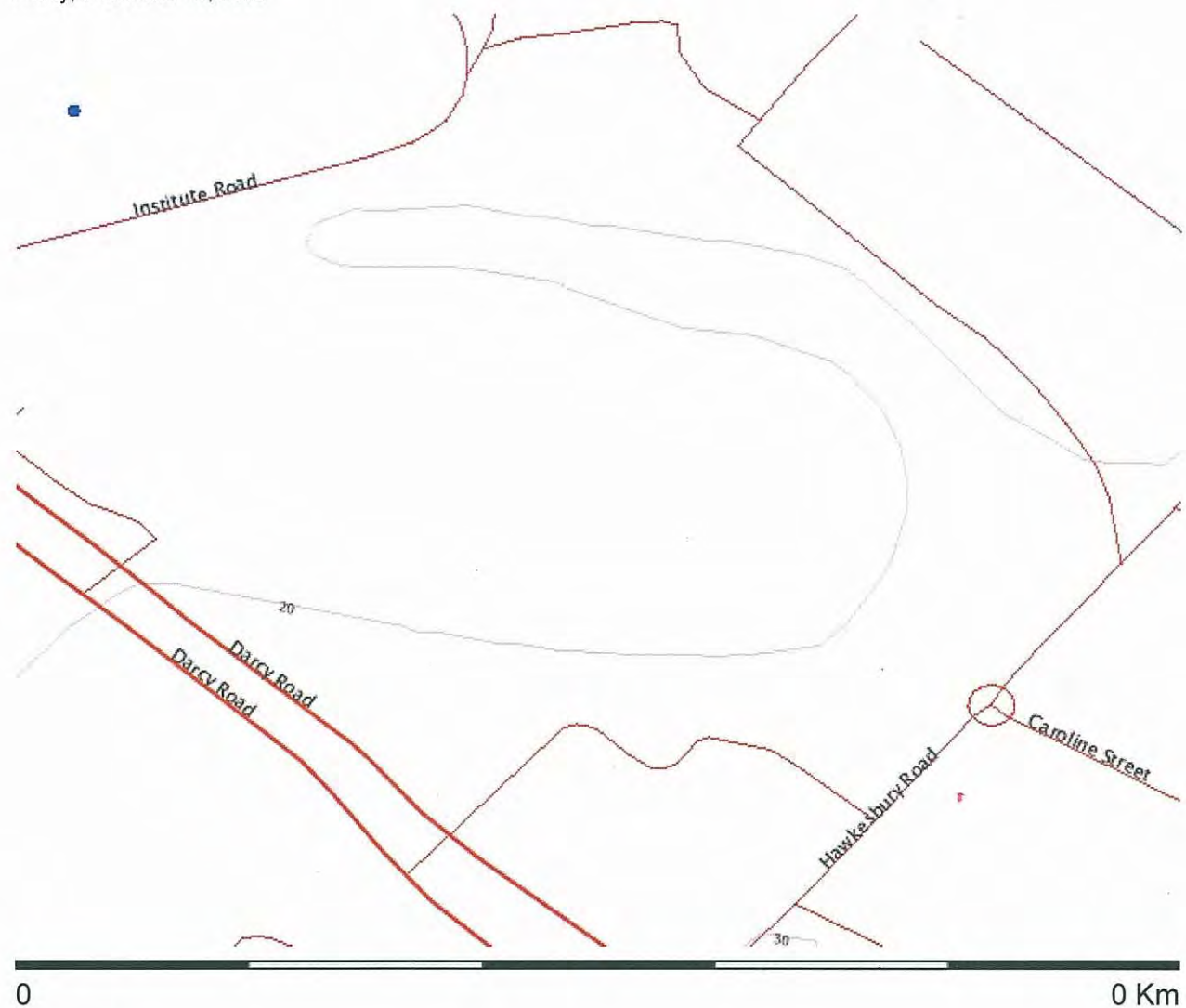


Westmead - Phase 1

Map created with NSW Natural Resource Atlas - <http://www.nratlas.nsw.gov.au>

Friday, December 18, 2009



Legend

Symbol	Layer	Custodian
	Cities and large towns	renderImage: Cannot build image from features
	Populated places	renderImage: Cannot build image from features
	Towns	
	Groundwater Bores	
	Catchment Management Authority boundaries	
	Major rivers	

Topographic base map

Appendix E

Borelogs

"This page has been left blank intentionally"



AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG

AH01

PROJECT NUMBER S777101 DATE 15 Jan 10
PROJECT NAME Westmead Hospital
LOCATION Cnr Darcy Rd & Hawkesbury Rd, Westmead NSW
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab

LOGGED BY L. Taylor
COMMENTS _____

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
						ASPHALT	Asphalt.	
						FILL	Sand (FILL). Brown, slightly moist, loose. Road base gravel inclusions. No odour, staining or fibre cement materials noted.	0.15
0.2	X	AH01_0.2-0.3	*			CH	Sandy Gravelly Clay. Grey/brown/orange, slightly moist, medium stiff-stiff, high plasticity. No odour or staining noted.	0.20
						GC	Clayey Sandy Gravel. Grey/brown, slightly moist, dense. Weathered shale inclusions. No odour or staining noted.	0.50
0.3	X	AH01_0.8-1.0						
				1			Borehole terminated at 1.0 m bgs. Total Depth: 1.00 m	1.00



AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG

AH02

PROJECT NUMBER S777101 DATE 18 Jan 10
PROJECT NAME Westmead Hospital
LOCATION Cnr Darcy Rd & Hawkesbury Rd, Westmead NSW
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab

LOGGED BY L. Taylor
COMMENTS _____

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.3		AH02_0.0-0.1				FILL	Sandy Gravelly Silt (FILL). Brown, dry, low-medium dense. Topsoil and rootlet inclusions. No odour, staining or fibre cement materials noted.	
0.4		AH02_0.15-0.25				CL	Silty Clay. Brown/grey, dry, medium dense/dense. Extremely weathered Shale and gravel inclusions. No odour or staining noted.	0.10
							Borehole terminated at 0.35 m bgs due to Hand Auger refusal. Total Depth: 0.35 m	0.35

S777101_WESTMEAD HOSPITAL_1MAR10.GPJ 01/03/10



AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG

AH03

PROJECT NUMBER S777101 DATE 18 Jan 10
PROJECT NAME Westmead Hospital
LOCATION Cnr Darcy Rd & Hawkesbury Rd, Westmead NSW
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab

LOGGED BY L. Taylor
COMMENTS _____

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.3		AH03_0.0-0.1 QC03 QC02	***			FILL	Sandy Gravelly Silt (FILL). Brown, dry, low-medium density. Topsoil, wood and ceramic inclusions. No odour, staining or fibre cement materials noted.	
						CL	Silty Clay. Brown/grey, dry, dense-very dense. Extremely weathered Shale and gravel inclusions. No odour or staining noted.	0.10
							Borehole terminated at 0.15 m bgs due to Hand Auger refusal. Total Depth: 0.15 m	0.15



AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG

AH04

PROJECT NUMBER S777101 DATE 18 Jan 10
PROJECT NAME Westmead Hospital
LOCATION Cnr Darcy Rd & Hawkesbury Rd, Westmead NSW
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab

LOGGED BY L. Taylor
COMMENTS _____

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.4		AH04_0.0-0.1	*			GM	Sandy Gravelly Silt. Brown/grey, dry, loose-medium dense. Topsoil and rootlet inclusions. No odour, staining or fibre cement materials noted.	
							Borehole terminated at 0.15 m bgs due to Hand Auger refusal. Total Depth: 0.15 m	0.15



AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG

AH05

PROJECT NUMBER S777101 DATE 18 Jan 10
PROJECT NAME Westmead Hospital
LOCATION Cnr Darcy Rd & Hawkesbury Rd, Westmead NSW
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab

LOGGED BY L. Taylor
COMMENTS _____

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.7		AH05_0.0-0.1				GM	Sandy Gravelly Silt. Brown, dry, loose-medium dense. Topsoil and rootlet inclusions. No odour, staining or fibre cement materials noted.	
0.1		AH05_0.2-0.3	*			CL	Silty Clay. Grey/brown, dry, dense-very dense. Extremely weathered Shale and gravel inclusions. No odour or staining noted.	0.20
							Borehole terminated at 0.35 m bgs due to Hand Auger refusal. Total Depth: 0.35 m	0.35

S777101_WESTMEAD HOSPITAL_1MAR10.GPJ 01/03/10



AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG

AH06

PROJECT NUMBER S777101 DATE 18 Jan 10
PROJECT NAME Westmead Hospital
LOCATION Cnr Darcy Rd & Hawkesbury Rd, Westmead NSW
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab

LOGGED BY L. Taylor
COMMENTS _____

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
1.1		AH06_0.05-0.15	*			GM	Sandy Gravelly Silt. Brown, dry, low-medium dense. Topsoil and rootlet inclusions. No odour, staining or fibre cement materials noted.	
						CL	Silty Clay. Grey/brown, dry, dense-very dense. Weathered Shale and gravel inclusions. No odour or staining noted.	0.05
							Borehole terminated at 0.15 m bgs due to Hand Auger refusal. Total Depth: 0.15 m	0.15

S777101_WESTMEAD HOSPITAL_1MAR10.GPJ 01/03/10



AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG

AH07

PROJECT NUMBER S777101 DATE 18 Jan 10
PROJECT NAME Westmead Hospital
LOCATION Cnr Darcy Rd & Hawkesbury Rd, Westmead NSW
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab

LOGGED BY L. Taylor
COMMENTS _____

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.3		AH07_0.0-0.1	*			GM	Sandy Gravelly Silt. Brown, dry, low-medium dense. Topsoil and rootlet inclusions. No odour, staining or fibre cement materials noted.	
						CL	Silty Clay. Grey/brown, dry, dense-very dense. Weathered Shale and gravel inclusions. No odour or staining noted.	0.15
0.7		AH07_0.3-0.4						
							Borehole terminated at 0.4 m bgs due to Hand Auger refusal. Total Depth: 0.40 m	0.40

S777101_WESTMEAD HOSPITAL_1MAR10.GPJ 01/03/10



AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG

AH08

PROJECT NUMBER S777101 DATE 18 Jan 10
PROJECT NAME Westmead Hospital
LOCATION Cnr Darcy Rd & Hawkesbury Rd, Westmead NSW
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab

LOGGED BY L. Taylor
COMMENTS _____

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.3		AH08_0.0-0.1	*			GM	Sandy Gravelly Silt. Grey/brown, dry, low-medium dense. Topsoil and rootlet inclusions. No odour or staining noted.	
								0.15
						CL	Silty Clay. Grey/brown, dry, medium dense-dense. Weathered Shale inclusions. No odour or staining noted.	
1.0		AH08_0.3-0.8						
								0.50
							Borehole terminated at 0.5 m bgs due to Hand Auger refusal. Total Depth: 0.50 m	

S777101_WESTMEAD HOSPITAL_1MAR10.GPJ 01/03/10



AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG

AH09

PROJECT NUMBER S777101 DATE 18 Jan 10
PROJECT NAME Westmead Hospital
LOCATION Cnr Darcy Rd & Hawkesbury Rd, Westmead NSW
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab

LOGGED BY L. Taylor
COMMENTS _____

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.2		AH09_0.0-0.1	*			GM	Sandy Gravelly Silt. Brown, dry, low-medium dense. Topsoil and rootlet inclusions. No odour or staining noted.	0.10
0.6		Ah09_0.4-0.5				CL	Silty Clay. Grey/brown, dry, dense-very dense. Weathered Shale inclusions. No odour or staining noted.	0.50
							Borehole terminated at 0.5 m bgs due to Hand Auger refusal. Total Depth: 0.50 m	



AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG

AH10

PROJECT NUMBER S777101 DATE 18 Jan 10
PROJECT NAME Westmead Hospital
LOCATION Cnr Darcy Rd & Hawkesbury Rd, Westmead NSW
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab

LOGGED BY L. Taylor
COMMENTS _____

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
1.4		AH10_0.05-0.15	*			ASPHALT	Asphalt.	
						FILL	Sandy Gravel (FILL). Grey, medium dense. Road base inclusions. No odour, staining or fibre cement materials noted.	0.05
0.3		AH10_0.5-0.6	*			SM	Silty Sand. Grey/brown, dry, medium dense-dense. Weathered Shale inclusions. No odour or staining noted.	0.20
							Borehole terminated at 0.7 m bgs due to Hand Auger refusal. Total Depth: 0.70 m	0.70

S777101_WESTMEAD HOSPITAL_1MAR10.GPJ 01/03/10



AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG

AH11

PROJECT NUMBER S777101 DATE 18 Jan 10
PROJECT NAME Westmead Hospital
LOCATION Cnr Darcy Rd & Hawkesbury Rd, Westmead NSW
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab

LOGGED BY L. Taylor
COMMENTS _____

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.2		AH11_0.05-0.15	*			CL	Silty Clay. Grey/brown, dry, medium dense-dense. Weathered Shale inclusions. No odour or staining noted.	
0.7		AH11_0.45-0.55						
							Borehole terminated at 0.55 m bgs due to Hand Auger refusal. Total Depth: 0.55 m	0.55

S777101_WESTMEAD HOSPITAL_1MAR10.GPJ 01/03/10



AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG

AH12

PROJECT NUMBER S777101 DATE 18 Jan 10
PROJECT NAME Westmead Hospital
LOCATION Cnr Darcy Rd & Hawkesbury Rd, Westmead NSW
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab

LOGGED BY L. Taylor
COMMENTS _____

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
						ASPHALT	Asphalt.	
0.9		AH12_0.05-0.15	*			GP	Sandy Gravel. Grey, dry, medium dense-dense. Roadbase inclusions. No odour or staining noted.	0.05
						SM	Silty Sand. Grey/brown, dry, dense-very dense. Weathered Shale inclusions. No odour or staining noted.	0.15
0.6		AH12_0.4-0.5	*					
							Borehole terminated at 0.6 m bgs due to Hand Auger refusal. Total Depth: 0.60 m	0.60

