: RB Date: 12/8 Time:

Relinquished by (print): Signed: Date: Received By: Date: Time:

APPENDIX C
LABORATORY METHODS AND CERTIFICATES – GROUNDWATER

LabMark

CUSTOMER CENTRIC - ANALYTICAL CHEMISTS

ilac-MRA

NATA

No. 13542.

Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. NATA is a signatory to the APLAC mutual recognition arrangement for the mutual recognition of the equivalence of testing, calibration and inspection reports.

AQIS

AUSTRALIAN QUARANTINE AND INSPECTION SERVICE

SYDNEY License No. N0356.

Quarantine Approved premises criteria 5.1 for quarantine containment level 1 (QC1) facilities. Class five criteria cover premises utilised for research, analysis and/or testing of biological material, soil, animal, plant and human products.

FINAL CERTIFICATE OF ANALYSIS - ENVIRONMENTAL DIVISION

Laboratory Report No:	E023279	Cover Page 1 of 3
Client Name:	Urban Environmental	plus Sample Results
Client Reference:	Meriton Arncliffe	
Contact Name:	Franco Fuccenecco	
Chain of Custody No:	ns	Date Received: 15/08/2005
Sample Matrix:	WATER	Date Reported: 26/08/2005

This Final Certificate of Analysis consists of sample results, DQI's, method descriptions, laboratory definitions, and internationally recognised NATA accreditation and endorsement. The DQO compliance relates specifically to QA/QC results as performed as part of the sample analysis, and may provide an indication of sample result quality. Transfer of report ownership from Labmark to the client shall only occur once full & final payment has been settled and verified. All report copies may be retracted where full payment has not occured within the agreed settlement period.

QUALITY ASSURANCE CRITERIA

Accuracy:	matrix spike:	1 in first 5-20, then 1 every 20 samples
	lcs, crm, method:	1 per analytical batch
	surrogate spike:	addition per target organic method
Precision:	laboratory duplicate:	1 in first 5-10, then 1 every 10 samples
	laboratory triplicate:	re-extracted & reported when duplicate RPD values exceed acceptance criteria
Holding Times:	soils, waters:	Refer to LabMark Preservation & THT table VOC's 14 days water / soil VAC's 7 days water or 14 days acidified VAC's 14 days soil SVOC's 7 days water, 14 days soil Pesticides 7 days water, 14 days soil Metals 6 months general elements Mercury 28 days
Confirmation:	target organic analysis:	GC/MS, or confirmatory column
Sensitivity:	EQL:	Typically 2-5 x Method Detection Limit (MDL)

QUALITY CONTROL GLOBAL ACCEPTANCE CRITERIA (GAC)

Accuracy:	spike, lcs, crm surrogate:	general analytes 70% - 130% recovery phenol analytes 50% - 130% recovery organophosphorous pesticide analytes 60% - 130% recovery phenoxy acid herbicides 50% - 130% recovery
	anion/cation bal:	+/- 10% (0-3 meq/l), +/- 5% (>3 meq/l)
Precision:	method blank:	not detected >95% of the reported EQL
	duplicate lab RPD (metals):	0-30% (>10xEQL), 0-75% (5-10xEQL) 0-100% (<5xEQL)
	duplicate lab RPD:	0-50% (>10xEQL), 0-75% (5-10xEQL) 0-100% (<5xEQL)

QUALITY CONTROL ANALYTE SPECIFIC ACCEPTANCE CRITERIA (ASAC)

Accuracy:	spike, lcs, crm surrogate:	analyte specific recovery data <3xsd of historical mean
Uncertainty:	spike, lcs:	measurement calculated from historical analyte specific control charts

RESULT ANNOTATION

DQO:	Data Quality Objective	s:	matrix spike recovery	p:	pending
DQI:	Data Quality Indicator	d:	laboratory duplicate	lcs:	laboratory control sample
EQL:	Estimated Quantitation Limit	t:	laboratory triplicate	crm:	certified reference material
-- :	not applicable	r:	RPD relative % difference	mb:	method blank

Ivan Povolny
Quality Control (Report signatory)
ivan.povolny@labmark.com.au

Geoff Weir
Authorising Chemist (NATA signatory)
geoff.weir@labmark.com.au

Simon Gobert
Authorising Chemist (NATA signatory)
simon.gobert@labmark.com.au

This document is issued in accordance with NATA's accreditation requirements.

