

TEST PIT LOG

CLIENT: Health Infrastructure
PROJECT: Westmead Car Park
LOCATION: Institute Road, Westmead

SURFACE LEVEL: 17.36 AHD
EASTING: 313463.65
NORTHING: 6257850.94

PIT No: 105
PROJECT No: 73603.00
DATE: 31/8/2013
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 150mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
17		FILLING - apparently well compacted, brown, low to medium plasticity, sandy clay filling, fine to medium sand, with some fine to medium gravel of ripped shale, cobbles of concrete fragments and rootlets, dry		D, E	0.1		PID<1					
0.45		SILTY CLAY - very stiff, red-brown, medium plasticity, silty clay, trace of roots and rootlets, moist (Residual Soil)		D, E, B	0.5 0.6		PID<1					
1		- hard below 0.9m										
1.7		SILTY CLAY - hard, grey mottled red-brown, high plasticity, silty clay, with some fine to medium, ironstone gravel, moist (Residual Soil)		D	1.8							
2												
2.8		SILTY CLAY - hard, grey stained yellow-brown, high plasticity, silty clay, moist (Residual Soil)		D	2.9							
3		Pit discontinued at 3.0m Termination depth reached										
3.0												
4												
13												

RIG: Kubota 4 tonne excavator; 300mm wide bucket

LOGGED: AK

SURVEY DATUM: MGA94

WATER OBSERVATIONS: Free groundwater not observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

TEST PIT LOG

CLIENT: Health Infrastructure
PROJECT: Westmead Car Park
LOCATION: Institute Road, Westmead

SURFACE LEVEL: 19.74 AHD
EASTING: 313509.18
NORTHING: 6257818.71

PIT No: 106
PROJECT No: 73603.00
DATE: 7/9/2013
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 150mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
		FILLING - apparently moderately well compacted, brown, gravelly clay filling, medium to coarse, angular gravel of ripped shale, trace of roots and rootlets, dry to moist		D, E*	0.1		PID<1					
	0.5	FILLING - apparently well compacted, grey, medium to coarse grained, gravelly sand filling, fine, sub-angular gravel, dry		D, E	0.5		PID<1					
	0.7	FILLING - apparently well compacted, brown, silty clay filling, trace of fine gravel and rootlets, dry		D, E	0.8		PID<1					
	0.9	SILTY CLAY - very stiff to hard, brown, medium plasticity, silty clay, moist (Residual Soil)		D, E	1.0		PID<1					
	1.3	GRAVELLY CLAY - hard, red-brown, medium plasticity, gravelly clay, fine, sub-angular, ironstone gravel, dry to moist (Residual Soil)		D	1.4							
	1.8	SILTY CLAY - hard, grey mottled red and yellow-brown, medium to high plasticity, silty clay, with some fine to medium, ironstone gravel, moist (Residual Soil)		D	2.0							
	2.7	GRAVELLY CLAY - hard, grey mottled red and yellow-brown, medium plasticity, gravelly clay, fine to coarse, angular, ironstone gravel, dry to moist (Residual Soil)										
	3.0	Pit discontinued at 3.0m Termination depth reached		D	3.0							

RIG: Kubota 4 tonne excavator; 300mm wide bucket

LOGGED: AK

SURVEY DATUM: MGA94

WATER OBSERVATIONS: Free groundwater not observed

REMARKS: *BD1-100913 is blind replicate of 0 - 0.1m

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND			
A Auger sample	G Gas sample	PID Photo ionisation detector (ppm)	
B Bulk sample	P Piston sample	PL(A) Point load axial test Is(50) (MPa)	
BLK Block sample	U Tube sample (x mm dia.)	PL(D) Point load diametral test Is(50) (MPa)	
C Core drilling	W Water sample	pp Pocket penetrometer (kPa)	
D Disturbed sample	> Water seep	S Standard penetration test	
E Environmental sample	≡ Water level	V Shear vane (kPa)	

TEST PIT LOG

CLIENT: Health Infrastructure
PROJECT: Westmead Car Park
LOCATION: Institute Road, Westmead

SURFACE LEVEL: 19.5 AHD
EASTING: 313494
NORTHING: 6257801

PIT No: 107
PROJECT No: 73603.00
DATE: 7/9/2013
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 150mm)
				Type	Depth	Sample	Results & Comments		
		FILLING - variably compacted, brown silty clay filling, with some fine to medium sand and fine to medium gravel, trace of fibro cement fragments and rootlets, moist		D, E	0.1		PID<1		
	0.35	FILLING - well compacted, grey, fine grained, silty gravel filling, silty material of ash, dry		D, E	0.45		PID<1		
	0.5	FILLING - well compacted, brown, silty clay filling, trace of clay pipe fragments, moist		D, E	0.5		PID<1		
	0.8	SILTY CLAY - very stiff, brown, medium plasticity, silty clay, moist (Residual Soil)		D, E	0.7		PID<1		
	1.0			E	0.8		PID<1		
	1.2	SILTY CLAY - hard, red-brown, medium plasticity, silty clay, with some fine ironstone gravel, moist (Residual Soil)			1.0		PID<1		
	1.5			D	1.5				
	2.2	SILTY CLAY - hard, grey mottled red-brown, medium to high plasticity, silty clay, with some fine, ironstone gravel, moist (Residual Soil)		D	2.3				
	2.8m	as above but with yellow-brown mottling and medium grained, ironstone gravel							
	3.0	GRAVELLY CLAY - hard, grey mottled red and yellow-brown, gravelly clay, medium to coarse, sub-angular, ironstone gravel, moist (Residual Soil)		D	3.1				
	3.1								
		Note - first attempt to north encountered filling over an asphaltic concrete pavement and concrete kerb; pit terminated at 0.35m. Second attempt south of pit encountered filling and possible buried service encased in no-fines concrete; pit terminated at 0.8m. Pit discontinued at 3.1m Termination depth reached							

RIG: Kubota 4 tonne excavator; 300mm wide bucket

LOGGED: AK

SURVEY DATUM: MGA94

WATER OBSERVATIONS: Free groundwater not observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

TEST PIT LOG

CLIENT: Health Infrastructure
PROJECT: Westmead Car Park
LOCATION: Institute Road, Westmead

SURFACE LEVEL: 19.96 AHD
EASTING: 313480.01
NORTHING: 6257778.78

PIT No: 108
PROJECT No: 73603.00
DATE: 31/8/2013
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Dynamic Penetrometer Test (blows per 150mm)			
				Type	Depth	Sample	Results & Comments		5	10	15	20
		FILLING - apparently well compacted, brown, low plasticity, sandy clay filling, fine sand, with some roots and rootlets, dry		D, E	0.1		PID<1					
	0.4	FILLING - apparently well compacted, light brown, fine to medium grained, sand filling, trace of rootlets, dry		D, E	0.5		PID<1					
	0.55	FILLING - apparently well compacted, grey, fine to coarse grained, gravelly sand filling, fine to medium gravel of shale fragments, dry										
	0.9	SILTY CLAY - hard, brown, medium plasticity, silty clay, trace of fine, ironstone gravel, moist (Residual Soil)		D, E, B	1.0		PID<1					
					1.1							
	1.9	SILTY CLAY - hard, mottled grey and red-brown, high plasticity, silty clay, trace of fine to medium, ironstone gravel and rootlets, moist (Residual Soil)		D	1.9							
		- ironstone bands encountered below 2.2m depth, recovered as fine to coarse, subangular gravel			2.0							
	3.0	Pit discontinued at 3.0m Termination depth reached										

RIG: Kubota 4 tonne excavator; 300mm wide bucket

LOGGED: AK

SURVEY DATUM: MGA94

WATER OBSERVATIONS: Free groundwater not observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☒ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	G	Gas sample
B	Bulk sample	P	Piston sample
BLK	Block sample	U	Tube sample (x mm dia.)
C	Core drilling	W	Water sample
D	Disturbed sample	W	Water seep
E	Environmental sample	W	Water level
		PID	Photo ionisation detector (ppm)
		PL(A)	Point load axial test Is(50) (MPa)
		PL(D)	Point load diametral test Is(50) (MPa)
		pp	Pocket penetrometer (kPa)
		S	Standard penetration test
		V	Shear vane (kPa)

About this Report

Douglas Partners



Introduction

These notes have been provided to amplify DP's report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

DP's reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

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This report is the property of Douglas Partners Pty Ltd. The report may only be used for the purpose for which it was commissioned and in accordance with the Conditions of Engagement for the commission supplied at the time of proposal. Unauthorised use of this report in any form whatsoever is prohibited.

Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;

- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at the time of construction as are indicated in the report; and
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, DP will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, DP cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, DP will be pleased to assist with investigations or advice to resolve the matter.

About this Report

Site Anomalies

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, DP requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

Information for Contractual Purposes

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. DP would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Site Inspection

The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.

Appendix I

NATA Laboratory Reports

CERTIFICATE OF ANALYSIS

96416

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde
NSW 2114

Attention: David Walker

Sample log in details:

Your Reference:	<u>73603.01, Westmead</u>
No. of samples:	20 soils, 2 materials
Date samples received / completed instructions received	28/08/13 / 28/08/13

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	4/09/13 / 4/09/13
Date of Preliminary Report:	Not issued

NATA accreditation number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025. **Tests not covered by NATA are denoted with *.**

Results Approved By:



Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	96416-1	96416-2	96416-3	96416-4	96416-5
Your Reference	-----	1	1	2	3	3
Depth	-----	0.6-0.7	1.4-1.5	0.8-1.0	0.5	1.0
Date Sampled		26/08/2013	26/08/2013	26/08/2013	27/08/2013	27/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
TRHC ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	93	94	95	102	99

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	96416-6	96416-7	96416-8	96416-9	96416-10
Your Reference	-----	4	11	11	12	12
Depth	-----	0.5	0-0.1	1.4-1.5	0-0.1	0.9-1.0
Date Sampled		27/08/2013	27/08/2013	27/08/2013	27/08/2013	27/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
TRHC ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	99	97	99	100	98

vTRH(C6-C10)/BTEXN in Soil	UNITS	96416-11	96416-12	96416-13	96416-14	96416-17
Our Reference:	-----	13	14	15	16	BD1/260813
Your Reference	-----	0.4-0.5	0.4-0.5	0.4-0.5	0.4-0.5	-
Depth		27/08/2013	27/08/2013	27/08/2013	27/08/2013	26/08/2013
Date Sampled		Soil	Soil	Soil	Soil	Soil
Type of sample						
Date extracted	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
TRHC ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	98	100	101	100	99

vTRH(C6-C10)/BTEXN in Soil	UNITS	96416-18	96416-19	96416-20	96416-21	96416-22
Our Reference:	-----	BD1/270813	TB-260813	TS-260813	TB-270813	TS-270813
Your Reference	-----	-	-	-	-	-
Depth		27/08/2013	26/08/2013	26/08/2013	27/08/2013	27/08/2013
Date Sampled		Soil	Soil	Soil	Soil	Soil
Type of sample						
Date extracted	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
TRHC ₆ - C ₉	mg/kg	<25	[NA]	[NA]	[NA]	[NA]
TRHC ₆ - C ₁₀	mg/kg	<25	[NA]	[NA]	[NA]	[NA]
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	[NA]	[NA]	[NA]	[NA]
Benzene	mg/kg	<0.2	<0.2	103%	<0.2	88%
Toluene	mg/kg	<0.5	<0.5	103%	<0.5	88%
Ethylbenzene	mg/kg	<1	<1	102%	<1	88%
m+p-xylene	mg/kg	<2	<2	102%	<2	88%
o-Xylene	mg/kg	<1	<1	101%	<1	88%
naphthalene	mg/kg	<1	[NA]	[NA]	[NA]	[NA]
Surrogate aaa-Trifluorotoluene	%	99	103	114	103	89

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	96416-1	96416-2	96416-3	96416-4	96416-5
Your Reference	-----	1	1	2	3	3
Depth	-----	0.6-0.7	1.4-1.5	0.8-1.0	0.5	1.0
Date Sampled		26/08/2013	26/08/2013	26/08/2013	27/08/2013	27/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	30/08/2013	30/08/2013	30/08/2013	30/08/2013	30/08/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	98	97	94	96	95

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	96416-6	96416-7	96416-8	96416-9	96416-10
Your Reference	-----	4	11	11	12	12
Depth	-----	0.5	0-0.1	1.4-1.5	0-0.1	0.9-1.0
Date Sampled		27/08/2013	27/08/2013	27/08/2013	27/08/2013	27/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	30/08/2013	30/08/2013	30/08/2013	30/08/2013	30/08/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100	<100	130	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100	<100	<100	140	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	61	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	61	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100	100	<100	190	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	95	99	96	101	94

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	96416-11	96416-12	96416-13	96416-14	96416-17
Your Reference	-----	13	14	15	16	BD1/260813
Depth	-----	0.4-0.5	0.4-0.5	0.4-0.5	0.4-0.5	-
Date Sampled		27/08/2013	27/08/2013	27/08/2013	27/08/2013	26/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	30/08/2013	30/08/2013	30/08/2013	30/08/2013	30/08/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	97	95	95	97	95

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	96416-18
Your Reference	-----	BD1/270813
Depth	-----	-
Date Sampled		27/08/2013
Type of sample		Soil
Date extracted	-	29/08/2013
Date analysed	-	30/08/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100
Surrogate o-Terphenyl	%	99

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	96416-1 1 0.6-0.7 26/08/2013 Soil	96416-2 1 1.4-1.5 26/08/2013 Soil	96416-3 2 0.8-1.0 26/08/2013 Soil	96416-4 3 0.5 27/08/2013 Soil	96416-5 3 1.0 27/08/2013 Soil
Date extracted	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.3	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.3	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.14	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ NEPM B1	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	1.5	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	103	95	89	93	92

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	96416-6 4 0.5 27/08/2013 Soil	96416-7 11 0-0.1 27/08/2013 Soil	96416-8 11 1.4-1.5 27/08/2013 Soil	96416-9 12 0-0.1 27/08/2013 Soil	96416-10 12 0.9-1.0 27/08/2013 Soil
Date extracted	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	0.1	0.3	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	0.1	0.3	0.6	<0.1
Pyrene	mg/kg	<0.1	0.2	0.3	0.5	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	0.1	0.2	<0.1
Chrysene	mg/kg	<0.1	<0.1	0.1	0.2	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2	<0.2	0.2	0.4	<0.2
Benzo(a)pyrene	mg/kg	<0.05	0.1	0.16	0.26	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	0.1	0.2	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	0.1	0.1	0.2	<0.1
Benzo(a)pyrene TEQ NEPM B1	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE	0.51	1.6	2.9	NIL (+)VE
Surrogate p-Terphenyl-d14	%	93	93	93	93	95

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	96416-11 13 0.4-0.5 27/08/2013 Soil	96416-12 14 0.4-0.5 27/08/2013 Soil	96416-13 15 0.4-0.5 27/08/2013 Soil	96416-14 16 0.4-0.5 27/08/2013 Soil
Date extracted	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ NEPM B1	mg/kg	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	93	95	91	93

Organochlorine Pesticides in soil						
Our Reference:	UNITS	96416-1	96416-3	96416-4	96416-6	96416-8
Your Reference	-----	1	2	3	4	11
Depth	-----	0.6-0.7	0.8-1.0	0.5	0.5	1.4-1.5
Date Sampled		26/08/2013	26/08/2013	27/08/2013	27/08/2013	27/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	97	97	97	97	94

Organochlorine Pesticides in soil						
Our Reference:	UNITS	96416-9	96416-11	96416-12	96416-13	96416-14
Your Reference	-----	12	13	14	15	16
Depth	-----	0-0.1	0.4-0.5	0.4-0.5	0.4-0.5	0.4-0.5
Date Sampled		27/08/2013	27/08/2013	27/08/2013	27/08/2013	27/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	88	95	93	92	94

PCBs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	96416-1 1 0.6-0.7 26/08/2013 Soil	96416-3 2 0.8-1.0 26/08/2013 Soil	96416-4 3 0.5 27/08/2013 Soil	96416-6 4 0.5 27/08/2013 Soil	96416-8 11 1.4-1.5 27/08/2013 Soil
Date extracted	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
Arochlor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	97	97	97	97	94

PCBs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	96416-9 12 0-0.1 27/08/2013 Soil	96416-11 13 0.4-0.5 27/08/2013 Soil	96416-12 14 0.4-0.5 27/08/2013 Soil	96416-13 15 0.4-0.5 27/08/2013 Soil	96416-14 16 0.4-0.5 27/08/2013 Soil
Date extracted	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
Arochlor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	88	95	93	92	94

Total Phenolics in Soil						
Our Reference:	UNITS	96416-1	96416-3	96416-4	96416-6	96416-8
Your Reference	-----	1	2	3	4	11
Depth	-----	0.6-0.7	0.8-1.0	0.5	0.5	1.4-1.5
Date Sampled		26/08/2013	26/08/2013	27/08/2013	27/08/2013	27/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	02/09/2013	02/09/2013	02/09/2013	02/09/2013	02/09/2013
Date analysed	-	02/09/2013	02/09/2013	02/09/2013	02/09/2013	02/09/2013
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Total Phenolics in Soil						
Our Reference:	UNITS	96416-9	96416-11	96416-12	96416-13	96416-14
Your Reference	-----	12	13	14	15	16
Depth	-----	0-0.1	0.4-0.5	0.4-0.5	0.4-0.5	0.4-0.5
Date Sampled		27/08/2013	27/08/2013	27/08/2013	27/08/2013	27/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	02/09/2013	02/09/2013	02/09/2013	02/09/2013	02/09/2013
Date analysed	-	02/09/2013	02/09/2013	02/09/2013	02/09/2013	02/09/2013
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Acid Extractable metals in soil						
Our Reference:	UNITS	96416-1	96416-2	96416-3	96416-4	96416-5
Your Reference	-----	1	1	2	3	3
Depth	-----	0.6-0.7	1.4-1.5	0.8-1.0	0.5	1.0
Date Sampled		26/08/2013	26/08/2013	26/08/2013	27/08/2013	27/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	30/08/2013	30/08/2013	30/08/2013	30/08/2013	30/08/2013
Arsenic	mg/kg	5	11	9	5	7
Cadmium	mg/kg	1.1	0.6	<0.4	<0.4	<0.4
Chromium	mg/kg	21	28	17	9	13
Copper	mg/kg	42	21	11	37	23
Lead	mg/kg	32	17	16	17	18
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	58	7	4	23	6
Zinc	mg/kg	140	20	9	19	24

Acid Extractable metals in soil						
Our Reference:	UNITS	96416-6	96416-7	96416-8	96416-9	96416-10
Your Reference	-----	4	11	11	12	12
Depth	-----	0.5	0-0.1	1.4-1.5	0-0.1	0.9-1.0
Date Sampled		27/08/2013	27/08/2013	27/08/2013	27/08/2013	27/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	30/08/2013	30/08/2013	30/08/2013	30/08/2013	30/08/2013
Arsenic	mg/kg	7	6	6	8	7
Cadmium	mg/kg	0.5	3.2	6.7	0.6	0.5
Chromium	mg/kg	21	20	28	16	21
Copper	mg/kg	21	33	33	37	24
Lead	mg/kg	24	41	33	28	21
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	18	21	30	18	6
Zinc	mg/kg	43	200	500	73	18

Acid Extractable metals in soil						
Our Reference:	UNITS	96416-11	96416-12	96416-13	96416-14	96416-17
Your Reference	-----	13	14	15	16	BD1/260813
Depth	-----	0.4-0.5	0.4-0.5	0.4-0.5	0.4-0.5	-
Date Sampled		27/08/2013	27/08/2013	27/08/2013	27/08/2013	26/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	30/08/2013	30/08/2013	30/08/2013	30/08/2013	30/08/2013
Arsenic	mg/kg	<4	6	<4	<4	10
Cadmium	mg/kg	<0.4	0.6	0.5	0.5	0.6
Chromium	mg/kg	9	28	26	26	27
Copper	mg/kg	35	20	33	29	26
Lead	mg/kg	16	16	10	9	18
Mercury	mg/kg	<0.1	<0.1	0.1	<0.1	<0.1
Nickel	mg/kg	22	30	100	83	25
Zinc	mg/kg	17	28	35	31	42

Acid Extractable metals in soil		
Our Reference:	UNITS	96416-18
Your Reference	-----	BD1/270813
Depth	-----	-
Date Sampled		27/08/2013
Type of sample		Soil
Date digested	-	29/08/2013
Date analysed	-	30/08/2013
Arsenic	mg/kg	5
Cadmium	mg/kg	0.5
Chromium	mg/kg	28
Copper	mg/kg	27
Lead	mg/kg	11
Mercury	mg/kg	<0.1
Nickel	mg/kg	64
Zinc	mg/kg	32

Moisture						
Our Reference:	UNITS	96416-1	96416-2	96416-3	96416-4	96416-5
Your Reference	-----	1	1	2	3	3
Depth	-----	0.6-0.7	1.4-1.5	0.8-1.0	0.5	1.0
Date Sampled		26/08/2013	26/08/2013	26/08/2013	27/08/2013	27/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	30/08/2013	30/08/2013	30/08/2013	30/08/2013	30/08/2013
Moisture	%	13	23	18	12	18

Moisture						
Our Reference:	UNITS	96416-6	96416-7	96416-8	96416-9	96416-10
Your Reference	-----	4	11	11	12	12
Depth	-----	0.5	0-0.1	1.4-1.5	0-0.1	0.9-1.0
Date Sampled		27/08/2013	27/08/2013	27/08/2013	27/08/2013	27/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	30/08/2013	30/08/2013	30/08/2013	30/08/2013	30/08/2013
Moisture	%	13	17	15	10	17

Moisture						
Our Reference:	UNITS	96416-11	96416-12	96416-13	96416-14	96416-17
Your Reference	-----	13	14	15	16	BD1/260813
Depth	-----	0.4-0.5	0.4-0.5	0.4-0.5	0.4-0.5	-
Date Sampled		27/08/2013	27/08/2013	27/08/2013	27/08/2013	26/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	29/08/2013	29/08/2013	29/08/2013	29/08/2013	29/08/2013
Date analysed	-	30/08/2013	30/08/2013	30/08/2013	30/08/2013	30/08/2013
Moisture	%	8.7	18	14	12	22

Moisture		
Our Reference:	UNITS	96416-18
Your Reference	-----	BD1/270813
Depth	-----	-
Date Sampled		27/08/2013
Type of sample		Soil
Date prepared	-	29/08/2013
Date analysed	-	30/08/2013
Moisture	%	8.9