S777101_WESTMEAD HOSPITAL_1MAR10.GPJ 01/03/10



AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG

AH13

PROJECT NUMBER S777101 DATE 18 Jan 10
PROJECT NAME Westmead Hospital
LOCATION Cnr Darcy Rd & Hawkesbury Rd, Westmead NSW
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab

LOGGED BY L. Taylor
COMMENTS _____

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
						ASPHALT	Asphalt.	
1.3		AH13_0.05-0.15	*			FILL	Gravelly Sand (FILL). Brown, dry, loose-medium dense. Backfill sand. No odour, staining or fibre cement materials noted.	0.05
						SM	Silty Sand. Grey/brown, dry, dense-very dense. Weathered Shale inclusions. No odour or staining noted.	0.20
0.6		AH13_0.4-0.5 QC04	**					
							Borehole terminated at 0.6 m bgs due to Hand Auger refusal. Total Depth: 0.60 m	0.60

S777101_WESTMEAD HOSPITAL_1MAR10.GPJ 01/03/10



AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG

AH14

PROJECT NUMBER S777101 DATE 18 Jan 10
PROJECT NAME Westmead Hospital
LOCATION Cnr Darcy Rd & Hawkesbury Rd, Westmead NSW
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab

LOGGED BY L. Taylor
COMMENTS _____

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0.9		AH14_0.0-0.1	*			FILL	Sandy Gravel (FILL). Grey/brown, dry, medium dense. Compacted roadbase inclusions. No odour, staining or fibre cement materials noted.	
						CH	Sandy Gravelly Clay. Brown, slightly moist, medium stiff, low plasticity. No odour or staining noted.	0.20
0.5		AH14_0.4-0.5	*					
				1				
						SC	Clayey Sand. Grey/brown, dry, medium dense-dense. Weathered Shale inclusions. No odour or staining noted.	1.20
0.4		AH14_1.4-1.5						
							Borehole terminated at 1.55 m bgs due to Hand Auger refusal. Total Depth: 1.55 m	1.55

S777101_WESTMEAD HOSPITAL_1MAR10.GPJ 01/03/10



AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG

AH15

PROJECT NUMBER S777101 DATE 18 Jan 10
PROJECT NAME Westmead Hospital
LOCATION Cnr Darcy Rd & Hawkesbury Rd, Westmead NSW
DRILLING METHOD Hand Auger
SAMPLING METHOD Grab

LOGGED BY L. Taylor
COMMENTS _____

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
1.1		AH15_0.05-0.1	*			FILL	Sandy Gravel (FILL). Grey/brown, dry, medium dense. Compacted roadbase inclusions. No odour, staining or fibre cement materials noted.	
0.8		AH15_0.4-0.5				CL	Sandy Gravelly Clay. Brown, slightly moist, medium stiff-stiff, low plasticity. No odour or staining noted.	0.20
0.3		AH15_1.3-1.5	*	1		SC	Clayey Sand. Grey/brown, dry, dense-medium dense. No odour or staining noted.	1.25
								1.60

S777101_WESTMEAD HOSPITAL_1MAR10.GPJ 01/03/10



AECOM Australia Pty Ltd
Level 5, 828 Pacific Highway
Gordon NSW 2072

BOREHOLE LOG

AH15

PROJECT NUMBER S777101 DATE 18 Jan 10
PROJECT NAME Westmead Hospital
LOCATION Cnr Darcy Rd & Hawkesbury Rd, Westmead NSW GROUND WATER ELEVATION _____

- Continued from Previous Page -

PID (ppm)	RECOVERY	SAMPLE NUMBER	ANALYSED	DEPTH (m BGS)	GRAPHIC LOG	USCS CLASS	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
							Borehole terminated at 1.6 m bgs due to Hand Auger refusal. Total Depth: 1.60 m	

NON-CORE ENGINEERING BOREHOLE LOG

HOLE NO : BH05

FILE / JOB NO : 60146790

SHEET : 1 OF 3

PROJECT: Westmead Hospital
LOCATION: Cnr Darcy Rd and Hawkesbury Rd, Westmead

POSITION: E: 313047.200, N: 6252836.200 (Zone 56 MGA94)

SURFACE ELEVATION: 21.100 (AHD)

ANGLE FROM HORIZONTAL : 0°

RIG TYPE : Truck mounted hydropower

DATE STARTED : 18/1/10

CONTRACTOR: Maquarie Drilling

LOGGED BY: JL

MOUNTING: Truck

DATE COMPLETED: 18/1/10

DRILLER: JW

CHECKED BY: BE

DRILLING							MATERIAL						
progress		drilling penetration	groundwater levels	samples & field tests	reduced level (m)	depth (m)	graphic log	classification symbol	material description SOIL NAME, plasticity or particle characteristic, colour, secondary and minor components	moisture condition	consistency	structure of soil, additional observations	
drilling & casing	water												
D/H/A ↑ ADIT ↓		F		Ø10m ES		0			0.10m SANDY SILT: Brown, low plasticity. Fine to coarse grained sand. with clay. No observed contamination.	D		TOPSOIL	
		H	0.10m ES	ROCK									
			0.20m ES										
		H	0.60m ES										
				0.80m		1			1.00m Continued as Cored Drill Hole				
						2							
						3							
						4							
						5							
						6							
						7							
						8							

See Explanatory Notes for details of abbreviations & basis of descriptions.

AECOM

Appendix F

Calibration Certificates

"This page has been left blank intentionally"

RENTALS

Equipment Report - TPS 90FLMV Water Quality Meter

This Water Quality Meter has been performance checked / calibrated* as follows:

pH	☐ pH 6.88	☒ pH 7.00	☒ pH 4.00	☐ pH 10.00	☐ pH
Conductivity	☒ 0.0mS/cm	☒ 2.76mS/cm	☐ 12.88mS/cm	☐ 58.6mS/cm	☐ mS/cm
TDS	☒ 0.0 ppk	☒ 36 ppk	☐ ppk		
Dissolved Oxygen	☒ 0.00ppm in Sodium Sulphite			☒ 100% Saturation in Air	
Redox (ORP)**	☒ Electrode operability test 240mV +/- 10%. Actual: 223 mV				
☒ Electrodes cleaned/checked	☒ Charged 7.9 v (min 7.2V)			☒ Temperature 23.6°C	
Turbidity	0.0 NTU ☐	90NTU ☐	360NTU ☐	____ NTU ☐	

* Calibration solution traceability information is available upon request.

** This meter uses an Ag/AgCl ORP electrode. To convert readings to SHE (Standard Hydrogen Electrode), add 199mV to the mV reading. For further information, refer to www.enviroequip.com/quipnotes/ORP.htm.

Date: 10/02/2010 Checked by: Joe

Signed: [Signature]

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum \$20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Received	Returned	Item
☒	☐	☐	90FLMV Unit. Ops check / Battery Voltage @ <u>7.9V</u>
☒	☐	☐	pH sensor 5m
☒	☐	☐	Conductivity / TDS / Temperature k=10 sensor 5m
☒	☐	☐	Dissolved Oxygen YSI5739 sensor 5m
☒	☐	☐	Redox (ORP) sensor 5m
☒	☐	☐	Battery charger: 240V AC to 12V DC 200mA
☒	☐	☐	Instruction Manual
☒	☐	☐	Quick Guide
☒	☐	☐	Syringe with storage solution for pH & ORP sensors
☒	☐	☐	Turbidity 5m
☒	☐	☐	Carry Case

Processors Signature/ Initials KL

EE Quote Reference	<u>18562</u>	Condition on return
Customer Ref	<u>282789</u>	
Equipment ID	<u>90FLMVS F</u>	
Equipment serial no.	<u>S1815</u>	
Return Date	<u>12/02/10</u>	
Return Time		

Phone: (Free Call) 1300 735 295		Environmental Assessment Technologies		Fax: (Free Call) 1800 657 123	
Melbourne Branch 5 Caribbean Drive, Scoresby 3179 Email: RentalsEnviroVIC@thermofisher.com	Sydney Branch Level 1, 4 Talavera Road, North Ryde 2113 Email: RentalsEnviroNSW@thermofisher.com	Adelaide Branch 27 Beulah Road, Norwood, South Australia 5007 Email: RentalsEnviroSA@thermofisher.com	Brisbane Branch Unit 2/5 Ross St Newstead 4006 Email: RentalsEnviroQLD@thermofisher.com	Perth Branch 121 Beringarra Ave Malaga WA 6090 Email: RentalsEnviroWA@thermofisher.com	

Serial Number: 90FLMVSF
Frequency : Daily on use

[illegible]

RENTALS

Equipment Report – Solinst Model 122 Interface Meter

This Meter has been performance checked / calibrated* as follows:

Cleaned/Tested

Pass?

Probe

☒

Tape/Reel

☒

☒ Performance Test & Battery Voltage Check 8.6v 8.0v minimum

Date: 10.02.10 Checked by: PEPE

Signed: [Signature]

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum \$20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Received	Returned	Item
☒	☐	☐	Operations check OK
☒	☐	☐	Plastic Box / Bag
☐	☐	☐	Spare 9V Battery Qty _____
☐	☐	☐	Probe Cleaning Brush
☐	☐	☐	Decon
☒	☐	☐	Instruction leaflet
☐	☐	☐	Tape Guide
☐	☐	☐	

Processors Signature/ Initials

[Signature]

EE Quote Reference	<u>18562</u>	Condition on return
Customer Ref	<u>282789</u>	
Equipment ID	<u>S12230SC</u>	
Equipment serial no.	<u>004862</u>	
Return Date	<u>12/02/10</u>	
Return Time		

Phone: (Free Call) 1300 735 295		Environmental Assessment Technologies		Fax: (Free Call) 1800 657 123	
Melbourne Branch 5 Caribbean Drive, Scoresby 3179 Email: RentalsEnviroVIC@thermofisher.com	Sydney Branch Level 1, 4 Talavera Road, North Ryde 2113 Email: RentalsEnviroNSW@thermofisher.com	Adelaide Branch 27 Beulah Road, Norwood, South Australia 5067 Email: RentalsEnviroSA@thermofisher.com	Brisbane Branch Unit 2/5 Ross St Newstead 4008 Email: RentalsEnviroQLD@thermofisher.com	Perth Branch 121 Beringarra Ave Malaga WA 6090 Email: RentalsEnviroWA@thermofisher.com	

Appendix G

Field Data Sheets

“This page has been left blank intentionally”

Site Contamination Analysis - Ground Water Sampling Form

Project Name: <u>Westmead Hospital</u>	Well No: <u>MW02</u>
Project Number: <u>5777101</u>	Well Type: ☒ Monitor ☐ Extractor ☐ Other
Recorded By: <u>Croft T</u>	Well Material: ☒ PVC ☐ SS ☐ Other
Date: <u>12-2-10</u>	Sample by: <u>Croft T</u>

Well Purging

Purge Volume		Purge Method	
Well Diameter (D in mm): ☒ 50 ☐ 100 ☐ Other		☒ Bailor - Type: ☐ PVC ☐ SS ☒ Teflon ☐ Other	
Total Depth of Well (TD in m BTOC): <u>9.195</u>		☐ Pump - Type: ☐ Submersible ☐ Bladder ☐ Other	
Water Level Depth WL in m BTOC: <u>4.325</u>		Pump Intake Setting	
Number of well volumes to be purged (# VOLS)		Depth (m BTOC)	
☒ 3 ☐ 4 ☐ 5 ☐ 10 ☐ Other		Screen Interval (m BTOC) - Top: Bottom:	

Purge Volume Calculation

$$\left(\frac{9.2 - 4.3}{0.00314} \right) \times \left(\frac{50}{2} \right)^2 \times \frac{3}{4} = 30$$

TD (m) WL (m) D/2 (mm) #VOLS Calculated Purge Volume (L) 30

PURGE TIME PURGE RATE ACTUAL PURGE VOLUME 30

Start: Stop: Elapsed: Initial: Final:

Field Parameter Measurements

Min since purge began	Volume Purged (L)	DO (mg/L)	Cond. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (mBTOC)	Other
0	1	2.85	7870	6.81	49	23.1		Clear, no S
5	6	2.79	7880	6.70	5	22.2		" "
8	12	5.11	7910	6.70	3	22.0		" "
12	18	3.27	7940	6.68	3	22.0		" "
17	24	2.79	7950	6.67	-1	22.4		" "
21	30	2.54	8090	6.63	2	21.5		" "

Observations during purging (well condition, turbidity, colour, odour, sheen): -

Well in good condition, no odour or sheen, clear

Discharge water disposal: ☐ Drums ☐ Sanitary sewer ☒ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method

☒ Same as purge method

☐ Bailor - Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump - Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW02	4 bottles				

Quality Control Samples

Duplicate Samples		Blank Samples		Other Samples	
Original No	Duplicate No	Type	Sample No	Type	Sample No

Printed copies of this document are uncontrolled

Site Contamination Analysis - Ground Water Sampling Form

Project Name: <u>Westwood Hospital</u>	Well No: <u>MW03</u>
Project Number: <u>5777101</u>	Well Type: ☒ Monitor ☐ Extractor ☐ Other
Recorded By: <u>Geoff T</u>	Well Material: ☒ PVC ☐ SS ☐ Other
Date: <u>12.2.10</u>	Sample by: <u>Geoff T</u>

Well Purging

Purge Volume		Purge Method	
Well Diameter (D in mm): ☒ 50 ☐ 100 ☐ Other		☒ Bailer - Type: ☐ PVC ☐ SS ☒ Teflon ☐ Other	
Total Depth of Well (TD in m BTOC): <u>9.81</u>		☐ Pump - Type: ☐ Submersible ☐ Bladder ☐ Other	
Water Level Depth WL in m BTOC: <u>5.40</u>		Pump Intake Setting	
Number of well volumes to be purged (# VOLS) ☒ 3 ☐ 4 ☐ 5 ☐ 10 ☐ Other		Depth (m BTOC)	
		Screen Interval (m BTOC) - Top:	Bottom:

Purge Volume Calculation

$$\left(\frac{9.8}{\text{TD (m)}} - \frac{5.4}{\text{WL (m)}} \right) \times \left(\frac{50}{\text{D/2 (mm)}} \right)^2 \times \frac{3}{\text{\#VOLS}} \times 0.00314 = \frac{26}{\text{Calculated Purge Volume (L)}}$$

PURGE TIME _____ PURGE RATE _____ ACTUAL PURGE VOLUME 13L

Start: _____ Stop: _____ Elapsed: _____ Initial: _____ Final: _____

Field Parameter Measurements

Min since purge began	Volume Purged (L)	DO (mg/L)	Cond. (μS/cm)	pH	Redox (mV)	Temp (°C)	SWL (mBTOC)	Other
0	1	6.37	5200	7.00	158	20.0		Clear, nos
3	6	4.20	5570	7.15	105	19.6		Slightly turbid, brown, nos
9	12	6.79	6060	7.35	110	19.7		Turbid, brown, nos
		Dry after 13L						

Observations during purging (well condition, turbidity, colour, odour, sheen): -

Well in good condition, turbid, brown, no odour or sheen

Discharge water disposal: ☐ Drums ☐ Sanitary sewer ☒ Storm sewer ☐ Surface ☐ Other

Well Sampling

Sampling Method

☒ Same as purge method

☐ Bailer - Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump - Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW03	4 bottles				

Quality Control Samples

Duplicate Samples		Blank Samples		Other Samples	
Original No.	Duplicate No.	Type	Sample No.	Type	Sample No.