NEPC GUIDELINE COMPLIANCE - DQO

1. GENERAL

A. Results relate specifically to samples as received. Sample results are not corrected for matrix spike, lcs, or surrogate recovery data.

B. EQL's are matrix dependant and may be increased due to sample dilution or matrix interference.

C. Laboratory QA/QC samples are specific to this project.

D. Inter-laboratory proficiency results are available upon request. NATA accreditation details available at www.nata.asn.au.

E. VOC spikes & surrogates added to samples during extraction, SVOC spikes & surrogates added prior to extraction.

F. Recovery data outside GAC limits shall be investigated and compared to ASAC (historical mean +/- 3sd). If recovery data <20%, then the relevant results for that compound are considered not reliable.

G. Recovery data (ms, surrogate, crm, lcs) outside ASAC limits shall initiate an investigative action. Anomolous QC data is examined in conjunction with other QC samples and a final decision whether to accept or reject results is provided by the professional judgement of the senior analyst. The USEPA-CLP National Functional Guidelines are referred to for specific recommendations.

H. Extraction (preparation) date refers to the date that sample preparation was initiated. Note that certain methods not requiring sample preparation (eg. VOCs in water, etc) may report a common extraction and analysis date.

I. LabMark shall maintain an official copy of this Certificate of Analysis for all tracable reference purposes.

2. CHAIN OF CUSTODY (COC) & SAMPLE RECEIPT NOTICE (SRN) REQUIREMENTS

A. SRN issued to client upon sample receipt & login verification.

B. Preservation & sampling date details specified on COC and SRN, unless noted.

C. Sample Integrity & Validated Time of Sample Receipt (VTSR) Holding Times verified (preservation may extend holding time, refer to preservation chart).

3. NATA ACCREDITED METHODS

A. NATA accreditation held for each method and sample matrix type reported, unless noted below.

B. NATA accredited in-house laboratory methods are referenced from NEPC, ASTM, modified USEPA / APHA documents. Corporate Accreditation No. 13542.

C. Subcontracted analyses: Refer to Sample Receipt Notice and additional DQO comments.

LabMark PTY LTD ABN 27 079 798 397
* SYDNEY: Unit 1, 8 Leighton Place Asquith NSW 2077 * MELBOURNE: 116 Moray Street, South Melbourne VIC 3205
* Telephone: (02) 9476 6533 * Fax: (02) 9476 8219 * Telephone: (03) 9686 8344 * Fax: (03) 9686 7344

4. QA/QC FREQUENCY COMPLIANCE TABLE SPECIFIC TO THIS REPORT

Matrix: **WATER**

Page:	Method:	Totals:	#d	%d-ratio	#t	#s	%s-ratio
1	BTEX by P&T	4	0	0%	0	0	0%
1	Volatile TPH by P&T (vTPH)	4	0	0%	0	0	0%
2	Petroleum Hydrocarbons (TPH)	3	0	0%	0	0	0%
3	Filtered metals (M7)	2	0	0%	0	0	0%
4	Filtered mercury	2	0	0%	0	0	0%

GLOSSARY:

#d	number of discrete duplicate extractions/analyses performed.
%d-ratio	NEPC guideline for laboratory duplicates is 1 in 10 samples (min 10%).
#t	number of triplicate extractions/analyses performed.
#s	number of spiked samples analysed.
%s-ratio	USEPA guideline for laboratory matrix spikes is 1 in 20 samples (min 5%).

5. THERE ARE NO ADDITIONAL COMMENTS SPECIFIC TO THIS REPORT

Laboratory QA/QC data shall relate specifically to this report, and may provide an indication of site specific sample result quality. LabMark DOES NOT report NON-RELEVANT BATCH QA/QC data. Acceptance of this self assessment certificate does not preclude any requirement for a QA/QC review by a accredited contaminated site EPA auditor, when and wherever necessary. Laboratory QA/QC self assessment references available upon request.

