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

Borehole Depth: 3.0m

Commer		28/08/			pleted:	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
SV		1	BH2 1.0	0.1		Concrete Surface 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. SAND: grey, well sorted, medium to fine grained, damp with <10% clays. SAND: Black organic, soft, loose, loamy with 10-20% silts and clays.	
	ean particularium de la como	3	BH2 3.0	0.2		SAND: grey, saturated, medium coarse grained with <10% clay content. Borehole ceased at 3.0m	
Method		***************************************	distante massiment de distriction de la constante de la consta	erdenserens sammens	·		
SV Soli	d Flight A	uger with V	-bit	***************************************	**************************************		

BOREHOLE No.: BH3

Sheet 1 of 1

Client:

Meriton Apartments Pty Ltd

Project:

ESA

Job Number:

Contractor:

Ability Plus

Location: Bonar Street Precinct, Arncliffe

Logged by:

PF

Borehole diam.: Commenced:

50mm

Borehole Depth: 3.0m

1		nend	ed:	•	28/0	0/80	4			oleted:	28/08/04	
Method	Water	Monitor	Well	Clair	Depth	The same of the sa	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
2	5	2	> L	1	0	\dashv	()	<u> </u>	g.	0	Moisture Content, Consistency (Geologic Origin)	Blow Count, Other
											Bitumen Surface	
						1	3H3 C	0.2	2.2		FILL: Sandy gravelly mix of brown and grey.	
						_						
						F	3H3 C	0.5	4		SAND: Dark grey organic with 10% silt and clay, loamy, sof.t, well sorted, dry	Hydrocarbon odour QC1 duplicate sample
						\exists					loamy, cont, well corred, dry	obtained
						\perp						
					1	E	3H3 1	.0	2		SAND: yellow brown, fine to medium grained,	
					*******				-		soft with 10-20% silts and clay, dry.	
						+						
										www.		
						7						
SV						-						
					2	B	3H3 2	.0	7.7		SANDY CLAY: Red and grey mottled, tight, firm to	Hydrocarbon odour
											soft, (30% sand, 10% silt, 60% clay), damp.	
						-						
						\dashv						
					3	E	3 H3 3		5.9		As above with more grey mottling	
				***************************************					J.0			
			nor construction		Office and the second						Borehole ceased at 3.0m	
		thod Solid	Flight	Au	ger with	า V-b	it					
L			······		***************************************					************************		· · · · · · · · · · · · · · · · · · ·

BOREHOLE No.: BH4

Sheet 1 of 1

Client:

Meriton Apartments Pty Ltd

Project:

ESA

Job Number:

Contractor:

Ability Plus

Location: Bonar Street Precinct, Arncliffe

Logged by:

PF

Borehole diam.:

50mm

Borehole Depth: 3.0m

Co	mm	nen	ced:	:	28	/08/	04		Com	olete	ed:	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		ВН4	0.5	1.2			Garden Surface FILL: Sandy gravelly mix of brown, grey and white sandstone speckles. Gravels up to 3cm.	
					1.	ratura (ratura)	BH4	1.0	0.2			As above	
SV					2		BH4 :		0.4		0.000	CLAYEY SAND: grey, wet, medium grained, well sorted with 20% clay content. As above but saturated	
									<u></u>	<u> </u>		Borehole ceased at 3.0m	
	Met SV			ıht A	uger w	ith V	-bit		habito mitro ma	***************************************			

Jean Environmental Sansultants Ftv. dd

BOREHOLE LOG

BOREHOLE No.: BH5

Sheet 1 of 1

Client:

Meriton Apartments Pty Ltd

Project: ESA

Job Number:

Contractor:

Ability Plus

Location: Bonar Street Precinct, Arncliffe

Logged by:

PF

Borehole diam.:

50mm

Borehole Depth: 3.0m

Commenced:	28/08/04	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
SV	BH5 0.5 BH5 1.0 BH5 2.0 BH5 3.0	0.2	Concrete Surface FILL: sand and gravel beneath concrete SAND: Black organic, loamy, damp, with some gravel pieces from overlying fill. SAND: dark grey, fine grained with <10% clays and 20% silt, soft, loose, moist. CLAYEY SAND: dark grey, soft, wet, medium grained, well sorted with 30% clay, 20% silt and 50% sand. As above but saturated Borehole ceased at 3.0m	blow Count, Other
Method SV Solid Flight A	Auger with V-bit		perones season at com	

BOREHOLE No.: BH6/MW1

Sheet 1 of 1

Client:

Meriton Apartments Pty Ltd

28/08/04

Project:

ESA

Job Number: Contractor:

Ability Plus

Location: Bonar Street Precinct, Arncliffe

Logged by:

PF

Borehole diam.: Commenced:

50mm

Borehole Depth: 4.5m

Completed:

							۵	Ê	,	GEOLOGICAL DESCRIPTION	COMMENTS
Method	Water	Monitor	Details	Depth		Sample	Type / ID	PID (ppm)	Graphic Log	Material Type: USCS Group, Colour, Particle Size, Moisture Content, Consistency (Geologic Origin)	(Field Rank, Odour, Visual Blow Count, Other
		Cap		0_						Grass Surface FILL: Yellow brown, medium grained, well sorted sand.	Water Sample MW1 obtained
		Benton Seal	ite		В	H6 0.	.5	0.6			
		Blank 0m to 1 Slotted Screen		1_	В	H6 1.	.0	0.4		SAND: grey, moist, loose, medium grained, well sorted, with <10% silt and clay	
SV		1.5m to 2.5mm pack		2_	В	H6 2.	.0	0.2		As above, lighter grey and wet	
S V				3_	BI	H6 3.	.0	0.2		CLAYEY SAND: dark grey, soft, medium grained, well sorted with 30% clay, 20% silt and 50% sand, saturated.	
		End Ca	ap	4_	BI	H6 4.	.0	0.2		As above Borehole ceased at 4.5m	
		hod Solid Fl	aht Aua	er with \	/-bit						
L	~~~		9.11,149	VVILII V	~11	-		*********			