Printed copies of this document are uncontrolled

Site Contamination Analysis - Ground Water Sampling Form

Project Name: <u>Westmead Hospital</u>	Well No: <u>MW05</u>
Project Number: <u>5777101</u>	Well Type: ☒ Monitor ☐ Extractor ☐ Other
Recorded By: <u>Geoff T</u>	Well Material: ☒ PVC ☐ SS ☐ Other
Date: <u>12.2.10</u>	Sample by: <u>Geoff T</u>

Well Purging

Purge Volume		Purge Method	
Well Diameter (D in mm): ☒ 50 ☐ 100 ☐ Other		☒ Bailer - Type: ☐ PVC ☐ SS ☒ Teflon ☐ Other	
Total Depth of Well (TD in m BTOC): <u>8.54</u>		☐ Pump - Type: ☐ Submersible ☐ Bladder ☐ Other	
Water Level Depth WL in m BTOC: <u>3.235</u>		Pump Intake Setting	
Number of well volumes to be purged (# VOLS) ☒ 3 ☐ 4 ☐ 5 ☐ 10 ☐ Other		Depth (m BTOC)	
		Screen Interval (m BTOC) - Top:	Bottom:

Purge Volume Calculation

$$\left(\frac{8.5}{\text{TD (m)}} - \frac{3.2}{\text{WL (m)}} \right) \times \left(\frac{50}{\text{D/2 (mm)}} \right)^2 \times \frac{3}{\text{\#VOLS}} \times 0.00314 = \frac{32}{\text{L}}$$

PURGE TIME _____ PURGE RATE _____ Calculated Purge Volume (L) _____
 ACTUAL PURGE VOLUME 32

Start: _____ Stop: _____ Elapsed: _____ Initial: _____ Final: _____

Field Parameter Measurements

Min since purge began	Volume Purged (L)	DO (mg/L)	Cond. (µS/cm)	pH	Redox (mV)	Temp (°C)	SWL (mBTOC)	Other
0	1	5.11	13950	6.87	-7	18.7		Clear, no S
4	8	4.35	14470	6.86	-35	18.3		Slightly turbid, brown no S
8	16	5.42	14330	6.86	-30	18.5		" "
13	24	3.34	14280	6.85	-22	18.6		" "
18	32	3.69	14140	6.84	-19	18.8		" "

Observations during purging (well condition, turbidity, colour, odour, sheen): -

Well in good condition, slightly turbid, no odour or sheen

Discharge water disposal: ☐ Drums ☐ Sanitary sewer ☐ Storm sewer ☒ Surface ☐ Other

Well Sampling

Sampling Method

☒ Same as purge method

☐ Bailer - Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other ☐ Pump - Type: ☐ PVC ☐ SS ☐ Teflon ☐ Other

Sample Distribution Sample Series:

Sample No.	Vol/Cont.	Analysis	Preservatives	Lab	Comments
MW05	4 bottles				

Quality Control Samples

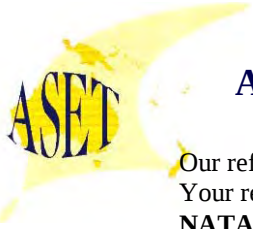
Duplicate Samples		Blank Samples		Other Samples	
Original No	Duplicate No	Type	Sample No	Type	Sample No
MW05	QC01				
MW05	QC02				

Printed copies of this document are uncontrolled

Appendix H

Laboratory Test Certificates

"This page has been left blank intentionally"



AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET20205/ 23385 / 1 - 19

Your ref :E046543

NATA Accreditation No: 14484

3 February 2010

LABMARK

P O Box 641

Hornsby

NSW 1630

Attn:Mr David Burns

Fax No:02-9476 8219

Dear David

Asbestos Identification

This report presents the results of nineteen samples, forwarded by LABMARK on 3 February 2010, for analysis for asbestos.

1.Introduction:Nineteen samples forwarded were examined and analysed for the presence of asbestos.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining Method (**Safer Environment Method 1.**)

3. Results : **Sample No. 1. ASET20205 / 23385 / 1. E046543 -246631 - BH03 - 0.18 - 0.28.**

Approx dimensions 5.0 cm x 5.0 cm x 0.35 cm

The sample consisted of a mixture of sandy soil, stones and plant matter, fragments of plaster and cement.

No asbestos detected.

Sample No. 2. ASET20205 / 23385 / 2. E046543 -246634 - BH 04 - 0.1 - 0.2.

Approx dimensions 3.5 cm x 4.0 cm x 0.35 cm

The sample consisted of a mixture of sandy soil, stones, plant matter and fragments of plaster and bitumen.

No asbestos detected.

Sample No. 3. ASET20205 / 23385 / 3. E046543 -246637 - BH 05 - 0.0 - 0.1.

Approx dimensions 4.5 cm x 3.5 cm x 0.35 cm

The sample consisted of a mixture of sandy soil, stones, plant matter and fragments of plaster and sandstone.

No asbestos detected.

Sample No. 4. ASET20205 / 23385 / 4. E046543 -246640 - AH 01 - 0.2 - 0.3.

Approx dimensions 4.5 cm x 4.5 cm x 0.45 cm

The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of plaster and bitumen.

No asbestos detected

SUITE 710 / 90 GEORGE STREET, HORNSBY NSW 2077 – P.O. BOX 1644 HORNSBY WESTFIELD NSW 1635

PHONE: (02) 99872183 FAX: (02)99872151 EMAIL: aset@bigpond.net.au WEBSITE: www.aset.asn.au

OCCUPATIONAL HEALTH & SAFETY STUDIES • INDOOR AIR QUALITY SURVEYS • HAZARDOUS MATERIAL SURVEYS • RADIATION SURVEYS • ASBESTOS SURVEYS
ASBESTOS DETECTION & IDENTIFICATION • REPAIR & CALIBRATION OF SCIENTIFIC EQUIPMENT • AIRBORNE FIBRE & SILICA MONITORING



Sample No. 5. ASET20205 / 23385 / 5. E046543 -246642 - AH 02 - 0.0 - 0.1.

Approx dimensions 6.0 cm x 4.5 cm x 0.45 cm

The sample consisted of a mixture of soil, stones, plant matter and fragments of plaster and cement.

No asbestos detected.

Sample No. 6. ASET20205 / 23385 / 6. E046543 -246644 - AH 03 – 0.0 – 0.1.

Approx dimensions 4.0 cm x 3.5 cm x 0.35 cm

The sample consisted of a fragment of a fibre cement material.

Chrysotile asbestos detected.

Sample No. 7. ASET20205 / 23385 / 7. E046543 -246645 - AH 04 - 0.0 - 0.1.

Approx dimensions 4.0 cm x 4.0 cm x 0.25 cm

The sample consisted of a mixture of soil, stones and plant matter.

No asbestos detected.

Sample No. 8. ASET20205 / 23385 / 8. E046543 - 647647 - AH 05 - 0.2 - 0.3.

Approx dimensions 5.0 cm x 4.0 cm x 0.35 cm

The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of plaster and brick.

No asbestos detected.

Sample No. 9. ASET20205 / 23385 / 9. E046543 -246648 - AH 06 - 0.05 - 0.15.

Approx dimensions 4.5 cm x 4.0 cm x 0.35 cm

The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of plaster.

No asbestos detected.

Sample No. 10. ASET20205 / 23385 / 10. E046543 - 246649 - AH07 - 0.0 - 0.1.

Approx dimensions 4.0 cm x 4.5 cm x 0.35 cm

The sample consisted of a mixture of soil, stones and plant matter.

No asbestos detected.

Sample No. 11. ASET20205 / 23385 / 11. E046543 - 246651 - AH 08 – 0.0 – 0.1.

Approx dimensions 4.5 cm x 5.0 cm x 0.35 cm

The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of plaster.

No asbestos detected.

Sample No. 12. ASET20205 / 23385 / 12. E046543 -246655 - AH 09 - 0.0 - 0.1.

Approx dimensions 5.0 cm x 4.0 cm x 0.35 cm

The sample consisted of a mixture of clayish soil, stones and plant matter.

No asbestos detected.

Sample No. 13. ASET20205 / 23385 / 13. E046543 -246655 - AH 10 - 0.05 - 0.15.

Approx dimensions 5.0 cm x 4.0 cm x 0.45 cm

The sample consisted of a mixture of soil, stones and fragments of plaster and bitumen.

No asbestos detected.



Sample No. 14. ASET20205 / 23385 / 14. E046543 -246657 - AH11 - 0.05 - 0.15.

Approx dimensions 5.0 cm x 4.0 cm x 0.65 cm

The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of plaster.

No asbestos detected.

Sample No. 15. ASET20205 / 23385 / 15. E046543 - 246659 - AH 12 – 0.05 – 0.15.

Approx dimensions 5.0 cm x 4.0 cm x 0.35 cm

The sample consisted of a mixture of soil, stones, plant matter and fragments of plaster.

No asbestos detected.

Sample No. 16. ASET20205 / 23385 / 16. E046543 - 246661 - AH 13 - 0.05 - 0.15.

Approx dimensions 5.0 cm x 4.0 cm x 0.35 cm

The sample consisted of a mixture of soil, stones and plant matter.

No asbestos detected.

Sample No. 17. ASET20205 / 23385 / 17. E046543 - 246663 - AH 14 - 0.0 - 0.1.

Approx dimensions 5.0 cm x 4.0 cm x 0.45 cm

The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of plaster.

No asbestos detected.

Sample No. 18. ASET20205 / 23385 / 18. E046543 - 246664 - AH 14 - 0.4 - 0.5.

Approx dimensions 4.5 cm x 4.5 cm x 0.45 cm

The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of plaster.

No asbestos detected.

Sample No. 19. ASET20205 / 23385 / 19. E046543 - 246666 - AH 15 - 0.05 - 0.1.

Approx dimensions 5.0 cm x 4.0 cm x 0.45 cm

The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of plaster.

No asbestos detected.

Analysed and reported by,

A handwritten signature in black ink, appearing to read "Mahen De Silva", with a stylized flourish at the end.

**Mahen De Silva . BSc. MSc. Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Signatory.
Approved Identifier.**



**This document is issued in accordance with
NATA's Accreditation requirements. Accredited
for compliance with ISO/IEC 17025.**

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.

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

CUSTOMER CENTRIC - ANALYTICAL CHEMISTS

FINAL CERTIFICATE OF ANALYSIS - ENVIRONMENTAL DIVISION

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Client Reference: Westmead Hospital
Contact Name: Lee Taylor
Chain of Custody No: na
Sample Matrix: SOIL

Cover Page 1 of 4
plus Sample Results

Date Received: 19/01/2010
Date Reported: 04/02/2010

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 occurred 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 general analytes 70% - 130% recovery
surrogate: phenol analytes 50% - 130% recovery
organophosphorous pesticide analytes 60% - 130% recovery
phenoxy acid herbicides, organotin 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 0-30% (>10xEQL), 0-75% (5-10xEQL)
RPD (metals): 0-100% (<5xEQL)
duplicate lab 0-50% (>10xEQL), 0-75% (5-10xEQL)
RPD: 0-100% (<5xEQL)

QUALITY CONTROL

ANALYTE SPECIFIC ACCEPTANCE CRITERIA (ASAC)

Accuracy: spike, lcs, crm analyte specific recovery data
surrogate: <3xsd of historical mean

Uncertainty: spike, lcs: measurement calculated from historical analyte specific control charts

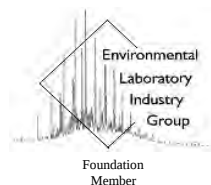
RESULT ANNOTATION

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

Simon Mills
Quality Control (Report signatory)
simon.mills@labmark.com.au

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

Jeremy Truong
Authorising Chemist (NATA signatory)
jeremy.truong@labmark.com.au



Laboratory Report: E046543

Cover Page 2 of 4

NEPC GUIDELINE COMPLIANCE - DQO

1. GENERAL

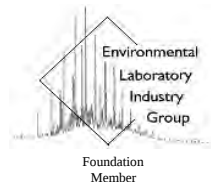
- A. Results relate specifically to samples as received. Sample results are not corrected for matrix spike, lcs, or surrogate recovery data.
- B. EQL's are matrix dependant and may be increased due to sample dilution or matrix interference.
- C. Laboratory QA/QC samples are specific to this project.
- 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 in-house method and sample matrix type reported, unless noted below (Refer to subcontracted test reports for NATA accreditation status).
- 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 Amdel Limited, NATA accreditation No.1526.