LabMark PTY LTD ABN 27 079 798 397
* SYDNEY: Unit 1, 8 Leighton Place Asquith NSW 2077 * MELBOURNE: 116 Moray Street, South Melbourne VIC 3205
* Telephone: (02) 9476 6533 * Fax: (02) 9476 8219 * Telephone: (03) 9686 8344 * Fax: (03) 9686 7344

Laboratory Report No:	E023279	**Page:** 1 of 4	Final
Client Name:	Urban Environmental	plus cover page	Certificate
Contact Name:	Franco Fuccenecco	**Date:** 26/08/05	of Analysis
Client Reference	Meriton Arncliffe	This report supercedes reports issued on 24/08/05	

Laboratory Identification			**33834**	**33835**	**33836**	**33837**	**lcs**	**mb**				
Sample Identification			MW1	MW2	MW3	QCMA	QC	QC				
Depth (m)			--	--	--	--	--	--				
Sampling Date recorded on COC			15/8/05	15/8/05	15/8/05	15/8/05	--	--				
Laboratory Extraction (Preparation) Date			22/8/05	22/8/05	22/8/05	22/8/05	22/8/05	22/8/05				
Laboratory Analysis Date			23/8/05	23/8/05	23/8/05	23/8/05	22/8/05	22/8/05				
Method	**BTEX by P&T**	**EQL**										
E002.1	Benzene	1	<1	<1	<1	<1	108%	<1				
	Toluene	1	<1	<1	<1	<1	110%	<1				
	Ethylbenzene	1	<1	<1	<1	<1	99%	<1				
	meta- & para-Xylene	2	<2	<2	<2	<2	106%	<2				
	ortho-Xylene	1	<1	<1	<1	<1	112%	<1				
	Total Xylene	--	--	--	--	--	--	--				
	4-BFB (Surr @ 100ug/l)	--	*73%*	*74%*	*73%*	*77%*	*101%*	*80%*				
Method	**Volatile TPH by P&T (vTPH)**	**EQL**										
E003.1	C6-C9	50	<50	<50	<50	<50	98%	<50				

Results expressed in ug/l unless otherwise specified

Comments:

E002.1: Direct injection into P&T/GC/PID/MSD.
E003.1: Direct injection into P&T/GC/FID.

Laboratory Identification			33834	33835	33837	lcs	mb					
Sample Identification			MW1	MW2	QCMA	QC	QC					
Depth (m)			--	--	--	--	--					
Sampling Date recorded on COC			15/8/05	15/8/05	15/8/05	--	--					
Laboratory Extraction (Preparation) Date			18/8/05	18/8/05	18/8/05	18/8/05	18/8/05					
Laboratory Analysis Date			19/8/05	19/8/05	19/8/05	19/8/05	19/8/05					
Method	**Petroleum Hydrocarbons (TPH)**	**EQL**										
E004.1	C10-C14 Fraction	50	<50	<50	<50	--	<50					
	C15-C28 Fraction	200	<200	<200	<200	80%	<200					
	C29-C36 Fraction	50	110	100	330	--	<50					
	Sum of TPH C10 - C36	--	110	100	330	--	--					

Results expressed in ug/l unless otherwise specified

Comments: -

E004.1: Triple extraction with DCM. Analysis by GC/FID.

Laboratory Identification			33835	33837	lcs	mb						
Sample Identification			MW2	QCMA	QC	QC						
Depth (m)			--	--	--	--						
Sampling Date recorded on COC			15/8/05	15/8/05	--	--						
Laboratory Extraction (Preparation) Date			17/8/05	17/8/05	17/8/05	17/8/05						
Laboratory Analysis Date			17/8/05	17/8/05	17/8/05	17/8/05						
Method	**Filtered metals (M7)**	**EQL**										
E022.1	Arsenic	1	15	15	99%	<1						
	Cadmium	0.1	<0.1	<0.1	98%	<0.1						
	Chromium	1	*<10	*<10	98%	<1						
	Copper	1	<1	<1	100%	<1						
	Nickel	1	6	6	98%	<1						
	Lead	1	<1	<1	103%	<1						
	Zinc	5	<5	<5	96%	<5						

Results expressed in ug/l unless otherwise specified

Comments: *EQL increased due to matrix interference.

E022.1: Filtered HNO3 preserved sample directly analysed by ICP-MS.