BOREHOLE No.: BH7

Sheet 1 of 1

Client:

Meriton Apartments Pty Ltd

Project: Phase Il Environmental Site Assessment

Location: Loftus and Bonar Streets Arncliffe

Job Number:

Contractor:

SJ259

Logged by:

Ability Plus PF

Borehole diam.: Commenced:

50mm 09/08/05 Borehole Depth: 2.0m

Completed:

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

BOREHOLE No.: BH8

Sheet 1 of 1

Client:

Meriton Apartments Pty Ltd

Project: Phase II Environmental Site Assessment

Contractor:

Location: Loftus and Bonar Streets Arncliffe

SJ259

Ability Plus

Logged by:

Job Number:

PF

Borehole diam.: Commenced:

50mm 10/08/05 Borehole Depth: 2.0m

Completed:

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
SV			0	0		15cm Concrete surface. Fill - yellow clayey sand mixed with black sands and brown clays. Dry and loose. Sand - grey brown, damp, soft, loose, fine to medium grains, well sorted quartz grains. Water table at 1.8m. Clayey Sand - medium grey, medium dense, moist, soft, medium to coarse grain size with 20% clay content. Drilling terminated at 2.0m.	Method SV Solid Flight Auger with V-bit

BOREHOLE No.: BH9/MW2

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

Borehole Depth: 3.0m

Completed:

Commenced:

10/08/05

1/

7.		la-		0	۵	pm)	U	GEOLOGICAL DESCRIPTION Material Type: USCS Group, Colour, Particle	COMMENTS
Method	Water	Monitor Well Details	Depth	Sample	Type / ID	PID (ppm)	Graphic Log	Size, Moisture Content, Consistency (Geologic Origin)	(Field Rank, Odour, Visual Blow Count, Other
		Cap Bentonite Seal, 0.2 to 0.5m	0					15cm Concrete surface. Fill - sand, dark grey black, fine with some small gravels, loose and dry.	Water Sample MW2 obtained
		2.5mm sand pack, 0.5m to 3.0m	1 	ВН9-(0.5	0		Sand - dark grey black, damp, soft, loose, fine to medium grains, well sorted quartz grains.	
SV		Slotted Screen 0 to 3.0m	2	ВН9-:	2.0	0		Water table at 1.8m. 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
		End Cap	3		0007847447447			Well installed to 3.0m	

BOREHOLE No.: BH10

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.: Commenced:

50mm 10/08/05 Borehole Depth: 2.0m

Completed:

-		·		********	 -	 _	***********		T			
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
SV					2	внис	-0.5	0			15cm Concrete surface. Fill - sand and sandstone gravels, dark brown/black speckled with light sandstone and sand fragments. Sand - dark grey/black, damp, fine grained, soft, loose, dry, well sorted quartz grains. Clay - light grey brown, soft moist. Drilling terminated at 2.0m.	Method SV Solid Flight Auger with V-bit

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

Borehole Depth: 2.0m Completed:

Commenced: 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
ω <	Wate	Moni	Well	Deta	1	BH11-0		0 0	Grap	Size, Moisture Content, Consistency (Geologic Origin) 15cm Concrete surface. Fill - sand and sandstone gravels, dark brown/black speckled with light coloured sandstone and gravel fragments. Clay - mottled brown and red brown, soft, moist with few gravel pieces. Sand - grey brown, damp, fine to med grain size, soft, loose, well sorted. Drilling terminated at 2.0m.	(Field Rank, Odour, Visual Blow Count, Other QC4 = Dup Soil Sample Method SV Solid Flight Auger with V-bit
	терите на пред на постава на пред дей на пред дей на пред на п		-		3						

BOREHOLE No.: BH12/MW3

Sheet 1 of 1

Client:

Meriton Apartments Pty Ltd

Project: Phase II Environmental Site Assessment

Job Number:

SJ259

Contractor:

Ability Plus

Location: Loftus and Bonar Streets Arncliffe

Logged by:

PF

Borehole diam.:

50mm

Borehole Depth: 3.0m Completed:

10/08/05

Commenced:

р		<u></u>		Φ	۵	pm)	Q.	GEOLOGICAL DESCRIPTION Material Type: USCS Group, Colour, Particle	COMMENTS
Method	Water	Monitor Well Details	Depth	Sample	Type / ID	PID (ppm)	Graphic Log	Size, Moisture Content, Consistency (Geologic Origin)	(Field Rank, Odour, Visual Blow Count, Other
		Cap Bentonite Seal, 0.2 to 0.5m 2.5mm sand pack, 0.5m to	0	BH12	-0.5	0		15cm Concrete surface. Fill - Yellow clayey sand mixed with black sands and brown clays. Clay - mottled brown and red brown,	Water Sample MVV3 obtained
sv		3.5m Blank Screen 0 to 0.5m Slotted	-					soft, moist with few gravel pieces.	
		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







SYDNEY License No. N0356.

credited for compliance with ISO/IEC 17025. The ails of tests, calibrations and/or measurements haded in this document are traceable to startianisational standards. NATA is a signatory to APLAC mutual recognition arrangement for the unal recognition of the equivalence of testing, frontion and inspection reports. Quarantine Approved premises criteria 5.1 for quarantine containment level 1 (QCT) friedities. Class five criteria cover premises utilised for research, analysis, analor testing of biological material, soil, animal, plant and human products.