Laboratory Report: E046543

Cover Page 3 of 4

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

Matrix: **SOIL**

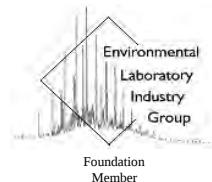
Page:	Method:	Totals:	#d	%d-ratio	#t	#s	%s-ratio
1	BTEX by P&T	28	3	11%	0	2	7%
1	Volatile TPH by P&T (vTPH)	28	3	11%	0	2	7%
5	Petroleum Hydrocarbons (TPH)	28	3	11%	0	2	7%
9	Organochlorine Pesticides (OC)	9	1	11%	0	1	11%
11	Organophosphorus Pesticides (OP)	9	1	11%	0	1	11%
13	Polychlorinated Biphenyls (PCB)	9	1	11%	0	1	11%
15	Acid extractable metals (M7)	28	3	11%	0	2	7%
19	Acid extractable metals - mercury	28	3	11%	0	2	7%
21	Moisture	28	--	--	--	--	--

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. All tests were conducted by LabMark Environmental Sydney, NATA accreditation No. 13542, unless indicated below.
- B. The following test was conducted by ASET:- ASBESTOS
- C. OP's; Lab # 246634s monocrotophos recovery is 61%. Corresponding lcs recovery is 88%.
- D. Metals; Lab # 246631s recovery range is 40% - 182%.
- E. Metals; Lab # 246644d RPD range is 0 - 92%, triplicate results issued.
- F. Metals; Lab # 246654d RPD range is 7% - 111%, triplicate results issued.



Laboratory Report: E046543

Cover Page 4 of 4

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.

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 1 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246631	246632	246634	246637	246639	246640	246642	246644	246645	246647
Sample Identification		BH03	BH03	BH04	BH05	BH05	AH01	AH02	AH03	AH04	AH05
Depth (m)		0.18-0.28	0.4-0.5	0.1-0.2	0.0-0.1	0.6-0.8	0.2-0.3	0.0-0.1	0.0-0.1	0.0-0.1	0.2-0.3
Sampling Date recorded on COC		14/1/10	14/1/10	15/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10
Laboratory Extraction (Preparation) Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10
Laboratory Analysis Date		1/2/10	1/2/10	1/2/10	1/2/10	1/2/10	1/2/10	2/2/10	2/2/10	2/2/10	2/2/10
Method : E029.2/E016.2											
BTEX by P&T		EQL									
Benzene	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
meta- and para-Xylene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ortho-Xylene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylene	--	--	--	--	--	--	--	--	--	--	--
CDFB (Surr @ 4 mg/kg)	--	88%	85%	94%	91%	88%	82%	87%	86%	85%	84%
Method : E029.2/E016.2											
Volatile TPH by P&T (vTPH)		EQL									
C6 - C9 Fraction	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E029.2/E016.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/FID/MSD.

E029.2/E016.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/MSD.

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 2 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246648	246649	246651	246653	246654	246655	246657	246659	246660	246661
Sample Identification		AH06	AH07	AH08	AH09	AH09	AH10	AH11	AH12	AH12	AH13
Depth (m)		0.05-0.15	0.0-0.1	0.0-0.1	0.0-0.1	0.4-0.5	0.05-0.15	0.05-0.15	0.05-0.15	0.4-0.5	0.05-0.15
Sampling Date recorded on COC		18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10
Laboratory Extraction (Preparation) Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10
Laboratory Analysis Date		2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	1/2/10	2/2/10	2/2/10
Method : E029.2/E016.2											
BTEX by P&T		EQL									
Benzene	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
meta- and para-Xylene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ortho-Xylene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylene	--	--	--	--	--	--	--	--	--	--	--
CDFB (Surr @ 4 mg/kg)	--	83%	85%	84%	85%	82%	84%	89%	88%	92%	91%
Method : E029.2/E016.2											
Volatile TPH by P&T (vTPH)		EQL									
C6 - C9 Fraction	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E029.2/E016.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/FID/MSD.

E029.2/E016.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/MSD.

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 3 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246662	246663	246664	246666	246668	246669	246670	246671	246631d	246631r
Sample Identification		AH13	AH14	AH14	AH15	AH15	QC01	QC02	QC04	QC	QC
Depth (m)		0.4-0.5	0.0-0.1	0.4-0.5	0.05-0.1	1.3-1.5	--	--	--	--	--
Sampling Date recorded on COC		18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	--	--
Laboratory Extraction (Preparation) Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	--
Laboratory Analysis Date		2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	1/2/10	--
Method : E029.2/E016.2											
BTEX by P&T		EQL									
Benzene	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	--
Toluene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
Ethylbenzene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
meta- and para-Xylene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	--
ortho-Xylene	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
Total Xylene	--	--	--	--	--	--	--	--	--	--	--
CDFB (Surr @ 4 mg/kg)	--	90%	91%	87%	88%	87%	83%	88%	87%	85%	3%
Method : E029.2/E016.2											
Volatile TPH by P&T (vTPH)		EQL									
C6 - C9 Fraction	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	--

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E029.2/E016.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/FID/MSD.

E029.2/E016.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/MSD.

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 4 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246644d	246644r	246654d	246654r	246634s	246655s	lcs	mb		
Sample Identification		QC	QC	QC	QC	QC	QC	QC	QC		
Depth (m)		--	--	--	--	--	--	--	--		
Sampling Date recorded on COC		--	--	--	--	--	--	--	--		
Laboratory Extraction (Preparation) Date		29/1/10	--	29/1/10	--	29/1/10	29/1/10	29/1/10	29/1/10		
Laboratory Analysis Date		2/2/10	--	2/2/10	--	2/2/10	2/2/10	29/1/10	29/1/10		
Method : E029.2/E016.2											
BTEX by P&T		EQL									
Benzene	0.2	<0.2	--	<0.2	--	84%	85%	88%	<0.2		
Toluene	0.5	<0.5	--	<0.5	--	90%	89%	93%	<0.5		
Ethylbenzene	0.5	<0.5	--	<0.5	--	87%	85%	90%	<0.5		
meta- and para-Xylene	1	<1	--	<1	--	90%	88%	97%	<1		
ortho-Xylene	0.5	<0.5	--	<0.5	--	90%	88%	96%	<0.5		
Total Xylene	--	--	--	--	--	--	--	--	--		
CDFB (Surr @ 4 mg/kg)	--	84%	2%	82%	0%	88%	88%	98%	94%		
Method : E029.2/E016.2											
Volatile TPH by P&T (vTPH)		EQL									
C6 - C9 Fraction	10	<10	--	<10	--	94%	87%	90%	<10		

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E029.2/E016.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/FID/MSD.

E029.2/E016.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/MSD.

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 5 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246631	246632	246634	246637	246639	246640	246642	246644	246645	246647
Sample Identification		BH03	BH03	BH04	BH05	BH05	AH01	AH02	AH03	AH04	AH05
Depth (m)		0.18-0.28	0.4-0.5	0.1-0.2	0.0-0.1	0.6-0.8	0.2-0.3	0.0-0.1	0.0-0.1	0.0-0.1	0.2-0.3
Sampling Date recorded on COC		14/1/10	14/1/10	15/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10
Laboratory Extraction (Preparation) Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10
Laboratory Analysis Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10
Method : E006.2											
Petroleum Hydrocarbons (TPH)	EQL										
C10 - C14 Fraction	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28 Fraction	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29 - C36 Fraction	100	<100	<100	600	<100	<100	<100	<100	<100	<100	<100
Sum of TPH C10 - C36	--	--	--	600	--	--	--	--	--	--	--

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E006.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/FID.

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 6 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246648	246649	246651	246653	246654	246655	246657	246659	246660	246661
Sample Identification		AH06	AH07	AH08	AH09	AH09	AH10	AH11	AH12	AH12	AH13
Depth (m)		0.05-0.15	0.0-0.1	0.0-0.1	0.0-0.1	0.4-0.5	0.05-0.15	0.05-0.15	0.05-0.15	0.4-0.5	0.05-0.15
Sampling Date recorded on COC		18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10
Laboratory Extraction (Preparation) Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10
Laboratory Analysis Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10
Method : E006.2											
Petroleum Hydrocarbons (TPH)	EQL										
C10 - C14 Fraction	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28 Fraction	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29 - C36 Fraction	100	<100	<100	<100	<100	<100	110	<100	<100	<100	<100
Sum of TPH C10 - C36	--	--	--	--	--	--	110	--	--	--	--

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E006.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/FID.

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 7 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246662	246663	246664	246666	246668	246669	246670	246671	246631d	246631r
Sample Identification		AH13	AH14	AH14	AH15	AH15	QC01	QC02	QC04	QC	QC
Depth (m)		0.4-0.5	0.0-0.1	0.4-0.5	0.05-0.1	1.3-1.5	--	--	--	--	--
Sampling Date recorded on COC		18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	--	--
Laboratory Extraction (Preparation) Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	--
Laboratory Analysis Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	--
Method : E006.2											
Petroleum Hydrocarbons (TPH)	EQL										
C10 - C14 Fraction	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	--
C15 - C28 Fraction	100	<100	<100	<100	<100	<100	<100	100	<100	<100	--
C29 - C36 Fraction	100	<100	<100	<100	<100	<100	<100	110	<100	<100	--
Sum of TPH C10 - C36	--	--	--	--	--	--	--	210	--	--	--

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E006.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/FID.

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 8 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246644d	246644r	246654d	246654r	246634s	246655s	lcs	mb		
Sample Identification		QC	QC	QC	QC	QC	QC	QC	QC		
Depth (m)		--	--	--	--	--	--	--	--		
Sampling Date recorded on COC		--	--	--	--	--	--	--	--		
Laboratory Extraction (Preparation) Date		29/1/10	--	29/1/10	--	29/1/10	29/1/10	29/1/10	29/1/10		
Laboratory Analysis Date		29/1/10	--	29/1/10	--	29/1/10	29/1/10	29/1/10	29/1/10		
Method : E006.2											
Petroleum Hydrocarbons (TPH)	EQL										
C10 - C14 Fraction	50	<50	--	<50	--	96%	86%	92%	<50		
C15 - C28 Fraction	100	100	--	<100	--	--	--	--	<100		
C29 - C36 Fraction	100	130	--	<100	--	--	--	--	<100		
Sum of TPH C10 - C36	--	230	--	--	--	--	--	--	--		

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E006.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/FID.

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 9 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246631	246634	246637	246642	246647	246653	246657	246659	246663	246631d
Sample Identification		BH03	BH04	BH05	AH02	AH05	AH09	AH11	AH12	AH14	QC
Depth (m)		0.18-0.28	0.1-0.2	0.0-0.1	0.0-0.1	0.2-0.3	0.0-0.1	0.05-0.15	0.05-0.15	0.0-0.1	--
Sampling Date recorded on COC		14/1/10	15/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	--
Laboratory Extraction (Preparation) Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10
Laboratory Analysis Date		30/1/10	1/2/10	30/1/10	30/1/10	30/1/10	30/1/10	30/1/10	30/1/10	30/1/10	30/1/10
Method : E013.2											
Organochlorine Pesticides (OC)		EQL									
a-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
b-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
g-BHC (Lindane)	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
d-BHC	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
trans-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan I	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
cis-chlordane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	0.05	0.16	<0.05	<0.05	<0.05	0.13	<0.05	<0.05	<0.05	<0.05	0.12
4,4-DDE	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan II	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDD	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulphate	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4,4-DDT	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methoxychlor	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
DBC (Surr @ 0.2mg/kg)	--	79%	95%	78%	75%	82%	79%	72%	77%	75%	81%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 10 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246631r	246634s	lcs	mb						
Sample Identification		QC	QC	QC	QC						
Depth (m)		--	--	--	--						
Sampling Date recorded on COC		--	--	--	--						
Laboratory Extraction (Preparation) Date		--	29/1/10	29/1/10	29/1/10						
Laboratory Analysis Date		--	30/1/10	30/1/10	30/1/10						
Method : E013.2											
Organochlorine Pesticides (OC)	EQL										
a-BHC	0.05	--	101%	90%	<0.05						
Hexachlorobenzene	0.05	--	72%	71%	<0.05						
b-BHC	0.05	--	100%	89%	<0.05						
g-BHC (Lindane)	0.05	--	99%	91%	<0.05						
d-BHC	0.05	--	117%	107%	<0.05						
Heptachlor	0.05	--	105%	95%	<0.05						
Aldrin	0.05	--	99%	89%	<0.05						
Heptachlor epoxide	0.05	--	98%	90%	<0.05						
trans-chlordane	0.05	--	100%	94%	<0.05						
Endosulfan I	0.05	--	98%	91%	<0.05						
cis-chlordane	0.05	--	99%	95%	<0.05						
Dieldrin	0.05	29%	92%	79%	<0.05						
4,4-DDE	0.05	--	95%	82%	<0.05						
Endrin	0.05	--	103%	93%	<0.05						
Endosulfan II	0.05	--	97%	92%	<0.05						
4,4-DDD	0.05	--	97%	89%	<0.05						
Endosulfan sulphate	0.05	--	93%	84%	<0.05						
4,4-DDT	0.2	--	87%	91%	<0.2						
Methoxychlor	0.2	--	97%	97%	<0.2						
DBC (Surr @ 0.2mg/kg)	--	3%	78%	83%	98%						

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 11 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246631	246634	246637	246642	246647	246653	246657	246659	246663	246631d
Sample Identification		BH03	BH04	BH05	AH02	AH05	AH09	AH11	AH12	AH14	QC
Depth (m)		0.18-0.28	0.1-0.2	0.0-0.1	0.0-0.1	0.2-0.3	0.0-0.1	0.05-0.15	0.05-0.15	0.0-0.1	--
Sampling Date recorded on COC		14/1/10	15/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	--
Laboratory Extraction (Preparation) Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10
Laboratory Analysis Date		29/1/10	1/2/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10
Method : E014.2											
Organophosphorus Pesticides (OP)	EQL										
Dichlorvos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Mevinphos (Phosdrin)	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Demeton (total)	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethoprop	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Monocrotophos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phorate	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Disulfoton	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl parathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ronnel	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Malathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Parathion	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Stirofos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Azinophos methyl	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Coumaphos	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TPP (Surr @ 2mg/kg)	--	118%	93%	99%	98%	106%	112%	97%	103%	121%	103%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E014.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MSD.