Laboratory Report No:	E023279	**Page:** 4 of 4	Final
Client Name:	Urban Environmental	plus cover page	Certificate
Contact Name:	Franco Fuccenecco	**Date:** 26/08/05	of Analysis
Client Reference	Meriton Arncliffe	This report supercedes reports issued on 24/08/05	

Laboratory Identification			**33835**	**33837**	**lcs**	**mb**						
Sample Identification			MW2	QCMA	QC	QC						
Depth (m)			--	--	--	--						
Sampling Date recorded on COC			15/8/05	15/8/05	--	--						
Laboratory Extraction (Preparation) Date			17/8/05	17/8/05	17/8/05	17/8/05						
Laboratory Analysis Date			18/8/05	18/8/05	18/8/05	18/8/05						
Method	**Filtered mercury**	**EQL**										
E026.1	Mercury	0.1	0.1	0.1	98%	<0.1						

Results expressed in ug/l unless otherwise specified

Comments:

E026.1: Analysis by CV-ICP-MS or FIMS following BrCl pre-treatment.

LabMark

Quality, Service, Support

Sample **Receipt** Notice (SRN)

Client Details		Laboratory Reference Information	
		Please have this information ready when contacting Labmark.	
Client Name:	Urban Environmental	**Laboratory Report:**	**E023279**
Client Phone:	02 9555 7570	**Quotation Number:**	- Not provided, standard prices apply
Client Fax:	02 9555 6313	**Laboratory Address:**	Unit 1, 8 Leighton Pl. Asquith NSW 2077
Contact Name:	Franco Fuccenecco	**Phone:**	61 2 9476 6533
Contact Email:	urban.environmental@bigpond.com	**Fax:**	61 2 9476 8219
Client Address:	PO Box 1070 ROZELLE NSW 2039	**Sample Receipt Contact:**	Ros Schacht
		Email:	ros.schacht@labmark.com.au
Project Name:	Meriton Arncliffe	**Reporting Contact:**	Jyothi Lal
Project Number:	- Not provided -	**Email:**	jyothi.lal@labmark.com.au
CoC Number:	- Not provided -		
Purchase Order:	- Not provided -		
Surcharge:	No surcharge applied (results by 6:30pm on due date)		
Sample Matrix:	WATER		

Date Sampled (earliest date):	15/08/2005	**NATA Accreditation:**	13542
Date Samples Received:	15/08/2005	**TGA GMP License:**	185-336; **Enterprise No.** 41681
Date Sample Receipt Notice issued:	16/08/2005	**APVMA License:**	6105
Date Preliminary Report Due:	24/08/2005	**AQIS Approval:**	NO356
		AQIS Entry Permit:	200409998

Sample Condition:
COC received with samples. Report number and lab ID's defined on COC.
Samples received in good order .
Samples received with cooling media: Crushed ice .
Samples received ambient.
Security seals intact .
Sample container & sample integrity suitable .

Comments:
21.60 courier charge plus 2xfiltering

Holding Times:
Date received allows for sufficient time to meet Technical Holding Times.

Preservation:
Chemical preservation of samples satisfactory for requested analytes.

Important Notes:
Sample disposal of environmental samples shall be 31 days (water) and 3 months (soil, HN03 preserved samples) after laboratory receipt, unless otherwise requested in writing by the client. Samples requested to be held in non-refrigerated storage shall incur $5.00/ sample/ 3 months. Additional refrigerated storage shall incur $20/ sample/ 3 months. Combination prices apply only if requested. Transfer of report ownership from LabMark to the client shall occur once full and final payment has been settled and verified. All report copies may be retracted where full payment does not occur within the agreed settlement period.

Analysis comments:

Subcontracted Analyses:

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

PAGE 1 OF 1

CHAIN OF CUSTODY

Form QS0073, Rev.6 : Date Issued 12/05/2004.

LABMARK

NATA 13542, AQIS N0356

Dispatch samples to:
Unit1/8 Leighton Place
Asquith NSW 2077
Australia

Telephone: 612-9476 6533
Facsimile: 612-9476 8219
After hours (DB): 0409 449684
After hours (IP): 0419 689300
E-mail: ros.schacht@labmark.com.au
Web : www.labmark.com.au

Client Details

Safety Precaution: laboratory sample bottles may contain preservation acid / chemicals, refer to SAFETEY label on bottle.