FINAL CERTIFICATE OF ANALYSIS - ENVIRONMENTAL DIVISION

Laboratory Report No:

E023266

Urban Environmental

Client Reference: Contact Name:

Client Name:

Meriton Arncliffe Franco Fuccenecco

Chain of Custody No: Sample Matrix:

na. SOIL Cover Page 1 of 3 plus Sample Results

Date Received: 12/08/2005 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: surrogate spike:

addition per target organic method

I per analytical batch

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

EQL:

(MDL)

QUALITY CONTROL GLOBAL ACCEPTANCE CRITERIA (GAC)

Accuracy: spike, lcs, crm surrogate

general analytes 70% - 130% recovery

phenol analytes 50% - 130% récovery organophosphorous pesticide analytes

60% - 130% recovery phenoxy acid herbicides 50% - 130% recovery

anion/cation bal: +/- 10% (0-3 meg/l), +/- 5% (>3 meg/l)

Precision: method blank:

not detected >95% of the reported EQL

duplicate lab

0-30% (>10xEQL), 0-75% (5-10xEQL)

RPD (metals): 0-100% (<5xEQL)

duplicate lab

0-50% (>10xEQL), 0-75% (5-10xEQL)

RPD:

0-100% (<5xEOL)

QUALITY CONTROL ANALYTE SPECIFIC ACCEPTANCE CRITERIA (ASAC)

Accuracy: spike, lcs, crm surrogate:

analyte specific recovery data

<3xsd of historical mean

Sensitivity:

Typically 2-5 x Method Detection Limit

Uncertainty: spike, lcs

measurement calculated from historical analyte specific control

charts

RESULT ANNOTATION

DOO:

Data Quality Objective Data Quality Indicator

ς.

d.

matrix spike recovery

p:

pending

DOL EOL:

-- '

Estimated Quantitation Limit

laboratory duplicate laboratory triplicate t:

lcs: crm laboratory control sample

mh

certified reference material

not applicable RPD relative % difference method blank

Ivan Povolny

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

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

Simon Mills

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

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



Laboratory Industry Group

Laboratory Report: E023266

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Cover Page 2 of 3

NEPC GUIDELINE COMPLIANCE - DOO

GENERAL

- Results relate specifically to samples as received. Sample results are not corrected for matrix spike, les, or Α. surrogate recovery data.
- EQL's are matrix dependant and may be increased due to sample dilution or matrix interference. В.
- C. Laboratory QA/QC samples are specific to this project.
- Inter-laboratory proficiency results are available upon request. NATA accreditation details available at D. 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.
- Recovery data (ms, surrogate, crm, lcs) outside ASAC limits shall initiate an investigative action. G. 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.
- Η. 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.
- 1. LabMark shall maintain an official copy of this Certificate of Analysis for all tracable reference purposes.

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

- A. SRN issued to client upon sample receipt & login verification.
- Preservation & sampling date details specified on COC and SRN, unless noted. В.
- Sample Integrity & Validated Time of Sample Receipt (VTSR) Holding Times verified (preservation may C. extend holding time, refer to preservation chart).

3. NATA ACCREDITED METHODS

- Α. NATA accreditation held for each method and sample matrix type reported, unless noted below.
- NATA accredited in-house laboratory methods are referenced from NEPC, ASTM, modified USEPA / APHA В. 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.

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



Environmental Laboratory Industry July Group

Laboratory Report: E023266

Cover Page 3 of 3

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:

number of discrete duplicate extractions/analyses performed.

% d-ratio NEPC guideline for laboratory duplicates is 1 in 10 samples (min 10%).

number of triplicate extractions/analyses performed. #1

#s number of spiked samples analysed.

%s-ratio USEPA guideline for laboratory matrix spikes is 1 in 20 samples (min 5%).

ADDITIONAL COMMENTS SPECIFIC TO THIS REPORT 5.

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.



E023266 Laboratory Report No:

Urban Environmental

Franco Fuccenecco

Meriton Arncliffe

Chent Reference Contact Name: Client Name:

plus cover page Page: 1 of 8

Date: 30/08/05

Certificate of Analysis Final

CONTRACT	- NOW W.	
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o trought old	o modes out	

Laborator	Laboratory Identification		33683	33685	33687	33689	les	qm		
Sample Ide	Sample Identification		BH7	ВН9	BHIII	6C4	OC	ЭÒ		
Depth (m)		MANAGE BETTATAN	0.5	0.5	0.3	1	ı	.		and the second s
Sampling 1	Sampling Date recorded on COC		50/8/01	10/8/05	10/8/05	10/8/05	i	1	-	
Laboratory	Laboratory Extraction (Preparation) Date		16/8/05	50/8/91	16/8/05	50/8/91	16/8/05	50/8/91	The second secon	
Laboratory	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		41040444
	Toluene	0.5	<0.5	<0.5	<0.5	<0.5	114%	<0.5	Open de la company de la compa	
makoodatuk ess	Ethylbenzene	0.5	<0.5	<0.5	<0.5	<0.5	111%	<0.5	AMERICA STATE OF THE STATE OF T	de de la constante de la const
	meta- and para-Xylene	panel	-	~	7	7	119%	7	naki yakan cina	APPLICATION AND ADDRESS OF THE
	ortho-Xylene	0.5	<0.5	<0.5	<0.5	<0.5	110%	<0.5		
	Total Xylene	1	ŀ	ł	1	ı	- 1	!	and an analysis of the second	******
	CDFB (Surr @ 10mg/kg)	1	97%	%68	86%	93%	%66	%66		
Method	Volatile TPH by P&T (vTPH)	EQL								
E003.2	C6 - C9 Fraction	10	<10	<10	<10	<10	%86	<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.



