



Photo 15 - Vacant building north of Main Building looking west



Photo 16 - View from north-eastern corner looking south



Site Photographs

Preliminary Site Investigation

MUDGEES

CLIENT: Health Infrastructure

PROJECT: 86091.00

PLATE No: S8

REV: 0

DATE: 22-Sep-17



Photo 17 - View of northern portion of site looking west



Photo 18 - View of northern portion of site looking west



Site Photographs
Preliminary Site Investigation
MUDGEES

CLIENT: Health Infrastructure

PROJECT: 86091.00

PLATE No: S9

REV: 0

DATE: 22-Sep-17

Appendix E

Field Work Results

BOREHOLE LOG

CLIENT: Health Infrastructure
PROJECT: Mudgee Hospital Redevelopment
LOCATION: Lewis Street, Mudgee

SURFACE LEVEL: 473.6 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: BH1
PROJECT No: 86091.00
DATE: 17/8/2017
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
473 472 471 470 469 468 467 466 465 464	0.35	TOPSOIL - dark grey, sandy silt topsoil with some gravel (possibly ash), humid		D/E	0.0 0.1					
		CLAY - very stiff, red-brown mottled grey clay with traces of coarse sand and silt, damp		D/E	0.5 0.6		pp = 320			
	1			S	1.0 1.45		5,7,11 N = 18			
	2	1.9m: turning orange								
	2.5			S	2.5 2.95		3,2,5 N = 7			
	3	CLAY - firm, orange mottled grey clay with traces of medium to coarse sand and quartz gravel								
	3.0									
	4	SILTSTONE - extremely low to very low strength, yellow-brown siltstone, damp		S	4.0 4.45		4,16,15/50mm refusal bouncing			
	4.45	Bore discontinued at 4.45m - target depth reached								
	5									

RIG: Edson 3000

DRILLER: A Britton

LOGGED: LS

CASING: Uncased

TYPE OF BORING: 110mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)



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BOREHOLE LOG

CLIENT: Health Infrastructure
PROJECT: Mudgee Hospital Redevelopment
LOCATION: Lewis Street, Mudgee

SURFACE LEVEL: 474.8 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: BH2
PROJECT No: 86091.00
DATE: 17/8/2017
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
474 473 472 471 470 469 468 467 466 465	0.11	TOPSOIL - dark grey, sandy silt topsoil with some gravel, damp CLAY - brown clay with some ironstone gravel, moist		D/E	0.0 0.1					
	1.1	CLAY - stiff to very stiff, orange mottled grey clay with some silt, damp		S	1.0 1.45		2,5,11 N = 16			
	1.8	CLAY - hard, light brown mottled grey clay with some ironstone gravel and silt, damp (possibly extremely weathered siltstone)			1.8		drill crunching			
				S	2.5 2.95		12,15,21 N = 36			
		3.2m: quartz gravel								
		4.0m: moist		S	4.0		9,22/100mm refusal bouncing			
		4.8m: damp		S	5.0		4,13,11/50mm refusal bouncing			
	5.5	SANDSTONE - extremely low to very low strength, yellow-brown sandstone, damp								
	5.95	Bore discontinued at 5.95m - target depth reached								

RIG: Edson 3000

DRILLER: A Britton

LOGGED: LS

CASING: Uncased

TYPE OF BORING: 110mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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)



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BOREHOLE LOG

CLIENT: Health Infrastructure
PROJECT: Mudgee Hospital Redevelopment
LOCATION: Lewis Street, Mudgee

SURFACE LEVEL: 476.2 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: BH3
PROJECT No: 86091.00
DATE: 18/8/2017
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
476	0.08	CONCRETE		D/E	0.0					
	0.4	FILLING - dark grey clay topsoil with some medium grained sand, moist		D/E	0.1					
					0.4					
					0.5					
	0.9	FILLING - grey mottled yellow-grey, clay topsoil with some medium grained sand and ironstone gravel, moist		E	0.9					
1				S	1.0		3,4,5 N = 9		1	
		GRAVELLY CLAY - stiff, brown, gravelly clay, ironstone and gravel, with traces of medium to fine sand, damp			1.45					
	1.7	CLAY - red-brown clay with traces of medium grained sand, damp								
2	2.0	CLAY - stiff to very stiff, grey mottled orange clay, damp (possibly extremely weathered siltstone)		E	2.4				2	
				S	2.5		4,8,7 N = 15			
					2.95				3	
3										
	4.1	SILTSTONE - extremely low to very low strength, yellow-brown siltstone, damp		S	4.0		4,8,17 N = 25		4	
		4.5m: quartz gravel			4.45					
4										
				S	5.5		2,12,16/10mm refusal bouncing		5	
5										
	5.8	Bore discontinued at 5.8m - target depth reached								
6									6	
7									7	
8									8	
9									9	

RIG: Edson 3000

DRILLER: A Britton

LOGGED: LS

CASING: Uncased

TYPE OF BORING: 110mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)



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BOREHOLE LOG

CLIENT: Health Infrastructure
PROJECT: Mudgee Hospital Redevelopment
LOCATION: Lewis Street, Mudgee