Company & Address: Urban Environmental
Tel: 0412039272
Project Manager: Franco
Sampler: Penelope
Fx: 95556313
Project Name: Merton Arncliffe
Date Required: 23/8/05
Project Number:
Lab. Quote No:

Global Specifications I require (default is Not required if Not ticked):

	YES (tick)
1. Urgent TAT required? (please circle: 1 day 2 days 3 days ...7.. days)	✓
2. Fast TAT Guarantee required? (Surcharge may apply - Receipt cutoff time 3.00pm)	
3. Do you wish sediment present in waters to be included in organic/ inorganic extractions?	
4. Additional QA/QC reported where sample batches submitted are < 10 samples?	
5. Do you require DIFFERENT standard EQL's from those stated @ www.labmark.com.au?	
6. Do you wish chromatograms to be supplied? (Additional fee applies).	
7. Electronic data transfer (circle: fax .xls .csv .pdf)?	

Note1: Additional water sample must be submitted for lab. duplicate & spike analysis.
Note2: Contact lab if consolidating multiple analyses into a single sample container.

Analysis Request

Lab. Number	Sample ID	Sample Depth	Sampling Date	Matrix: soil	water	air	paint, filters	other	Container Type (Nat. = unpreserved, G=glass, P=plastic): Soil (G) Nat. Orang e	0.5-1L (G) Nat. Orang e	43ml VOA (G) Nat. Orang e	43ml VOA (G) HCl Marco n	0.1-1L (P) H2SO4 Purple	0.1-1L (G) H2SO4 Purple	0.1-1L (P) Nat Green	0.1-0.2L (P) HNO3 Red Filtered YES/ NO	0.1-1L (P) NaOH, CdNO3 Blue	Other	Combo (circle) <1> <2> <3> <4> <5> <6> <7> <8> <9> <10> <11> <12> <13> <14>	BTEX+VTPH (C6-9) PT-GC/FID/PID or MS	VHC PT-GC/MS	THM PT-GC/MS	MTBE PT-GC/MS	VAC PT-GC/MS	VOC PT-GC/MS	TPH (C10-36) GC/FID	PAH's GC/MS	Phenols GC/MS	Aromatic/ Aliphatic TPH GC/FID (circle) OC, OP PCB GC/ECD/MS	SVOC GC/MS	Phenoxy Acid Herbicides GC/MS	Explosives HPLC (circle) Metals* (dissolved / total)	TCLP (specify test - other)	ZHE TCLP (specify test - other)	pH, EC (circle)	NH_3, TKN, N_{total} TN (circle)	NO_2^-, NO_3^- (circle)	TP, ortho-P, TKP (circle)	Cl^-, F^-, SO_4^{2-} (circle)	Total Alk., CO_3^{2-} (circle)	Free CN, WAD, Total CN	Total Phenolics	Major Cations	Other (eg. TCLP tests here)
33834	MW1		15/8/05	✓						1		2							✓				✓						✓																
33835	MW2		↓	✓						1		2			1				✓				✓						✓																
33836	MW3*		↓	✓								2							✓																										
33837	QCMA		↓	✓						1		2			1				✓				✓						✓																
Totals																																												

*Metals (circle): As, Cd, Cr, Cu, Ni, Pb, Zn, Hg, Cr^{6+}, Cr^{3+}, Fe^{2+}, Fe^{3+}, Be, B, Al, V, Mn, Fe, Co, Se, Sr, Sn, Mo, Ag, Ba, Tl, Bi, Sb

Comments (Highly contaminated samples): * lots of sediment in water vial samples!!

Lab Report No. EO23279

Security Seal Applied YES/NO
Security Seal Serial #

Relinquished by (print): Penelope Ford Signed: Penelope Ford Date: 15/8/05 Received By: Time:

Relinquished by (print): Signed: Date: Received By: Date: Time:

NOTE: PLEASE FILTER METAL SAMPLES IN LAB ASAP!!

APPENDIX D
FIELD QUALITY ASSURANCE PLAN

APPENDIX D
FIELD QUALITY ASSURANCE PLAN

The following section describes the field procedures used during the soil sampling programme and groundwater investigation at the site. Penelope Ford, the environmental scientist of Urban Environmental undertook soil sampling on 10 August and water sampling on 15 August 2005.