Asbestos ID - soils						
Our Reference:	UNITS	96416-3	96416-4	96416-6	96416-9	96416-11
Your Reference	-----	2	3	4	12	13
Depth	-----	0.8-1.0	0.5	0.5	0-0.1	0.4-0.5
Date Sampled		26/08/2013	27/08/2013	27/08/2013	27/08/2013	27/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	3/09/2013	3/09/2013	3/09/2013	3/09/2013	3/09/2013
Sample mass tested	g	Approx 45g	Approx 45g	Approx 45g	Approx 45g	Approx 45g
Sample Description	-	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg
Trace Analysis	-	No respirable fibres detected	No respirable fibres detected	No respirable fibres detected	No respirable fibres detected	No respirable fibres detected

Asbestos ID - soils				
Our Reference:	UNITS	96416-12	96416-13	96416-14
Your Reference	-----	14	15	16
Depth	-----	0.4-0.5	0.4-0.5	0.4-0.5
Date Sampled		27/08/2013	27/08/2013	27/08/2013
Type of sample		Soil	Soil	Soil
Date analysed	-	3/09/2013	3/09/2013	3/09/2013
Sample mass tested	g	Approx 45g	Approx 45g	Approx 45g
Sample Description	-	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg
Trace Analysis	-	No respirable fibres detected	No respirable fibres detected	No respirable fibres detected

Asbestos ID - materials			
Our Reference:	UNITS	96416-15	96416-16
Your Reference	-----	A1	A2
Depth	-----	-	-
Date Sampled		26/08/2013	27/08/2013
Type of sample		material	material
Date analysed	-	3/09/2013	3/09/2013
Mass / Dimension of Sample	-	41x26x5mm	57x35x5mm
Sample Description	-	Assorted fibre cement fragments	Grey compressed fibre cement material
Asbestos ID in materials	-	Chrysotile asbestos detected Amosite asbestos detected Crocidolite asbestos detected	Chrysotile asbestos detected Amosite asbestos detected Crocidolite asbestos detected

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Inorg-030	Total Phenolics - determined colorimetrically following disitillation, based upon APHA 22nd ED 5530 D.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			29/08/2013	96416-1	29/08/2013 29/08/2013	LCS-2	29/08/2013
Date analysed	-			31/08/2013	96416-1	31/08/2013 31/08/2013	LCS-2	31/08/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	96416-1	<25 <25	LCS-2	108%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	96416-1	<25 <25	LCS-2	108%
Benzene	mg/kg	0.2	Org-016	<0.2	96416-1	<0.2 <0.2	LCS-2	100%
Toluene	mg/kg	0.5	Org-016	<0.5	96416-1	<0.5 <0.5	LCS-2	107%
Ethylbenzene	mg/kg	1	Org-016	<1	96416-1	<1 <1	LCS-2	112%
m+p-xylene	mg/kg	2	Org-016	<2	96416-1	<2 <2	LCS-2	110%
o-Xylene	mg/kg	1	Org-016	<1	96416-1	<1 <1	LCS-2	108%
naphthalene	mg/kg	1	Org-014	<1	96416-1	<1 <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	102	96416-1	93 98 RPD: 5	LCS-2	102%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH (C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			29/08/2013	96416-1	29/08/2013 29/08/2013	LCS-2	29/08/2013
Date analysed	-			30/08/2013	96416-1	30/08/2013 30/08/2013	LCS-2	30/08/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	96416-1	<50 <50	LCS-2	107%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	96416-1	<100 <100	LCS-2	111%
TRHC ₂₈ - C ₃₆	mg/kg	100	Org-003	<100	96416-1	<100 <100	LCS-2	136%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	96416-1	<50 <50	LCS-2	107%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	96416-1	<100 <100	LCS-2	111%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	96416-1	<100 <100	LCS-2	136%
Surrogate o-Terphenyl	%		Org-003	96	96416-1	98 100 RPD: 2	LCS-2	133%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			29/08/2013	96416-1	29/08/2013 29/08/2013	LCS-2	29/08/2013
Date analysed	-			29/08/2013	96416-1	29/08/2013 29/08/2013	LCS-2	29/08/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	96416-1	<0.1 <0.1	LCS-2	105%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	96416-1	<0.1 <0.1	LCS-2	109%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	96416-1	0.1 0.1 RPD: 0	LCS-2	104%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	96416-1	0.3 0.3 RPD: 0	LCS-2	102%

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QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	96416-1	0.3 0.3 RPD: 0	LCS-2	105%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	96416-1	0.1 0.1 RPD: 0	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	96416-1	0.1 0.2 RPD: 67	LCS-2	103%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	96416-1	0.2 0.3 RPD: 40	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	96416-1	0.14 0.16 RPD: 13	LCS-2	110%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	96416-1	0.1 0.1 RPD: 0	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	96416-1	0.1 0.1 RPD: 0	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	93	96416-1	103 97 RPD: 6	LCS-2	96%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organochlorine Pesticides in soil						Base II Duplicate II %RPD		
Date extracted	-			29/08/2013	96416-1	29/08/2013 29/08/2013	LCS-2	29/08/2013
Date analysed	-			31/08/2013	96416-1	31/08/2013 31/08/2013	LCS-2	31/08/2013
HCB	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	LCS-2	99%
gamma-BHC	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
beta-BHC	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	LCS-2	88%
Heptachlor	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	LCS-2	96%
delta-BHC	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
Aldrin	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	LCS-2	95%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	LCS-2	93%
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
pp-DDE	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	LCS-2	90%
Dieldrin	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	LCS-2	97%
Endrin	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	LCS-2	66%
pp-DDD	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	LCS-2	105%
Endosulfan II	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
pp-DDT	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	LCS-2	89%
Methoxychlor	mg/kg	0.1	Org-005	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
Surrogate TCMX	%		Org-005	94	96416-1	97 96 RPD: 1	LCS-2	90%

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QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PCBs in Soil						Base II Duplicate II %RPD		
Date extracted	-			29/08/2013	96416-1	29/08/2013 29/08/2013	LCS-2	29/08/2013
Date analysed	-			31/08/2013	96416-1	31/08/2013 31/08/2013	LCS-2	31/08/2013
Arochlor 1016	mg/kg	0.1	Org-006	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1221	mg/kg	0.1	Org-006	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1232	mg/kg	0.1	Org-006	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1242	mg/kg	0.1	Org-006	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1248	mg/kg	0.1	Org-006	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1254	mg/kg	0.1	Org-006	<0.1	96416-1	<0.1 <0.1	LCS-2	101%
Arochlor 1260	mg/kg	0.1	Org-006	<0.1	96416-1	<0.1 <0.1	[NR]	[NR]
Surrogate TCLMX	%		Org-006	94	96416-1	97 96 RPD: 1	LCS-2	102%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Soil						Base II Duplicate II %RPD		
Date extracted	-			02/09/2013	96416-1	02/09/2013 02/09/2013	LCS-1	02/09/2013
Date analysed	-			02/09/2013	96416-1	02/09/2013 02/09/2013	LCS-1	02/09/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	96416-1	<5 <5	LCS-1	92%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			29/08/2013	96416-1	29/08/2013 29/08/2013	LCS-3	29/08/2013
Date analysed	-			30/08/2013	96416-1	30/08/2013 30/08/2013	LCS-3	30/08/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	96416-1	5 5 RPD: 0	LCS-3	95%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	96416-1	1.1 1.2 RPD: 9	LCS-3	95%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	96416-1	21 26 RPD: 21	LCS-3	98%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	96416-1	42 49 RPD: 15	LCS-3	99%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	96416-1	32 33 RPD: 3	LCS-3	95%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	96416-1	<0.1 0.1	LCS-3	88%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	96416-1	58 61 RPD: 5	LCS-3	99%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	96416-1	140 160 RPD: 13	LCS-3	98%

QUALITYCONTROL Moisture	UNITS	PQL	METHOD	Blank
Date prepared	-			[NT]
Date analysed	-			[NT]
Moisture	%	0.1	Inorg-008	[NT]
QUALITYCONTROL Asbestos ID - soils	UNITS	PQL	METHOD	Blank
Date analysed	-			[NT]
QUALITYCONTROL Asbestos ID - materials	UNITS	PQL	METHOD	Blank
Date analysed	-			[NT]

QUALITYCONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	96416-11	29/08/2013 29/08/2013	96416-3	29/08/2013
Date analysed	-	96416-11	31/08/2013 31/08/2013	96416-3	31/08/2013
TRHC ₆ - C ₉	mg/kg	96416-11	<25 <25	96416-3	102%
TRHC ₆ - C ₁₀	mg/kg	96416-11	<25 <25	96416-3	102%
Benzene	mg/kg	96416-11	<0.2 <0.2	96416-3	91%
Toluene	mg/kg	96416-11	<0.5 <0.5	96416-3	104%
Ethylbenzene	mg/kg	96416-11	<1 <1	96416-3	106%
m+p-xylene	mg/kg	96416-11	<2 <2	96416-3	105%
o-Xylene	mg/kg	96416-11	<1 <1	96416-3	102%
naphthalene	mg/kg	96416-11	<1 <1	[NR]	[NR]
Surrogate aaa- Trifluorotoluene	%	96416-11	98 104 RPD: 6	96416-3	98%
QUALITYCONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	96416-11	29/08/2013 29/08/2013	96416-3	29/08/2013
Date analysed	-	96416-11	30/08/2013 30/08/2013	96416-3	30/08/2013
TRHC ₁₀ - C ₁₄	mg/kg	96416-11	<50 <50	96416-3	107%
TRHC ₁₅ - C ₂₃	mg/kg	96416-11	<100 <100	96416-3	110%
TRHC ₂₉ - C ₃₆	mg/kg	96416-11	<100 <100	96416-3	86%
TRH>C ₁₀ -C ₁₆	mg/kg	96416-11	<50 <50	96416-3	107%
TRH>C ₁₆ -C ₃₄	mg/kg	96416-11	<100 <100	96416-3	110%
TRH>C ₃₄ -C ₄₀	mg/kg	96416-11	<100 <100	96416-3	86%
Surrogate o-Terphenyl	%	96416-11	97 95 RPD: 2	96416-3	130%

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QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	96416-11	29/08/2013 29/08/2013	96416-3	29/08/2013
Date analysed	-	96416-11	29/08/2013 29/08/2013	96416-3	29/08/2013
Naphthalene	mg/kg	96416-11	<0.1 <0.1	96416-3	106%
Acenaphthylene	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
Acenaphthene	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
Fluorene	mg/kg	96416-11	<0.1 <0.1	96416-3	110%
Phenanthrene	mg/kg	96416-11	<0.1 <0.1	96416-3	105%
Anthracene	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
Fluoranthene	mg/kg	96416-11	<0.1 <0.1	96416-3	104%
Pyrene	mg/kg	96416-11	<0.1 <0.1	96416-3	106%
Benzo(a)anthracene	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
Chrysene	mg/kg	96416-11	<0.1 <0.1	96416-3	105%
Benzo(b+k)fluoranthene	mg/kg	96416-11	<0.2 <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	96416-11	<0.05 <0.05	96416-3	112%
Indeno(1,2,3-c,d)pyrene	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	96416-11	93 93 RPD: 0	96416-3	97%
QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	96416-11	29/08/2013 29/08/2013	96416-3	29/08/2013
Date analysed	-	96416-11	31/08/2013 31/08/2013	96416-3	31/08/2013
HCB	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
alpha-BHC	mg/kg	96416-11	<0.1 <0.1	96416-3	103%
gamma-BHC	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
beta-BHC	mg/kg	96416-11	<0.1 <0.1	96416-3	78%
Heptachlor	mg/kg	96416-11	<0.1 <0.1	96416-3	98%
delta-BHC	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
Aldrin	mg/kg	96416-11	<0.1 <0.1	96416-3	99%
Heptachlor Epoxide	mg/kg	96416-11	<0.1 <0.1	96416-3	97%
gamma-Chlordane	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
alpha-chlordane	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
Endosulfan I	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
pp-DDE	mg/kg	96416-11	<0.1 <0.1	96416-3	91%
Dieldrin	mg/kg	96416-11	<0.1 <0.1	96416-3	100%
Endrin	mg/kg	96416-11	<0.1 <0.1	96416-3	64%
pp-DDD	mg/kg	96416-11	<0.1 <0.1	96416-3	85%
Endosulfan II	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
pp-DDT	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
Endrin Aldehyde	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
Endosulfan Sulphate	mg/kg	96416-11	<0.1 <0.1	96416-3	89%

Client Reference: 73603.01, Westmead

QUALITY CONTROL Organochlorine Pesticides in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Methoxychlor	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
Surrogate TCMX	%	96416-11	95 92 RPD: 3	96416-3	93%
QUALITY CONTROL PCBs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	96416-11	29/08/2013 29/08/2013	96416-3	29/08/2013
Date analysed	-	96416-11	31/08/2013 31/08/2013	96416-3	31/08/2013
Arochlor 1016	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
Arochlor 1221	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
Arochlor 1232	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
Arochlor 1242	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
Arochlor 1248	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
Arochlor 1254	mg/kg	96416-11	<0.1 <0.1	96416-3	112%
Arochlor 1260	mg/kg	96416-11	<0.1 <0.1	[NR]	[NR]
Surrogate TCLMX	%	96416-11	95 92 RPD: 3	96416-3	102%
QUALITY CONTROL Total Phenolics in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	96416-3	02/09/2013
Date analysed	-	[NT]	[NT]	96416-3	02/09/2013
Total Phenolics (as Phenol)	mg/kg	[NT]	[NT]	96416-3	102%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date digested	-	96416-11	29/08/2013 29/08/2013	96416-3	29/08/2013
Date analysed	-	96416-11	30/08/2013 30/08/2013	96416-3	30/08/2013
Arsenic	mg/kg	96416-11	<4 7	96416-3	86%
Cadmium	mg/kg	96416-11	<0.4 <0.4	96416-3	82%
Chromium	mg/kg	96416-11	9 10 RPD: 11	96416-3	97%
Copper	mg/kg	96416-11	35 35 RPD: 0	96416-3	100%
Lead	mg/kg	96416-11	16 17 RPD: 6	96416-3	87%
Mercury	mg/kg	96416-11	<0.1 <0.1	96416-3	98%
Nickel	mg/kg	96416-11	22 26 RPD: 17	96416-3	86%
Zinc	mg/kg	96416-11	17 19 RPD: 11	96416-3	89%

Report Comments:

Asbestos ID was analysed by Approved Identifier: Alex Tam
 Asbestos ID was authorised by Approved Signatory: Matt Mansfield

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NA: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

Project Name: WESTMEAD
Project No: 73603-01 ~~73603-01~~ Sampler: D.W. / A.K. / E
Project Mgr: D.W. Mob. Phone:
Email: david.walker@douglaspartners.com.au
Date Required: Standard T/A Lab Quote No.

To: **EnviroLab Services**
12 Ashley Street, Chatswood NSW 2068
Attn: **Tania Notaras**
Phone: 02 9910 6200 Fax: 02 9910 6201
Email: tnotaras@envirolabservices.com.au

Sample ID	Sample Depth	Lab ID	Sampling Date	Sample Type S - soil W - water	Container type	Analytes												Notes
						Heavy Metals	BTEX	TPH	OCPS/PCBs	PAH	Phenols	Asbestos					Other	
1	0.6-0.7	1	26/8/13	S	SW	✓	✓	✓	✓	✓	✓							Combo
1	1.4-1.5	2	26/8/13															7
2	0.8-1.0	3	26/8/13						✓		✓	✓						3
3	0.5	4	27/8/13						✓		✓	✓						7A
3	1.0	5							✓		✓	✓						7A
4	0.5	6							✓		✓	✓						3
11	0-0.1	7																7A
11	1.4-1.5	8							✓		✓							3
12	0-0.1	9							✓		✓	✓						7
12	0.9-1.0	10							✓		✓	✓						7A
13	0.4-0.5	11							✓		✓	✓						3
14	0.4-0.5	12							✓		✓	✓						7A

EnviroLab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
Job No: 96416
Date Received: 28/8/13
Time Received: 14:30
Received by: S.S.
Temp: 20°C Ambient
Cooling: Icepack
Security: Intact/Broken/None

Lab Report No. Phone: (02) 9809 0666
Send Results to: **Douglas Partners** Address: 96 Hermitage Road, West Ryde 2114 Fax: (02) 9809 4095
Relinquished by: D. Walker Signed: [Signature] Date & Time: 28/8/13 Received By: Date & Time:
Relinquished by: Signed: Date & Time: Received By: Date & Time:

Project Name: WESTMEAD
Project No: 73603-01 ~~73603-01~~ Sampler: D.W. / AK/PE
Project Mgr: D.W. Mob. Phone:
Email: david.walker@douglaspartners.com.au
Date Required: Standard T/A Lab Quote No.

To: **Envirolab Services**
12 Ashley Street, Chatswood NSW 2068
Attn: **Tania Notaras**
Phone: 02 9910 6200 Fax: 02 9910 6201
Email: tnotaras@envirolabservices.com.au

Sample ID	Sample Depth	Lab ID	Sampling Date	Sample Type S - soil W - water	Container type	Analytes												Notes
						Heavy Metals (P)	BTEX TPH	OCPs/ PCBs	PAH	Phenols	Asbestos	BTEX only					Other	
15	0.4-0.5	13	27/8/13	S	jar	✓	✓	✓	✓	✓	✓							Combo
16	0.4-0.5	14	27/8/13	S	jar	✓	✓	✓	✓	✓	✓							TA
A1		15	26/8/13	material	bag						✓							
A2		16	27/8/13	material	bag						✓							
BD1/260813		17	26/8/13	S	jar	✓	✓											
BD1/270813		18	27/8/13	S	jar	✓	✓											
BD4/270813	*	-	27/8/13	S	jar	✓	✓										*	→ send sample to
TB-260813		19	26/8	S	jar							✓						→ Enviro for analysis
TS-260813		20	26/8	S	vial							✓						
TB-270813		21	27/8	S	jar							✓						
TS-270813		22	27/8	S	vial							✓						

Lab Report No.

Phone: (02) 9809 0666

Send Results to: **Douglas Partners** Address: **96 Hermitage Road, West Ryde 2114**

Fax: (02) 9809 4095

Relinquished by: D. Walker Signed: [Signature]

Date & Time: 28/8/13

Received By:

Date & Time:

Relinquished by: Signed:

Date & Time:

Received By:

Date & Time:

SAMPLE RECEIPT ADVICE

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde NSW 2114

ph: 02 9809 0666

Fax: 02 9809 4095

Attention: David Walker

Sample log in details:

Your reference:

73603.01, Westmead

Envirolab Reference:

96416

Date received:

28/08/13

Date results expected to be reported:

4/09/13

Samples received in appropriate condition for analysis:

YES

No. of samples provided

20 soils, 2 materials

Turnaround time requested:

Standard

Temperature on receipt

3.2

Cooling Method:

Ice

Sampling Date Provided:

YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201

email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

96416-A

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde
NSW 2114

Attention: David Walker

Sample log in details:

Your Reference:	<u>73603.01, Westmead</u>
No. of samples:	Additional testing on 4 soils
Date samples received / completed instructions received	28/08/13 / 05/09/13

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	12/09/13 / 10/09/13
Date of Preliminary Report:	Not issued

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Accredited for compliance with ISO/IEC 17025. **Tests not covered by NATA are denoted with *.**

Results Approved By:



Jacinta Hurst
Laboratory Manager

Metals in TCLP USEPA 1311					
Our Reference:	UNITS	96416-A-1	96416-A-13	96416-A-14	96416-A-18
Your Reference	-----	1	15	16	BD1/270813
Depth	-----	0.6-0.7	0.4-0.5	0.4-0.5	-
Date Sampled		26/08/2013	27/08/2013	27/08/2013	27/08/2013
Type of sample		Soil	Soil	Soil	Soil
Date extracted	-	09/09/2013	09/09/2013	09/09/2013	09/09/2013
Date analysed	-	09/09/2013	09/09/2013	09/09/2013	09/09/2013
pH of soil for fluid# determ.	pH units	9.5	9.0	8.6	8.6
pH of soil for fluid # determ. (acid)	pH units	1.7	1.7	1.7	1.7
Extraction fluid used	-	1	1	1	1
pH of final Leachate	pH units	5.3	5.0	5.0	5.0
Nickel in TCLP	mg/L	0.09	0.03	0.05	0.05

Method ID	Methodology Summary
Inorg-004	Toxicity Characteristic Leaching Procedure (TCLP) using AS 4439 and USEPA 1311.
EXTRACT.7	Toxicity Characteristic Leaching Procedure (TCLP).
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA 22nd ED, 4500-H+.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.

Client Reference: 73603.01, Westmead

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Metals in TCLP USEPA1311						Base II Duplicate II %RPD		
Date extracted	-			09/09/2013	[NT]	[NT]	LCS-W1	09/09/2013
Date analysed	-			09/09/2013	[NT]	[NT]	LCS-W1	09/09/2013
Nickel in TCLP	mg/L	0.02	Metals-020 ICP-AES	<0.02	[NT]	[NT]	LCS-W1	105%

Report Comments:

Asbestos ID was analysed by Approved Identifier: Not applicable for this job
 Asbestos ID was authorised by Approved Signatory: Not applicable for this job

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NA: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

Simon Song

From: Nancy Zhang
Sent: Thursday, 5 September 2013 11:24 AM
To: Simon Song
Cc: Aileen Hie
Subject: FW: Results for registration '96416 - 73603.01, Westmead'

Regards,

Nancy Zhang | Organics Section Supervisor | Envirolab Services Pty Ltd

Great Chemistry.Great Service

12 Ashley Street Chatswood NSW 2067
T 612 9910 6200 F 612 9910 6201
<mailto:nzhang@envirolab.com.au> | <http://www.envirolab.com.au>

-----Original Message-----

From: David Walker [<mailto:David.Walker@douglaspartners.com.au>]
Sent: Thursday, 5 September 2013 7:52 AM
To: Nancy Zhang
Subject: RE: Results for registration '96416 - 73603.01, Westmead'

Nancy

Please go ahead with TCLP analysis for nickel only in samples:
96416-1, -13, -16 and -18.

regards

14.

96416A
std T1A
due 12/9.

David Walker | Environmental Engineer
Douglas Partners Pty Ltd | ABN 75 053 980 117 | www.douglaspartners.com.au
96 Hermitage Road West Ryde NSW 2114 | PO Box 472 West Ryde NSW 1685
P: 02 9809 0666 | F: 02 9809 4095 | M: 0407 540 537 | E: David.Walker@douglaspartners.com.au

This email is confidential. If you are not the intended recipient, please notify us immediately and be aware that any disclosure, copying, distribution or use of the contents of this information is prohibited. Please note that the company does not make any commitment through emails not confirmed by fax or letter.