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 12 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246631r	246634s	lcs	mb						
Sample Identification		QC	QC	QC	QC						
Depth (m)		--	--	--	--						
Sampling Date recorded on COC		--	--	--	--						
Laboratory Extraction (Preparation) Date		--	29/1/10	29/1/10	29/1/10						
Laboratory Analysis Date		--	1/2/10	29/1/10	29/1/10						
Method : E014.2											
Organophosphorus Pesticides (OP)	EQL										
Dichlorvos	0.5	--	116%	118%	<0.5						
Mevinphos (Phosdrin)	0.5	--	92%	94%	<0.5						
Demeton (total)	1	--	102%	98%	<1						
Ethoprop	0.5	--	112%	94%	<0.5						
Monocrotophos	0.5	--	61%	88%	<0.5						
Phorate	0.5	--	110%	101%	<0.5						
Dimethoate	0.5	--	97%	105%	<0.5						
Diazinon	0.5	--	99%	97%	<0.5						
Disulfoton	0.5	--	102%	108%	<0.5						
Methyl parathion	0.5	--	86%	92%	<0.5						
Ronnel	0.5	--	95%	105%	<0.5						
Fenitrothion	0.5	--	87%	99%	<0.5						
Malathion	0.5	--	92%	98%	<0.5						
Chlorpyrifos	0.5	--	90%	107%	<0.5						
Fenthion	0.5	--	102%	107%	<0.5						
Parathion	0.5	--	95%	92%	<0.5						
Stirofos	0.5	--	76%	98%	<0.5						
Prothiofos	0.5	--	109%	105%	<0.5						
Azinophos methyl	0.5	--	82%	88%	<0.5						
Coumaphos	0.5	--	90%	87%	<0.5						
TPP (Surr @ 2mg/kg)	--	14%	107%	106%	105%						

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E014.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MSD.

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 13 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246631	246634	246637	246642	246647	246653	246657	246659	246663	246631d
Sample Identification		BH03	BH04	BH05	AH02	AH05	AH09	AH11	AH12	AH14	QC
Depth (m)		0.18-0.28	0.1-0.2	0.0-0.1	0.0-0.1	0.2-0.3	0.0-0.1	0.05-0.15	0.05-0.15	0.0-0.1	--
Sampling Date recorded on COC		14/1/10	15/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	--
Laboratory Extraction (Preparation) Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10
Laboratory Analysis Date		30/1/10	1/2/10	30/1/10	30/1/10	30/1/10	30/1/10	30/1/10	30/1/10	1/2/10	30/1/10
Method : E013.2											
Polychlorinated Biphenyls (PCB)	EQL										
Arochlor 1016	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1232	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1242	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1248	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Arochlor 1254	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1	<0.5
Arochlor 1260	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Sum of reported PCBs	--	--	--	--	--	--	--	--	--	1	--
DBC (Surr @ 0.2mg/kg)	--	79%	95%	78%	75%	82%	79%	72%	77%	94%	81%

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 14 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246631r	246634s	lcs	mb						
Sample Identification		QC	QC	QC	QC						
Depth (m)		--	--	--	--						
Sampling Date recorded on COC		--	--	--	--						
Laboratory Extraction (Preparation) Date		--	29/1/10	29/1/10	29/1/10						
Laboratory Analysis Date		--	1/2/10	1/2/10	30/1/10						
Method : E013.2											
Polychlorinated Biphenyls (PCB)	EQL										
Arochlor 1016	0.5	--	--	--	<0.5						
Arochlor 1232	0.5	--	--	--	<0.5						
Arochlor 1242	0.5	--	--	--	<0.5						
Arochlor 1248	0.5	--	--	--	<0.5						
Arochlor 1254	0.5	--	112%	119%	<0.5						
Arochlor 1260	0.5	--	--	--	<0.5						
Sum of reported PCBs	--	--	--	--	--						
DBC (Surr @ 0.2mg/kg)	--	3%	110%	117%	89%						

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 15 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246631	246632	246634	246637	246639	246640	246642	246644	246645	246647
Sample Identification		BH03	BH03	BH04	BH05	BH05	AH01	AH02	AH03	AH04	AH05
Depth (m)		0.18-0.28	0.4-0.5	0.1-0.2	0.0-0.1	0.6-0.8	0.2-0.3	0.0-0.1	0.0-0.1	0.0-0.1	0.2-0.3
Sampling Date recorded on COC		14/1/10	14/1/10	15/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10
Laboratory Extraction (Preparation) Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10
Laboratory Analysis Date		3/2/10	2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	2/2/10
Method : E022.2											
Acid extractable metals (M7)		EQL									
Arsenic	1	3	7	<1	6	14	4	4	2	5	7
Cadmium	0.1	0.2	<0.1	0.8	<0.1	<0.1	<0.1	0.9	0.1	<0.1	<0.1
Chromium	1	84	14	10	14	8	14	12	7	13	9
Copper	2	11	18	42	22	30	28	34	15	33	22
Nickel	1	18	5	69	7	9	39	8	3	5	1
Lead	2	6	18	4	47	19	17	59	24	67	17
Zinc	5	37	10	39	57	57	37	276	67	87	24

Results expressed in mg/kg dry weight unless otherwise specified

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

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

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 16 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246648	246649	246651	246653	246654	246655	246657	246659	246660	246661
Sample Identification		AH06	AH07	AH08	AH09	AH09	AH10	AH11	AH12	AH12	AH13
Depth (m)		0.05-0.15	0.0-0.1	0.0-0.1	0.0-0.1	0.4-0.5	0.05-0.15	0.05-0.15	0.05-0.15	0.4-0.5	0.05-0.15
Sampling Date recorded on COC		18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10
Laboratory Extraction (Preparation) Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10
Laboratory Analysis Date		2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	2/2/10
Method : E022.2											
Acid extractable metals (M7)		EQL									
Arsenic	1	3	6	8	5	7	<1	2	4	8	<1
Cadmium	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	1	9	13	17	13	13	89	104	13	11	11
Copper	2	17	32	20	19	14	18	28	19	24	50
Nickel	1	5	9	7	9	2	73	105	12	8	97
Lead	2	36	36	49	26	31	4	7	20	16	3
Zinc	5	36	50	62	46	14	43	83	33	24	49

Results expressed in mg/kg dry weight unless otherwise specified

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

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

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 17 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246662	246663	246664	246666	246668	246669	246670	246671	246631d	246631r
Sample Identification		AH13	AH14	AH14	AH15	AH15	QC01	QC02	QC04	QC	QC
Depth (m)		0.4-0.5	0.0-0.1	0.4-0.5	0.05-0.1	1.3-1.5	--	--	--	--	--
Sampling Date recorded on COC		18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	--	--
Laboratory Extraction (Preparation) Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	--
Laboratory Analysis Date		2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	3/2/10	--
Method : E022.2											
Acid extractable metals (M7)		EQL									
Arsenic	1	4	3	8	10	15	<1	2	6	1	100%
Cadmium	0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.2	<0.1	0.1	67%
Chromium	1	5	11	16	17	27	3	9	8	4	182%
Copper	2	23	48	14	15	24	4	15	42	4	93%
Nickel	1	7	8	5	7	4	3	4	13	3	143%
Lead	2	23	22	23	32	30	6	25	20	4	40%
Zinc	5	18	49	22	49	26	20	78	47	20	60%

Results expressed in mg/kg dry weight unless otherwise specified

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

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

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 18 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246644d	246644r	246654d	246654r	246634s	246655s	crm	lcs	mb	
Sample Identification		QC	QC	QC	QC	QC	QC	QC	QC	QC	
Depth (m)		--	--	--	--	--	--	--	--	--	
Sampling Date recorded on COC		--	--	--	--	--	--	--	--	--	
Laboratory Extraction (Preparation) Date		29/1/10	--	29/1/10	--	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	
Laboratory Analysis Date		2/2/10	--	2/2/10	--	2/2/10	2/2/10	2/2/10	2/2/10	2/2/10	
Method : E022.2											
Acid extractable metals (M7)		EQL									
Arsenic	1	2	0%	10	35%	94%	102%	106%	109%	<1	
Cadmium	0.1	0.1	0%	<0.1	--	##	90%	114%	101%	<0.1	
Chromium	1	19	92%	15	14%	106%	#	105%	99%	<1	
Copper	2	17	13%	17	19%	#	98%	89%	90%	<2	
Nickel	1	4	29%	7	111%	#	#	104%	98%	<1	
Lead	2	56	80%	60	64%	107%	124%	108%	105%	<2	
Zinc	5	91	30%	13	7%	#	#	95%	95%	<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. ## Percent recovery not available due to interference from the sample.

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

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 19 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246631	246632	246634	246637	246639	246640	246642	246644	246645	246647
Sample Identification		BH03	BH03	BH04	BH05	BH05	AH01	AH02	AH03	AH04	AH05
Depth (m)		0.18-0.28	0.4-0.5	0.1-0.2	0.0-0.1	0.6-0.8	0.2-0.3	0.0-0.1	0.0-0.1	0.0-0.1	0.2-0.3
Sampling Date recorded on COC		14/1/10	14/1/10	15/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10
Laboratory Extraction (Preparation) Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10
Laboratory Analysis Date		1/2/10	1/2/10	1/2/10	1/2/10	1/2/10	1/2/10	2/2/10	1/2/10	1/2/10	1/2/10
Method : E026.2 Acid extractable metals - mercury Mercury	EQL 0.05	<0.05	<0.05	<0.05	0.11	0.07	0.05	0.12	<0.05	0.12	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 Identification		246648	246649	246651	246653	246654	246655	246657	246659	246660	246661
Sample Identification		AH06	AH07	AH08	AH09	AH09	AH10	AH11	AH12	AH12	AH13
Depth (m)		0.05-0.15	0.0-0.1	0.0-0.1	0.0-0.1	0.4-0.5	0.05-0.15	0.05-0.15	0.05-0.15	0.4-0.5	0.05-0.15
Sampling Date recorded on COC		18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10
Laboratory Extraction (Preparation) Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10
Laboratory Analysis Date		1/2/10	1/2/10	1/2/10	1/2/10	1/2/10	1/2/10	1/2/10	1/2/10	1/2/10	1/2/10
Method : E026.2 Acid extractable metals - mercury Mercury	EQL 0.05	0.06	0.08	0.12	0.05	0.06	0.06	0.07	0.06	<0.05	<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: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 20 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246662	246663	246664	246666	246668	246669	246670	246671	246631d	246631r
Sample Identification		AH13	AH14	AH14	AH15	AH15	QC01	QC02	QC04	QC	QC
Depth (m)		0.4-0.5	0.0-0.1	0.4-0.5	0.05-0.1	1.3-1.5	--	--	--	--	--
Sampling Date recorded on COC		18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	--	--
Laboratory Extraction (Preparation) Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	--
Laboratory Analysis Date		1/2/10	1/2/10	1/2/10	1/2/10	2/2/10	1/2/10	1/2/10	1/2/10	1/2/10	--
Method : E026.2 Acid extractable metals - mercury Mercury	EQL 0.05	0.06	<0.05	0.05	0.11	0.05	<0.05	0.07	<0.05	<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 Identification		246644d	246644r	246654d	246654r	246634s	246655s	crm	lcs	mb	
Sample Identification		QC	QC	QC	QC	QC	QC	QC	QC	QC	
Depth (m)		--	--	--	--	--	--	--	--	--	
Sampling Date recorded on COC		--	--	--	--	--	--	--	--	--	
Laboratory Extraction (Preparation) Date		29/1/10	--	29/1/10	--	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	
Laboratory Analysis Date		1/2/10	--	1/2/10	--	1/2/10	1/2/10	29/1/10	29/1/10	29/1/10	
Method : E026.2 Acid extractable metals - mercury Mercury	EQL 0.05	0.06	>18%	0.07	15%	92%	97%	74%	77%	<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: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 21 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246631	246632	246634	246637	246639	246640	246642	246644	246645	246647
Sample Identification		BH03	BH03	BH04	BH05	BH05	AH01	AH02	AH03	AH04	AH05
Depth (m)		0.18-0.28	0.4-0.5	0.1-0.2	0.0-0.1	0.6-0.8	0.2-0.3	0.0-0.1	0.0-0.1	0.0-0.1	0.2-0.3
Sampling Date recorded on COC		14/1/10	14/1/10	15/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10
Laboratory Extraction (Preparation) Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10
Laboratory Analysis Date		2/1/10	2/1/10	2/1/10	2/1/10	2/1/10	2/1/10	2/1/10	2/1/10	2/1/10	2/1/10
Method : E005.2	EQL										
Moisture											
Moisture	--	19	17	3	10	10	15	9	6	12	11

Results expressed in % w/w unless otherwise specified

Comments:

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

Laboratory Identification		246648	246649	246651	246653	246654	246655	246657	246659	246660	246661
Sample Identification		AH06	AH07	AH08	AH09	AH09	AH10	AH11	AH12	AH12	AH13
Depth (m)		0.05-0.15	0.0-0.1	0.0-0.1	0.0-0.1	0.4-0.5	0.05-0.15	0.05-0.15	0.05-0.15	0.4-0.5	0.05-0.15
Sampling Date recorded on COC		18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10
Laboratory Extraction (Preparation) Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10
Laboratory Analysis Date		2/1/10	2/1/10	2/1/10	2/1/10	2/1/10	2/1/10	2/1/10	2/1/10	2/1/10	2/1/10
Method : E005.2	EQL										
Moisture											
Moisture	--	8	10	7	8	14	8	3	4	5	7

Results expressed in % w/w unless otherwise specified

Comments:

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

Laboratory Report No: E046543
Client Name: AECOM Australia Pty Ltd
Contact Name: Lee Taylor
Client Reference: Westmead Hospital S777101

Page: 22 of 22
plus cover page
Date: 04/02/10

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		246662	246663	246664	246666	246668	246669	246670	246671	246631d	246631r
Sample Identification		AH13	AH14	AH14	AH15	AH15	QC01	QC02	QC04	QC	QC
Depth (m)		0.4-0.5	0.0-0.1	0.4-0.5	0.05-0.1	1.3-1.5	--	--	--	--	--
Sampling Date recorded on COC		18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	18/1/10	--	--
Laboratory Extraction (Preparation) Date		29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	29/1/10	--
Laboratory Analysis Date		2/1/10	2/1/10	2/1/10	2/1/10	2/1/10	2/1/10	2/1/10	2/1/10	2/1/10	--
Method : E005.2	EQL	8	4	9	8	12	20	7	8	16	17%
Moisture Moisture											