D.1 SAMPLE QUALITY CONTROL

Field Decontamination Procedures

The majority of soil samples were collected using a stainless steel trowel where samples were collected from the solid flight auger. The material on the outside of the auger was removed using the hand trowel and samples obtained close to the flights above the drill bit. This procedure was carried out to ensure that cross contamination from material higher in the borehole did not occur. The shallow samples obtained from 0.5m and 1.0m were obtained using a handauger. After each sample was collected, the handauger and stainless steel trowel was decontaminated using a solution of Decon 90 and then rinsed using deionised water. Augers were decontaminated by high pressure water spray between boreholes.

All groundwater samples were obtained from onsite monitoring wells using a dedicated disposable PVC bailer, sheathed in a protective plastic covering (removed prior to sampling).

New neoprene gloves were worn during all soil and water sampling, and were replaced between collection of each sample. New laboratory supplied sample bottles were also used for each soil and water sample.

D.2 Soils

Soil Sampling

At each sampling interval, a soil sample was taken for VOC measurement and was placed directly into a "zip-lock" plastic bag, and screened using a photoionisation detector (PID). Results of the field screening measurements are included in the Borehole Logs, presented in Appendix A. At each sample location a soil sample was placed into a new 125mL glass jar and sealed with a screw cap lid incorporating a teflon insert. The sealed sample jar was then placed immediately into a cooler containing ice. Sample bottles were labelled and identified with the project name, unique sample number and date of collection. Samples were recorded on a chain of custody form. The chain of custody form accompanied samples upon dispatch to the laboratory for analysis. Samples retained but not requiring immediate analysis were kept in refrigerated storage at the laboratory.

Field QA/QC

A total of 7 soil samples, including 1 duplicate were submitted for laboratory analysis. Field duplicate soil samples were collected at an approximate ratio of 1 duplicate per 10 (or less) primary samples. The duplicate soil samples were identified as a "QC sample" but the identity remained undisclosed. Duplicates were collected in the field by splitting the soil sample into two separate 125ml new sample bottles. The blind replicate samples were analysed for the same target analyte's as their respective primary sample.

Field duplicates were obtained to identify the variation in concentrations between samples collected from the same sampling point, and also for checking the repeatability of the laboratories analytical methodologies.

D.3 Groundwater

Monitoring Well Installation

Two monitoring wells (MW2 and MW3) were installed onsite on 10 August 2005, and one monitoring well (MW1) was installed during the previous investigation in September 2004. The construction detail for each monitoring well is summarised in the drilling logs presented in Appendix A.

Monitoring wells were installed by Ability Plus, using a bobcat mounted drill rig, equipped with solid flight augers. Augers were decontaminated between boreholes using a high-pressure steam cleaner.

The casing for the monitoring wells was constructed from threaded and flush-joined Class 18 PVC pipe (50mm diameter). The casing string consisted of a 3.0m length of machine-slotted well screen (0.5mm slots) placed adjacent to the inferred groundwater zone. A plastic end cap was used to seal off the base of the casing.

A filtered sand/gravel pack (2mm grain size) was poured into the well annulus to a height of approximately 200mm above the well screen. Upon installation, each well was bailed to settle the gravel pack. The depth to gravel pack was checked to confirm that the well screen was covered by gravel pack.

A 0.3-0.5m bentonite seal was placed immediately above the settled gravel pack to physically isolate the well screen and prevent surface run-off from entering the well. The well annulus was then backfilled with sand and cuttings.

An expandable lockable cap was used to seal the top of the monitoring well.

Monitoring Well Gauging and Water Sampling

Each new monitoring well installed was gauged, purged and sampled after installation.

Wells were gauged using an interface probe to measure the depth to "top of liquid" and the "thickness" of any phase separated hydrocarbon (PSH). No PSH was encountered in any of the monitoring wells during the groundwater assessment. This was confirmed visually by sampling each of the wells using a disposable bailer.

In order to obtain groundwater samples at the site, three well volumes were purged from each well using a new dedicated disposable PVC bailer. The groundwater sample from each well was collected using the dedicated bailer.

Laboratory Samples

Water samples analyed for TPH were drained from the bailer into a new 500ml amber glass bottle. Each bottle was completely filled to exclude air and sealed with a teflon lined cap.

Water samples analysed for BTEX compounds were drained from the bailer into two new 40ml glass volatile organic analysis (VOA) vials. Each VOA vial was completely filled to exclude air and was sealed by a teflon lined septum.