-----Original Message-----

From: Nancy Zhang [<mailto:NZhang@envirolab.com.au>]
Sent: Wednesday, 4 September 2013 4:43 PM
To: David Walker; Rob Dobinson
Subject: Results for registration '96416 - 73603.01, Westmead'

Please refer to attached for:
a copy of the Certificate of Analysis
a copy of the COC
an excel file containing the results

Please note that a hard copy will not be posted.

Enquiries should be made directly to:

Jacinta Hurst on jhurst@envirolabservices.com.au or Rhian Morgan on rmorgan@envirolabservices.com.au or David Springer on dspringer@envirolabservices.com.au

or

Tania Notaras on tnotaras@envirolabservices.com.au

Regards

Envirolab Services

12 Ashley St Chatswood NSW 2067

ph 02 9910 6200 fax 02 9910 6201

www.envirolabservices.com.au

Regards,

Nancy Zhang | Organics Section Supervisor | Envirolab Services Pty Ltd

Great Chemistry.Great Service

12 Ashley Street Chatswood NSW 2067

T 612 9910 6200 F 612 9910 6201

nzhang@envirolab.com.au | www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde NSW 2114

ph: 02 9809 0666

Fax: 02 9809 4095

Attention: David Walker

Sample log in details:

Your reference:

73603.01, Westmead

Envirolab Reference:

96416-A

Date received:

28/08/13

Date results expected to be reported:

12/09/13

Samples received in appropriate condition for analysis:

YES

No. of samples provided

Additional testing on 4 soils

Turnaround time requested:

Standard

Temperature on receipt (°C)

3.2

Cooling Method:

Ice

Sampling Date Provided:

YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201

email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

96589

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde
NSW 2114

Attention: David Walker

Sample log in details:

Your Reference:	<u>73603.01, Westmead</u>
No. of samples:	12 soils
Date samples received / completed instructions received	30/08/13 / 30/08/13

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	6/09/13 / 6/09/13
Date of Preliminary Report:	None Issued

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Accredited for compliance with ISO/IEC 17025. **Tests not covered by NATA are denoted with *.**

Results Approved By:



Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	96589-1	96589-2	96589-3	96589-4	96589-5
Your Reference	-----	5	6	7	8	9
Depth	-----	0.5	0.5	0.5	0.5	0.5
Date Sampled		29/08/2013	28/08/2013	30/08/2013	28/08/2013	29/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	03/09/2013	03/09/2013	03/09/2013	03/09/2013	03/09/2013
Date analysed	-	05/09/2013	05/09/2013	05/09/2013	05/09/2013	05/09/2013
TRHC ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	96	91	91	91	91

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	96589-6	96589-7	96589-8	96589-9	96589-10
Your Reference	-----	10	TB-280813	TS-280813	TB-290813	TS-290813
Depth	-----	1.0	-	-	-	-
Date Sampled		28/08/2013	28/08/2013	28/08/2013	29/08/2013	29/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	03/09/2013	03/09/2013	03/09/2013	03/09/2013	03/09/2013
Date analysed	-	05/09/2013	05/09/2013	05/09/2013	05/09/2013	05/09/2013
TRHC ₆ - C ₉	mg/kg	<25	[NA]	[NA]	[NA]	[NA]
TRHC ₆ - C ₁₀	mg/kg	<25	[NA]	[NA]	[NA]	[NA]
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	[NA]	[NA]	[NA]	[NA]
Benzene	mg/kg	<0.2	<0.2	97%	<0.2	98%
Toluene	mg/kg	<0.5	<0.5	97%	<0.5	97%
Ethylbenzene	mg/kg	<1	<1	96%	<1	100%
m+p-xylene	mg/kg	<2	<2	95%	<2	100%
o-Xylene	mg/kg	<1	<1	96%	<1	100%
naphthalene	mg/kg	<1	[NA]	[NA]	[NA]	[NA]
Surrogate aaa-Trifluorotoluene	%	92	97	98	98	96

vTRH(C6-C10)/BTEXN in Soil			
Our Reference:	UNITS	96589-11	96589-12
Your Reference	-----	TB-300813	TS-300813
Depth	-----	-	-
Date Sampled		30/08/2013	30/08/2013
Type of sample		Soil	Soil
Date extracted	-	03/09/2013	03/09/2013
Date analysed	-	05/09/2013	05/09/2013
Benzene	mg/kg	<0.2	95%
Toluene	mg/kg	<0.5	90%
Ethylbenzene	mg/kg	<1	100%
m+p-xylene	mg/kg	<2	100%
o-Xylene	mg/kg	<1	99%
Surrogate aaa-Trifluorotoluene	%	104	105

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	96589-1	96589-2	96589-3	96589-4	96589-5
Your Reference	-----	5	6	7	8	9
Depth	-----	0.5	0.5	0.5	0.5	0.5
Date Sampled		29/08/2013	28/08/2013	30/08/2013	28/08/2013	29/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	03/09/2013	03/09/2013	03/09/2013	03/09/2013	03/09/2013
Date analysed	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	91	91	91	92	90

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	96589-6
Your Reference	-----	10
Depth	-----	1.0
Date Sampled		28/08/2013
Type of sample		Soil
Date extracted	-	03/09/2013
Date analysed	-	04/09/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100
Surrogate o-Terphenyl	%	91

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	96589-1 5 0.5 29/08/2013 Soil	96589-2 6 0.5 28/08/2013 Soil	96589-3 7 0.5 30/08/2013 Soil	96589-4 8 0.5 28/08/2013 Soil	96589-5 9 0.5 29/08/2013 Soil
Date extracted	-	03/09/2013	03/09/2013	03/09/2013	03/09/2013	03/09/2013
Date analysed	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ NEPM B1	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	103	103	104	105	104

PAHs in Soil		
Our Reference:	UNITS	96589-6
Your Reference	-----	10
Depth	-----	1.0
Date Sampled		28/08/2013
Type of sample		Soil
Date extracted	-	03/09/2013
Date analysed	-	04/09/2013
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQ NEPM B1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	105

Organochlorine Pesticides in soil						
Our Reference:	UNITS	96589-1	96589-2	96589-3	96589-4	96589-5
Your Reference	-----	5	6	7	8	9
Depth	-----	0.5	0.5	0.5	0.5	0.5
Date Sampled		29/08/2013	28/08/2013	30/08/2013	28/08/2013	29/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	03/09/2013	03/09/2013	03/09/2013	03/09/2013	03/09/2013
Date analysed	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
HCBC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	120	122	120	124	120

Organochlorine Pesticides in soil		
Our Reference:	UNITS	96589-6
Your Reference	-----	10
Depth	-----	1.0
Date Sampled		28/08/2013
Type of sample		Soil
Date extracted	-	03/09/2013
Date analysed	-	04/09/2013
HCB	mg/kg	<0.1
alpha-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
beta-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
delta-BHC	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
gamma-Chlordane	mg/kg	<0.1
alpha-chlordane	mg/kg	<0.1
Endosulfan I	mg/kg	<0.1
pp-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
pp-DDD	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Surrogate TCMX	%	121

PCBs in Soil						
Our Reference:	UNITS	96589-1	96589-2	96589-3	96589-4	96589-5
Your Reference	-----	5	6	7	8	9
Depth	-----	0.5	0.5	0.5	0.5	0.5
Date Sampled		29/08/2013	28/08/2013	30/08/2013	28/08/2013	29/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	03/09/2013	03/09/2013	03/09/2013	03/09/2013	03/09/2013
Date analysed	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
Arochlor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	120	122	120	124	120

PCBs in Soil		
Our Reference:	UNITS	96589-6
Your Reference	-----	10
Depth	-----	1.0
Date Sampled		28/08/2013
Type of sample		Soil
Date extracted	-	03/09/2013
Date analysed	-	04/09/2013
Arochlor 1016	mg/kg	<0.1
Arochlor 1221	mg/kg	<0.1
Arochlor 1232	mg/kg	<0.1
Arochlor 1242	mg/kg	<0.1
Arochlor 1248	mg/kg	<0.1
Arochlor 1254	mg/kg	<0.1
Arochlor 1260	mg/kg	<0.1
Surrogate TCLMX	%	121

Total Phenolics in Soil						
Our Reference:	UNITS	96589-1	96589-2	96589-3	96589-4	96589-5
Your Reference	-----	5	6	7	8	9
Depth	-----	0.5	0.5	0.5	0.5	0.5
Date Sampled		29/08/2013	28/08/2013	30/08/2013	28/08/2013	29/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	05/09/2013	05/09/2013	05/09/2013	05/09/2013	05/09/2013
Date analysed	-	05/09/2013	05/09/2013	05/09/2013	05/09/2013	05/09/2013
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Total Phenolics in Soil		
Our Reference:	UNITS	96589-6
Your Reference	-----	10
Depth	-----	1.0
Date Sampled		28/08/2013
Type of sample		Soil
Date extracted	-	05/09/2013
Date analysed	-	05/09/2013
Total Phenolics (as Phenol)	mg/kg	<5

Acid Extractable metals in soil						
Our Reference:	UNITS	96589-1	96589-2	96589-3	96589-4	96589-5
Your Reference	-----	5	6	7	8	9
Depth	-----	0.5	0.5	0.5	0.5	0.5
Date Sampled		29/08/2013	28/08/2013	30/08/2013	28/08/2013	29/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	03/09/2013	03/09/2013	03/09/2013	03/09/2013	03/09/2013
Date analysed	-	03/09/2013	03/09/2013	03/09/2013	03/09/2013	03/09/2013
Arsenic	mg/kg	10	7	10	7	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	24	20	24	30	28
Copper	mg/kg	19	21	25	18	19
Lead	mg/kg	23	19	21	28	21
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	34	6	13	12	7
Zinc	mg/kg	24	24	25	20	21

Acid Extractable metals in soil		
Our Reference:	UNITS	96589-6
Your Reference	-----	10
Depth	-----	1.0
Date Sampled		28/08/2013
Type of sample		Soil
Date digested	-	03/09/2013
Date analysed	-	03/09/2013
Arsenic	mg/kg	9
Cadmium	mg/kg	<0.4
Chromium	mg/kg	37
Copper	mg/kg	18
Lead	mg/kg	24
Mercury	mg/kg	<0.1
Nickel	mg/kg	16
Zinc	mg/kg	20

Moisture						
Our Reference:	UNITS	96589-1	96589-2	96589-3	96589-4	96589-5
Your Reference	-----	5	6	7	8	9
Depth	-----	0.5	0.5	0.5	0.5	0.5
Date Sampled		29/08/2013	28/08/2013	30/08/2013	28/08/2013	29/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	3/09/2013	3/09/2013	3/09/2013	3/09/2013	3/09/2013
Date analysed	-	4/09/2013	4/09/2013	4/09/2013	4/09/2013	4/09/2013
Moisture	%	9.3	16	10	21	20

Moisture		
Our Reference:	UNITS	96589-6
Your Reference	-----	10
Depth	-----	1.0
Date Sampled		28/08/2013
Type of sample		Soil
Date prepared	-	3/09/2013
Date analysed	-	4/09/2013
Moisture	%	24

Asbestos ID - soils						
Our Reference:	UNITS	96589-1	96589-2	96589-3	96589-4	96589-5
Your Reference	-----	5	6	7	8	9
Depth	-----	0.5	0.5	0.5	0.5	0.5
Date Sampled		29/08/2013	28/08/2013	30/08/2013	28/08/2013	29/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	5/09/2013	5/09/2013	5/09/2013	5/09/2013	5/09/2013
Sample mass tested	g	39.72g	Approx 40g	Approx 40g	Approx 40g	Approx 40g
Sample Description	-	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks	Brown fine-grained soil & rocks
Asbestos ID in soil	-	Chrysotile asbestos detected Amosite asbestos detected Crocidolite asbestos detected	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg	No asbestos detected at reporting limit of 0.1g/kg
Trace Analysis	-	No respirable fibres detected	No respirable fibres detected	No respirable fibres detected	No respirable fibres detected	No respirable fibres detected

Asbestos ID - soils		
Our Reference:	UNITS	96589-6
Your Reference	-----	10
Depth	-----	1.0
Date Sampled		28/08/2013
Type of sample		Soil
Date analysed	-	5/09/2013
Sample mass tested	g	Approx 40g
Sample Description	-	Brown fine-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg
Trace Analysis	-	No respirable fibres detected

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Inorg-030	Total Phenolics - determined colorimetrically following disitillation, based upon APHA 22nd ED 5530 D.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.

Client Reference: 73603.01, Westmead

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			03/09/2013	96589-1	03/09/2013 03/09/2013	LCS-3	03/09/2013
Date analysed	-			05/09/2013	96589-1	05/09/2013 05/09/2013	LCS-3	05/09/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	96589-1	<25 <25	LCS-3	98%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	96589-1	<25 <25	LCS-3	98%
Benzene	mg/kg	0.2	Org-016	<0.2	96589-1	<0.2 <0.2	LCS-3	90%
Toluene	mg/kg	0.5	Org-016	<0.5	96589-1	<0.5 <0.5	LCS-3	96%
Ethylbenzene	mg/kg	1	Org-016	<1	96589-1	<1 <1	LCS-3	102%
m+p-xylene	mg/kg	2	Org-016	<2	96589-1	<2 <2	LCS-3	101%
o-Xylene	mg/kg	1	Org-016	<1	96589-1	<1 <1	LCS-3	101%
naphthalene	mg/kg	1	Org-014	<1	96589-1	<1 <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	96	96589-1	96 94 RPD: 2	LCS-3	101%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH (C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			03/09/2013	[NT]	[NT]	LCS-3	03/09/2013
Date analysed	-			04/09/2013	[NT]	[NT]	LCS-3	04/09/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-3	114%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	123%
TRHC ₂₈ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	92%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-3	114%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	123%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	92%
Surrogate o-Terphenyl	%		Org-003	95	[NT]	[NT]	LCS-3	93%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			03/09/2013	[NT]	[NT]	LCS-3	03/09/2013
Date analysed	-			03/09/2013	[NT]	[NT]	LCS-3	04/09/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-3	112%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-3	111%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-3	110%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-3	107%

Client Reference: 73603.01, Westmead

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-3	109%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-3	110%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	[NT]	[NT]	LCS-3	131%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	104	[NT]	[NT]	LCS-3	95%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organochlorine Pesticides in soil						Base II Duplicate II %RPD		
Date extracted	-			03/09/2013	[NT]	[NT]	LCS-3	03/09/2013
Date analysed	-			04/09/2013	[NT]	[NT]	LCS-3	04/09/2013
HCB	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	130%
gamma-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	111%
Heptachlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	118%
delta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	123%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	127%
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	111%
Dieldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	132%
Endrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	108%
pp-DDD	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	111%
Endosulfan II	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-3	122%
Methoxychlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%		Org-005	123	[NT]	[NT]	LCS-3	120%

Client Reference: 73603.01, Westmead

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PCBs in Soil						Base II Duplicate II %RPD		
Date extracted	-			03/09/2013	[NT]	[NT]	LCS-3	03/09/2013
Date analysed	-			04/09/2013	[NT]	[NT]	LCS-3	04/09/2013
Arochlor 1016	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1221	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1232	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1242	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1248	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1254	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	LCS-3	132%
Arochlor 1260	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		Org-006	123	[NT]	[NT]	LCS-3	108%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Soil						Base II Duplicate II %RPD		
Date extracted	-			05/09/2013	96589-1	05/09/2013 05/09/2013	LCS-1	05/09/2013
Date analysed	-			05/09/2013	96589-1	05/09/2013 05/09/2013	LCS-1	05/09/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	96589-1	<5 <5	LCS-1	90%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			03/09/2013	[NT]	[NT]	LCS-1	03/09/2013
Date analysed	-			03/09/2013	[NT]	[NT]	LCS-1	03/09/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-1	101%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-1	105%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	111%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	102%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	106%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-1	88%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	108%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	113%

QUALITY CONTROL Moisture	UNITS	PQL	METHOD	Blank
Date prepared	-			[NT]
Date analysed	-			[NT]
Moisture	%	0.1	Inorg-008	[NT]
QUALITY CONTROL Asbestos ID - soils	UNITS	PQL	METHOD	Blank
Date analysed	-			[NT]
QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	
Date extracted	-	96589-11	03/09/2013 03/09/2013	
Date analysed	-	96589-11	05/09/2013 05/09/2013	
TRHC ₆ - C ₉	mg/kg	[NT]	[NT]	
TRHC ₆ - C ₁₀	mg/kg	[NT]	[NT]	
Benzene	mg/kg	96589-11	<0.2 <0.2	
Toluene	mg/kg	96589-11	<0.5 <0.5	
Ethylbenzene	mg/kg	96589-11	<1 <1	
m+p-xylene	mg/kg	96589-11	<2 <2	
o-Xylene	mg/kg	96589-11	<1 <1	
naphthalene	mg/kg	[NT]	[NT]	
Surrogate aaa- Trifluorotoluene	%	96589-11	104 95 RPD: 9	

Report Comments:

Asbestos: A portion of the supplied sample was sub-sampled for asbestos analysis according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g of sample in its own container.

Sample ; Loose fibre bundles of Chrysotile, Amoiste & Crocidolite asbestos identified within the sample (total weight 0.3496g). This is 100% asbestos fibres by weight, which in 39.72g of soil is 8.80g/kg (i.e. > reporting limit for the method of 0.1g/kg).

Asbestos ID was analysed by Approved Identifier:	Alex Tam
Asbestos ID was authorised by Approved Signatory:	Matt Mansfield

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NA: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike: A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample): This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

Project Name: WESTMEAD
Project No: 73603-01 Sampler: S-E
Project Mgr: D.W. Mob. Phone: 02 9910 6200
Email: david.walker@douglaspartners.com.au
Date Required: Standard Lab Quote No.

To: Envirolab Services
12 Ashley Street, Chatswood NSW 2068
Attn: Tania Notaras
Phone: 02 9910 6200 Fax: 02 9910 6201
Email: tnotaras@envirolabservices.com.au

Sample ID	Sample Depth	Lab ID	Sampling Date	Sample Type S - soil W - water	Container type	Analytes										Other	Notes
						Heavy Metals	BTEX/TPH	OCPs/PCBs	PAH	Phenols	Asbestos	BTEX Only					
5	0.5	1	29/8/13	S	SW	✓	✓	✓	✓	✓	✓						EnviroLab Services 12 Ashley St Chatswood NSW 2068 Ph: (02) 9910 6200 Job No: 96589
6	0.5	2	28/8/13			✓	✓	✓	✓	✓	✓						Date Received: 30/8/13
7	0.5	3	30/8/13			✓	✓	✓	✓	✓	✓						Time Received: 1650
8	0.5	4	28/8/13			✓	✓	✓	✓	✓	✓						Received by: JHie
9	0.5	5	29/8/13			✓	✓	✓	✓	✓	✓						Temp: Cool/Ambient 4.8°C
10	1.0	6	28/8/13	✓	✓	✓	✓	✓	✓	✓	✓						Cooling: Ice/Icepack
TS-280813		7	28/8									✓					Security: Intact/Broken/None
TS-280813		8	28/8									✓					
TS-290813		9	29/8									✓					
TS-290813		10	29/8									✓					
TS-300813		11	30/8	✓	✓							✓					
TS-300813		12	30/8	✓	✓							✓					

Lab Report No.