Urban Environmental Franco Fuccenecco E023266 Laboratory Report No: Contact Name: Client Name:

Page: 2 of 8

plus cover page

Date: 30/08/05

Certificate of Analysis Final

This report supercedes reports issued on: 23/08/05

		Client Reference	2	Meriton Arncliffe	liffe		This	eport supercedes re	This report supercedes reports issued on: 23/08/05	
Laborate	Laboratory Identification		33683	33685	33687	33689	lcs	mb		
Sample Id	Sample Identification		BH7	ВН9	BHII	QC4) DO	oc oc		aurach beidean er sait an
Depth (m)		-	0.5	0.5	0.3	į	ļ	đ		uk Ser annak dina aranja an
Sampling	Sampling Date recorded on COC		10/8/05	50/8/01	10/8/05	10/8/05	ļ	1		
Laborator	Laboratory Extraction (Preparation) Date		16/8/05	50/8/91	16/8/05	16/8/05	16/8/05	16/8/05		
Laborator	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)	рн) ЕQL								ann à Mhaidh ac an d
E006.2	C10 - C14 Fraction	50	<50	<50	<50	<50	l	<50		110 2000-2000-
······································	C15 - C28 Fraction	100	<100	<100	<100	<100	84%	<100		
	C29 - C36 Fraction	100	<100	<100	<100	<100	ţ	<100		-
noile in annual s	Sum of TPH C10 - C36		1	i	1	ļ	1	ł		Ý
-	AND THE PROPERTY OF THE PROPER									

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.



Contact Name:

Urban Environmental Franco Fuccenecco

plus cover page

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of Analysis Certificate Final

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Date: 30/08/05	0
This report supercedes reports issued on 23/08/05	708/05

Sumple Identification 33683 33687 33689 Iss mb	ì	Client Reference	rence	Σ	Meriton Arncliffe	iffe		This re	sport supercedes	This report supercedes reports issued on 23/08/05	19		
BH7 BH9 BH11 QC4 QC QC	ato	ry Identification		33683	33685	33687	33689	les	mb				
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g Date recorded on COC 10 R 05 10 R 05 10 R 05 10 R 05 ny Extraction (Preparation) Date 1 K 8 05 2 C 0.5 2 C 0	(m)		***************************************	0.5	0.5	0.3	1	ŀ	ŀ		d and the constitution	······································	
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0.5 <0.5	~)	Naphthalene	0.5	<0.5	<0.5	<0.5	<0.5	106%	<0.5		Minnion Tab		
0.5 <0.5		Acenaphthylene	0.5	<0.5	<0.5	<0.5	<0.5	110%	<0.5			***********	
0.5 <0.5		Acenaphthene	0.5	<0.5	<0.5	<0.5	<0.5	109%	<0.5	***************************************	al silva		
0.5 <0.5		Fluorene	0.5	<0.5	<0.5	<0.5	<0.5	112%	<0.5		unisottuis.		
0.5 <0.5		Phenanthrene	0.5	<0.5	6.0	<0.5	<0.5	123%	<0.5				
0.5 <0.5		Anthracene	0.5	<0.5	<0.5	<0.5	<0.5	116%	<0.5		our years of the	************	
0.5 <0.5		Fluoranthene	0.5	<0.5	<u></u>	<0.5	<0.5	110%	<0.5				
0.5 <0.5		Pyrene	0.5	<0.5		<0.5	<0.5	1111%	<0.5		traducija nadalija ni		
0.5 <0.5		Benz(a)anthracene	0.5	<0.5	<0.5	<0.5	<0.5	103%	<0.5				
1 <1		Chrysene	0.5	<0.5	<0.5	<0.5	<0.5	122%	<0.5	***************************************	OP-SERVICE		
0.5 <0.5		Benzo(b)&(k)fluoranthene		7	7	7	7	103%	7	··············			
0.5 <0.5		Benzo(a) pyrene	0.5	<0.5	<0.5	<0.5	<0.5	.103%	<0.5		on some		
0.5 <0.5		Indeno(1,2,3-c,d)pyrene	0.5	<0.5	<0.5	<0.5	<0.5	105%	<0.5				
0.5 <0.5 <0.5 <0.5 <0.5 112% 3.3		Dibenz(a,h)anthracene	0.5	<0.5	<0.5	<0.5	<0.5	%001	<0.5	***************************************		ala de la composição de l	
3.3 55% - 91% 94% 102% 95% 95% 120% 127% 123% 129% 120%		Benzo(g,h,i)perylene	0.5	<0.5	<0.5	<0.5	<0.5	112%	<0.5	-			
) 91% 94% 102% 95% 95%) 126% 127% 123% 129% 120%		Sum of reported PAHs	į.	1	3.3	1	ŀ	1	ı		de Primarilland		
) 126% 127% 123% 129% 120%		2-FBP (Surr @ 5mg/kg)	i i	%16	%+6	102%	95%	95%	%901	ovi lan uta w			
		TP-d14 (Surr @ 5mg/kg)	l l	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.