Water samples analysed for metals were drained from the bailer into two new 250ml unacidified plastic containers. Each container was completely filled to exclude air and was sealed by a teflon lined septum. Upon laboratory receipt these samples were filtered to remove contained sediment.

All water sample containers were placed immediately into a cooler containing ice and transported directly to the analytical laboratory with a chain of custody form.

Laboratory Analysis

Soil samples collected were forwarded to Labmark for analysis of total petroleum hydrocarbons (TPH) including constituent chainlengths, and the BTEX compounds benzene, toluene, ethylbenzene and xylenes and metals.

Labmark is NATA registered for the analysis carried out. Samples not analysed by the laboratory were stored in refrigeration for 30 days.

APPENDIX E
LABORATORY QUALITY ASSURANCE PLAN

APPENDIX E

LABORATORY QUALITY ASSURANCE PLAN

The following provides a summary of the field and laboratory QA/QC data collected during the assessment works conducted at the site, located between Bonar and Loftus Streets, Arncliffe. This QA/QC analysis is carried out to evaluate both the field and laboratory data.

E.1 Laboratory Analytical Methods

A summary of the soil and groundwater samples submitted to the analytical laboratories are summarised in Table A. The laboratory analytical methods and limits of reporting (LOR) are shown on the official Certificate of Analysis issued by the laboratory. All laboratory analytical methods are required to be in compliance with Schedule B(3) of the National Environment Protection – Assessment of Site Contamination Measure (NEPC 1999).

Soil

A total of 7 soil samples (including 1 duplicate sample) were collected from the site during the environmental site assessment.

Water

A total of 4 water samples (including 1 duplicate sample) were collected for analysis during the recent groundwater monitoring event.

TABLE A
Laboratory Analysis Summary Information

SOILS		
Analyte	**No. Samples Analysed**	**Analytical Method**
BTEX	4	Purge and Trap, Quantification by GC/PID/MSD
TPH C_6-C_9	4	Purge and Trap, Quantification by GC/FID
TPH C_{10}-C_{36}	4	Solvent Extraction, Quantification by GC/FID
PAHs	4	
8 Priority Metals	7	ICP-MS
GROUNDWATER		
BTEX	4	Purge and Trap, Quantification by GC/PID/MSD
TPH C_6-C_9	4	Purge and Trap, Quantification by GC/FID
TPH C_{10}-C_{36}	4	Solvent Extraction, Quantification by GC/FID
8 Priority Metals	4	ICP-MS

Notes: GC = Gas Chromatography
PID = photoionisation detection
FID = flame ionisation detection MSD = mass spectrometry

E.2 Field QA/QC

Field Quality Control was carried out as part of the QA/QC programme for the site in order to validate the integrity of field procedures and to assess the reliability of laboratory analysis. Samples were submitted to Labmark at the sample rate of 1 in 10 (or less). The Australian Standard AS4482.1-1997, referenced in the NEPM (NEPC 1999) indicates that for every 20 samples taken, one set of blind samples should be analysed.

To provide a measure of the precision of the internal samples within Labmark, results were compared via the calculation of relative percentage difference (RPD) for each set of duplicate results for each analyte (expressed as a percentage).

Soil Results

A summary of the duplicate samples collected at the site is included in Table 1. One set of soil sample duplicates (labelled QC4 and BH11-0.3) were collected in the field and analysed for TPH, BTEX compounds, PAHs and metals.

RPD calculations for blind field duplicate results are presented in Table 1. With reference to the duplicate sample pair (QC4 and BH11-0.3) for BTEX, TPH and PAHs, all results were below the limit of reporting (LOR). With reference to the duplicate sample pair for metals the RPDs were generally within acceptable ranges. With reference to TPH C_6-C_9 and C_{10}-C_{14} the RPDs were above the acceptable ranges and likely due to the smearing effect of the groundwater, causing heterogeneity in the soil profile. The elevated RPD value is not considered likely to alter the results or conclusions of the site assessment.

Groundwater Results

A summary of the duplicate water samples collected at the site is included in Table 2. One set of sample duplicates (labelled QCMA and MW2) were collected in the field and analysed for TPH, BTEX compounds and metals.