Send Results to: Douglas Partners Address: 96 Hermitage Road, West Ryde, 2114

Relinquished by: D. Walker Signed: [Signature] Date & Time: 20/8/13

Relinquished by: JHie (ELS) Signed: [Signature] Date & Time: 30/8/13

Phone: (02) 9809 0666

Fax: (02) 9809 4095

Received By: Date & Time:

Received By: Date & Time:

SAMPLE RECEIPT ADVICE

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde NSW 2114

ph: 02 9809 0666

Fax: 02 9809 4095

Attention: David Walker

Sample log in details:

Your reference:

73603.01, Westmead

Envirolab Reference:

96589

Date received:

30/08/13

Date results expected to be reported:

6/09/13

Samples received in appropriate condition for analysis:

YES

No. of samples provided

12 soils

Turnaround time requested:

Standard

Temperature on receipt (°C)

4.8

Cooling Method:

Ice Pack

Sampling Date Provided:

YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201

email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

96692

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde
NSW 2114

Attention: David Walker

Sample log in details:

Your Reference:	<u>73603.01, Westmead</u>
No. of samples:	16 Soils
Date samples received / completed instructions received	03/09/2013 / 03/09/2013

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	10/09/13 / 11/09/13
Date of Preliminary Report:	Not issued

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Accredited for compliance with ISO/IEC 17025. **Tests not covered by NATA are denoted with *.**

Results Approved By:



Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	96692-1	96692-2	96692-3	96692-4	96692-5
Your Reference	-----	101	101	102	103	103
Depth	-----	0.5	1.0	0.1	0.5	1.0
Date Sampled		31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
Date analysed	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
TRHC ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	116	110	114	112	113

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	96692-6	96692-7	96692-8	96692-9	96692-10
Your Reference	-----	104	104	105	105	108
Depth	-----	0.5	1.5	0.1	0.5	0.1
Date Sampled		31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
Date analysed	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
TRHC ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	116	113	113	108	110

vTRH(C6-C10)/BTEXN in Soil				
Our Reference:	UNITS	96692-11	96692-12	96692-13
Your Reference	-----	108	TS-310813	TB-310813
Depth	-----	0.5	-	-
Date Sampled		31/08/2013	31/08/2013	31/08/2013
Type of sample		Soil	Soil	Soil
Date extracted	-	04/09/2013	04/09/2013	04/09/2013
Date analysed	-	04/09/2013	04/09/2013	04/09/2013
TRHC ₆ - C ₉	mg/kg	<25	[NA]	[NA]
TRHC ₆ - C ₁₀	mg/kg	<25	[NA]	[NA]
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	[NA]	[NA]
Benzene	mg/kg	<0.2	115%	<0.2
Toluene	mg/kg	<0.5	105%	<0.5
Ethylbenzene	mg/kg	<1	102%	<1
m+p-xylene	mg/kg	<2	105%	<2
o-Xylene	mg/kg	<1	107%	<1
naphthalene	mg/kg	<1	[NA]	[NA]
Surrogate aaa-Trifluorotoluene	%	117	103	116

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	96692-1	96692-2	96692-3	96692-4	96692-5
Your Reference	-----	101	101	102	103	103
Depth	-----	0.5	1.0	0.1	0.5	1.0
Date Sampled		31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
Date analysed	-	05/09/2013	05/09/2013	05/09/2013	05/09/2013	05/09/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	104	102	101	105	98

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	96692-6	96692-7	96692-8	96692-9	96692-10
Your Reference	-----	104	104	105	105	108
Depth	-----	0.5	1.5	0.1	0.5	0.1
Date Sampled		31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
Date analysed	-	05/09/2013	05/09/2013	05/09/2013	05/09/2013	05/09/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	100	99	102	99	101

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	96692-11
Your Reference	-----	108
Depth	-----	0.5
Date Sampled		31/08/2013
Type of sample		Soil
Date extracted	-	04/09/2013
Date analysed	-	05/09/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100
Surrogate o-Terphenyl	%	100

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	96692-1 101 0.5 31/08/2013 Soil	96692-2 101 1.0 31/08/2013 Soil	96692-3 102 0.1 31/08/2013 Soil	96692-4 103 0.5 31/08/2013 Soil	96692-5 103 1.0 31/08/2013 Soil
Date extracted	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
Date analysed	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	<0.1	0.1	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.1	0.07	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ NEPM B1	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	1.1	0.070	NIL (+)VE	0.14	NIL (+)VE
Surrogate p-Terphenyl-d14	%	106	110	107	99	105

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	96692-6 104 0.5 31/08/2013 Soil	96692-7 104 1.5 31/08/2013 Soil	96692-8 105 0.1 31/08/2013 Soil	96692-9 105 0.5 31/08/2013 Soil	96692-10 108 0.1 31/08/2013 Soil
Date extracted	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
Date analysed	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	0.1	<0.1	0.1
Pyrene	mg/kg	<0.1	<0.1	0.1	<0.1	0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	0.07	<0.05	0.06
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ NEPM B1	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE	NIL (+)VE	0.35	NIL (+)VE	0.32
Surrogate p-Terphenyl-d14	%	106	104	106	107	104

PAHs in Soil		
Our Reference:	UNITS	96692-11
Your Reference	-----	108
Depth	-----	0.5
Date Sampled		31/08/2013
Type of sample		Soil
Date extracted	-	04/09/2013
Date analysed	-	04/09/2013
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQ NEPMB1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	105

Organochlorine Pesticides in soil						
Our Reference:	UNITS	96692-2	96692-3	96692-4	96692-6	96692-8
Your Reference	-----	101	102	103	104	105
Depth	-----	1.0	0.1	0.5	0.5	0.1
Date Sampled		31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
Date analysed	-	05/09/2013	05/09/2013	05/09/2013	05/09/2013	05/09/2013
HCBC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	96	96	96	96	96

Organochlorine Pesticides in soil		
Our Reference:	UNITS	96692-10
Your Reference	-----	108
Depth	-----	0.1
Date Sampled		31/08/2013
Type of sample		Soil
Date extracted	-	04/09/2013
Date analysed	-	05/09/2013
HCB	mg/kg	<0.1
alpha-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
beta-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
delta-BHC	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
gamma-Chlordane	mg/kg	<0.1
alpha-chlordane	mg/kg	<0.1
Endosulfan I	mg/kg	<0.1
pp-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
pp-DDD	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Surrogate TCMX	%	92

PCBs in Soil						
Our Reference:	UNITS	96692-2	96692-3	96692-4	96692-6	96692-8
Your Reference	-----	101	102	103	104	105
Depth	-----	1.0	0.1	0.5	0.5	0.1
Date Sampled		31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
Date analysed	-	05/09/2013	05/09/2013	05/09/2013	05/09/2013	05/09/2013
Arochlor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	96	96	96	96	96

PCBs in Soil		
Our Reference:	UNITS	96692-10
Your Reference	-----	108
Depth	-----	0.1
Date Sampled		31/08/2013
Type of sample		Soil
Date extracted	-	04/09/2013
Date analysed	-	05/09/2013
Arochlor 1016	mg/kg	<0.1
Arochlor 1221	mg/kg	<0.1
Arochlor 1232	mg/kg	<0.1
Arochlor 1242	mg/kg	<0.1
Arochlor 1248	mg/kg	<0.1
Arochlor 1254	mg/kg	<0.1
Arochlor 1260	mg/kg	<0.1
Surrogate TCLMX	%	92

Total Phenolics in Soil						
Our Reference:	UNITS	96692-2	96692-3	96692-4	96692-6	96692-8
Your Reference	-----	101	102	103	104	105
Depth	-----	1.0	0.1	0.5	0.5	0.1
Date Sampled		31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	06/09/2013	06/09/2013	06/09/2013	06/09/2013	06/09/2013
Date analysed	-	06/09/2013	06/09/2013	06/09/2013	06/09/2013	06/09/2013
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Total Phenolics in Soil		
Our Reference:	UNITS	96692-10
Your Reference	-----	108
Depth	-----	0.1
Date Sampled		31/08/2013
Type of sample		Soil
Date extracted	-	06/09/2013
Date analysed	-	06/09/2013
Total Phenolics (as Phenol)	mg/kg	<5

Acid Extractable metals in soil						
Our Reference:	UNITS	96692-1	96692-2	96692-3	96692-4	96692-5
Your Reference	-----	101	101	102	103	103
Depth	-----	0.5	1.0	0.1	0.5	1.0
Date Sampled		31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
Date analysed	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
Arsenic	mg/kg	7	16	9	9	10
Cadmium	mg/kg	9.5	0.5	0.7	<0.4	<0.4
Chromium	mg/kg	21	31	19	20	30
Copper	mg/kg	27	16	33	16	14
Lead	mg/kg	35	20	59	50	18
Mercury	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	22	5	17	11	6
Zinc	mg/kg	520	17	110	49	12

Acid Extractable metals in soil						
Our Reference:	UNITS	96692-6	96692-7	96692-8	96692-9	96692-10
Your Reference	-----	104	104	105	105	108
Depth	-----	0.5	1.5	0.1	0.5	0.1
Date Sampled		31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
Date analysed	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
Arsenic	mg/kg	6	6	7	8	7
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	20	19	19	31	26
Copper	mg/kg	18	20	35	21	22
Lead	mg/kg	57	18	39	23	50
Mercury	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	6	20	9	14
Zinc	mg/kg	65	17	97	23	46

Acid Extractable metals in soil			
Our Reference:	UNITS	96692-11	96692-17
Your Reference	-----	108	108 - TRIPLICATE
Depth	-----	0.5	0.5
Date Sampled		31/08/2013	31/08/2013
Type of sample		Soil	Soil
Date digested	-	04/09/2013	04/09/2013
Date analysed	-	04/09/2013	04/09/2013
Arsenic	mg/kg	<4	<4
Cadmium	mg/kg	<0.4	<0.4
Chromium	mg/kg	6	6
Copper	mg/kg	3	3
Lead	mg/kg	6	5
Mercury	mg/kg	<0.1	<0.1
Nickel	mg/kg	3	3

Acid Extractable metals in soil			
Our Reference:	UNITS	96692-11	96692-17
Your Reference	-----	108	108 -
			TRIPLICATE
Depth	-----	0.5	0.5
Date Sampled		31/08/2013	31/08/2013
Type of sample		Soil	Soil
Zinc	mg/kg	14	12

ESP/CEC				
Our Reference:	UNITS	96692-14	96692-15	96692-16
Your Reference	-----	101	104	108
Depth	-----	1.5	1.0	1.0
Date Sampled		31/08/2013	31/08/2013	31/08/2013
Type of sample		Soil	Soil	Soil
Exchangeable Ca	meq/100g	12	24	1.1
Exchangeable K	meq/100g	0.2	0.2	0.3
Exchangeable Mg	meq/100g	4.9	3.8	12
Exchangeable Na	meq/100g	0.27	0.23	1.1
Cation Exchange Capacity	meq/100g	17	28	15

Miscellaneous Inorg - soil				
Our Reference:	UNITS	96692-14	96692-15	96692-16
Your Reference	-----	101	104	108
Depth	-----	1.5	1.0	1.0
Date Sampled		31/08/2013	31/08/2013	31/08/2013
Type of sample		Soil	Soil	Soil
Date prepared	-	04/09/2013	04/09/2013	04/09/2013
Date analysed	-	04/09/2013	04/09/2013	04/09/2013
pH 1:5 soil:water	pH Units	7.8	8.4	5.4
Clay in soils <2um	% (w/w)	33	18	39
Total Organic Carbon (Walkley Black)	mg/kg	1,900	11,000	3,700

Moisture						
Our Reference:	UNITS	96692-1	96692-2	96692-3	96692-4	96692-5
Your Reference	-----	101	101	102	103	103
Depth	-----	0.5	1.0	0.1	0.5	1.0
Date Sampled		31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
Date analysed	-	05/09/2013	05/09/2013	05/09/2013	05/09/2013	05/09/2013
Moisture	%	14	24	13	10	20

Moisture						
Our Reference:	UNITS	96692-6	96692-7	96692-8	96692-9	96692-10
Your Reference	-----	104	104	105	105	108
Depth	-----	0.5	1.5	0.1	0.5	0.1
Date Sampled		31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
Date analysed	-	05/09/2013	05/09/2013	05/09/2013	05/09/2013	05/09/2013
Moisture	%	8.0	16	10	22	11

Moisture			
Our Reference:	UNITS	96692-11	96692-13
Your Reference	-----	108	TB-310813
Depth	-----	0.5	-
Date Sampled		31/08/2013	31/08/2013
Type of sample		Soil	Soil
Date prepared	-	04/09/2013	04/09/2013
Date analysed	-	05/09/2013	05/09/2013
Moisture	%	2.7	7.1

Asbestos ID - soils						
Our Reference:	UNITS	96692-2	96692-3	96692-4	96692-6	96692-8
Your Reference	-----	101	102	103	104	105
Depth	-----	1.0	0.1	0.5	0.5	0.1
Date Sampled		31/08/2013	31/08/2013	31/08/2013	31/08/2013	31/08/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	9/09/2013	9/09/2013	9/09/2013	9/09/2013	9/09/2013
Sample mass tested	g	68.57g	44.16g	Approx 55g	63.33g	51.55g
Sample Description	-	Brown clay soil & rocks	Brown clay soil & rocks	Dark grey fine-grained soil & rocks	Brown clay soil & rocks	Brown clay soil & rocks
Asbestos ID in soil	-	Chrysotile asbestos detected Amosite asbestos detected	Chrysotile asbestos detected Amosite asbestos detected Crocidolite asbestos detected	No asbestos detected at reporting limit of 0.1g/kg	Chrysotile asbestos detected	Chrysotile asbestos detected Crocidolite asbestos detected
Trace Analysis	-	No respirable fibres detected	No respirable fibres detected	No respirable fibres detected	No respirable fibres detected	No respirable fibres detected

Asbestos ID - soils		
Our Reference:	UNITS	96692-10
Your Reference	-----	108
Depth	-----	0.1
Date Sampled		31/08/2013
Type of sample		Soil
Date analysed	-	9/09/2013
Sample mass tested	g	38.80g
Sample Description	-	Brown clay soil & rocks
Asbestos ID in soil	-	Chrysotile asbestos detected Amosite asbestos detected
Trace Analysis	-	No respirable fibres detected

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Inorg-030	Total Phenolics - determined colorimetrically following disitillation, based upon APHA 22nd ED 5530 D.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Metals-009	Determination of exchangeable cations and cation exchange capacity in soil based on Rayment and Lyons 2011.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA 22nd ED, 4500-H+.
AS1289.3.6.3	Determination Particle Size Analysis using AS1289.3.6.3 and AS1289.3.6.1 and in house method INORG-107. Clay fraction at <2um reported.
Inorg-036	Total Organic Carbon - A titrimetric method that measures the oxidisable organic content of soils. Based upon Walkley/Black and 'Rayment and Lyons 2011'.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			04/09/2013	96692-1	04/09/2013 04/09/2013	LCS-5	04/09/2013
Date analysed	-			04/09/2013	96692-1	04/09/2013 04/09/2013	LCS-5	04/09/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	96692-1	<25 <25	LCS-5	98%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	96692-1	<25 <25	LCS-5	98%
Benzene	mg/kg	0.2	Org-016	<0.2	96692-1	<0.2 <0.2	LCS-5	96%
Toluene	mg/kg	0.5	Org-016	<0.5	96692-1	<0.5 <0.5	LCS-5	103%
Ethylbenzene	mg/kg	1	Org-016	<1	96692-1	<1 <1	LCS-5	97%
m+p-xylene	mg/kg	2	Org-016	<2	96692-1	<2 <2	LCS-5	96%
o-Xylene	mg/kg	1	Org-016	<1	96692-1	<1 <1	LCS-5	96%
naphthalene	mg/kg	1	Org-014	<1	96692-1	<1 <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	117	96692-1	116 113 RPD: 3	LCS-5	118%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH (C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			04/09/2013	96692-1	04/09/2013 04/09/2013	LCS-5	04/09/2013
Date analysed	-			05/09/2013	96692-1	05/09/2013 05/09/2013	LCS-5	05/09/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	96692-1	<50 <50	LCS-5	108%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	96692-1	<100 <100	LCS-5	118%
TRHC ₂₈ - C ₃₆	mg/kg	100	Org-003	<100	96692-1	<100 <100	LCS-5	87%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	96692-1	<50 <50	LCS-5	108%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	96692-1	<100 <100	LCS-5	118%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	96692-1	<100 <100	LCS-5	87%
Surrogate o-Terphenyl	%		Org-003	98	96692-1	104 101 RPD: 3	LCS-5	92%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			04/09/2013	96692-1	04/09/2013 04/09/2013	LCS-5	04/09/2013
Date analysed	-			04/09/2013	96692-1	04/09/2013 04/09/2013	LCS-5	04/09/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	96692-1	<0.1 <0.1	LCS-5	110%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	96692-1	<0.1 <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	96692-1	<0.1 <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	96692-1	<0.1 <0.1	LCS-5	117%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	96692-1	0.1 <0.1	LCS-5	113%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	96692-1	0.1 <0.1	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	96692-1	0.2 0.2 RPD: 0	LCS-5	109%

Client Reference: 73603.01, Westmead

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	96692-1	0.2 0.2 RPD: 0	LCS-5	111%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	96692-1	<0.1 0.1	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	96692-1	0.1 0.1 RPD: 0	LCS-5	111%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	96692-1	<0.2 0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	96692-1	0.1 0.11 RPD: 10	LCS-5	124%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	96692-1	0.2 0.1 RPD: 67	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	96692-1	<0.1 <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	96692-1	0.1 0.1 RPD: 0	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	107	96692-1	106 105 RPD: 1	LCS-5	102%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organochlorine Pesticides in soil						Base II Duplicate II %RPD		
Date extracted	-			04/09/2013	[NT]	[NT]	LCS-7	04/09/2013
Date analysed	-			05/09/2013	[NT]	[NT]	LCS-7	05/09/2013
HCB	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	103%
gamma-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	94%
Heptachlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	98%
delta-BHC	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	101%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	98%
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	96%
Dieldrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	106%
Endrin	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	87%
pp-DDD	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	102%
Endosulfan II	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	LCS-7	95%
Methoxychlor	mg/kg	0.1	Org-005	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCMX	%		Org-005	100	[NT]	[NT]	LCS-7	104%

Client Reference: 73603.01, Westmead

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PCBs in Soil						Base II Duplicate II %RPD		
Date extracted	-			04/09/2013	[NT]	[NT]	LCS-7	04/09/2013
Date analysed	-			05/09/2013	[NT]	[NT]	LCS-7	05/09/2013
Arochlor 1016	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1221	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1232	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1242	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1248	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1254	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	LCS-7	114%
Arochlor 1260	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		Org-006	100	[NT]	[NT]	LCS-7	103%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Soil						Base II Duplicate II %RPD		
Date extracted	-			06/09/2013	96692-2	06/09/2013 06/09/2013	LCS-1	06/09/2013
Date analysed	-			06/09/2013	96692-2	06/09/2013 06/09/2013	LCS-1	06/09/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	96692-2	<5 <5	LCS-1	86%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			04/09/2013	96692-1	04/09/2013 04/09/2013	LCS-1	04/09/2013
Date analysed	-			04/09/2013	96692-1	04/09/2013 04/09/2013	LCS-1	04/09/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	96692-1	7 7 RPD: 0	LCS-1	108%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	96692-1	9.5 10 RPD: 5	LCS-1	106%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	96692-1	21 31 RPD: 38	LCS-1	108%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	96692-1	27 39 RPD: 36	LCS-1	108%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	96692-1	35 43 RPD: 21	LCS-1	106%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	96692-1	0.1 <0.1	LCS-1	87%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	96692-1	22 33 RPD: 40	LCS-1	109%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	96692-1	520 540 RPD: 4	LCS-1	109%

Client Reference: 73603.01, Westmead

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
ESP/CEC						Base Duplicate %RPD		
Exchangeable Ca	meq/100 g	0.1	Metals-009	<0.1	96692-14	12 12 RPD: 0	LCS-1	119%
Exchangeable K	meq/100 g	0.1	Metals-009	<0.1	96692-14	0.2 0.2 RPD: 0	LCS-1	108%
Exchangeable Mg	meq/100 g	0.1	Metals-009	<0.1	96692-14	4.9 4.9 RPD: 0	LCS-1	112%
Exchangeable Na	meq/100 g	0.1	Metals-009	<0.1	96692-14	0.27 0.28 RPD: 4	LCS-1	111%
Cation Exchange Capacity	meq/100 g	1	Metals-009	<1.0	96692-14	17 18 RPD: 6	[NR]	[NR]
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Miscellaneous Inorg - soil						Base Duplicate %RPD		
Date prepared	-			04/09/2013	[NT]	[NT]	LCS-1	04/09/2013
Date analysed	-			04/09/2013	[NT]	[NT]	LCS-1	04/09/2013
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	LCS-1	101%
Clay in soils <2um	% (w/w)		AS1289.3.6.3	[NT]	[NT]	[NT]	[NR]	[NR]
Total Organic Carbon (Walkley Black)	mg/kg	1000	Inorg-036	<1000	[NT]	[NT]	LCS-1	96%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank				
Moisture								
Date prepared	-			[NT]				
Date analysed	-			[NT]				
Moisture	%	0.1	Inorg-008	[NT]				
QUALITY CONTROL	UNITS	PQL	METHOD	Blank				
Asbestos ID - soils								
Date analysed	-			[NT]				
QUALITY CONTROL	UNITS	Dup. Sm#		Duplicate Base + Duplicate + %RPD		Spike Sm#	Spike % Recovery	
vTRH(C6-C10)/BTEXN in Soil								
Date extracted	-	96692-11		04/09/2013 04/09/2013		96692-5	04/09/2013	
Date analysed	-	96692-11		04/09/2013 04/09/2013		96692-5	04/09/2013	
TRHC6 - C9	mg/kg	96692-11		<25 <25		96692-5	96%	
TRHC6 - C10	mg/kg	96692-11		<25 <25		96692-5	96%	
Benzene	mg/kg	96692-11		<0.2 <0.2		96692-5	95%	
Toluene	mg/kg	96692-11		<0.5 <0.5		96692-5	101%	
Ethylbenzene	mg/kg	96692-11		<1 <1		96692-5	95%	
m+p-xylene	mg/kg	96692-11		<2 <2		96692-5	95%	
o-Xylene	mg/kg	96692-11		<1 <1		96692-5	94%	
naphthalene	mg/kg	96692-11		<1 <1		[NR]	[NR]	
Surrogate aaa-Trifluorotoluene	%	96692-11		117 115 RPD: 2		96692-5	109%	

Client Reference: 73603.01, Westmead

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	96692-11	04/09/2013 04/09/2013	96692-5	04/09/2013
Date analysed	-	96692-11	05/09/2013 05/09/2013	96692-5	05/09/2013
TRHC ₁₀ - C ₁₄	mg/kg	96692-11	<50 <50	96692-5	90%
TRHC ₁₅ - C ₂₃	mg/kg	96692-11	<100 <100	96692-5	116%
TRHC ₂₉ - C ₃₆	mg/kg	96692-11	<100 <100	96692-5	91%
TRH>C ₁₀ -C ₁₆	mg/kg	96692-11	<50 <50	96692-5	90%
TRH>C ₁₆ -C ₃₄	mg/kg	96692-11	<100 <100	96692-5	116%
TRH>C ₃₄ -C ₄₀	mg/kg	96692-11	<100 <100	96692-5	91%
Surrogate o-Terphenyl	%	96692-11	100 98 RPD: 2	96692-5	96%
QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	96692-11	04/09/2013 04/09/2013	96692-5	04/09/2013
Date analysed	-	96692-11	04/09/2013 04/09/2013	96692-5	04/09/2013
Naphthalene	mg/kg	96692-11	<0.1 <0.1	96692-5	115%
Acenaphthylene	mg/kg	96692-11	<0.1 <0.1	[NR]	[NR]
Acenaphthene	mg/kg	96692-11	<0.1 <0.1	[NR]	[NR]
Fluorene	mg/kg	96692-11	<0.1 <0.1	96692-5	116%
Phenanthrene	mg/kg	96692-11	<0.1 <0.1	96692-5	112%
Anthracene	mg/kg	96692-11	<0.1 <0.1	[NR]	[NR]
Fluoranthene	mg/kg	96692-11	<0.1 <0.1	96692-5	108%
Pyrene	mg/kg	96692-11	<0.1 <0.1	96692-5	111%
Benzo(a)anthracene	mg/kg	96692-11	<0.1 <0.1	[NR]	[NR]
Chrysene	mg/kg	96692-11	<0.1 <0.1	96692-5	110%
Benzo(b+k)fluoranthene	mg/kg	96692-11	<0.2 <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	96692-11	<0.05 <0.05	96692-5	124%
Indeno(1,2,3-c,d)pyrene	mg/kg	96692-11	<0.1 <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	96692-11	<0.1 <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	96692-11	<0.1 <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	96692-11	105 103 RPD: 2	96692-5	102%

Client Reference: 73603.01, Westmead

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date digested	-	96692-11	04/09/2013 04/09/2013	96692-5	04/09/2013
Date analysed	-	96692-11	04/09/2013 04/09/2013	96692-5	04/09/2013
Arsenic	mg/kg	96692-11	<4 <4	96692-5	92%
Cadmium	mg/kg	96692-11	<0.4 <0.4	96692-5	90%
Chromium	mg/kg	96692-11	6 11 RPD: 59	96692-5	101%
Copper	mg/kg	96692-11	3 3 RPD: 0	96692-5	110%
Lead	mg/kg	96692-11	6 7 RPD: 15	96692-5	93%
Mercury	mg/kg	96692-11	<0.1 <0.1	96692-5	90%
Nickel	mg/kg	96692-11	3 3 RPD: 0	96692-5	93%
Zinc	mg/kg	96692-11	14 12 RPD: 15	96692-5	93%

Report Comments:

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 96692-11 for Cr. Therefore a triplicate result has been issued as laboratory sample number 96692-17.