Urban Environmental

Franco Fuccenecco

Contact Name:

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Date: 30/08/05

Certificate of Analysis Final

This report supercedes reports issued on: 23/08/05

		Client Reference	2	Meriton Arncliffe	liffe		This r	eport supercedes	This report supercedes reports issued on: $23/08/05$	1; 23/08/05		
Laborate	Laboratory Identification		33683	33684	33685	33686	33687	33688	33689	33684d	33684r	33686s
Sample Ic	Sample Identification		BH7	ВН8	ВН9	BH10	внп	BH12	QC4	ЭÒ	50	ЭÒС
Depth (m)		NO. OF THE PARTY O	5:0	0.5	0.5	0.5	0.3	0.5	1	ì	{ 1	1
Sampling	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	1	1	ļ
Laborator	Laboratory Extraction (Preparation) Date		17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	17/8/05	50/8/21	17/8/05	1	17/8/05
Laborator	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	The State of the S									
E022.2	Arsenic	\$2.00mg	7	7	91	3	2	m	7	· V	1.	104%
-	Cadmium	0.1	<0.1	6.1	0.5	0.3	<0.1	0.2	0.1	<0.1	1	102%
********	Chromium		4	4	41	6	6		01	7	67%	113%
	Copper	7	10	4	160	16	13	099	81	7	1	95%
	Nickel	gallen)		7	12	7	∞	6	6	<u>~</u>	Ì	%86
	Lead	7	23	4	260	19	21	91	26	4	!	#
a	Zinc	'n	7	ζ,	550	96	16	59	23	♡	ľ	#
- The state of the							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			CHARLES OF THE PROPERTY OF THE	Commence of the Commence of th	

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.



Franco Fuccenecco

Meriton Arncliffe

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Urban Environmental

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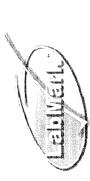
Date: 30/08/05

Sample Identification QC QC </th <th>Laborato</th> <th>Laboratory Identification</th> <th></th> <th>crm</th> <th>səl</th> <th>qm</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	Laborato	Laboratory Identification		crm	səl	qm							
7) EQL 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 17/8/05 1 10.1 10.1 10.2 1	Sample Id	lentification	- F	ЭÒ	ÓC	OC.				And the second of the second o			
7) EQL 17/8/05 17/8/05 17/8/05 17/8/05 17/8/05 17/8/05 17/8/05 17/8/05 10/8/05 10/8/05 10/8/05 10/8/05 10/8/05 10/8/05 11/8/05	Depth (m)) Date recorded on COC	en e	<u> </u>	<u> </u>	; ;					vernige, make the consequence		
Arsenic Chromium 0.1 102% 105% 105% 105% 105% 105% 105% 105% 105	Laborator	y Extraction (Preparation) Date		17/8/05	17/8/05	17/8/05							
A cid extractable metals (M7) EQL 96% 91% Arsenic 1 96% 91% Cadmium 0.1 101% 107% Chromium 1 102% 105% Copper 2 98% 102% Nickel 1 99% 97% Lead 2 113% 109% Zinc 5 96% 112%	Cattoriator	y manysis Daic		17/0/03	CD/0//1	CO/07/1					in minutes		
Arsenic 1 96% 91% Cadmium 0.1 101% 107% Chromium 1 102% 105% Copper 2 98% 102% Nickel 1 99% 97% Lead 2 113% 109% Zinc 5 96% 112%	Method		EQL			(CONTROL CONTROL CONTR		M84.01.100					
m 0.1 101% 107% 107% 105% 105% 105% 105% 105% 105% 2 98% 97% 109% 2 113% 109% 5 96% 112%	E022.2	Arsenic	+	%96	91%	~		W-1 300 12 -			The Residence of the Parket of	ran wales.	
m 1 102% 105% 2 98% 102% 1 99% 97% 2 113% 109% 5 96% 112%		Cadmium	0.1	101%	107%	0.1	PARTITION	-	TO TO THE TOTAL PARTY OF THE TOT			**********	
2 98% 102% 1 99% 97% 2 113% 109% 5 96% 112%	· upo mina.	Chromium	p	102%	105%	7					Military		
1 99% 97% 2 113% 109% 5 96% 112%	Processing in the contract of	Copper	2	%86	102%	\$	N. S. C.				e-weining.		
2 113% 109% 5 96% 112%	op Historian	Nickel	y	%66	97%	$\overline{\vee}$	- HITCHION	***************************************				************	
5 96% 112%		Lead	2	113%	9%601	4		***************************************			MA visual have	Wigh-Englands	
		Zinc	ς.	%96	112%	♡							

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.



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Client Reference Contact Name:

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Laboratory Identification		33683	33684	33685	33686	33687	33688	33689	33684d	33684r	33686s
Sample Identification		BH7	ВН8	ВН9	BH10	ВНП	BH12	QC4	ÓC	0C	ρò
Depth (m)		0.5	0.5	0.5	0.5	0.3	0.5	ſ	I	ŀ	;
Sampling Date recorded on COC	ne Pronte e an	10/8/05	10/8/05	10/8/05	10/8/05	10/8/05	10/8/05	10/8/05	Į	ł	ł
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	ļ	17/8/05
Method Acid extractable mercury E026.2 Mercury	EQL 0.05	<0.05	0.12	0.14	0.26	<0.05	0.08	<0.05	0.11	%6	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	-1	Crm	les	dm		
Sample Identification		ÓC	20)		
Depth (m)		i	1	1	-	
Sampling Date recorded on COC		1	1	!		
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					and an annual control of the control
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.