RPD calculations for blind field duplicate results are presented in Table 2. With reference to the duplicate sample pair (QCMA and MW2) for TPH, BTEX and metals the RPDs were generally within acceptable ranges with the exception of TPH in the C_{26} to C_{36} range. The elevated RPD value is not considered likely to alter the results or conclusions of the site assessment.

E.3 Laboratory QA/QC Evaluation

A review of the laboratory analytical data is included in the following section. In general the laboratory QA/QC procedure to determine the accuracy and precision of the analyses comprised a combination of the following:

- Analysis of a method blank (MB) to determine any contamination from the analytical process.
- Analysis of a spike or laboratory control sample (LCS) which is an externally prepared and supplied reference material containing representative analytes under investigation. The LCS monitors long term accuracy, and is measured as percent recovery (%R).
- Analysis of a matrix spike (S). A matrix spike involves a laboratory grade sample being introduced into one of the soil or groundwater samples being analysed to determine the effects between the sample matrix and analytes being measured. Results are reported as percent recovery (%R).
- Analysis of a laboratory prepared duplicate sample (D) to determine the overall efficiency of the method, the effect of the sample matrix on the analytical results, and the accuracy of the duplicate analysis.

The following data quality objectives represent current industry best practice and form the basis for the review of data quality:

- Accuracy, or average recoveries, should be in the range 75-125% based on laboratory spike data;
- RPDs for field duplicates should be below 50% for low level duplicates (ie <10 x LOR) and 30% for high level laboratory duplicates (ie >10 x LOR) for all analytes.
- Precision should be an average of +/- 20 - 50% for laboratory duplicates.
- Soil samples for TPH and BTEX should be analysed within 14 days and samples for metals within 6 months.
- Water samples for TPH and BTEX should be analysed within 7 days.
- Field duplicates should be collected at a frequency of at 1 in 10.

Summary of QA/QC results

In summary the results of the laboratory QA/QC evaluation identified:

Sample Integrity and Containers - chain of custody (COC) documentation were signed and dated by Labmark personnel stating that all samples were received in good order and were presented in adequate sample containers.
Holding Times - all samples were extracted within the required holding times.
Matrix Spikes - all were within acceptable limits.
Laboratory Control Samples - all were within acceptable limits.
Laboratory Duplicate Samples - all RPD values were within acceptable limits.
Method Blank – selected analytes were below detection limits.

URBAN ENVIRONMENTAL

TAX INVOICE

Urban Environmental Consultants Pty Ltd
ABN: 78 086 766 592

Date: 2 September, 2005

To: Karimbla Construction Services Pty Ltd (ABN 69 093 419 875)
Level 5, Museum Towers
267 – 277 Castlereagh Street
SYDNEY NSW 2000

Attention: Larissa Brennan

Reference: Email Proposal dated 28 July, 2005

Confirmation Fax dated 8 August 2005 (attached)

Phase 2 Environmental Site Assessment
Bonar Street, Arncliffe

Lump Sum	$10,910
GST	$ 1,091
Total Amount	**$12,001**

URBAN ENVIRONMENTAL CONSULTANTS PTY LTD
SUITE 7, 4 HYAM STREET, BALMAIN, 2041 NSW
PO BOX 1070, ROZELLE, 2039 NSW
PHONE: 02 9555 7570
FAX: 02 9555 6313
MOB: 0413 584 110
EMAIL:urban.environmental@bigpond.com

Meriton Apartments Pty Limited
Builders and Developers
ABN 75 000 644 888

Level 5, 267-277 Castlereagh Street, Sydney NSW 2000
Telephone: 02 9264 7177
Facsimile: 02 9264 1402
Email: larissab@meriton.com.au

FAX

TO: FRANCO FUCCENECCO

FAX NO: 9555 6313

FROM: LARISSA BRENNAN

DATE: 8 AUGUST 2005 **No. of pages** (incl. cover sheet): 1

SUBJECT: CONTAMINATION REPORTS

I refer to your quotes for the preparation of contamination assessments and advise that your quotes have been approved as follows:

- Epsom Road, Rosebery - $17,350 (incl GST)
- Bonar Street, Arncliffe - $12,000 (incl GST)

Please proceed to undertake the required work as per your scope of works.

Should you require any additional information, please contact me on 9264 7177 or via email LarissaB@Meriton.com.au

Regards

Larissa Brennan
Principal Town Planner
MERITON APARTMENTS