Results expressed in % w/w unless otherwise specified

Comments:

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

Laboratory Identification		246644d	246644r	246654d	246654r						
Sample Identification		QC	QC	QC	QC						
Depth (m)		--	--	--	--						
Sampling Date recorded on COC		--	--	--	--						
Laboratory Extraction (Preparation) Date		29/1/10	--	29/1/10	--						
Laboratory Analysis Date		2/1/10	--	2/1/10	--						
Method : E005.2	EQL	7	15%	14	0%						
Moisture Moisture											

Results expressed in % w/w unless otherwise specified

Comments:

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

Sample Receipt Notice (SRN) for E046543



Quality, Service, Support

Client Details		Laboratory Reference Information	
Client Name: AECOM Australia Pty Ltd Client Phone: 02 8484 8999 Client Fax: 02 8484 8989 Contact Name: Lee Taylor Contact Email: lee.taylor@aecom.com Client Address: PO Box 726 Pymble NSW 2073 Project Name: Westmead Hospital Project Number: S777101 CoC Serial Number: - Not provided - Purchase Order: 1303781 Surcharge: No surcharge applied (results by 6:30pm on due date) Sample Matrix: SOIL		Please have this information ready when contacting Labmark. Laboratory Report: E046543 Quotation Number: - Not provided, standard prices apply Laboratory Address: Unit 1, 8 Leighton Pl. Asquith NSW 2077 Phone: 61 2 9476 6533 Fax: 61 2 9476 8219 Sample Receipt Contact: Ros Schacht Email: Ros.Schacht@labmark.com.au Reporting Contact: Leanne Boag Email: leanne.boag@labmark.com.au	
Date Sampled (earliest date): 14/01/2010 Date Samples Received: 19/01/2010 Date Sample Receipt Notice issued: 25/01/2010 Date Preliminary Report Due: 05/02/2010 Client TAT Request Date: 05/02/2010		NATA Accreditation: 13542 TGA GMP License: 185-336 (Sydney) APVMA License: 6105 (Sydney) AQIS Approval: NO356 (Sydney) AQIS Entry Permit: 200521534 (Sydney)	

Reporting Requirements: Electronic Data Download required: Yes

Invoice Number: 10EA7828

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 used .
Sample container & chemical preservation suitable .

Comments: QC03 sent to LabMark Melbourne | Amended instructions rec'd 20/1/10 - samples on hold | Instructions to proceed 22/1/10 12:48PM | SRN reissued

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

Preservation: Chemical preservation of samples satisfactory for requested analytes.

Important Notes:

LabMark shall responsibly dispose of spent customer soil and water samples which includes the disintegration of the sample label. A sample disposal fee of \$1.00 is applicable on all samples received by the laboratory regardless of whether they have undergone analytical testing. 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 \$30/ 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 Amdel Limited, NATA accreditation No.1526.

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

Sample Receipt Notice (SRN) for E046543



Quality, Service, Support

The table below represents LabMark's understanding and interpretation of the customer supplied sample COC request (refer to SRN comments section on first page for external subcontracting method details). Please confirm that your COC request has been entered correctly. Due to THT and TAT requirements, testing shall commence immediately as per this table, unless the customer intervenes with a correction prior to testing.

GRID REVIEW TABLE				Requested Analysis													
No.	Date	Depth	Client Sample ID	BTEX by P&T	Acid extractable metals - mercury	HOLD ON HOLD	Acid extractable metals (M7)	Moisture	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polychlorinated Biphenyls (PCB)	PREP Not Reported	Petroleum Hydrocarbons (TPH)	Volatile TPH by P&T (vTPH)	External Asbestos		
246630	14/01	0.0-0.05	BH03														
246631	14/01	0.18-0.28	BH03														
246632	14/01	0.4-0.5	BH03														
246633	14/01	0.9-1.0	BH03														
246634	15/01	0.1-0.2	BH04														
246635	15/01	0.3-0.4	BH04														
246636	15/01	1.0-1.35	BH04														
246637	18/01	0.0-0.1	BH05														
246638	18/01	0.1-0.2	BH05														
246639	18/01	0.6-0.8	BH05														
246640	18/01	0.2-0.3	AH01														
246641	18/01	0.8-1.0	AH01														
246642	18/01	0.0-0.1	AH02														
246643	18/01	0.15-0.25	AH02														
246644	18/01	0.0-0.1	AH03														
246645	18/01	0.0-0.1	AH04														
246646	18/01	0.0-0.1	AH05														
246647	18/01	0.2-0.3	AH05														
246648	18/01	0.05-0.15	AH06														
246649	18/01	0.0-0.1	AH07														
246650	18/01	0.3-0.4	AH07														
246651	18/01	0.0-0.1	AH08														
246652	18/01	0.3-0.5	AH08														
246653	18/01	0.0-0.1	AH09														
246654	18/01	0.4-0.5	AH09														
246655	18/01	0.05-0.15	AH10														
246656	18/01	0.5-0.6	AH10														
246657	18/01	0.05-0.15	AH11														
246658	18/01	0.45-0.55	AH11														
246659	18/01	0.05-0.15	AH12														
246660	18/01	0.4-0.5	AH12														
246661	18/01	0.05-0.15	AH13														

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

Sample Receipt Notice (SRN) for E046543



Quality, Service, Support

The table below represents LabMark's understanding and interpretation of the customer supplied sample COC request (refer to SRN comments section on first page for external subcontracting method details). Please confirm that your COC request has been entered correctly. Due to THT and TAT requirements, testing shall commence immediately as per this table, unless the customer intervenes with a correction prior to testing.

GRID REVIEW TABLE				Requested Analysis															
No.	Date	Depth	Client Sample ID	BTEX by P&T	Acid extractable metals - mercury	HOLD ON HOLD	Acid extractable metals (M7)	Moisture	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polychlorinated Biphenyls (PCB)	PREP Not Reported	Petroleum Hydrocarbons (TPH)	Volatile TPH by P&T (vTPH)	External Asbestos				
246662	18/01	0.4-0.5	AH13	●	●		●	●				●	●	●					
246663	18/01	0.0-0.1	AH14	●	●		●	●	●	●		●	●	●	●				
246664	18/01	0.4-0.5	AH14	●	●		●	●				●	●	●	●				
246665	18/01	1.4-1.5	AH14			●						●							
246666	18/01	0.05-0.1	AH15	●	●		●	●				●	●	●	●				
246667	18/01	0.4-0.5	AH15			●						●							
246668	18/01	1.3-1.5	AH15	●	●		●	●				●	●	●					
246669	18/01		QC01	●	●		●	●				●	●	●					
246670	18/01		QC02	●	●		●	●				●	●	●					
246671	18/01		QC04	●	●		●	●				●	●	●					
Totals:				28	28	14	28	28	9	9	9	42	28	28	19				

'PREP Not Reported' refers to an internal laboratory instruction - client confirmation of this parameter is not required.

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

Sample Receipt Notice (SRN) for E046543



Quality, Service, Support

				Requested Analysis															
No.	Date	Depth	Client Sample ID	M8 - M7-T_S															
246631	14/01	0.18-0.28	BH03	●															
246632	14/01	0.4-0.5	BH03	●															
246634	15/01	0.1-0.2	BH04	●															
246637	18/01	0.0-0.1	BH05	●															
246639	18/01	0.6-0.8	BH05	●															
246640	18/01	0.2-0.3	AH01	●															
246642	18/01	0.0-0.1	AH02	●															
246644	18/01	0.0-0.1	AH03	●															
246645	18/01	0.0-0.1	AH04	●															
246647	18/01	0.2-0.3	AH05	●															
246648	18/01	0.05-0.15	AH06	●															
246649	18/01	0.0-0.1	AH07	●															
246651	18/01	0.0-0.1	AH08	●															
246653	18/01	0.0-0.1	AH09	●															
246654	18/01	0.4-0.5	AH09	●															
246655	18/01	0.05-0.15	AH10	●															
246657	18/01	0.05-0.15	AH11	●															
246659	18/01	0.05-0.15	AH12	●															
246660	18/01	0.4-0.5	AH12	●															
246661	18/01	0.05-0.15	AH13	●															
246662	18/01	0.4-0.5	AH13	●															
246663	18/01	0.0-0.1	AH14	●															
246664	18/01	0.4-0.5	AH14	●															
246666	18/01	0.05-0.1	AH15	●															
246668	18/01	1.3-1.5	AH15	●															
246669	18/01		QC01	●															
246670	18/01		QC02	●															
246671	18/01		QC04	●															
Totals:				28															

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

Leanne Boag

From: Taylor, Lee [Lee.Taylor@aecom.com]
Sent: Friday, 22 January 2010 12:48 PM
To: Leanne Boag
Cc: Henriques, Rui; Midwinter, Debbie
Subject: e046543 - Westmead Hospital - S777101

Leanne,

We have now received instructions to proceed with this project.

Please could you commence booking in the samples as per the original chain of custody.

Many thanks,

Lee Taylor

Professional Environmental Scientist
 D +61 2 8484 8971
 Lee.Taylor@aecom.com

AECOM

Level 5, 828 Pacific Highway, Gordon, NSW 2072
 PO Box 726 Pymble NSW 2073
 T +61 2 8484 8999 F +61 2 8484 8989
 www.aecom.com

Please consider the environment before printing this email.

This electronic communication, which includes any files or attachments thereto, contains proprietary or confidential information and may be privileged and otherwise protected under copyright or other applicable intellectual property laws. All information contained in this electronic communication is solely for the use of the individual(s) or entity to which it was addressed. If you are not the intended recipient(s), you are hereby notified that distributing, copying, or in any way disclosing any of the information in this e-mail is strictly prohibited. If you have received this e-mail in error, please notify the sender immediately, and destroy the communication and any files or attachments in their entirety, whether in electronic or hard copy format. Since data stored on electronic media can deteriorate, be translated or modified, AECOM, its subsidiaries, and/or affiliates will not be liable for the completeness, correctness or readability of the electronic data. The electronic data should be verified against the hard copy.

*Rec'd
 J. Smith
 22.1.10 1248*

*E046543-
 (additional
 instructions)*

22/01/2010

Leanne Boag

From: Taylor, Lee [Lee.Taylor@aecom.com]
Sent: Wednesday, 20 January 2010 11:02 AM
To: Leanne Boag
Cc: Midwinter, Debbie
Subject: Westmead Hospital Samples

Leanne,

As per our telephone conversation, please could you book all samples for this project in on 'HOLD' until further notice.

Many thanks for your help.

Lee Taylor
Professional Environmental Scientist
D +61 2 8484 8971
Lee.Taylor@aecom.com

Lee Taylor
20.1.10 1102

ED46543

AECOM
Level 5, 828 Pacific Highway, Gordon, NSW 2072
PO Box 726 Pymble NSW 2073
T +61 2 8484 8999 F +61 2 8484 8989
www.aecom.com

Please consider the environment before printing this email.

This electronic communication, which includes any files or attachments thereto, contains proprietary or confidential information and may be privileged and otherwise protected under copyright or other applicable intellectual property laws. All information contained in this electronic communication is solely for the use of the individual(s) or entity to which it was addressed. If you are not the intended recipient(s), you are hereby notified that distributing, copying, or in any way disclosing any of the information in this e-mail is strictly prohibited. If you have received this e-mail in error, please notify the sender immediately, and destroy the communication and any files or attachments in their entirety, whether in electronic or hard copy format. Since data stored on electronic media can deteriorate, be translated or modified, AECOM, its subsidiaries, and/or affiliates will not be liable for the completeness, correctness or readability of the electronic data. The electronic data should be verified against the hard copy.

Form:

Chain of Custody & Analysis Request Form

AECOM - Sydney
828 Pacific Highway
Gordon NSW 2072 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email lee.taylor@aecom.com
debbie.midwinter@aecom.com

Laboratory Details

Lab. Name: Labmark
Lab. Address: Asquith
Contact Name:
Lab. Ref:

Tel: 02 9476 6533

Fax:

Preliminary Report by:

Final Report by:

Lab Quote No:

Project Name: Westmead Hospital (Ref. NSW_B10_287)

Project Number: S777101

Purchase Order Number:

1303781

Sample collected by: LT

Sample Results to be returned to: email as above

Specifications:

(Tick)

1. Urgent TAT required? (please circle: 24hr 48hr _____ days)

☐ Yes ☒ No ☐ N/A

2. Fast TAT Guarantee Required?

☐ Yes ☒ No ☐ N/A

3. Is any sediment layer present in waters to be excluded from extractions?

☐ Yes ☐ No ☒ N/A

4. Special storage requirements?

☐ Yes ☒ No ☐ N/A

5. Preservation requirements?

☐ Yes ☒ No ☐ N/A
6. Other requirements? ☐ Fax ☐ Hard copy ☒ Email
☐ Yes ☐ No ☒ N/A

7. Report Format:

8. Project Manager:

tel:

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix			Preservation				Container (No. & type)	Metals M8	BTEX	VTPH + svTPH	OCP / OPP / PCB	ASBESTOS I.D.	ASBESTOS SCREEN	HOLD	Remarks & comments
				soil	water	other	filled	acid	ice	other									
246640	AH01_0.2-0.3	18/01/2010		x					x		1 x jar	x	x	x			x		
246641	AH01_0.8-1.0	18/01/2010		x					x		1 x jar							x	
246642	AH02_0.0-0.1	18/01/2010		x					x		1 x jar	x	x	x	x		x		
246643	AH02_0.15-0.25	18/01/2010		x					x		1 x jar							x	
246644	AH03_0.0-0.1	18/01/2010		x					x		1 x jar & 1 x bag	x	x	x		x	x		POTENTIAL ASBESTOS IN BAG
246645	AH04_0.0-0.1	18/01/2010		x					x		1 x jar	x	x	x			x		
246646	AH05_0.0-0.1	18/01/2010		x					x		1 x jar							x	
246647	AH05_0.2-0.3	18/01/2010		x					x		1 x jar	x	x	x	x		x		
246648	AH06_0.05-0.15	18/01/2010		x					x		1 x jar	x	x	x			x		
246649	AH07_0.0-0.1	18/01/2010		x					x		1 x jar	x	x	x			x		

Relinquished By:

Received by:

Name: *LEE TAYLOR* Date: 19/1/10
of: *W. HARRIS* Time:

Name: *LEARNER* Date: 19/1/10
of: *LABMARK* Time: 2:10pm

Relinquished By:

Received by:

Name: Date:
of: Time:

Name: Date:
of: Time:

Received in good condition?