E023266 Laboratory Report No:

Urban Environmental

Franco Fuccenecco

Contact Name: Client Name:

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Analysis Certificate

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Laborato	Laboratory Identification		33683	33684	33685	33686	33687	33688	33689	33684d	33684r	
Sample Id	Sample Identification		BH7	BH8	ВН9	BH10	BHII	BH12	QC4	20	ЭÒ	phiant Standard venezishik kiril
Depth (m)		Arth eithe a man aith	0.5	0.5	0.5	0.5	0.3	0.5	ŀ	l	ŀ	-
Sampling	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	ļ	į	
Laborator	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	50/8/91		
Laborator	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	ı	- Control of the Cont
Method	Method Moisture	EQL										
E005.2	Moisture	1	9	4			6	91	10	33	29%	
Contract of the Contract of th		The state of the s	The state of the s	The state of the s	The state of the s	THE REAL PROPERTY AND ADDRESS OF THE PERSON NAMED IN COLUMN TWO IS NOT	THE REAL PROPERTY AND ADDRESS OF THE PERSON NAMED IN COLUMN TWO IS NOT					

Results expressed in % w/w unless otherwise specified

Comments:

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



Contact Name:

Urban Environmental

Franco Fuccenecco

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	33690r	DÒ.	ŀ	!	***************************************	l		1	1	**	ŀ		i
Meriton Arneliffe	33690d) OC	l	i	19/8/05	26/8/05		\$	ψ.	<0.01	<0.01	<0.01	\$
	33691	ВН12	2.0	10/8/05	19/8/05	26/8/05		\$	40	<0.01	0.07	0.07	40
	33690	ВН9	2.0	50/8/01	19/8/05	26/8/05		\\	♡	<0.01	<0.01	<0.01	\$
eference						-	EQL	S	S	0.01	0.01	0.01	5
Client Reference	Laboratory Identification	Sample Identification		Sampling Date recorded on COC	Laboratory Extraction (Preparation) Date	Laboratory Analysis Date	POCAS	TAA (mol H+/tonne)	TPA (mol H+/tonne)	S-KCI (%)	S-P (%)	S-POS (%)	TSA (mol H+/tonne)
Ì	Laborator	Sample Ide	Depth (m)	Sampling	Laboratory	Laboratory	Method	POCAS					

Results expressed in table above unless otherwise specified

Comments:

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



Quality, Service, Support

Sample Receipt Notice (SRN)



	Client Details	Laborat	tory Reference Information
Client Name: Client Phone: Client Fax:	Urban Environmental 02 9555 7570 02 9555 6313	B1	e have this information ready hen contacting Labmark.
Contact Name:	Franco Fuccenecco	Laboratory Report	: E023266
Contact Email: Client Address:	urban.environmental@bigpond.com PO Box 1070 ROZELLE NSW 2039	Quotation Number Laboratory Addres	i i i i i i i i i i i i i i i i i i i
Project Name: Project Number:	Meriton Arncliffe - Not provided -	Phone: Fax:	61 2 9476 6533 61 2 9476 8219
CoC Number: Purchase Order: Surcharge:	 Not provided - Not provided - No surcharge applied (results by 6:3 due date) 	Fmail:	ontact: Ros Schacht ros.schacht@labmark.com.au : Jyothi Lal iyothi.lal@labmark.com.au
Sample Matrix:	SOIL		
Date Sampled (ear Date Samples Rec Date Sample Rece Date Preliminary F	eived: 12/08/2005 ipt Notice issued: 16/08/2005	NATA Accreditatio TGA GMP License APVMA License: AQIS Approval: AQIS Entry Permit	: 185-336; Enterprise No. 41681 6105 NO356

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.

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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

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Form OS0073, Rev 8 : Date Issued 12/05/2004.

Tot: 2412634272 (e.g. TCLP) Other Ex 2555 6312 YES/NO Date Required: 18 / 8 / C 5420 Date: 1215, Time: Major Cations epiloned [sto] Security Seal Serial # / cross) TP, ortho-P, TKP