Sample 96692-2; Loose fibre bundles of Chrysotile, Amosite asbestos identified within the sample (total weight 0.0371g). This is 100% asbestos fibres by weight, which in 68.57g of soil is 0.54g/kg (i.e. > reporting limit for the method of 0.1g/kg).

Sample 96992-3; Loose fibre bundles of Chrysotile, Amosite & Crocidolite asbestos identified within the sample (total weight 0.0532g). This is 100% asbestos fibres by weight, which in 44.16g of soil is 1.20g/kg (i.e. > reporting limit for the method of 0.1g/kg).

Sample 96992-6; Chrysotile asbestos identified embedded in several fragments of fibre cement (total weight 0.0658g). It is estimated that the fibre cement contains up to 15% asbestos fibres by weight. This calculates to 0.0099g of asbestos fibres, which in 63.33g of soil is 0.16g/kg (i.e. > reporting limit for the method of 0.1g/kg).

Sample 96992-8; Loose fibre bundles of Chrysotile & Crocidolite asbestos identified within the sample (total weight 0.0158g). This is 100% asbestos fibres by weight, which in 51.55g of soil is 0.31g/kg (i.e. > reporting limit for the method of 0.1g/kg).

Sample 96992-10; Loose fibre bundles of chrysotile & Amosite asbestos identified within the sample (total weight 0.0059g). This is 100% asbestos fibres by weight, which in 38.80g of soil is 0.15g/kg (i.e. > reporting limit for the method of 0.1g/kg).

Asbestos ID was analysed by Approved Identifier:	Alex Tam
Asbestos ID was authorised by Approved Signatory:	Matt Mansfield

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NA: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike: A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample): This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL any RPD is acceptable; >5xPQL 0-50% RPD is acceptable

5.8 °C

CHAIN OF CUSTODY

Project Name: WESTMEAD
Project No: 73603-01 Sampler: A.K
Project Mgr: D.W. Mob. Phone:
Email: david.walker@douglaspartners.com.au
Date Required: 3/9/13 Standard: Lab Quote No.

To: **EnviroLab Services**
12 Ashley Street, Chatswood NSW 2068
Attn: **Tania Notaras**
Phone: 02 9910 6200 Fax: 02 9910 6201
Email: tnotaras@envirolabservices.com.au

Sample ID	Sample Depth	Lab ID	Sampling Date	Sample Type S - soil W - water	Container type	Analytes														Notes
						(P) Heavy Metals	BTEX ^M	TRH	OCPs/ PCBs	PAH	Phenols	Asbestos	PH	Capn Exchange Capacity	Clay content	Organic Carbon content			Other	
101	0-5	1	31/8/13	S	2	✓	✓		✓										combo 3	
101	1-0	2				✓	✓		✓	✓	✓								combo 7A	
102	0-1																			
102	0-1	3				✓	✓		✓	✓	✓								7A	
103	0-5	4				✓			✓		✓	✓							7A	
103	1-0	5																	3	
104	0-5	6							✓		✓	✓							7A	
104	0-5	7																	3	
105	0-1	8							✓		✓	✓							7A	
105	0-5	9																	3	
108	0-1	10							✓		✓	✓							7A	
108	0-5	11																	3	

Lab Report No.

Phone: (02) 9809 0666

Send Results to: **Douglas Partners** Address: **96 Hermitage Road, West Ryde 2114**

Fax: (02) 9809 4095

Relinquished by: D. Walker Signed: D. Walker Date & Time: 3/9/13

Received By: MAN Date & Time: 3/9 1330

Relinquished by: Signed: Date & Time:

Received By: Date & Time:

SAMPLE RECEIPT ADVICE

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde NSW 2114

ph: 02 9809 0666

Fax: 02 9809 4095

Attention: David Walker

Sample log in details:

Your reference:

73603.01, Westmead

Envirolab Reference:

96692

Date received:

03/09/2013

Date results expected to be reported:

10/09/13

Samples received in appropriate condition for analysis:

YES

No. of samples provided

16 Soils

Turnaround time requested:

Standard

Temperature on receipt (°C)

5.8

Cooling Method:

Ice Pack

Sampling Date Provided:

YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201

email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

96922

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde
NSW 2114

Attention: David Walker

Sample log in details:

Your Reference:	<u>73603.01, Westmead</u>
No. of samples:	6 waters
Date samples received / completed instructions received	06/09/13 / 06/09/13

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	13/09/13 / 18/09/13
Date of Preliminary Report:	Not issued

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Accredited for compliance with ISO/IEC 17025. **Tests not covered by NATA are denoted with *.**

Results Approved By:



Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Water						
Our Reference:	UNITS	96922-1	96922-2	96922-3	96922-4	96922-5
Your Reference	-----	2	4	10	BD1/060913	TS-060913
Date Sampled	-----	06/09/2013	06/09/2013	06/09/2013	06/09/2013	06/09/2013
Type of sample		Water	Water	Water	Water	Water
Date extracted	-	06/09/2013	06/09/2013	06/09/2013	06/09/2013	06/09/2013
Date analysed	-	09/09/2013	09/09/2013	09/09/2013	09/09/2013	09/09/2013
TRHC ₆ - C ₉	µg/L	<10	<10	82	82	[NA]
TRHC ₆ - C ₁₀	µg/L	<10	<10	250	250	[NA]
TRHC ₆ - C ₁₀ less BTEX (F1)	µg/L	<10	<10	190	190	[NA]
Benzene	µg/L	<1	<1	<1	<1	113%
Toluene	µg/L	<1	<1	<1	<1	108%
Ethylbenzene	µg/L	<1	<1	4	4	110%
m+p-xylene	µg/L	<2	<2	35	35	109%
o-xylene	µg/L	<1	<1	19	19	108%
Naphthalene	µg/L	<1	<1	3	3	[NA]
Surrogate Dibromofluoromethane	%	100	102	103	101	100
Surrogate toluene-d8	%	92	92	92	93	94
Surrogate 4-BFB	%	83	84	86	87	85

vTRH(C6-C10)/BTEXN in Water		
Our Reference:	UNITS	96922-6
Your Reference	-----	TB-060913
Date Sampled	-----	06/09/2013
Type of sample		Water
Date extracted	-	06/09/2013
Date analysed	-	09/09/2013
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Surrogate Dibromofluoromethane	%	102
Surrogate toluene-d8	%	91
Surrogate 4-BFB	%	83

svTRH (C10-C40) in Water Our Reference: Your Reference Date Sampled Type of sample	UNITS ----- -----	96922-1 2 06/09/2013 Water	96922-2 4 06/09/2013 Water	96922-3 10 06/09/2013 Water	96922-4 BD1/060913 06/09/2013 Water
Date extracted	-	09/09/2013	09/09/2013	09/09/2013	09/09/2013
Date analysed	-	10/09/2013	10/09/2013	10/09/2013	10/09/2013
TRHC ₁₀ - C ₁₄	µg/L	<50	<50	170	170
TRHC ₁₅ - C ₂₈	µg/L	<100	<100	<100	<100
TRHC ₂₉ - C ₃₆	µg/L	<100	<100	<100	<100
TRH>C ₁₀ - C ₁₆	µg/L	<50	<50	100	100
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	µg/L	<50	<50	97	97
TRH>C ₁₆ - C ₃₄	µg/L	<100	<100	<100	<100
TRH>C ₃₄ - C ₄₀	µg/L	<100	<100	<100	<100
Surrogate o-Terphenyl	%	95	94	84	88

PAHs in Water - Low Level				
Our Reference:	UNITS	96922-1	96922-2	96922-3
Your Reference	-----	2	4	10
Date Sampled	-----	06/09/2013	06/09/2013	06/09/2013
Type of sample		Water	Water	Water
Date extracted	-	09/09/2013	09/09/2013	09/09/2013
Date analysed	-	09/09/2013	09/09/2013	09/09/2013
Naphthalene	µg/L	<0.1	<0.1	3.0
Acenaphthylene	µg/L	<0.1	<0.1	<0.1
Acenaphthene	µg/L	<0.1	<0.1	<0.1
Fluorene	µg/L	<0.1	<0.1	<0.1
Phenanthrene	µg/L	<0.1	<0.1	0.1
Anthracene	µg/L	<0.1	<0.1	<0.1
Fluoranthene	µg/L	<0.1	<0.1	<0.1
Pyrene	µg/L	<0.1	<0.1	<0.1
Benzo(a)anthracene	µg/L	<0.1	<0.1	<0.1
Chrysene	µg/L	<0.1	<0.1	<0.1
Benzo(b+k)fluoranthene	µg/L	<0.2	<0.2	<0.2
Benzo(a)pyrene	µg/L	<0.1	<0.1	<0.1
Indeno(1,2,3-c,d)pyrene	µg/L	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	µg/L	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	µg/L	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ	µg/L	<0.5	<0.5	<0.5
Total +ve PAH's	µg/L	NIL (+)VE	NIL (+)VE	3.1
Surrogate p-Terphenyl-d14	%	106	99	96

Total Phenolics in Water				
Our Reference:	UNITS	96922-1	96922-2	96922-3
Your Reference	-----	2	4	10
Date Sampled	-----	06/09/2013	06/09/2013	06/09/2013
Type of sample		Water	Water	Water
Date extracted	-	09/09/2013	09/09/2013	09/09/2013
Date analysed	-	09/09/2013	09/09/2013	09/09/2013
Total Phenolics (as Phenol)	mg/L	<0.05	<0.05	<0.05

OCP in water - trace level				
Our Reference:	UNITS	96922-1	96922-2	96922-3
Your Reference	-----	2	4	10
Date Sampled	-----	06/09/2013	06/09/2013	06/09/2013
Type of sample		Water	Water	Water
Date extracted	-	16/09/2013	16/09/2013	16/09/2013
Date analysed	-	17/09/2013	17/09/2013	17/09/2013
HCb	µg/L	<0.001	<0.001	<0.001
Heptachlor	µg/L	<0.001	<0.001	<0.001
Heptachlor Epoxide	µg/L	<0.001	<0.001	<0.001
Aldrin	µg/L	<0.001	<0.001	<0.001
gamma-BHC (Lindane)	µg/L	<0.001	<0.001	<0.001
alpha-BHC	µg/L	<0.001	<0.001	<0.001
beta-BHC	µg/L	<0.001	<0.001	<0.001
delta-BHC	µg/L	<0.001	<0.001	<0.001
trans-Chlordane	µg/L	<0.001	<0.001	<0.001
cis-Chlordane	µg/L	<0.001	<0.001	<0.001
Oxychlordane	µg/L	<0.001	<0.001	<0.001
Dieldrin	µg/L	<0.001	<0.001	<0.001
p,p-DDE	µg/L	<0.001	<0.001	<0.001
p,p-DDD	µg/L	<0.001	<0.001	<0.001
p,p-DDT	µg/L	<0.001	<0.001	<0.001
Endrin	µg/L	<0.001	<0.001	<0.001
Endrin Aldehyde	µg/L	<0.001	<0.001	<0.001
Endrin Ketone	µg/L	<0.001	<0.001	<0.001
alpha-Endosulfan	µg/L	<0.001	<0.001	<0.001
beta-Endosulfan	µg/L	<0.001	<0.001	<0.001
Endosulfan Sulfate	µg/L	<0.001	<0.001	<0.001
Methoxychlor	µg/L	<0.001	<0.001	<0.001
Surrogate OC Recovery	%	78	64	58

PCB in water - trace level				
Our Reference:	UNITS	96922-1	96922-2	96922-3
Your Reference	-----	2	4	10
Date Sampled	-----	06/09/2013	06/09/2013	06/09/2013
Type of sample		Water	Water	Water
Date extracted	-	16/09/2013	16/09/2013	16/09/2013
Date analysed	-	17/09/2013	17/09/2013	17/09/2013
Aroclor 1016	µg/L	<0.01	<0.01	<0.01
Aroclor 1221	µg/L	<0.01	<0.01	<0.01
Aroclor 1232	µg/L	<0.01	<0.01	<0.01
Aroclor 1242	µg/L	<0.01	<0.01	<0.01
Aroclor 1248	µg/L	<0.01	<0.01	<0.01
Aroclor 1254	µg/L	<0.01	<0.01	<0.01
Aroclor 1260	µg/L	<0.01	<0.01	<0.01
Total PCB's (as above)	µg/L	<0.01	<0.01	<0.01

HM in water - dissolved					
Our Reference:	UNITS	96922-1	96922-2	96922-3	96922-4
Your Reference	-----	2	4	10	BD1/060913
Date Sampled	-----	06/09/2013	06/09/2013	06/09/2013	06/09/2013
Type of sample		Water	Water	Water	Water
Date prepared	-	09/09/2013	09/09/2013	09/09/2013	09/09/2013
Date analysed	-	09/09/2013	09/09/2013	09/09/2013	09/09/2013
Arsenic-Dissolved	µg/L	<1	<1	2	2
Cadmium-Dissolved	µg/L	1.4	0.9	0.8	0.8
Chromium-Dissolved	µg/L	2	2	4	4
Copper-Dissolved	µg/L	2	2	<1	<1
Lead-Dissolved	µg/L	<1	<1	<1	<1
Mercury-Dissolved	µg/L	<0.05	<0.05	<0.05	<0.05
Nickel-Dissolved	µg/L	26	24	89	94
Zinc-Dissolved	µg/L	28	33	100	110

Miscellaneous Inorganics				
Our Reference:	UNITS	96922-1	96922-2	96922-3
Your Reference	-----	2	4	10
Date Sampled	-----	06/09/2013	06/09/2013	06/09/2013
Type of sample		Water	Water	Water
Date prepared	-	06/09/2013	06/09/2013	06/09/2013
Date analysed	-	06/09/2013	06/09/2013	06/09/2013
pH	pH Units	7.3	7.2	6.9
Hardness	mgCaCO3 /L	1,900	1,800	3,100
Calcium - Dissolved	mg/L	81	62	69
Magnesium - Dissolved	mg/L	410	390	720

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-013	Water samples are analysed directly by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Inorg-030	Total Phenolics - determined colorimetrically following disitillation, based upon APHA 22nd ED 5530 D.
Ext-020	Analysis subcontracted to Australian Government - National Measurement Institute. NATA Accreditation No: 198
Metals-022 ICP-MS	Determination of various metals by ICP-MS.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA 22nd ED, 4500-H+.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Water						Base II Duplicate II %RPD		
Date extracted	-			06/09/2013	[NT]	[NT]	LCS-W1	06/09/2013
Date analysed	-			09/09/2013	[NT]	[NT]	LCS-W1	09/09/2013
TRHC ₆ - C ₉	µg/L	10	Org-016	<10	[NT]	[NT]	LCS-W1	118%
TRHC ₆ - C ₁₀	µg/L	10	Org-016	<10	[NT]	[NT]	LCS-W1	118%
Benzene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W1	116%
Toluene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W1	118%
Ethylbenzene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W1	119%
m+p-xylene	µg/L	2	Org-016	<2	[NT]	[NT]	LCS-W1	119%
o-xylene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W1	119%
Naphthalene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Surrogate Dibromofluoromethane	%		Org-016	114	[NT]	[NT]	LCS-W1	109%
Surrogate toluene-d8	%		Org-016	90	[NT]	[NT]	LCS-W1	94%
Surrogate 4-BFB	%		Org-016	84	[NT]	[NT]	LCS-W1	86%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH (C10-C40) in Water						Base II Duplicate II %RPD		
Date extracted	-			09/09/2013	[NT]	[NT]	LCS-W3	09/09/2013
Date analysed	-			10/09/2013	[NT]	[NT]	LCS-W3	10/09/2013
TRHC ₁₀ - C ₁₄	µg/L	50	Org-003	<50	[NT]	[NT]	LCS-W3	98%
TRHC ₁₅ - C ₂₈	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W3	113%
TRHC ₂₉ - C ₃₆	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W3	94%
TRH>C ₁₀ - C ₁₆	µg/L	50	Org-003	<50	[NT]	[NT]	LCS-W3	98%
TRH>C ₁₆ - C ₃₄	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W3	113%
TRH>C ₃₄ - C ₄₀	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W3	94%
Surrogate o-Terphenyl	%		Org-003	103	[NT]	[NT]	LCS-W3	89%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Water - Low Level						Base II Duplicate II %RPD		
Date extracted	-			09/09/2013	[NT]	[NT]	LCS-W2	09/09/2013
Date analysed	-			09/09/2013	[NT]	[NT]	LCS-W2	09/09/2013
Naphthalene	µg/L	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-W2	97%
Acenaphthylene	µg/L	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	µg/L	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	µg/L	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-W2	104%
Phenanthrene	µg/L	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-W2	98%

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Water - Low Level						Base II Duplicate II %RPD		
Anthracene	µg/L	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	µg/L	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-W2	97%
Pyrene	µg/L	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-W2	98%
Benzo(a)anthracene	µg/L	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	µg/L	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-W2	98%
Benzo(b+k)fluoranthene	µg/L	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	µg/L	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-W2	111%
Indeno(1,2,3-c,d)pyrene	µg/L	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	µg/L	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	µg/L	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	96	[NT]	[NT]	LCS-W2	100%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Water						Base II Duplicate II %RPD		
Date extracted	-			09/09/2013	96922-1	09/09/2013 09/09/2013	LCS-W1	09/09/2013
Date analysed	-			09/09/2013	96922-1	09/09/2013 09/09/2013	LCS-W1	09/09/2013
Total Phenolics (as Phenol)	mg/L	0.05	Inorg-030	<0.05	96922-1	<0.05 <0.05	LCS-W1	94%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
OCP in water - trace level						Base II Duplicate II %RPD		
Date extracted	-			16/09/2013	[NT]	[NT]	LCS-W1	16/09/2013
Date analysed	-			17/09/2013	[NT]	[NT]	LCS-W1	17/09/2013
HCB	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	[NR]	[NR]
Heptachlor	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	LCS-W1	84%
Heptachlor Epoxide	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	[NR]	[NR]
Aldrin	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	LCS-W1	83%
gamma-BHC (Lindane)	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	LCS-W1	77%
alpha-BHC	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	[NR]	[NR]
beta-BHC	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	[NR]	[NR]
delta-BHC	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	[NR]	[NR]
trans-Chlordane	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	[NR]	[NR]
cis-Chlordane	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	[NR]	[NR]

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
OCP in water - trace level						Base II Duplicate II %RPD		
Oxychlorane	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	[NR]	[NR]
Dieldrin	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	LCS-W1	88%
p,p-DDE	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	[NR]	[NR]
p,p-DDD	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	[NR]	[NR]
p,p-DDT	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	LCS-W1	89%
Endrin	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	LCS-W1	86%
Endrin Aldehyde	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	[NR]	[NR]
Endrin Ketone	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	[NR]	[NR]
alpha-Endosulfan	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	[NR]	[NR]
beta-Endosulfan	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulfate	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	[NR]	[NR]
Methoxychlor	µg/L	0.001	Ext-020	<0.001	[NT]	[NT]	[NR]	[NR]
Surrogate OC Recovery	%		Ext-020	[NT]	[NT]	[NT]	LCS-W1	88%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PCB in water - trace level						Base II Duplicate II %RPD		
Date extracted	-			16/09/2013	[NT]	[NT]	LCS-W1	16/09/2013
Date analysed	-			17/09/2013	[NT]	[NT]	LCS-W1	17/09/2013
Aroclor 1016	µg/L	0.01	Ext-020	<0.01	[NT]	[NT]	[NR]	[NR]
Aroclor 1221	µg/L	0.01	Ext-020	<0.01	[NT]	[NT]	[NR]	[NR]
Aroclor 1232	µg/L	0.01	Ext-020	<0.01	[NT]	[NT]	[NR]	[NR]
Aroclor 1242	µg/L	0.01	Ext-020	<0.01	[NT]	[NT]	[NR]	[NR]
Aroclor 1248	µg/L	0.01	Ext-020	<0.01	[NT]	[NT]	[NR]	[NR]
Aroclor 1254	µg/L	0.01	Ext-020	<0.01	[NT]	[NT]	[NR]	[NR]
Aroclor 1260	µg/L	0.01	Ext-020	<0.01	[NT]	[NT]	[NR]	[NR]
Total PCB's (as above)	µg/L	0.010	Ext-020	<0.01	[NT]	[NT]	LCS-W1	93%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
HM in water - dissolved						Base II Duplicate II %RPD		
Date prepared	-			09/09/2013	96922-1	09/09/2013 09/09/2013	LCS-W2	09/09/2013
Date analysed	-			09/09/2013	96922-1	09/09/2013 09/09/2013	LCS-W2	09/09/2013
Arsenic-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	96922-1	<1 <1	LCS-W2	98%
Cadmium-Dissolved	µg/L	0.1	Metals-022 ICP-MS	<0.1	96922-1	1.4 1.4 RPD: 0	LCS-W2	104%
Chromium-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	96922-1	2 2 RPD: 0	LCS-W2	94%
Copper-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	96922-1	2 2 RPD: 0	LCS-W2	87%
Lead-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	96922-1	<1 <1	LCS-W2	103%
Mercury-Dissolved	µg/L	0.05	Metals-021 CV-AAS	<0.05	96922-1	<0.05 [N/T]	LCS-W2	116%

Client Reference: 73603.01, Westmead

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
HM in water - dissolved						Base Duplicate %RPD		
Nickel-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	96922-1	26 27 RPD: 4	LCS-W2	88%
Zinc-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	96922-1	28 28 RPD: 0	LCS-W2	98%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Miscellaneous Inorganics						Base Duplicate %RPD		
Date prepared	-			09/09/2013	96922-1	06/09/2013 06/09/2013	LCS-W1	07/09/2013
Date analysed	-			09/09/2013	96922-1	06/09/2013 06/09/2013	LCS-W1	07/09/2013
pH	pH Units		Inorg-001	[NT]	96922-1	7.3 [N/T]	LCS-W1	101%
Hardness	mgCaCO ₃ /L	3		3.0	96922-1	1900 1800 RPD: 5	[NR]	[NR]
Calcium - Dissolved	mg/L	0.5	Metals-020 ICP-AES	<0.5	96922-1	81 77 RPD: 5	LCS-W1	115%
Magnesium - Dissolved	mg/L	0.5	Metals-020 ICP-AES	<0.5	96922-1	410 400 RPD: 2	LCS-W1	119%
QUALITYCONTROL	UNITS	Dup. Sm#		Duplicate		Spike Sm#	Spike % Recovery	
HM in water - dissolved				Base + Duplicate + %RPD				
Date prepared	-	[NT]		[NT]		96922-2	09/09/2013	
Date analysed	-	[NT]		[NT]		96922-2	09/09/2013	
Arsenic-Dissolved	µg/L	[NT]		[NT]		96922-2	99%	
Cadmium-Dissolved	µg/L	[NT]		[NT]		96922-2	93%	
Chromium-Dissolved	µg/L	[NT]		[NT]		96922-2	85%	
Copper-Dissolved	µg/L	[NT]		[NT]		96922-2	91%	
Lead-Dissolved	µg/L	[NT]		[NT]		96922-2	87%	
Mercury-Dissolved	µg/L	[NT]		[NT]		[NR]	[NR]	
Nickel-Dissolved	µg/L	[NT]		[NT]		96922-2	92%	
Zinc-Dissolved	µg/L	[NT]		[NT]		96922-2	84%	
QUALITYCONTROL	UNITS	Dup. Sm#		Duplicate		Spike Sm#	Spike % Recovery	
Miscellaneous Inorganics				Base + Duplicate + %RPD				
Date prepared	-	[NT]		[NT]		96922-2	09/09/2013	
Date analysed	-	[NT]		[NT]		96922-2	09/09/2013	
pH	pH Units	[NT]		[NT]		[NR]	[NR]	
Hardness	mgCaCO ₃ /L	[NT]		[NT]		[NR]	[NR]	
Calcium - Dissolved	mg/L	[NT]		[NT]		96922-2	#	
Magnesium - Dissolved	mg/L	[NT]		[NT]		96922-2	#	

Client Reference: 73603.01, Westmead

QUALITY CONTROL HM in water - dissolved	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	96922-1	09/09/2013
Date analysed	-	[NT]	[NT]	96922-1	09/09/2013
Arsenic-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Cadmium-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Chromium-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Copper-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Lead-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Mercury-Dissolved	µg/L	[NT]	[NT]	96922-1	112%
Nickel-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Zinc-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]

Report Comments:

Miscellaneous Inorganics: # Percent recovery is not possible to report due to the high concentration of the element/s in the sample/s. However an acceptable recovery was obtained for the LCS.