Yes/No/NA

Samples received chilled?

Yes/No/NA

Yes/No/NA

Method of Shipment

☐ Courier ☐ Postal ☐ By Hand

Consignment Note No.

Transport Co:

Received in good condition?

Yes/No/NA

Samples received chilled?

Yes/No/NA

Yes/No/NA

Method of Shipment

☐ Courier ☐ Postal ☐ By Hand

Consignment Note No.

Transport Co:

Form:

Chain of Custody & Analysis Request Form

AECOM - Sydney
828 Pacific Highway
Gordon NSW 2072 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email lee.taylor@aecom.com
debbie.midwinter@aecom.com

Laboratory Details

Lab. Name: Labmark
Lab. Address: Asquith
Contact Name:
Lab. Ref:

Tel: 02 9476 6533

Fax:

Preliminary Report by:

Final Report by:

Lab Quote No:

Project Name: Westmead Hospital (Ref. NSW_B10_287)

Project Number: S777101

Purchase Order Number:

1303781

Sample collected by: LT

Sample Results to be returned to: email as above

Specifications:

(Tick)

Analysis Request

Remarks & comments

1. Urgent TAT required? (please circle: 24hr 48hr _____ days)

☐ Yes ☒ No ☐ N/A

2. Fast TAT Guarantee Required?

☐ Yes ☒ No ☐ N/A

3. Is any sediment layer present in waters to be excluded from extractions?

☐ Yes ☐ No ☒ N/A

4. Special storage requirements?

☐ Yes ☒ No ☐ N/A

5. Preservation requirements?

☐ Yes ☒ No ☐ N/A6. Other requirements? ☐ Fax ☐ Hard copy ☒ Email☐ Yes ☐ No ☒ N/A

7. Report Format:

8. Project Manager:

tel:

Lab. ID	Sample ID	Sampling Date & Time		Matrix			Preservation				Container (No. & type)	Metals M8	BTEX	VTPH + svTPH	OCP / OPP / PCB	ASBESTOS I.D.	ASBESTOS SCREEN	HOLD	Remarks & comments
		time (on)	& Time (off)	soil	water	other	filled	acid	ice	other									
246650	AH07_0.3-0.4	18/01/2010		x					x		1 x jar							x	
246651	AH08_0.0-0.1	18/01/2010		x					x		1 x jar	x	x	x			x		
246652	AH08_0.3-0.5	18/01/2010		x					x		1 x jar							x	
246653	AH09_0.0-0.1	18/01/2010		x					x		1 x jar	x	x	x	x		x		
246654	AH09_0.4-0.5	18/01/2010		x					x		1 x jar	x	x	x					
246655	AH10_0.05-0.15	18/01/2010		x					x		1 x jar	x	x	x			x		
246656	AH10_0.5-0.6	18/01/2010		x					x		1 x jar							x	
246657	AH11_0.05-0.15	18/01/2010		x					x		1 x jar	x	x	x	x		x		
246658	AH11_0.45-0.55	18/01/2010		x					x		1 x jar							x	
246659	AH12_0.05-0.15	18/01/2010		x					x		1 x jar	x	x	x	x		x		

Relinquished By:

Received by:

Name: *Lee Taylor*
of: *Labmark*

Date: 19/1/10
Time:

Name: *Lee Taylor*
of: *Labmark*

Date: 19/1/10
Time: 3:10pm

Received in good condition?

Yes/No/NA

Method of Shipment

☐ Courier ☐ Postal ☐ By Hand

Samples received chilled?

Yes/No/NA

Consignment Note No.

Transport Co:

Relinquished By:

Received by:

Name:
of:

Date:
Time:

Name:
of:

Date:
Time:

Received in good condition?

Yes/No/NA

Method of Shipment

☐ Courier ☐ Postal ☐ By Hand

Samples received chilled?

Yes/No/NA

Consignment Note No.

Transport Co:

PAGE 4 OF 5

Form:

AECOM

Chain of Custody & Analysis Request Form

AECOM - Sydney
828 Pacific Highway
Gordon NSW 2072 Australia

Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
Email lee.taylor@aecom.com
debbie.midwinter@aecom.com

Laboratory Details
Lab. Name: Labmark
Lab. Address: Asquith
Contact Name:
Lab. Ref:

Tel: 02 9476 6533
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No:

Project Name: Westmead Hospital (Ref. NSW_B10_287)

Project Number: S777101

Purchase Order Number: 1303781

Sample collected by: LT

Sample Results to be returned to: email as above

Specifications:

(Tick)

1. Urgent TAT required? (please circle: 24hr 48hr _____ days)

☐ Yes ☒ No ☐ N/A

2. Fast TAT Guarantee Required?

☐ Yes ☒ No ☐ N/A

3. Is any sediment layer present in waters to be excluded from extractions?

☐ Yes ☐ No ☒ N/A

4. Special storage requirements?

☐ Yes ☒ No ☐ N/A

5. Preservation requirements?

☐ Yes ☒ No ☐ N/A

6. Other requirements? ☐ Fax ☐ Hard copy ☒ Email

☐ Yes ☐ No ☒ N/A

7. Report Format:

8. Project Manager:

tel:

Lab. ID	Sample ID	Sampling Date & time (on)	Sampling Date & Time (off)	Matrix			Preservation				Container (No. & type)
				soil	water	other	filtered	acid	ice	other	
246660	AH12_0.4-0.5	18/01/2010		x					x		1 x jar
246661	AH13_0.05-0.15	18/01/2010		x					x		1 x jar
246662	AH13_0.4-0.5	18/01/2010		x					x		1 x jar
246663	AH14_0.0-0.1	18/01/2010		x					x		1 x jar
246664	AH14_0.4-0.5	18/01/2010		x					x		1 x jar
246665	AH14_1.4-1.5	18/01/2010		x					x		1 x jar
246666	AH15_0.05-0.1	18/01/2010		x					x		1 x jar
246667	AH15_0.4-0.5	18/01/2010		x					x		2 x jar
246668	AH15_1.3-1.5	18/01/2010		x					x		2 x jar
246669	QC01	18/01/2010		x					x		1 x jar

Analysis Request

Remarks & comments

Metals M8	BTEX	VTPH + svTPH	OCP / OPP / PCB	ASBESTOS I.D.	ASBESTOS SCREEN	HOLD
x	x	x				
x	x	x			x	
x	x	x				x
x	x	x	x		x	
x	x	x			x	
						x
x	x	x			x	
						x
x	x	x				
x	x	x				

Relinquished By:

Received by:

6046543

Name: *LTAYCOL*

Date: 19/1/10

Name: *Wanne Boog*

Date: 19/1/10

of: *Wanne*

Time:

of: *COBMARK*

Time: 3.10pm

Relinquished By:

Received by:

Name:

Date:

Name:

Date:

of:

Time:

of:

Time:

Received in good condition?

Yes/No/NA

Method of Shipment

☐ Courier ☐ Postal ☐ By Hand

Samples received chilled?

Yes/No/NA

Consignment Note No.

Transport Co:

Received in good condition?

Yes/No/NA

Method of Shipment

☐ Courier ☐ Postal ☐ By Hand

Samples received chilled?

Yes/No/NA

Consignment Note No.

Transport Co:



This document is issued in accordance with NATA's accreditation requirements.
Accredited for compliance with ISO/IEC 17025

Accreditation Number: 1645



Certificate of Analysis

Aecom Australia Pty Ltd
Level 5, 828 Pacific Highway GORDON NSW 2072
PO Box 726
PYMBLE NSW 2073
Australia

Attention: Lee Taylor

Project 10ENME0003480
Client Reference S777101
Westmead Hospital
Order Number 1303781
Received Date 25/01/2010 04:31:00 PM

Customer Sample ID	QC03
Sample Matrix	SOIL
Labmark Sample No.	1919748
Date Sampled	18/01/2010

VOC

Test/Reference	PQL	Unit	
1100 BTEX & (C6-C9) in Soil by P&T			
4-Bromofluorobenzene - Surrogate	-	%	85
Benzene	0.2	mg/kg	<0.2
Toluene	1	mg/kg	<1.0
Ethylbenzene	1	mg/kg	<1.0
Meta- & Para- Xylene	2	mg/kg	<2.0
Ortho-Xylene	1	mg/kg	<1.0
Total Xylenes	3	mg/kg	<3.0
C6-C9 Fraction	5	mg/kg	<5.0

SVOC

Test/Reference	PQL	Unit	
2000 TPH (C10 - C36) in Soil by GC			
C10-C14 Fraction	10	mg/kg	14
C15-C28 Fraction	20	mg/kg	77
C29-C36 Fraction	20	mg/kg	89

Metals

Test/Reference	PQL	Unit	
3400 Mercury in Soil by FIMS			
Mercury	0.01	mg/kg	0.05

3100 Total Metals in Soil By ICP/MS

Arsenic	2	mg/kg	2.0
Cadmium	2	mg/kg	<2
Chromium	2	mg/kg	7.1
Copper	2	mg/kg	16
Lead	2	mg/kg	27
Nickel	2	mg/kg	3.1
Zinc	2	mg/kg	88

Miscellaneous

Test/Reference	PQL	Unit	
5000 Moisture Content			
% Moisture	1	%	7

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.

Description	Testing Site	Extracted	Analysed
1100 BTEX &(C6-C9) in Soil by P&T	Melbourne 1645	27/01/2010	29/01/2010
2000 TPH (C10 - C36) in Soil by GC	Melbourne 1645	27/01/2010	01/02/2010
3100 Total Metals in Soil By ICP/MS	Melbourne 1645	27/01/2010	01/02/2010
3400 Mercury in Soil by FIMS	Melbourne 1645	27/01/2010	28/01/2010
5000 Moisture Content	Melbourne 1645	N/A	27/01/2010

Labmark Internal Quality Control Review

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. Matrix spike recoveries are calculated on an 'As Received' basis; the parent sample result is moisture corrected after the % recovery is determined.
3. Proficiency trial results are available on request.
4. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spike or surrogate recoveries.
6. Test samples duplicated or spiked, are for this job only and are identified in the following QC report.
7. SVOC analyses on waters are performed on homogenized, unfiltered sample, unless noted otherwise.
8. When individual results are qualified in the body of a report, refer to the qualifier descriptions that follow.
9. Samples were analysed on an as received basis.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sampling and Preservation Chart for Soils & Waters' for holding times. (LM-FOR-ADM-020)

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Acknowledgement.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitability qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as an RPD

Quality Control Results

Laboratory: **EN_METALS**

Sample, Test, Result Reference	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Codes
1923771 [Method Blank]							
3100 Metals in Soil - As Received							
Antimony	mg/kg	<2			< 2	Pass	
Arsenic	mg/kg	<2			< 2	Pass	
Barium	mg/kg	<2			< 2	Pass	
Beryllium	mg/kg	<2			< 2	Pass	
Boron	mg/kg	<2			< 2	Pass	
Cadmium	mg/kg	<2			< 2	Pass	
Chromium	mg/kg	<2			< 2	Pass	
Cobalt	mg/kg	<2			< 2	Pass	
Copper	mg/kg	<2			< 2	Pass	
Lead	mg/kg	<2			< 2	Pass	
Manganese	mg/kg	<2			< 2	Pass	
Molybdenum	mg/kg	<2			< 2	Pass	
Nickel	mg/kg	<2			< 2	Pass	
Selenium	mg/kg	<2			< 2	Pass	
Tin	mg/kg	<2			< 2	Pass	
Vanadium	mg/kg	<2			< 2	Pass	
Zinc	mg/kg	<2			< 2	Pass	
1925393 [Method Blank]							
3400 Mercury in Soil by FIMS							
Mercury	mg/kg	<0.01			< 0.01	Pass	

Laboratory: EN_METALS

Sample, Test, Result Reference	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Codes
1923772 [Laboratory Control Sample]							
3100 Metals in Soil - As Received			Expected Value	Percent Recovery			
Antimony	mg/kg	100	100.0	103	70-130 %	Pass	
Arsenic	mg/kg	100	100.0	101	70-130 %	Pass	
Barium	mg/kg	110	100.0	106	70-130 %	Pass	
Beryllium	mg/kg	95	100.0	95	70-130 %	Pass	
Boron	mg/kg	96	100.0	96	70-130 %	Pass	
Cadmium	mg/kg	110	100.0	110	70-130 %	Pass	
Chromium	mg/kg	98	100.0	98	70-130 %	Pass	
Cobalt	mg/kg	99	100.0	99	70-130 %	Pass	
Copper	mg/kg	93	100.0	93	70-130 %	Pass	
Lead	mg/kg	100	100.0	100	70-130 %	Pass	
Manganese	mg/kg	100	100.0	103	70-130 %	Pass	
Molybdenum	mg/kg	110	100.0	109	70-130 %	Pass	
Nickel	mg/kg	97	100.0	97	70-130 %	Pass	
Selenium	mg/kg	110	100.0	108	70-130 %	Pass	
Tin	mg/kg	110	100.0	107	70-130 %	Pass	
Vanadium	mg/kg	97	100.0	97	70-130 %	Pass	
Zinc	mg/kg	95	100.0	95	70-130 %	Pass	
1925394 [Laboratory Control Sample]							
3400 Mercury in Soil by FIMS			Expected Value	Percent Recovery			
Mercury	mg/kg	8.8	10.0	88	80-120 %	Pass	