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cross Free CN, WAD, Total CN O. 1 - N. Scheenkan groups) Security Seal Applied 125g (mms. 4 bents.) Machineral Teachs Lab. Quote No: Date: Safety Precaution: laboratory sample bottles may contain preservation Analysis Raquest 4545 S acid / chemicals, refer to SAFETEY label on bottle 8 500 500 500 1 C 500 125 > Penedale Serie & Non-Volesille Tests 125g (max. 4 heats.) E023266 PCB Received By: Lab Report No. Received By: STATE A SIGNATION TO HOLD OCTO 100 m Sampler: Zadam Votetive Tests いつい Company & Address: Urban Environmental 4 A. M.C.L. R.E. A . E Date: 12 Date: Combo (dras) ~> > YES (BCK) Container Type (Net. a unpreceived, Gridess, Propesto) 8 というと Meriton Mach. E M Park Comments (Highly contaminated samples). 0.1.11 0.1-11 (G) (P) NAI HOSEO GREEN Glient Details Note1: Additional water sample must be submitted for lab. duplicate & spike analysis. Note2: Contact lab if consolidating multiple analyses into a single sample container. Project Manager: Project Number: Project Name: Global Specifications I require (defaut is not required if Not ticked): \$ \$ £ £ \$ Do you wish sediment present in waters to be included in organic/inorganic extractions? Do you require DYFFERENT standard ECN's from those stated @ www.labmark.com.au? 12516 Fast TAT Guarantee required? (Suncharge may apply - Receipt cutoff time 3.00pm) days 7618. 4. Additional QAXXC reported where sample batches submitted are < 10 samples? \$63g. Signed: Signed: E-mail ros. schacht@labmark.com. au NATA 13542, AQIS N0356 . Do you wish chromatograms to be supplied? (Additional fee applies). "Metals (orde) As, Cd, Cr, Cu, NI, Pb, Zn, Hg, Cr", Cr", Fe 2", Fe3*, Be, B, Al, V, Mn, Fe, Co, Se, Sr, Sn, Mo, Ag, Ba, Tl, Bi, Sb 612-9476 6533 612-9475 8219 Matrix 0419 683300 . Urgent TAT required? (piease circle: 1 day 2 days 3 days 0409 449684 Web: www.labmark.com.au 2 Electronic data transfer (circle: fax .xls .csv .pdf ?? アロノロ Sampling 80.8 Date After fround (DB): After hours (IP): 9 Factorite Sample Relinquished by (print): Pen elepe Depth ر. د ن ب Ö BH12 BILL BHIC 5117 BHG SC4 GIT T Sample ID 848 5:14 Dispatch samples to: Unit 1/8 Leighton Place ABMARK Aguit NSW 2077 (efinguished by (prim) ab. Number 33690 33684 33683 33985 33686 33687 33988 33687 33691 **Australia**

@ Labmark Ptv. Limited 2003

APPENDIX C LABORATORY METHODS AND CERTIFICATES – GROUNDWATER







AOIS

SYDNEY License No. N0356.

Quarantine Approved premises criteria 5.4 for quarantine containment level I (QCT) facilities. Class five criteria cover premises utilised for research, analysis; anal/or testing of biological material, soft, animal, plant and human products.

FINAL CERTIFICATE OF ANALYSIS - ENVIRONMENTAL DIVISION

Laboratory Report No:

E023279

Client Name:

Urban Environmental Meriton Arncliffe

Franco Fuccenecco

Client Reference: Contact Name: Chain of Custody No:

Sample Matrix:

WATER

Cover Page 1 of 3 plus Sample Results

Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/hational standards. NATA is a signatory to

Australian/national stationary, NATA is a signature the APLAC mutual recognition arrangement for mutual recognition of the equivalence of to calibration and inspection reports.

Date Received: 15/08/2005

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

les, erm, method: surrogate spike:

addition per target organic method

1 per analytical batch

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:

Typically 2-5 x Method Detection Limit

(MDL)

QUALITY CONTROL GLOBAL ACCEPTANCE CRITERIA (GAC)

Accuracy: spike, lcs, crm

general analytes 70% - 130% recovery surrogate:

phenol analytes 50% - 130% recovery

organophosphorous pesticide analytes 60% - 130% recovery

phenoxy acid herbicides 50% - 130% recovery

anion/cation bal: +/- 10% (0-3 meg/l),

+/- 5% (>3 meq/l)

Precision: method blank:

not detected >95% of the reported EOL

duplicate lab 0-30% (>10xEQL), 0-75% (5-10xEQL) RPD (metals):

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

EQL:

1:

Uncertainty: spike, lcs:

measurement calculated from

historical analyte specific control

charts

RESULT ANNOTATION

DOO: DOI:

Data Quality Objective

Estimated Quantitation Limit

Data Quality Indicator

matrix spike recovery d: laboratory duplicate

pending

lcs: laboratory control sample

method blank

EQL:

not applicable

laboratory triplicate RPD relative % difference crm mb:

p:

certified reference material

Ivan Povolny

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

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



Environmental Laboratory Industry Group

Laboratory Report: E023279

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A PART OF THE COMPLIANCE

GENERAL 1.

- Results relate specifically to samples as received. Sample results are not corrected for matrix spike, lcs, or A. surrogate recovery data.
- EQL's are matrix dependant and may be increased due to sample dilution or matrix interference. В.
- 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.
- Recovery data (ms, surrogate, crm, lcs) outside ASAC limits shall initiate an investigative action. G. 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.
- Н. 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.
- 1. 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.
- Preservation & sampling date details specified on COC and SRN, unless noted. В.
- Sample Integrity & Validated Time of Sample Receipt (VTSR) Holding Times verified (preservation may C. extend holding time, refer to preservation chart).

3. NATA ACCREDITED METHODS

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



Environmental Laboratory Industry Group

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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%).

number of triplicate extractions/analyses performed.

us 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.



E023279 Laboratory Report No: Franco Fuccenecco

Meriton Arneliffe

Client Reference Contact Name: Client Name:

Urban Environmental

plus cover page

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Date: 26/08/05

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Laborator	Laboratory Identification		33834	33835	33836	33837	les	dm			
Sample Ide	Sample Identification		MW1	MW2	MW3	QCMA	20	ე ბ			
Depth (m)		**************************************	I	1	1	1	ļ	l			
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Laboratory	Laboratory Extraction (Preparation) Date		22/8/05	22/8/05	22/8/05	22/8/05	22/8/05	22/8/05			
Laboratory	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									
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	4-BFB (Surr @ 100ug/l)	-	73%	74%	73%	77%	%101	80%			
Method	Volatile TPH by P&T (vTPH)	EQL		Ć.	\(\frac{1}{1}\)	Ç		\{			
E003.1	67-97	20	<50	<>0	<>00	<>0	98%	<>0		-800-2-2	