OC/PCB's in water analysed by NMI. Report No.RN098943.

Asbestos ID was analysed by Approved Identifier:
Asbestos ID was authorised by Approved Signatory:

Not applicable for this job
Not applicable for this job

INS: Insufficient sample for this test
NA: Test not required
<: Less than

PQL: Practical Quantitation Limit
RPD: Relative Percent Difference
>: Greater than

NT: Not tested
NA: Test not required
LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike: A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample): This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Project Name: WESTMEAD
Project No: 73603.01 Sampler: D. Walker
Project Mgr: DW Mob. Phone:
Email: david.walker@deephypress.com.au
Date Required: Standard Lab Quote No.

To: Envirolab Services
12 Ashley Street, Chatswood NSW 2068
Attn: Tania Notaras
Phone: 02 9910 6200 Fax: 02 9910 6201
Email: tnotaras@envirolabservices.com.au

Sample ID	Sample Depth	Lab ID	Sampling Date	Sample Type S - soil W - water	Container type	Analytes											Notes		
						Heavy Metals (8)	BTEX TRH	OCs/ PCBs	PAH 100 LEVEL	Phenols total	Asbestos	PH + hardness	STEX only						Other
① 2			6/9/13	W	bottles + stals	✓	✓	✓	✓	✓		✓							
② 4			↓	W	↓	✓	✓	✓	✓	✓		✓							
③ 10			↓	W	↓	✓	✓	✓	✓	✓		✓							
④ BDI / 060913			↓	W	↓	✓	✓												
⑤ TS - 060913			↓	W	vials								✓						
⑥ TB - 060913			↓	W	↓								✓						

Lab Report No.

Send Results to: Douglas Partners Address: 96 Hermitage Road, West Ryde 2114

Relinquished by: D. Walker Signed: W. Walker

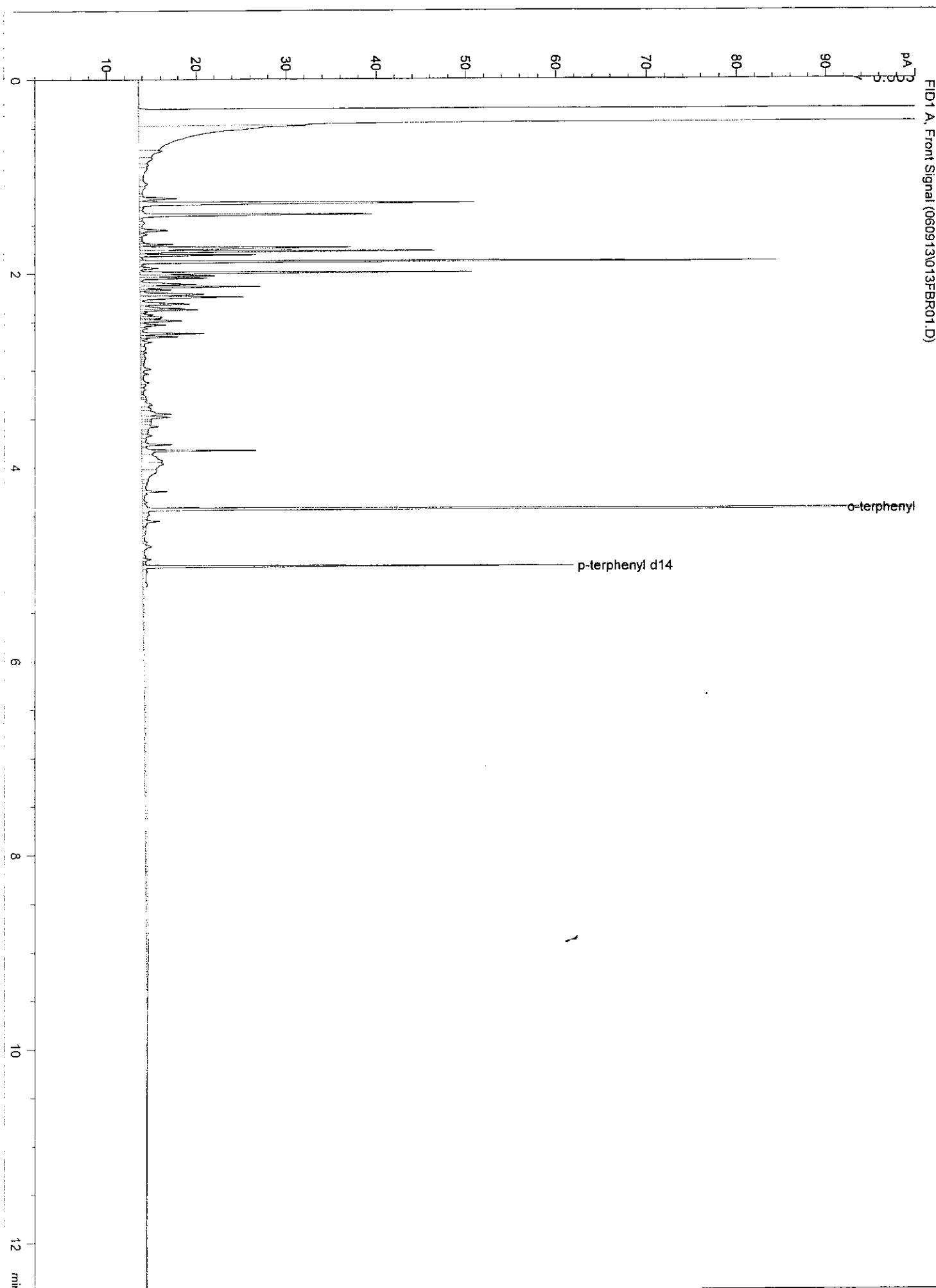
Relinquished by: _____ Signed: _____

Phone: (02) 9809 0666

Fax: (02) 9809 4095

Received By: Donie Ford Date & Time: 6.9.13 10:00

Received By: _____ Date & Time: _____



SAMPLE RECEIPT ADVICE

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde NSW 2114

ph: 02 9809 0666

Fax: 02 9809 4095

Attention: David Walker

Sample log in details:

Your reference:

73603.01, Westmead

Envirolab Reference:

96922

Date received:

06/09/13

Date results expected to be reported:

13/09/13

Samples received in appropriate condition for analysis:

YES

No. of samples provided

6 waters

Turnaround time requested:

Standard

Temperature on receipt (°C)

2.7

Cooling Method:

Ice

Sampling Date Provided:

YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201

email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

97165

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde
NSW 2114

Attention: David Walker

Sample log in details:

Your Reference:	<u>73603.01, Westmead</u>
No. of samples:	7 Soils
Date samples received / completed instructions received	10/09/13 / 10/09/13

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	17/09/13 / 17/09/13
Date of Preliminary Report:	Not issued

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Accredited for compliance with ISO/IEC 17025. **Tests not covered by NATA are denoted with *.**

Results Approved By:



Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil						
Our Reference:	UNITS	97165-1	97165-2	97165-3	97165-4	97165-5
Your Reference	-----	106	106	107	107	107
Depth	-----	0.1	0.8	0.1	0.45-0.5	1.0
Date Sampled		07/09/2013	07/09/2013	07/09/2013	07/09/2013	07/09/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	11/09/2013	11/09/2013	11/09/2013	11/09/2013	11/09/2013
Date analysed	-	11/09/2013	11/09/2013	11/09/2013	11/09/2013	11/09/2013
TRHC ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	101	93	90	87	98

vTRH(C6-C10)/BTEXN in Soil			
Our Reference:	UNITS	97165-6	97165-7
Your Reference	-----	TB-070913	T-070913
Depth	-----	-	-
Date Sampled		07/09/2013	07/09/2013
Type of sample		Soil	Soil
Date extracted	-	11/09/2013	11/09/2013
Date analysed	-	11/09/2013	11/09/2013
Benzene	mg/kg	<0.2	81%
Toluene	mg/kg	<0.5	95%
Ethylbenzene	mg/kg	<1	108%
m+p-xylene	mg/kg	<2	110%
o-Xylene	mg/kg	<1	114%
Surrogate aaa-Trifluorotoluene	%	107	93

svTRH (C10-C40) in Soil						
Our Reference:	UNITS	97165-1	97165-2	97165-3	97165-4	97165-5
Your Reference	-----	106	106	107	107	107
Depth	-----	0.1	0.8	0.1	0.45-0.5	1.0
Date Sampled		07/09/2013	07/09/2013	07/09/2013	07/09/2013	07/09/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	-	11/09/2013	11/09/2013	11/09/2013	11/09/2013	11/09/2013
Date analysed	-	12/09/2013	12/09/2013	12/09/2013	12/09/2013	12/09/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	93	93	93	92	93

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	97165-1 106 0.1 07/09/2013 Soil	97165-2 106 0.8 07/09/2013 Soil	97165-3 107 0.1 07/09/2013 Soil	97165-4 107 0.45-0.5 07/09/2013 Soil	97165-5 107 1.0 07/09/2013 Soil
Date extracted	-	11/09/2013	11/09/2013	11/09/2013	11/09/2013	11/09/2013
Date analysed	-	12/09/2013	12/09/2013	12/09/2013	12/09/2013	12/09/2013
Naphthalene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	<0.1	0.2	<0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQ NEPM B1	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE	NIL (+)VE	NIL (+)VE	0.16	NIL (+)VE
Surrogate p-Terphenyl-d14	%	85	88	85	81	89

Organochlorine Pesticides in soil			
Our Reference:	UNITS	97165-2	97165-3
Your Reference	-----	106	107
Depth	-----	0.8	0.1
Date Sampled		07/09/2013	07/09/2013
Type of sample		Soil	Soil
Date extracted	-	11/09/2013	11/09/2013
Date analysed	-	12/09/2013	12/09/2013
HCB	mg/kg	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1
Surrogate TCMX	%	98	103

PCBs in Soil			
Our Reference:	UNITS	97165-2	97165-3
Your Reference	-----	106	107
Depth	-----	0.8	0.1
Date Sampled		07/09/2013	07/09/2013
Type of sample		Soil	Soil
Date extracted	-	11/09/2013	11/09/2013
Date analysed	-	12/09/2013	12/09/2013
Arochlor 1016	mg/kg	<0.1	<0.1
Arochlor 1221	mg/kg	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1
Surrogate TCLMX	%	98	103

Total Phenolics in Soil			
Our Reference:	UNITS	97165-2	97165-3
Your Reference	-----	106	107
Depth	-----	0.8	0.1
Date Sampled		07/09/2013	07/09/2013
Type of sample		Soil	Soil
Date extracted	-	12/09/2013	12/09/2013
Date analysed	-	12/09/2013	12/09/2013
Total Phenolics (as Phenol)	mg/kg	<5	<5

Acid Extractable metals in soil						
Our Reference:	UNITS	97165-1	97165-2	97165-3	97165-4	97165-5
Your Reference	-----	106	106	107	107	107
Depth	-----	0.1	0.8	0.1	0.45-0.5	1.0
Date Sampled		07/09/2013	07/09/2013	07/09/2013	07/09/2013	07/09/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date digested	-	11/09/2013	11/09/2013	11/09/2013	11/09/2013	11/09/2013
Date analysed	-	11/09/2013	11/09/2013	11/09/2013	11/09/2013	11/09/2013
Arsenic	mg/kg	7	6	10	<4	6
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	20	26	14	12	21
Copper	mg/kg	20	14	30	12	12
Lead	mg/kg	22	16	20	18	16
Mercury	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	11	8	25	6	6
Zinc	mg/kg	38	19	36	21	17

Moisture						
Our Reference:	UNITS	97165-1	97165-2	97165-3	97165-4	97165-5
Your Reference	-----	106	106	107	107	107
Depth	-----	0.1	0.8	0.1	0.45-0.5	1.0
Date Sampled		07/09/2013	07/09/2013	07/09/2013	07/09/2013	07/09/2013
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	11/09/2013	11/09/2013	11/09/2013	11/09/2013	11/09/2013
Date analysed	-	12/09/2013	12/09/2013	12/09/2013	12/09/2013	12/09/2013
Moisture	%	10	15	26	18	21

Asbestos ID - soils			
Our Reference:	UNITS	97165-1	97165-4
Your Reference	-----	106	107
Depth	-----	0.1	0.45-0.5
Date Sampled		07/09/2013	07/09/2013
Type of sample		Soil	Soil
Date analysed	-	13/09/2013	13/09/2013
Sample mass tested	g	59.19g	Approx 40g
Sample Description	-	Brown fine-grained soil & rocks	Dark grey fine-grained soil & rocks
Asbestos ID in soil	-	Chrysotile asbestos detected Amosite asbestos detected Crocidolite asbestos detected	No asbestos detected at reporting limit of 0.1g/kg
Trace Analysis	-	No respirable fibres detected	No respirable fibres detected

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Inorg-030	Total Phenolics - determined colorimetrically following disitillation, based upon APHA 22nd ED 5530 D.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			11/09/2013	97165-3	11/09/2013 11/09/2013	LCS-1	11/09/2013
Date analysed	-			11/09/2013	97165-3	11/09/2013 11/09/2013	LCS-1	11/09/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	97165-3	<25 <25	LCS-1	126%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	97165-3	<25 <25	LCS-1	126%
Benzene	mg/kg	0.2	Org-016	<0.2	97165-3	<0.2 <0.2	LCS-1	111%
Toluene	mg/kg	0.5	Org-016	<0.5	97165-3	<0.5 <0.5	LCS-1	125%
Ethylbenzene	mg/kg	1	Org-016	<1	97165-3	<1 <1	LCS-1	131%
m+p-xylene	mg/kg	2	Org-016	<2	97165-3	<2 <2	LCS-1	132%
o-Xylene	mg/kg	1	Org-016	<1	97165-3	<1 <1	LCS-1	116%
naphthalene	mg/kg	1	Org-014	<1	97165-3	<1 <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	105	97165-3	90 86 RPD: 5	LCS-1	119%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH (C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			11/09/2013	97165-3	11/09/2013 11/09/2013	LCS-1	11/09/2013
Date analysed	-			12/09/2013	97165-3	12/09/2013 12/09/2013	LCS-1	12/09/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	97165-3	<50 <50	LCS-1	104%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	97165-3	<100 <100	LCS-1	121%
TRHC ₂₈ - C ₃₆	mg/kg	100	Org-003	<100	97165-3	<100 <100	LCS-1	89%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	97165-3	<50 <50	LCS-1	104%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	97165-3	<100 <100	LCS-1	121%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	97165-3	<100 <100	LCS-1	89%
Surrogate o-Terphenyl	%		Org-003	91	97165-3	93 94 RPD: 1	LCS-1	117%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			11/09/2013	97165-3	11/09/2013 11/09/2013	LCS-1	11/09/2013
Date analysed	-			12/09/2013	97165-3	12/09/2013 12/09/2013	LCS-1	12/09/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	97165-3	<0.1 <0.1	LCS-1	112%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	97165-3	<0.1 <0.1	LCS-1	117%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	97165-3	<0.1 <0.1	LCS-1	98%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	97165-3	<0.1 <0.1	LCS-1	94%

Client Reference: 73603.01, Westmead

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	97165-3	<0.1 <0.1	LCS-1	119%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	97165-3	<0.1 <0.1	LCS-1	95%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	97165-3	<0.2 <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	97165-3	<0.05 <0.05	LCS-1	93%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	84	97165-3	85 91 RPD: 7	LCS-1	90%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organochlorine Pesticides in soil						Base II Duplicate II %RPD		
Date extracted	-			11/09/2013	97165-3	11/09/2013 11/09/2013	LCS-1	11/09/2013
Date analysed	-			12/09/2013	97165-3	12/09/2013 12/09/2013	LCS-1	12/09/2013
HCB	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	LCS-1	81%
gamma-BHC	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
beta-BHC	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	LCS-1	66%
Heptachlor	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	LCS-1	70%
delta-BHC	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
Aldrin	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	LCS-1	76%
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	LCS-1	69%
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
pp-DDE	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	LCS-1	87%
Dieldrin	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	LCS-1	68%
Endrin	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	LCS-1	62%
pp-DDD	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	LCS-1	84%
Endosulfan II	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
pp-DDT	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	LCS-1	64%
Methoxychlor	mg/kg	0.1	Org-005	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
Surrogate TCMX	%		Org-005	87	97165-3	103 99 RPD: 4	LCS-1	89%

Client Reference: 73603.01, Westmead

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PCBs in Soil						Base II Duplicate II %RPD		
Date extracted	-			11/09/2013	97165-3	11/09/2013 11/09/2013	LCS-1	11/09/2013
Date analysed	-			12/09/2013	97165-3	12/09/2013 12/09/2013	LCS-1	12/09/2013
Arochlor 1016	mg/kg	0.1	Org-006	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
Arochlor 1221	mg/kg	0.1	Org-006	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
Arochlor 1232	mg/kg	0.1	Org-006	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
Arochlor 1242	mg/kg	0.1	Org-006	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
Arochlor 1248	mg/kg	0.1	Org-006	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
Arochlor 1254	mg/kg	0.1	Org-006	<0.1	97165-3	<0.1 <0.1	LCS-1	97%
Arochlor 1260	mg/kg	0.1	Org-006	<0.1	97165-3	<0.1 <0.1	[NR]	[NR]
Surrogate TCLMX	%		Org-006	87	97165-3	103 99 RPD: 4	LCS-1	100%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Soil						Base II Duplicate II %RPD		
Date extracted	-			12/09/2013	[NT]	[NT]	LCS-1	12/09/2013
Date analysed	-			12/09/2013	[NT]	[NT]	LCS-1	12/09/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-1	91%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			11/09/2013	97165-3	11/09/2013 11/09/2013	LCS-2	11/09/2013
Date analysed	-			11/09/2013	97165-3	11/09/2013 11/09/2013	LCS-2	11/09/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	97165-3	10 5 RPD: 67	LCS-2	101%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	97165-3	<0.4 <0.4	LCS-2	98%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	97165-3	14 11 RPD: 24	LCS-2	105%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	97165-3	30 24 RPD: 22	LCS-2	104%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	97165-3	20 15 RPD: 29	LCS-2	101%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	97165-3	<0.1 <0.1	LCS-2	96%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	97165-3	25 26 RPD: 4	LCS-2	104%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	97165-3	36 25 RPD: 36	LCS-2	104%

QUALITY CONTROL Moisture	UNITS	PQL	METHOD	Blank
Date prepared	-			[NT]
Date analysed	-			[NT]
Moisture	%	0.1	Inorg-008	[NT]
QUALITY CONTROL Asbestos ID - soils	UNITS	PQL	METHOD	Blank
Date analysed	-			[NT]

Report Comments:

Asbestos:

Samples 97165-1, 4; A portion of the supplied sample was sub-sampled for asbestos analysis according to Envirolab procedures.

We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g of sample in its own container.

Sample 97165-1; Chrysotile, amosite and crocidolite asbestos identified in matted material and in the form of loose fibre bundles (total weight 0.08g). It is estimated that the total content is up to 70% asbestos fibres by weight. This calculates to 0.0560g of asbestos fibres, which in 59.19g of soil is 0.95g/kg (i.e. > reporting limit for the method of 0.1g/kg).

Asbestos ID was analysed by Approved Identifier: Matt Mansfield

Asbestos ID was authorised by Approved Signatory: Matt Mansfield

INS: Insufficient sample for this test

PQL: Practical Quantitation Limit

NT: Not tested

NA: Test not required

RPD: Relative Percent Difference

NA: Test not required

<: Less than

>: Greater than

LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike: A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample): This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Project Name: INESTMEAD
Project No: 73603 01 Sampler: AK
Project Mgr: DW Mob. Phone:
Email: david.walker@douglaspartners.com.au
Date Required: Standard Lab Quote No.