Laboratory: EN_SVOC

Sample, Test, Result Reference	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Codes
1922819 [Method Blank]							
2000 TPH (C10 - C36) in Soil by GC							
C10-C14 Fraction	mg/kg	<10			< 10	Pass	
C15-C28 Fraction	mg/kg	<20			< 20	Pass	
C29-C36 Fraction	mg/kg	<20			< 20	Pass	
1922820 [Laboratory Control Sample]							
2000 TPH (C10 - C36) in Soil by GC			Expected Value	Percent Recovery			
C10-C14 Fraction	mg/kg	110	125.0	92	70-130 %	Pass	
C15-C28 Fraction	mg/kg	110	125.0	91	70-130 %	Pass	
C29-C36 Fraction	mg/kg	100	125.0	83	70-130 %	Pass	

Laboratory: EN_VOC

Sample, Test, Result Reference	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Codes
1922783 [Method Blank]							
1100 BTEX in Soil by P&T							
Benzene	mg/kg	<0.2			< 0.2	Pass	
C6-C9 Fraction	mg/kg	<5.0			< 5	Pass	
Ethylbenzene	mg/kg	<1.0			< 1	Pass	
Meta- & Para- Xylene	mg/kg	<2.0			< 2	Pass	
Ortho-Xylene	mg/kg	<1.0			< 1	Pass	
Toluene	mg/kg	<1.0			< 1	Pass	
Total Xylenes	mg/kg	<3.0			< 3	Pass	
4-Bromofluorobenzene - Surrogate	%	88			70-130 %	Pass	
1922785 [Laboratory Control Sample]							
1100 BTEX in Soil by P&T			Expected Value	Percent Recovery			
Benzene	mg/kg	6.5	5.0	129	70-130 %	Pass	
C6-C9 Fraction	mg/kg	64	50.0	130	70-130 %	Pass	
Ethylbenzene	mg/kg	6.0	5.0	121	70-130 %	Pass	
Meta- & Para- Xylene	mg/kg	12	10.0	120	70-130 %	Pass	
Ortho-Xylene	mg/kg	5.9	5.0	118	70-130 %	Pass	
Toluene	mg/kg	6.5	5.0	130	70-130 %	Pass	
Total Xylenes	mg/kg	18	15.0	119	70-130 %	Pass	
4-Bromofluorobenzene - Surrogate	%	96			70-130 %	Pass	

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Samples correctly preserved	Yes
Organic samples had Teflon liners	Yes
Samples received with Zero Headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised By

Ruth Callander	Client Services Officer	
Alex Petridis	Senior Analyst - SVOC	Accreditation Number: 1645
Mark Herbstreit	Senior Analyst - Metals	Accreditation Number: 1645
Helen Lei	Senior Analyst - Waters	Accreditation Number: 1645
Khoa Pham	Analyst - VOC	Accreditation Number: 1645
Patricia Hua	Senior Analyst	Accreditation Number: 1645

Laboratory Manager

David Elliott Laboratory Manager - Melbourne



Final Report

- Indicates Not Requested * Indicates NATA accreditation does not cover the performance of this service

LabMark Environmental shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Labmark Environmental be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

The samples were not collected by Laboratory staff.



IMPORTANT INFORMATION REGARDING INVOICES & ACCOUNTS

mgt Environmental is pleased to announce that it has purchased 100% of Labmark Environmental Laboratories from Bureau Veritas.

The Labmark laboratory operations will continue unchanged as Labmark Pty Ltd, however please note the new ABN number.

All payments for invoices dated after 12 February 2010 should now be directed to:

Account Name : Labmark Pty Ltd
ABN : 99 141 770 881
Bank : CBA
BSB : 063-498
Account Number : 10442048

Can you please make these alterations to your electronic Invoice payment systems.

When paying by cheque, please make all cheques payable to Labmark Pty Ltd.

All postage should be directed to the following postal address:

Labmark Pty Ltd
PO Box 258
Oakleigh
Victoria 3166

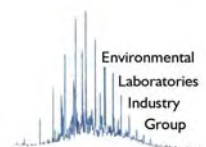
Send all Electronic remittances to : **remittances@labmark.com.au**

Labmark look forward to continuing our relationship in the future



Environmental Laboratory
Air Analysis
Water Analysis

NATA Accreditation
Soil Contamination Analysis
Trade Waste Sampling & Analysis





ENVIRONMENTAL LABORATORIES

<PLEASE NOTE NEW ELECTRONIC BANKING DETAILS>

TAX INVOICE ABN: 99 141 770 881

Pricing & Online Quotes at www.labmark.com.au

Fees and Charges are defined in the LabMark "Environmental Price List of Schedules and Services - March 2007".

Please state invoice # with remittance.

Customer Number: 1091607

Invoice Date: 18-Feb-10

Lee Taylor
AECOM Australia Pty Ltd
PO Box 726
Pymble NSW 2073

Client Reference		Order #	COC #	Quote #	Report #	Invoice #
Westmead Hospital - S777101		1303920	na	ns	E046876	10EA8185
Method	Description	Rate	Samples	Value	Value + GST	
--	Administration Charge	\$30.00		AUD \$ 30.00	AUD \$ 33.00	
C-4	LabMark Suite 4 - TPH/ BTEX/M8	\$95.00	5	\$475.00	\$522.50	
E017.1	Semivolatile Organic Compounds (SVOC)	\$190.00	1	\$190.00	\$209.00	
--	Freight: Delivery to secondary laboratory	\$40.00	1	\$40.00	\$44.00	
Additional comments:		Total Value				\$735.00
		Total GST				\$73.50
		Amount for Payment				\$808.50

Terms strictly 30 days from date of invoice

Banking Details

Bank: CBA **BSB:** 063498 **Account #:** 10442048 **Account Name:** Labmark Pty Ltd



Please return this section with remittance to:

Labmark Pty Ltd
P.O. Box 258
Oakleigh VIC 3166

Telephone: +61 3 9564 7055
Fax: +61 3 9564 7190
Email: remittances@labmark.com.au

Total Value	\$735.00
Total GST	\$73.50
Amount for Payment	\$808.50

Invoice No:	10EA8185
Please Pay Before:	20-Mar-10

Customer Number: 1091607



Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: ES1002770	Page	: 1 of 4
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR LEE TAYLOR	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: lee.taylor@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S777101 WESTMEAD HOSPITAL	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: 1303920	Date Samples Received	: 16-FEB-2010
C-O-C number	: ----	Issue Date	: 23-FEB-2010
Sampler	: GT	No. of samples received	: 1
Site	: ----	No. of samples analysed	: 1
Quote number	: EN/004/09		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits



NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Alex Rossi	Organic Chemist	Organics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

Environmental Division Sydney

Part of the **ALS Laboratory Group**

277-289 Woodpark Road Smithfield NSW Australia 2164

Tel. +61-2-8784 8555 Fax. +61-2-8784 8500 www.alsglobal.com

A Campbell Brothers Limited Company



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

- **EP080: Level of Reporting raised for toluene due to ambient background levels in the laboratory.**



Analytical Results

Sub-Matrix: **WATER**

Client sample ID

Client sampling date / time

				QC02				
				12-FEB-2010 15:00				
Compound	CAS Number	LOR	Unit	ES1002770-001				
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001				
Cadmium	7440-43-9	0.0001	mg/L	<0.0001				
Chromium	7440-47-3	0.001	mg/L	<0.001				
Copper	7440-50-8	0.001	mg/L	0.001				
Nickel	7440-02-0	0.001	mg/L	0.003				
Lead	7439-92-1	0.001	mg/L	<0.001				
Zinc	7440-66-6	0.005	mg/L	0.011				
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001				
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20				
C10 - C14 Fraction	----	50	µg/L	<50				
C15 - C28 Fraction	----	100	µg/L	<100				
C29 - C36 Fraction	----	50	µg/L	<50				
C10 - C36 Fraction (sum)	----	50	µg/L	<50				
EP080: BTEX								
Benzene	71-43-2	1	µg/L	<1				
Toluene	108-88-3	2	µg/L	<5				
Ethylbenzene	100-41-4	2	µg/L	<2				
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2				
ortho-Xylene	95-47-6	2	µg/L	<2				
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	97.0				
Toluene-D8	2037-26-5	0.1	%	116				
4-Bromofluorobenzene	460-00-4	0.1	%	96.4				



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115



Environmental Division

QUALITY CONTROL REPORT

Work Order	: ES1002770	Page	: 1 of 5
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR LEE TAYLOR	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: lee.taylor@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S777101 WESTMEAD HOSPITAL	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----	Date Samples Received	: 16-FEB-2010
C-O-C number	: ----	Issue Date	: 23-FEB-2010
Sampler	: GT	No. of samples received	: 1
Order number	: 1303920	No. of samples analysed	: 1
Quote number	: EN/004/09		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits



NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Alex Rossi	Organic Chemist	Organics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Wisam.Marassa	Metals Coordinator	Inorganics

Environmental Division Sydney

Part of the **ALS Laboratory Group**

277-289 Woodpark Road Smithfield NSW Australia 2164

Tel. +61-2-8784 8555 Fax. +61-2-8784 8500 www.alsglobal.com

A Campbell Brothers Limited Company



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
= Indicates failed QC



Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: **WATER**

Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 1252411)									
ES1002633-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	0.001	0.002	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.013	0.013	0.0	No Limit
ES1002786-006	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.003	0.003	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	0.008	0.008	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.001	mg/L	0.007	0.006	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 1252412)									
ES1002633-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1002786-006	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1255466)									
ES1002521-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1002986-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEX (QC Lot: 1255466)									
ES1002521-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
ES1002986-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit



Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result		LCS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 1252411)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	94.7	88	110
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	89.9	89	107
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	91.9	91	111
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	92.8	87	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	93.2	90	110
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	89.2	89	109
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	93.1	85	115
EG035F: Dissolved Mercury by FIMS (QCLot: 1252412)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	96.2	86	116
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1253314)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	79.5	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	400 µg/L	92.0	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	80.5	62.7	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1255466)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	94.7	75	127
EP080: BTEX (QCLot: 1255466)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	107	76.2	124
EP080: Toluene	108-88-3	2	µg/L	----	10 µg/L	106	74.4	124
		5	µg/L	<5	----	----	----	----
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	97.4	76.1	122
EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	10 µg/L	95.9	75.7	123
	106-42-3							
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	98.1	77.9	121



Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
					MS	Low	High
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number				
EG020F: Dissolved Metals by ICP-MS (QCLot: 1252411)							
ES1002786-005	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	100	70	130
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	98.1	70	130
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	97.4	70	130
		EG020A-F: Copper	7440-50-8	0.2 mg/L	99.3	70	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	97.3	70	130
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	98.7	70	130
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	105	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 1252412)							
ES1002786-005	Anonymous	EG035F: Mercury	7439-97-6	0.0100 mg/L	109	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1255466)							
ES1002521-001	Anonymous	EP080: C6 - C9 Fraction	----	250 µg/L	125	70	130
EP080: BTEX (QCLot: 1255466)							
ES1002521-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	103	70	130
		EP080: Toluene	108-88-3	25 µg/L	108	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	94.8	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	94.9	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	96.4	70	130



Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: ES1002770	Page	: 1 of 5
Client	: AECOM Australia Pty Ltd	Laboratory	: Environmental Division Sydney
Contact	: MR LEE TAYLOR	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: lee.taylor@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S777101 WESTMEAD HOSPITAL	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----	Date Samples Received	: 16-FEB-2010
C-O-C number	: ----	Issue Date	: 23-FEB-2010
Sampler	: GT	No. of samples received	: 1
Order number	: 1303920	No. of samples analysed	: 1
Quote number	: EN/004/09		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Environmental Division Sydney

Part of the **ALS Laboratory Group**

277-289 Woodpark Road Smithfield NSW Australia 2164

Tel. +61-2-8784 8555 Fax. +61-2-8784 8500 www.alsglobal.com

A Campbell Brothers Limited Company



Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non-volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **WATER**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unspecified QC02	12-FEB-2010	---	---	----	18-FEB-2010	11-AUG-2010	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unspecified QC02	12-FEB-2010	---	---	----	18-FEB-2010	12-MAR-2010	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved QC02	12-FEB-2010	18-FEB-2010	19-FEB-2010	✓	19-FEB-2010	30-MAR-2010	✓
Amber VOC Vial - HCl QC02	12-FEB-2010	---	---	----	20-FEB-2010	26-FEB-2010	✓
EP080: BTEX							
Amber VOC Vial - HCl QC02	12-FEB-2010	---	---	----	20-FEB-2010	26-FEB-2010	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	2	16	12.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	17	11.8	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	16	6.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	17	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	8	12.5	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	16	6.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	17	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	8	12.5	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	16	6.3	5.0	✓	ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	17	5.9	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	ALS QCS3 requirement



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): Samples are 0.45 um filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.



Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

- For all matrices, no Method Blank value outliers occur.
- For all matrices, no Duplicate outliers occur.
- For all matrices, no Laboratory Control outliers occur.
- For all matrices, no Matrix Spike outliers occur.

Regular Sample Surrogates

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP080S: TPH(V)/BTEX Surrogates	ES1002770-001	QC02	Toluene-D8	2037-26-5	116 %	88-110 %	Recovery greater than upper data quality objective

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- No Quality Control Sample Frequency Outliers exist.

Worldwide Locations

Australia	+61-2-8484-8999
Azerbaijan	+994 12 4975881
Belgium	+32-3-540-95-86
Bolivia	+591-3-354-8564
Brazil	+55-21-3526-8160
China	+86-20-8130-3737
England	+44 1928-726006
France	+33(0)1 48 42 59 53
Germany	+49-631-341-13-62
Ireland	+353 1631 9356
Italy	+39-02-3180 77 1
Japan	+813-3541 5926
Malaysia	+603-7725-0380
Netherlands	+31 10 2120 744
Philippines	+632 910 6226
Scotland	+44 (0) 1224-624624
Singapore	+65 6295 5752
Thailand	+662 642 6161
Turkey	+90-312-428-3667
United States	+1 978-589-3200
Venezuela	+58-212-762-63 39

Australian Locations

Adelaide
Brisbane
Canberra
Darwin
Melbourne
Newcastle
Sydney
Singleton

www.aecom.com