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

Sample Identification

E023279 Laboratory Report No: Franco Fuccenecco

Contact Name: Client Name:

Urban Environmental

Certificate of Analysis Final

plus cover page	Date: 26/08/05

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This report supercedes reports issued on 24/08/05

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ı) Date		18/8/05	18/8/05	18/8/05	18/8/05	18/8/05				
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Results expressed in ug/1 unless otherwise specified

Sum of TPH C10 - C36

Petroleum Hydrocarbons (TPH)

Method E004.1

C10-C14 Fraction C15-C28 Fraction C29-C36 Fraction

Laboratory Extraction (Preparation) Date

Laboratory Analysis Date

Sampling Date recorded on COC

Depth (m)

Comments: -

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



Laboratory Identification

Sample Identification

Depth (m)
Sampling Date recorded on COC
Laboratory Extraction (Preparation) Date

Laboratory Analysis Date

Filtered metals (M7)

Method E022.1

Arsenic

Chromium Cadmium

Copper Nickel

Lead Zinc

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Contact Name:	Franco Fuccenecco
double Reference	Meriton Arneliffe

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Results expressed in ug/1 unless otherwise specified

Comments: *EQL increased due to matrix interference.

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



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Sample Id	Sample Identification		***************************************	MW2	QCMA	20	, DÒ				
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Sampling	Sampling Date recorded on COC			15/8/05	15/8/05	l i	1		Mindon dian		
Laboratory	Laboratory Extraction (Preparation) Date) Date		17/8/05	17/8/05	17/8/05	17/8/05				
Laborator	Laboratory Analysis Date			18/8/05	18/8/05	50/8/81	18/8/05	***************************************			
Method	Filtered mercury	E	EQL								l
E026.1	Mercury	0	0.1	0.1	0.1	%86	<0.1			***************************************	

Results expressed in ug/l unless otherwise specified

Comments:

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



Quality, Service, Support

Sample Receipt Notice (SRN)



	Client Details			aboratory l	Reference	e Information				
Client Name: Client Phone:	Urban Environmental 02 9555 7570		1		this inforn	nation ready abmark.				
Client Fax: Contact Name:	02 9555 6313 Franco Fuccenecco		Laboratory	Report:	E02327	9				
Contact Email: Client Address:	urban.environmental@b PO Box 1070 ROZELLE NSW 2039	oigpond.com	Quotation I Laboratory			ded, standard prices apply eighton Pl. SW 2077				
Project Name: Project Number:	Meriton Arncliffe - Not provided -		Phone: Fax:		61 2 9476 61 2 9476					
CoC Number: Purchase Order: Surcharge:	 Not provided - Not provided - No surcharge applied (r due date) 	esults by 6:30pm on	Sample Re Email: Reporting	ceipt Contact Contact:		cht nt@labmark.com.au				
Sample Matrix:	WATER		Email:		jyothi.lal@labmark.com.au					
Date Sampled (ear Date Samples Rec Date Sample Rece Date Preliminary F	eived: 15/0 ipt Notice issued: 16/0	08/2005 08/2005 08/2005 08/2005	NATA Acci TGA GMP I APVMA Lic AQIS Appr AQIS Entry	_icense: :ense: oval:	13542 185-336; 6105 NO356 20040999	Enterprise No. 41681				

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:	, man was and 200 and 200 and 20

Thank you for choosing Labmark to analyse your project samples.

Additional information on www.labmark.com.au

Form QS0073, Rev.8: Date issued 12/05/2004.	Safety Precaution: laboratory sample bottles may contain preservation acid / chamicals, refer to Safet Try labal on the contains and the contains th		Date Required: 23/8/0-	Lab. Quote No:	38	125g (mar. 1 beet) 125g (mar. 1			8 W	Sello (Introduction)	oceco	19 (19)	W. W. C.	MI's oceas ometici Allo oceas OC, OP, OC oceas on OC oceas on OC oceas on Metals on Me	10000000000000000000000000000000000000									C 22.79 / Gecurity Seal Serial #.	Con	Received By: Date: Time:	S A C @ Labrant Pry Limited 2003
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	NATA 13542, AQIS N0356	Telephone: 612-9476 6533 (Facsimile; 612-9476 8219 After hours (DB): 0409 449684	000 000 000 000 000	TYREG : WWW.Habrialk.com.au	GIODAI SPECIFICATIONS I require (default is Not required if Not taked):	rde: 1 day 2 days 3 days / days	2 Fast TAT Guarantee required? (Surcharge may apply - Receipt cutoff time 3.00pm)	 Joy you wish sequiment present in Walers to be included in organic/inorganic extractions? Additional QACC reported where sample batches submitted are < 10 samples? 	5. Do you require DIFFERENT standard EOL's from those stated @ www.labmark.com.au?	Electronic data transfer (dirde: fax _xts _cov _pdf)?	Note: Additional water sample must be submitted for lab, duplicate & spike analysis.	Notes. Contact lab if consolidating multiple analyses into a single sample container	Matrix	Sample Sampling Date to the total services of the total services	153051	>	>	>	Mahananee				-	-	Signed:		WILL VILVEN FILER
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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	Analytical Method
	Analysed	
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.



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

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Level 5, 267-277 Castlereagh Street, Sydney NSW 2000

Telephone: 02 9264 7177 Facsimile: 02 9264 1402 Email: larissab@meriton.com.au



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, Amcliffe - \$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