To: Envirolab Services
12 Ashley Street, Chatswood NSW 2068
Attn: Tania Notaras
Phone: 02 9910 6200 Fax: 02 9910 6201
Email: tnotaras@envirolabservices.com.au

Sample ID	Sample Depth	Lab ID	Sampling Date	Sample Type S - soil W - water	Container type	Analytes											Other	Notes
						Heavy Metals	BTEX/ TRH	OCs/ PCBs	PAH	Phenols	Asbestos	SPX only						
106	0.1	1	7/9/13	S	SW	✓	✓		✓		✓							Combo 3A
106	0.8	2				✓	✓	✓	✓	✓	✓							7
107																		
107	0.1	3				✓	✓	✓	✓	✓	✓							7
107	0.45-0.5	4				✓	✓		✓		✓							3A
107	1.0	5				✓	✓		✓									3
*BDI-100913		6				✓	✓	*										→ send sample to Envirofms for analysis.
TB-070913		6										✓						
TS-070413		7										✓						

ENVIROLAB
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
Job No: 97165
Date Received: 10.9.13
Time Received: 15.25
Received by: J.A.C.
Temp: Cool/Ambient
Cooling: Cool/Repack
Security: Intact/Broken/None

Lab Report No. Phone: (02) 9809 0666
Send Results to: **Douglas Partners** Address: 96 Hermitage Road, West Ryde 2114 Fax: (02) 9809 4095
Relinquished by: D. Walker Signed: [Signature] Date & Time: 10/9/13 Received By: J.A.C. Date & Time: 10.9.13/15.25
Relinquished by: Signed: Date & Time: Received By: Date & Time:

SAMPLE RECEIPT ADVICE

Client:

Douglas Partners Pty Ltd
96 Hermitage Rd
West Ryde NSW 2114

ph: 02 9809 0666

Fax: 02 9809 4095

Attention: David Walker

Sample log in details:

Your reference:

73603.01, Westmead

Envirolab Reference:

97165

Date received:

10/09/13

Date results expected to be reported:

17/09/13

Samples received in appropriate condition for analysis:

YES

No. of samples provided

7 Soils

Turnaround time requested:

Standard

Temperature on receipt (°C)

17.2

Cooling Method:

Ice Pack

Sampling Date Provided:

YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201

email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

Douglas Partners (Syd)
96 Hermitage Road
West Ryde
NSW 2114

Attention: David Walker

Report 390955-S
Client Reference WESTMEAD 73603.01
Received Date Aug 29, 2013



Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or
measurements included in this document are traceable
to Australian/national standards.

Client Sample ID			BD4/270813
Sample Matrix			Soil
Eurofins mgt Sample No.			S13-Au22966
Date Sampled			Aug 27, 2013
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	< 50
TRH C29-C36	50	mg/kg	< 50
TRH C10-36 (Total)	50	mg/kg	< 50
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	126
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene ^{N02}	0.5	mg/kg	< 0.5
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	< 100
TRH >C34-C40	100	mg/kg	< 100
Heavy Metals			
Arsenic	2	mg/kg	5.9
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	7.0
Copper	5	mg/kg	36
Lead	5	mg/kg	11
Mercury	0.05	mg/kg	< 0.05
Nickel	5	mg/kg	26
Zinc	5	mg/kg	20
% Moisture	0.1	%	9.2

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: E004 Petroleum Hydrocarbons (TPH)	Sydney	Sep 05, 2013	14 Day
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LM-LTM-ORG2010	Sydney	Sep 05, 2013	14 Day
BTEX - Method: E029/E016 BTEX	Sydney	Sep 04, 2013	14 Day
Metals M8 - Method: E022 Acid Extractable metals in Soils & E026 Mercury	Sydney	Sep 04, 2013	28 Day
% Moisture - Method: E005 Moisture Content	Sydney	Sep 04, 2013	28 Day

Company Name: Douglas Partners (Syd)
Address: 96 Hermitage Road
West Ryde
NSW 2114
Client Job No.: WESTMEAD 73603.01

Order No.:
Report #: 390955
Phone: 02 9809 0666
Fax:

Received: Aug 29, 2013 1:45 PM
Due: Sep 5, 2013
Priority: 5 Day
Contact Name: David Walker

Eurofins | mgt Client Manager: Jean Heng

Sample Detail					% Moisture	Metals M8	BTEX	Total Recoverable Hydrocarbons
Laboratory where analysis is conducted								
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217					X	X	X	X
Brisbane Laboratory - NATA Site # 20794								
External Laboratory								
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID				
BD4/270813	Aug 27, 2013		Soil	S13-Au22966	X	X	X	X

Eurofins | mgt Internal Quality Control Review and Glossary

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. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

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 Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably 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 RPD

UNITS

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environment Protection Authority
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions E004 Petroleum Hydrocarbons (TPH)							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX E029/E016 BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions LM-LTM-ORG2010							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH C6-C10 less BTEX (F1)	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Metals M8 E022 Acid Extractable metals in Soils & E026 Mercury							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.05			0.05	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions E004 Petroleum Hydrocarbons (TPH)							
TRH C6-C9	%	99			70-130	Pass	
TRH C10-C14	%	79			70-130	Pass	
LCS - % Recovery							
BTEX E029/E016 BTEX							
Benzene	%	106			70-130	Pass	
Toluene	%	114			70-130	Pass	
Ethylbenzene	%	113			70-130	Pass	
m&p-Xylenes	%	112			70-130	Pass	
o-Xylene	%	101			70-130	Pass	
Xylenes - Total	%	108			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions LM-LTM-ORG2010							
Naphthalene	%	113			70-130	Pass	
TRH C6-C10	%	109			70-130	Pass	
TRH >C10-C16	%	83			70-130	Pass	
LCS - % Recovery							
Metals M8 E022 Acid Extractable metals in Soils & E026 Mercury							

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Arsenic			%	74			70-130	Pass	
Cadmium			%	107			70-130	Pass	
Chromium			%	84			70-130	Pass	
Copper			%	77			70-130	Pass	
Lead			%	74			70-130	Pass	
Mercury			%	71			70-130	Pass	
Nickel			%	86			70-130	Pass	
Zinc			%	93			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S13-Au22380	NCP	%	97			70-130	Pass	
TRH C10-C14	S13-Au22682	NCP	%	84			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S13-Au22380	NCP	%	101			70-130	Pass	
Toluene	S13-Au22380	NCP	%	101			70-130	Pass	
Ethylbenzene	S13-Au22380	NCP	%	95			70-130	Pass	
m&p-Xylenes	S13-Au22380	NCP	%	97			70-130	Pass	
o-Xylene	S13-Au22380	NCP	%	97			70-130	Pass	
Xylenes - Total	S13-Au22380	NCP	%	97			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S13-Au22380	NCP	%	97			70-130	Pass	
TRH C6-C10	S13-Au22380	NCP	%	97			70-130	Pass	
TRH >C10-C16	S13-Au22682	NCP	%	92			70-130	Pass	
Spike - % Recovery									
Metals M8				Result 1					
Arsenic	S13-Au18840	NCP	%	100			70-130	Pass	
Cadmium	S13-Au18840	NCP	%	91			70-130	Pass	
Chromium	S13-Au18840	NCP	%	70			70-130	Pass	
Copper	S13-Au18840	NCP	%	105			70-130	Pass	
Lead	S13-Au18840	NCP	%	73			70-130	Pass	
Mercury	S13-Au18840	NCP	%	112			70-130	Pass	
Nickel	S13-Au18840	NCP	%	84			70-130	Pass	
Zinc	S13-Au22341	NCP	%	84			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S13-Au22380	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S13-Au22682	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S13-Au22682	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S13-Au22682	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S13-Au22380	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S13-Au22380	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S13-Au22380	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S13-Au22380	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S13-Au22380	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S13-Au22380	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	

Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	S13-Au22380	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
TRH C6-C10	S13-Au22380	NCP	mg/kg	< 20	< 20	<1	30%	Pass
TRH C6-C10 less BTEX (F1)	S13-Au22380	NCP	mg/kg	< 20	< 20	<1	30%	Pass
TRH >C10-C16	S13-Au22682	NCP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	S13-Au22682	NCP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	S13-Au22682	NCP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
Metals M8				Result 1	Result 2	RPD		
Arsenic	S13-Au18840	NCP	mg/kg	13	10	26	30%	Pass
Cadmium	S13-Au18840	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	S13-Au18840	NCP	mg/kg	18	19	6.0	30%	Pass
Copper	S13-Au18840	NCP	mg/kg	35	36	3.0	30%	Pass
Lead	S13-Au18840	NCP	mg/kg	23	22	7.0	30%	Pass
Mercury	S13-Au22506	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Nickel	S13-Au18840	NCP	mg/kg	24	24	1.0	30%	Pass
Zinc	S13-Au18840	NCP	mg/kg	140	150	4.0	30%	Pass

Comments

Sample Integrity

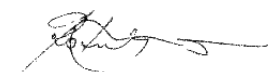
Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.

Authorised By

Jean Heng	Client Services
James Norford	Senior Analyst-Metal (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)
Ryan Hamilton	Senior Analyst-Volatile (NSW)



Dr. Bob Symons

Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

Eurofins | mgt 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 Eurofins | mgt 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.

Company Name: Douglas Partners (Syd)
Address: 96 Hermitage Road
West Ryde
NSW 2114
Client Job No.: WESTMEAD 73603.01

Order No.:
Report #: 390955
Phone: 02 9809 0666
Fax:

Received: Aug 29, 2013 1:45 PM
Due: Sep 5, 2013
Priority: 5 Day
Contact Name: David Walker

Eurofins | mgt Client Manager: Jean Heng

Sample Detail					% Moisture	Metals M8	BTEX	Total Recoverable Hydrocarbons
Laboratory where analysis is conducted								
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217					X	X	X	X
Brisbane Laboratory - NATA Site # 20794								
External Laboratory								
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID				
BD4/270813	Aug 27, 2013		Soil	S13-Au22966	X	X	X	X

Project Name: WESTMEAD
Project No: 73603-01 ~~73603-01~~ Sampler: D.W. / A.K. / E
Project Mgr: D.W. Mob. Phone:
Email: david.walker@douglaspartners.com.au
Date Required: Standard T/A Lab Quote No.

To: **EnviroLab Services**
12 Ashley Street, Chatswood NSW 2068
Attn: **Tania Notaras**
Phone: 02 9910 6200 Fax: 02 9910 6201
Email: tnotaras@envirolabservices.com.au

Sample ID	Sample Depth	Lab ID	Sampling Date	Sample Type S - soil W - water	Container type	Analytes											Other	Notes
						Heavy Metals (P)	BTEX ^N	TPH	OCPS/PCBs	PAH	Phenols	Asbestos	BTEX ^N only					
15	0.4-0.5	13	27/8/13	S	jar	✓	✓	✓	✓	✓	✓	✓						#390955
16	0.4-0.5	14	27/8/13	S	jar	✓	✓	✓	✓	✓	✓	✓						TA
A1		15	26/8/13	material	bag							✓						TA
A2		16	27/8/13	material	bag							✓						
BD/260813		17	26/8/13	S	jar	✓	✓											
BD1/270813		18	27/8/13	S	jar	✓	✓											
BD4/270813		19	27/8/13	S	jar	✓	✓											→ send sample to
TS-260813		19	26/8	S	jar							✓						→ EnviroLab for analysis
TS-260813		20	26/8	S	jar							✓						
TS-270813		21	27/8	S	jar							✓						
TS-270813		22	27/8	S	jar							✓						

Lab Report No.
Send Results to: **Douglas Partners** Address: **96 Hermitage Road, West Ryde 2114**
Relinquished by: D. Walker Signed: [Signature] Date & Time: 28/8/13 Received By: Sean O Date & Time: 29/8/13 1:45
Relinquished by: [Signature] Signed: [Signature] Date & Time: Received By: Date & Time:

Sample Receipt Advice

Company name: **Douglas Partners (Syd)**
Contact name: **David Walker**
Client job number: **WESTMEAD 73603.01**
COC number: **Not provided**
Turn around time: **5 Day**
Date/Time received: **Aug 29, 2013 1:45 PM**
Eurofins | mgt reference: **390955**

Sample information

- ☒ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ☒ All samples have been received as described on the above COC.
- ☒ COC has been completed correctly.
- ☒ Attempt to chill was evident.
- ☒ Appropriately preserved sample containers have been used.
- ☒ All samples were received in good condition.
- ☒ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ☒ Organic samples had Teflon liners.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Contact notes

If you have any questions with respect to these samples please contact:

Jean Heng on Phone : (+61) (2) 9900 8400 or by e.mail: JeanHeng@eurofins.com.au

Results will be delivered electronically via e.mail to David Walker - david.walker@douglaspartners.com.au.

Eurofins | mgt Sample Receipt

Douglas Partners (Syd)
96 Hermitage Road
West Ryde
NSW 2114

Attention: **David Walker**

Report **392507-S**
 Client Reference **WESTMEAD 73603.01**
 Received Date **Sep 11, 2013**



Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025.
 The results of the tests, calibrations and/or
 measurements included in this document are traceable
 to Australian/national standards.

Client Sample ID			BD1-100913
Sample Matrix			Soil
Eurofins mgt Sample No.			S13-Se08281
Date Sampled			Sep 10, 2013
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	< 50
TRH C29-C36	50	mg/kg	< 50
TRH C10-36 (Total)	50	mg/kg	< 50
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	125
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene ^{N02}	0.5	mg/kg	< 0.5
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	< 100
TRH >C34-C40	100	mg/kg	< 100
Heavy Metals			
Arsenic	2	mg/kg	< 2
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	< 5
Copper	5	mg/kg	120
Lead	5	mg/kg	< 5
Mercury	0.05	mg/kg	< 0.05
Nickel	5	mg/kg	< 5
Zinc	5	mg/kg	18
% Moisture	0.1	%	11

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: E004 Petroleum Hydrocarbons (TPH)	Sydney	Sep 17, 2013	14 Day
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LM-LTM-ORG2010	Sydney	Sep 17, 2013	14 Day
BTEX - Method: E029/E016 BTEX	Sydney	Sep 17, 2013	14 Day
Metals M8 - Method: E022 Acid Extractable metals in Soils & E026 Mercury	Sydney	Sep 17, 2013	28 Day
% Moisture - Method: E005 Moisture Content	Sydney	Sep 17, 2013	28 Day

Company Name: Douglas Partners (Syd)
Address: 96 Hermitage Road
West Ryde
NSW 2114
Client Job No.: WESTMEAD 73603.01

Order No.:
Report #: 392507
Phone: 02 9809 0666
Fax:

Received: Sep 11, 2013 3:00 PM
Due: Sep 18, 2013
Priority: 5 Day
Contact Name: David Walker

Eurofins | mgt Client Manager: Jean Heng

Sample Detail					% Moisture	Metals M8	BTEX	Total Recoverable Hydrocarbons
Laboratory where analysis is conducted								
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217					X	X	X	X
Brisbane Laboratory - NATA Site # 20794								
External Laboratory								
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID				
BD1-100913	Sep 10, 2013		Soil	S13-Se08281	X	X	X	X

Eurofins | mgt Internal Quality Control Review and Glossary

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. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

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 Acknowledgment.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably 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 RPD

UNITS

mg/kg: milligrams per Kilogram

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Units

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environment Protection Authority
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions E004 Petroleum Hydrocarbons (TPH)							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX E029/E016 BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions LM-LTM-ORG2010							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH C6-C10 less BTEX (F1)	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Metals M8 E022 Acid Extractable metals in Soils & E026 Mercury							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.05			0.05	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions E004 Petroleum Hydrocarbons (TPH)							
TRH C6-C9	%	91			70-130	Pass	
TRH C10-C14	%	83			70-130	Pass	
LCS - % Recovery							
BTEX E029/E016 BTEX							
Benzene	%	95			70-130	Pass	
Toluene	%	91			70-130	Pass	
Ethylbenzene	%	92			70-130	Pass	
m&p-Xylenes	%	91			70-130	Pass	
o-Xylene	%	91			70-130	Pass	
Xylenes - Total	%	91			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions LM-LTM-ORG2010							
Naphthalene	%	83			70-130	Pass	
TRH C6-C10	%	90			70-130	Pass	
TRH >C10-C16	%	89			70-130	Pass	
LCS - % Recovery							
Metals M8 E022 Acid Extractable metals in Soils & E026 Mercury							

Test				Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Arsenic				%	82			70-130	Pass	
Cadmium				%	90			70-130	Pass	
Chromium				%	90			70-130	Pass	
Copper				%	91			70-130	Pass	
Lead				%	94			70-130	Pass	
Mercury				%	92			70-130	Pass	
Nickel				%	93			70-130	Pass	
Zinc				%	96			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1				Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery										
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					Result 1					
TRH C6-C9	S13-Se09237	NCP	%	93				70-130	Pass	
Spike - % Recovery										
BTEX					Result 1					
Benzene	S13-Se09237	NCP	%	96				70-130	Pass	
Toluene	S13-Se09237	NCP	%	94				70-130	Pass	
Ethylbenzene	S13-Se09237	NCP	%	94				70-130	Pass	
m&p-Xylenes	S13-Se09237	NCP	%	93				70-130	Pass	
o-Xylene	S13-Se09237	NCP	%	94				70-130	Pass	
Xylenes - Total	S13-Se09237	NCP	%	94				70-130	Pass	
Spike - % Recovery										
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					Result 1					
Naphthalene	S13-Se09237	NCP	%	76				70-130	Pass	
TRH C6-C10	S13-Se09237	NCP	%	92				70-130	Pass	
Spike - % Recovery										
Metals M8					Result 1					
Arsenic	S13-Se08533	NCP	%	102				70-130	Pass	
Cadmium	S13-Se08533	NCP	%	99				70-130	Pass	
Chromium	S13-Se08533	NCP	%	94				70-130	Pass	
Copper	S13-Se08588	NCP	%	119				70-130	Pass	
Lead	S13-Se08533	NCP	%	105				70-130	Pass	
Mercury	S13-Se08503	NCP	%	90				70-130	Pass	
Nickel	S13-Se08533	NCP	%	98				70-130	Pass	
Zinc	S13-Se08533	NCP	%	114				70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1				Acceptance Limits	Pass Limits	Qualifying Code
Duplicate										
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					Result 1	Result 2	RPD			
TRH C6-C9	S13-Se09237	NCP	mg/kg	< 20	< 20	<1		30%	Pass	
Duplicate										
BTEX					Result 1	Result 2	RPD			
Benzene	S13-Se09237	NCP	mg/kg	< 0.1	< 0.1	<1		30%	Pass	
Toluene	S13-Se09237	NCP	mg/kg	< 0.1	< 0.1	<1		30%	Pass	
Ethylbenzene	S13-Se09237	NCP	mg/kg	< 0.1	< 0.1	<1		30%	Pass	
m&p-Xylenes	S13-Se09237	NCP	mg/kg	< 0.2	< 0.2	<1		30%	Pass	
o-Xylene	S13-Se09237	NCP	mg/kg	< 0.1	< 0.1	<1		30%	Pass	
Xylenes - Total	S13-Se09237	NCP	mg/kg	< 0.3	< 0.3	<1		30%	Pass	
Duplicate										
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					Result 1	Result 2	RPD			
Naphthalene	S13-Se09237	NCP	mg/kg	< 0.5	< 0.5	<1		30%	Pass	
TRH C6-C10	S13-Se09237	NCP	mg/kg	< 20	< 20	<1		30%	Pass	
TRH C6-C10 less BTEX (F1)	S13-Se09237	NCP	ma/kg	< 20	< 20	<1		30%	Pass	

Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	S13-Se08578	NCP	mg/kg	3.5	< 2	72	30%	Fail	Q15
Cadmium	S13-Se08578	NCP	mg/kg	0.40	0.40	7.0	30%	Pass	
Chromium	S13-Se08578	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Copper	S13-Se08578	NCP	mg/kg	170	210	19	30%	Pass	
Lead	S13-Se08578	NCP	mg/kg	6.8	< 5	63	30%	Fail	Q15
Mercury	S13-Se08503	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Nickel	S13-Se08578	NCP	mg/kg	14	12	10	30%	Pass	
Zinc	S13-Se08578	NCP	mg/kg	34	32	6.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
Q15	The RPD reported passes Eurofins mgt's Acceptance Criteria as stipulated in SOP 05. Refer to Glossary Page of this report for further details

Authorised By

Jean Heng	Client Services
James Norford	Senior Analyst-Metal (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)
Ryan Hamilton	Senior Analyst-Volatile (NSW)



Dr. Bob Symons

Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

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Company Name: Douglas Partners (Syd)
Address: 96 Hermitage Road
West Ryde
NSW 2114
Client Job No.: WESTMEAD 73603.01

Order No.:
Report #: 392507
Phone: 02 9809 0666
Fax:

Received: Sep 11, 2013 3:00 PM
Due: Sep 18, 2013
Priority: 5 Day
Contact Name: David Walker

Eurofins | mgt Client Manager: Jean Heng

Sample Detail					% Moisture	Metals M8	BTEX	Total Recoverable Hydrocarbons
Laboratory where analysis is conducted								
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217					X	X	X	X
Brisbane Laboratory - NATA Site # 20794								
External Laboratory								
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID				
BD1-100913	Sep 10, 2013		Soil	S13-Se08281	X	X	X	X

97165

CHAIN OF CUSTODY

Project Name:
Project No: Sampler:
Project Mgr: Mob. Phone:
Email:
Date Required: Lab Quote No.

To: Envirolab Services
12 Ashley Street, Chatswood NSW 2068
Attn: Tania Notaras
Phone: 02 9910 6200 Fax: 02 9910 6201
Email: tnotaras@envirolabservices.com.au

#392507

Sample ID	Sample Depth	Lab ID	Sampling Date	Sample Type S - soil W - water	Container type	Analytes										Other	Notes
						Heavy Metals	BTEX/TPH	OCPs/PCBs	PAH	Phenols	Asbestos	BTEX only					
106	0.1	1	7/4/13	S	100	✓	✓		✓		✓						Sample 3A
106	0.5	2				✓	✓	✓	✓	✓	✓						7
107	0.1	3				✓	✓	✓	✓	✓	✓						7A
107	0.5	4				✓	✓		✓		✓						3
107	1.0	5				✓	✓		✓								3
301-100913		6				✓	✓	*									Send sample to Tania
TH-070913		6										✓					to Tania
TH-070913		7										✓					to Tania

Envirolab Services
12 Ashley St
Chatswood NSW 2068
Ph: (02) 9910 6200
Job No: 97165
Date Received: 10/9/13
Time Received: 12:25
Received by: J. H. S.
Temp: Cool/Ambient
Cooling: Ice/Repack
Security: Intact/Broken/None

Lab Report No. Phone: (02) 9809 0666
Send Results to: Douglas Partners Address: 96 Hermitage Road, West Ryde 2114 Fax: (02) 9809 4095
Relinquished by: Signed: Date & Time: Received By: Date & Time:
Relinquished by: Jhu (ECS) Signed: Date & Time: 11/9/13 12:20 Received By: Eln WG EF/mgt Date & Time: 01/09/13 15:00

Sample Receipt Advice

Company name: **Douglas Partners (Syd)**
Contact name: **David Walker**
Client job number: **WESTMEAD 73603.01**
COC number: **Not provided**
Turn around time: **5 Day**
Date/Time received: **Sep 11, 2013 3:00 PM**
Eurofins | mgt reference: **392507**

Sample information

- ☒ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ☒ All samples have been received as described on the above COC.
- ☒ COC has been completed correctly.
- ☒ Attempt to chill was evident.
- ☒ Appropriately preserved sample containers have been used.
- ☒ All samples were received in good condition.
- ☒ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ☒ Organic samples had Teflon liners.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Contact notes

If you have any questions with respect to these samples please contact:

Jean Heng on Phone : (+61) (2) 9900 8400 or by e.mail: JeanHeng@eurofins.com.au

Results will be delivered electronically via e.mail to David Walker - david.walker@douglaspartners.com.au.

Eurofins | mgt Sample Receipt

Appendix J

QA/QC Procedures and Results

QA/QC PROCEDURES AND RESULTS

Q1. Data Quality Objectives

The DSI has been devised broadly in accordance with the seven step data quality objective (DQO) process which has been adopted in Appendix B, Schedule 2 of National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (the amended ASC NEPM). The DQO process is outlined as follows:

(1) State the Problem

The site is proposed to be redeveloped into a multi-level car park. The “problem” to be addressed is:

- To identify potential sources of contamination;
- To characterize the nature and extent of contamination, if any, at the site, and to make recommendations for further investigations and/or remediation to render the site suitable for the proposed redevelopment works.

(2) Identify the Decision

Environmental data, including soil and groundwater characteristics, is required to enable an assessment of the contamination status of the site, and the requirement for further assessment and/or remediation. The following specific decisions are required to be made:

- Do the existing fill materials and natural soils pose a potential risk to human health of potential future users of the site, including construction workers, site workers, and visitors?
- Do the existing fill materials and natural soils pose a potential risk to ecological receptors, either current receptors or potential future receptors?
- Does the existing groundwater beneath the site pose a potential risk to human health (on-site or off-site) or ecological receptors, either current receptors or potential future receptors?
- Is the data sufficient to make a decision regarding the abovementioned risks, or are additional investigations required?
- Is the data sufficient to enable preparation of a Remediation Action Plan (RAP) and/or Environmental Management Plan (EMP) should the data suggest these are required?

(3) Identify Inputs to the Decision

Inputs into the decision are as follows:

- Available site information regarding previous and current activities undertaken on the site and the surrounding area;
- Screening results;
- The local geology, topography and hydrology;

- Soil data collected from the site, including analytical results for the contaminants of concern;
- Groundwater data collected from the site, including analytical results and the contaminants of concern;
- Relevant assessment criteria; and
- Field and laboratory QA/QC data to assess the suitability of the environmental data for the assessment.

(4) Define the Boundary of the Assessment

The site boundary is within Westmead Hospital Campus and was defined as part of briefing package provided to DP. Drawing 1 in Appendix A of the DSI report shows the site boundary and site location.

The site is located at the western part of Lot 100 in Deposited Plan 1119583, Westmead, and has a triangular shape which covers approximately 1.3 ha. The north of the site is bounded by Institute Road and the south-west of the site is bounded by Darcy Road. Hospital buildings and an associated car park are adjacent to the south-east of the site.

(5) Develop a Decision Rule

The information obtained during the assessment will be used to characterise the site in terms of contamination issues and risk to human health and/or the environment. The decision rule in characterising the site will be as follows:

- Laboratory test results for systematic soil samples (i.e. non-targeted soil samples) will be analysed statistically, if considered appropriate, to ascertain the 95% upper confidence level (UCL) of the mean concentration for each analyte or analyte group (of like materials);
- Laboratory test results for targeted locations (and identified “hot spots”) will be assessed individually;
- The SAC and GIL will be the NSW Environment Protection Authority (EPA) endorsed criteria. Where such criteria are not available, other recognised national or international standards will be used;
- A contaminant concentration in soil/filling material is considered to be significant if:
 - The concentration of the contaminant is more than 2.5 times the investigation or screening level. Any location more than 2.5 times the SAC is classified as a ‘hotspot’, requiring further assessment/ management;
 - the calculated 95% Upper Confidence Limit (95% UCL) of average concentrations (excluding any ‘hotspot’ concentrations) exceeds the screening or investigation level;
 - the standard deviation of the results is greater than 50% of the screening or investigation levels
- The groundwater will be considered not significantly impacted by a particular contaminant if there is no notable or significant increase in analyte concentrations in the groundwater between well

locations and/or there are no analyte concentrations in the groundwater samples significantly exceeding the adopted investigation level or screening level; and

- Further investigation, remediation and/or management will be recommended if the site is found to be contaminated or containing contamination “hot spots”.

Laboratory test results will only be accepted and considered useable for the assessment under the following conditions:

- All laboratories used are accredited by NATA for the analyses undertaken. DP used Envirolab Services as the primary laboratory and Eurofins as the secondary laboratory;
- All practical quantitation limits (PQL) set by the laboratories fall below the assessment criteria adopted, or indicate across the board lack of detection (i.e. it is noted that some of the water assessment criteria are difficult to achieve at PQL);
- The differences between the reported concentrations of analytes in the intra-laboratory and inter-laboratory replicate samples and the corresponding original samples are within adopted acceptance limits; and
- The quality assurance / quality control (QA/QC) protocols and results reported by the laboratories comply with the requirements of the amended ASC NEPM.

(6) Specify Acceptable Limits on Decision Errors

Limits on decision errors for the proposed assessment will be as follows:

- Systematic soil sample numbers will comply (where possible) with those recommended in the NSW EPA *Sampling Design Guidelines* (1995), which have risk probabilities already incorporated;
- The analyte selection based on the available site history, past site activities, and site features. The potential for contaminants other than those proposed to be analysed is considered to be low;
- The assessment criteria were adopted from established and NSW EPA endorsed guidelines. The assessment criteria have risk probabilities already incorporated; and
- The acceptance limits for laboratory QA/QC parameters are based on the laboratory reported acceptance limits and those stated in the amended ASC NEPM.

(7) Optimise the Design for Obtaining Data

Sampling locations were located to provide site coverage where accessible to a drilling rig and excavator. Procedures for the collection of environmental samples, were developed prior to undertaking the assessment phase of works.

To optimise the selection of samples for chemical analysis, all samples collected were screened using a calibrated photo-ionisation detector (PID). The interpretation of PID values allowed for better assessment of the investigation samples to determine the analytical programme and the need, if any, for further investigation. Further, DP employed NATA accredited analytical laboratories to conduct sample analysis.

Q2. FIELD QUALITY ASSURANCE AND QUALITY CONTROL

The field QC procedures for sampling as prescribed in Douglas Partners *Field Procedures Manual* were followed at all times during the assessment.

Q2.1 Sampling Team

Soil sampling was by David Walker (DP Environmental Engineer), Atha Kapitanof (DP Geotechnical Engineer) and James Esdaile (DP Geotechnical Engineer). Groundwater sampling was undertaken by David Walker.

Q2.2 Sample Collection and Weather Conditions

Sample collection procedures and dispatch are reported in Section 7 of the DSI report. All soil and groundwater sampling was undertaken during mainly sunny and warm conditions.

Q2.3 Logs

Logs for each soil sampling location were recorded in the field. The individual samples were recorded on the field logs along with the sample identity, location, depth, initials of sampler, duplicate locations, duplicate type, site observations. Logs are presented in Appendix H.

Field Logs of groundwater sampling and development were maintained including records of micro-purging and field parameters.

Q2.4 Chain of Custody

Chain of custody information was recorded on the Chain of Custody (COC) sheets and accompanied samples to the analytical laboratory. Signed copies of COCs are presented in Appendix I, following the laboratory reports.

Q2.5 Sample Splitting Techniques

Replicate samples were collected in the field as a measure of accuracy, precision and repeatability of the results. Field replicate samples for soil were collected from the same location and an identical depth to the primary sample. Equal portions of the primary sample were placed into the sampling jars and sealed. The sample was not homogenised in a bowl to prevent the loss of volatiles from the soil. Replicate samples were labelled with a DP identification number, recorded on DP bore logs, so as to conceal their relationship to their primary sample from the analysing laboratory.

Groundwater replicate samples were collected by decanting equal portions of groundwater into separately and uniquely labelled groundwater bottles. Sample bottles were filled directly from the pump outlet to minimise disturbance.

Q2.6 Replicate Frequency

Field sampling comprised inter-laboratory and intra-laboratory replicate sampling, at a rate of at least one replicate sample for every ten original samples for intra-laboratory and inter-laboratory analysis.

Q2.7 Trip Spikes

According to the *NSW EPA Guidelines for Consultants Reporting on Contaminated Sites (1997)*, laboratory prepared trip spikes are to be taken into the field, subjected to the same preservation methods as the field samples, then analysed for volatile contaminants (BTEX in this case), for the purposes of assessing any potential losses in volatile organics incurred prior to reaching the laboratory.

Discussions with the laboratory indicated that trip spikes are generally prepared as aqueous solutions. The laboratory prepared soil trip spikes which were preserved in the standard manner and taken into the field unopened. The volatile organic recovery rates are shown in the table below. At this stage, the laboratory has no standard acceptance limits in recovery rates as results from in-house laboratory controls often vary.

A trip spike was taken into the field on every soil sample day and every groundwater sampling day and dispatched with the batch sampling run. Results (Table Q1) indicate that the percentage loss for BTEX during the trip was minimal and therefore appropriate preservation techniques were employed.

Table Q1: Trip Spike Results (% Recovery)

Sampling Date	Benzene	Toluene	Ethylbenzene	m + p Xylene	o Xylene
Soil Spikes					
26 August 2013	103	103	102	102	101
27 August 2013	88	88	88	88	88
28 August 2013	97	97	96	95	96
29 August 2013	98	97	100	100	100
30 August 2013	95	90	100	100	99
31 August 2013	115	105	102	105	107
7 September 2013	81	95	108	110	114
Water Spikes					
30 August 2013	113	108	110	109	108

Q2.8 Trip Blanks

Laboratory prepared soil trip blanks and water trip blanks were taken out to the field unopened, subjected to the same preservation methods as the field samples, then analysed for the purposes of

determining the transfer of contaminants into the blank sample incurred prior to reaching the laboratory. The result of the laboratory analysis for the trip blanks is shown in Table Q2.

Table Q2: Trip Blank Results

Sampling Date	Benzene	Toluene	Ethylbenzene	m + p Xylene	o Xylene
Soil Spikes (results in mg/kg)					
26 August 2013	<0.2	<0.5	<1	<2	<1
27 August 2013	<0.2	<0.5	<1	<2	<1
28 August 2013	<0.2	<0.5	<1	<2	<1
29 August 2013	<0.2	<0.5	<1	<2	<1
30 August 2013	<0.2	<0.5	<1	<2	<1
31 August 2013	<0.2	<0.5	<1	<2	<1
7 September 2013	<0.2	<0.5	<1	<2	<1
Water Spikes (results in µg/L)					
30 August 2013	<1	<1	<1	<2	<1

Levels of analytes were all below detection limits and indicate transfer of BTEX contaminants into the blank has not occurred.

Q2.9 Relative Percentage Difference

A measure of the consistency of results for field samples is derived by the calculation of relative percentage differences (RPDs) for duplicate samples. A RPD of 30% is generally considered typically acceptable for inorganic analytes by NSW EPA, although in general a wider RPD range (50%) may be acceptable for organic analytes. RPDs have only been considered where a concentration is greater than 5 times the practical quantitation limit (PQL). High RPDs are shown in **bold** on the relevant tables below.

Q2.9.1 Intra-Laboratory Analysis

Intra-laboratory replicates were conducted as an internal check of the reproducibility within the primary laboratory (Envirolab Pty Ltd) and as a measure of consistency of sampling techniques. Replicate samples were collected at a rate of approximately one replicate sample for every ten original samples collected and also analysed at a rate of 10% of primary samples analysed. Generally at least one replicate sample was recovered and analysed for each day of sampling.

The comparative results of analysis between original and replicate samples are summarised in the Tables Q3 and Q4.

Table Q3: RPD results for Intra-laboratory soil samples

Sample ID	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	TRH C6-C10	TRH >C10-C16	TRH >C16-C34	TRH >C34-C40	Naphthalene	Benzene	Toluene	Ethylbenzene	Total Xylene
1/1.4-1.5	11	0.6	28	21	17	<0.1	7	20	<25	<50	<100	<100	<1	<0.2	<0.5	<1	<3
BD1/260813	10	0.6	27	26	18	<0.1	25	42	<25	<50	<100	<100	<1	<0.2	<0.5	<1	<3
RPD	10	0	4	21	6	0	113	71	0	0	0	0	0	0	0	0	0
14/0.4-0.5	6	0.6	28	20	16	<0.1	30	28	<25	<50	<100	<100	<1	<0.2	<0.5	<1	<3
BD1/270813	5	0.5	28	27	11	<0.1	64	32	<25	<50	<100	<100	<1	<0.2	<0.5	<1	<3
RPD	18	18	0	30	37	0	72	13	0	0	0	0	0	0	0	0	0

Table Q4: RPD results for Intra-laboratory Groundwater Sample

Sample ID	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	TRH C6-C10	TRH >C10-C16	TRH >C16-C34	TRH >C34-C40	Naphthalene	Benzene	Toluene	Ethylbenzene	o-xylene	m+p-xylene
10	2	0.8	4	<1	<1	<0.05	89	100	250	100	<100	<100	3	<1	<1	4	19	35
BD1/060913	2	0.8	4	<1	<1	<0.05	94	110	250	100	<100	<100	3	<1	<1	4	19	35
RPD	0	0	0	0	0	0	5	10	0	0	0	0	0	0	0	0	0	0

All calculated RPD values were within the acceptable range of 50 % for organic analytes. The greater majority of calculated RPD values were within the acceptable range of 30% for inorganic analytes except for those in bold. However, this is not considered to be significant due to:

- The typically low actual differences in the concentrations of the replicate pairs where some RPD exceedances occurred;
- Replicate pairs being collected from fill soils which by its nature is heterogeneous;
- Replicates, rather than homogenised duplicates were used to avoid volatile loss, hence greater variability can be expected;
- The majority of RPDs within a replicate pair being within the acceptable limits; and
- All other QA/QC parameters met the DQI's.

Therefore the overall intra-laboratory comparisons indicate that the sampling technique was consistent and repeatable and therefore the results are useable and representative of the conditions encountered.

Q2.9.2 Inter-Laboratory Analysis

Inter-laboratory duplicates were conducted as a check of the reproducibility of results between the primary laboratory (EnviroLab Pty Ltd) and a secondary laboratory (Eurofins) and as a measure of consistency of sampling techniques. Inter-laboratory replicates were collected at a rate of at least one replicate sample for every 10 original samples collected and also analysed at a rate of 10% of primary samples analysed.

The comparative results of analysis between original and inter-laboratory replicates are summarised in Table Q5. Note that where the laboratory PQL are different and both samples are below PQL (or one sample is below PQL and other has a recorded detection below the other lab PQL) the difference and RPD has been given as zero (0).

Table Q5: Inter-laboratory Results - Soils

Sample ID	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc	TRH C6-C10	TRH >C10-C16	TRH >C16-C34	TRH >C34-C40	Naphthalene	Benzene	Toluene	Ethylbenzene	Total Xylene
13 0.4-0.5	<4	<0.4	9	35	16	<0.1	22	17	<25	<50	<100	<100	<1	<0.2	<0.5	<1	<3
BD4/ 270813	5.9	<0.4	7	36	11	<0.05	26	20	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3
RPD	38	0	25	3	37	0	17	16	0	0	0	0	0	0	0	0	0
106 0.1	7	<0.4	20	20	22	0.1	11	38	<25	<50	<100	<100	<1	<0.2	<0.5	<1	<3
BD1 -100913	<2	<0.4	<5	120	<5	<0.05	<5	18	<20	<50	<100	<100	<0.5	<0.1	<0.1	<0.1	<0.3
RPD	111	0	120	143	126	67	75	71	0	0	0	0	0	0	0	0	0

All calculated RPD values were within the acceptable range of 50 % for organic analytes. The greater majority of calculated RPD values were within the acceptable range of 30% for inorganic analytes except for those in bold. However, this is not considered to be significant due to:

- The typically low actual differences in the concentrations of the replicate pairs where some RPD exceedances occurred;
- Replicate pairs being collected from fill soils which by its nature is heterogeneous;
- Replicates, rather than homogenised duplicates were used to avoid volatile loss, hence greater variability can be expected;
- The majority of RPDs within a replicate pair being within the acceptable limits; and
- All other QA/QC parameters met the DQI's.

Therefore the overall inter-laboratory comparisons indicate that the sampling technique was consistent and repeatable and therefore the results are useable and representative of the conditions encountered.

Q3. LABORATORY QUALITY ASSURANCE AND QUALITY CONTROL

EnviroLab Services was used as the primary laboratory. Eurofins mgt was used as the secondary laboratory.

Q3.1 Surrogate Spike

This sample is prepared by adding a known amount of surrogate, which behaves similarly to the analyte, prior to analysis to each sample. The recovery result indicates the proportion of the known concentration of the surrogate that is detected during analysis. These results are within acceptance limits as specified in EnviroLab Services, indicating that the extraction technique was effective.

The laboratory acceptance criteria for surrogate samples is generally 60-140% for organics; and 10-140% for SVOC and speciated phenols.

Q3.2 Reference and Daily Check Sample Results – Laboratory Control Sample (LCS)

This sample comprises spiking either a standard reference material or a control matrix (such as a blank of sand or water) with a known concentration of specific analytes. The LCS is then analysed and results compared against each other to determine how the laboratory has performed with regard to sample preparation and analytical procedure. LCSs are analysed at a frequency of 1 in 20, with a minimum of one analysed per batch.

The laboratory acceptance criteria for LCS samples is generally 70-130% for inorganic/ metals; and 60-140% for organics; and 10-140% for SVOC and speciated phenols.

Q3.3 Laboratory Duplicate Results

These are additional portions of a sample which are analysed in exactly the same manner as all other samples. The laboratory acceptance criteria for duplicate samples is: in cases where the level is $<5 \times \text{PQL}$ – any RPD is acceptable; and in cases where the level is $>5 \times \text{PQL}$ – 0-50% RPD is acceptable.

Q3.4 Laboratory Blank Results

The laboratory blank, sometimes referred to as the method blank or reagent blank is the sample prepared and analysed at the beginning of every analytical run, following calibration of the analytical apparatus. This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, it can be determined by processing solvents and reagents in exactly the same manner as for samples. Laboratory blanks are analysed at a frequency of 1 in 20, with a minimum of one per batch.

Q3.5 Matrix Spike

This is a sample duplicate prepared by adding a known amount of analyte prior to analysis, and then treated exactly the same as all other samples. The recovery result indicates the proportion of the known concentration of the analyte that is detected during analysis. The laboratory acceptance criteria

for matrix spike samples is generally 70-130% for inorganic/metals; and 60-140% for organics; and 10-140% for SVOC and speciated phenols.

Q3.6 Results of Laboratory QC

Comments made in two of the laboratory reports are noted in Table Q6 below.

Table Q6: Laboratory QA Comments

Report No.	Laboratory	Laboratory Comment
96692	EnviroLab	The laboratory RPD acceptance criteria have been exceeded for 96692-11 for Cr. Therefore a triplicate result has been issued as laboratory sample number 966992-17.
96922	EnviroLab	Percent recovery in the spike sample (96922-2) was not possible to report due to high concentration of the elements in the sample. However an acceptable recovery was obtained for the LCS.

The majority of the laboratory quality control samples (surrogate spikes, LCS, laboratory duplicate results, method blanks and matrix spikes) were within the laboratory acceptance criteria, with the exception of those identified in Table Q6. The QC failures, where they occurred, are not considered to have significantly impacted the quality of the results overall as the number of failures were minor compared to the overall QC data. It is considered that an acceptable level of laboratory precision and consistency was achieved and that surrogate spikes, LCS, laboratory duplicate results, method blanks and matrix spike results were of an acceptable level overall. On the basis of this assessment, the laboratory data sets are considered to be reliable and useable for this assessment.

Q4. QA/QC DATA EVALUATION

Table Q7 provides a list of the data quality indicators adopted for the DSI and the methods adopted in ensuring that the data quality indicators were met.

Table Q7: QA/QC Data Evaluation

Data Quality Indicator	Method(s) of Achievement
Data Precision and Accuracy	Use of trained, qualified and inducted field staff; Adequate field QA/QC samples prepared and/or recovered, including field replicates, trip spike and trip blank; Use of analytical laboratories experienced in the analyses undertaken, with appropriate NATA certification; Appropriate and validated laboratory test methods used; Adequate laboratory performance based on overall results of the blank samples, matrix spike samples, control samples, duplicates and surrogate spike samples;

Data Quality Indicator	Method(s) of Achievement
	Acceptable RPD overall for replicate comparison; Acceptable concentrations (less than PQL) in trip blank samples; Acceptable recoveries in trip spike samples.
Data Representativeness	Sampling location numbers comply with the NSW EPA sampling design guidelines; Representative coverage of potential contaminant sources, based on site history, site activities and site features; Representative coverage of potential contaminants, Adequate replicate sample numbers prepared and analysed, complying with the amended ASC NEPM; Batch and daily trip spike, trip blank and rinsate samples analysed; and Adequate laboratory internal quality control and quality assurance methods overall, complying with the NEPM.
Documentation Completeness	Preparation of logs, sample location plan and chain of custody records; Laboratory sample receipt information received confirming receipt of samples intact and appropriateness of the chain of custody; and NATA registered laboratory results certificates provided by all laboratories used.
Data Completeness	Sample location numbers comply with EPA guidelines; Analysis for all potential contaminants of concern; and Field replicate sample, trip spike, trip blank numbers comply with NEPM.
Data Comparability	Using appropriate techniques for sample recovery; Experienced samplers used throughout; Using appropriate sample storage and transportation methods; Using the same sampling, storage and transportation methods for each day of sampling; Use of NATA registered laboratories; Test methods consistent for each sample; Acceptable RPD between original samples and field replicates; and Adequate laboratory internal quality control and quality assurance results, generally complying with the NEPM and laboratory internal standards.

Based on the above, it is considered that the quality assurance and quality control data quality indicators have been generally complied with. Overall, it is concluded that the field and laboratory test data obtained are reliable and useable for this assessment.