SURFACE LEVEL: 473.7 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: BH4
PROJECT No: 86091.00
DATE: 17/8/2017
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
473 472 471 470 469 468 467 466 465 464	0.35	TOPSOIL - dark grey, sandy clay topsoil, fine grained sand with some silt, damp		D/E*	0.0 0.1					
		CLAY - brown clay with traces of fine sand, silt, moist			0.5 0.6					
	1	0.9m: turning orange-brown			1.0					
	1.22	CLAY - hard, brown mottled grey clay with some fine to medium sand, silt and ironstone gravel (possibly extremely weathered siltstone)		S	1.45 1.5		4,14,24 N = 38 1.5-2.5m: hard drilling			
	2	1.4m: turning grey mottled orange								
		2.5m: stiff		S	2.5 2.95		3,5,8 N = 13			
	3									
	4	4.0m: hard		S	4.0 4.45		4,10,22 N = 32			
	5									
				S	5.5		4,25/100mm refusal bouncing			
6	5.95	Bore discontinued at 5.95m - target depth reached in very low to low strength siltstone								
7										
8										
9										

RIG: Edson 3000

DRILLER: A Britton

LOGGED: LS

CASING: Uncased

TYPE OF BORING: 110mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS: *Replicate sample T5 collected

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)



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BOREHOLE LOG

CLIENT: Health Infrastructure
PROJECT: Mudgee Hospital Redevelopment
LOCATION: Lewis Street, Mudgee

SURFACE LEVEL: 474.8 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: BH5
PROJECT No: 86091.00
DATE: 17/8/2017
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
474 473 472 471 470 469 468 467 466 465	0.3	TOPSOIL - dark grey clay topsoil with some sand and silt and traces of ironstone, damp		D/E	0.0					
	0.5	CLAY - brown clay with some silt, damp		D/E	0.1					
		CLAY - very stiff, orange-brown mottled grey clay with traces of fine sand, silt and ironstone, damp			0.4					
					0.5					
	1			E	0.9					
				S	1.0		4,9,15 N = 24			
		1.5m: sandstone/ironstone gravel			1.45					
	2									
	2.5	CLAY - hard, grey mottled orange clay with some ironstone and siltstone gravel and traces of fine sand, damp (possibly extremely weathered sandstone)		E+S	2.5		5,20/100mm refusal bouncing			
	3									
469 468 467 466 465	4	4.0m: moist		S	4.0		5,13,17 N = 30			
					4.45					
	5	4.8m: damp								
	5.5	SILTSTONE - very low to low strength, yellow-brown siltstone, damp		S	5.5		5,14,15/50mm refusal bouncing			
	5.95	Bore discontinued at 5.95m - target depth reached								
	6									
	7									
	8									
	9									

RIG: Edson 3000

DRILLER: A Britton

LOGGED: LS

CASING: Uncased

TYPE OF BORING: 110mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS: *Replicate samples T1 and T2 collected

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	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)

BOREHOLE LOG

CLIENT: Health Infrastructure
PROJECT: Mudgee Hospital Redevelopment
LOCATION: Lewis Street, Mudgee

SURFACE LEVEL: 476.6 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: BH6
PROJECT No: 86091.00
DATE: 18/8/2017
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
476	0.4	TOPSOIL - dark brown clay topsoil with some ironstone gravel and traces of sand, humid		D/E	0.0					
				D/E	0.1					
1		GRAVELLY CLAY - very stiff, light brown, gravelly clay with traces of medium grained sand, humid		D/E	0.5					
				D/E	0.6					
1.7				E	1.0		8,13,14 N = 27			
				S	1.45					
2		CLAY - very stiff, grey mottled orange clay, damp			2.5		4,9,13 N = 22			
				S	2.95					
3					4.0		4,10,15 N = 25			
				S	4.45					
4					5.0					
				S	5.5		7,13,20 N = 33			
5		CLAY - very stiff to hard, brown mottled grey clay with traces of siltstone gravel, damp			5.95					
				S	6.5					
6					7.0		10,13,20/70mm refusal bouncing			
				S	7.0					
7										
				S						
8		Bore discontinued at 7.95m - target depth reached								
				S						
9										
				S						

RIG: Edson 3000

DRILLER: A Britton

LOGGED: LS

CASING: Uncased

TYPE OF BORING: 110mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)



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BOREHOLE LOG

CLIENT: Health Infrastructure
PROJECT: Mudgee Hospital Redevelopment
LOCATION: Lewis Street, Mudgee

SURFACE LEVEL: 476.3 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: BH7
PROJECT No: 86091.00
DATE: 18/8/2017
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
476	0.25	TOPSOIL - brown silty clay topsoil with traces of fine sand and ironstone, humid		E/D	0.0					
					0.1					
	0.5	CLAY - red-brown clay with traces of fine sand and silt, damp		E/D	0.25		0.25-0.5m: Bulk sample			
					0.4					
		CLAY - very stiff, orange mottled grey clay with some silt, damp			0.5					
1				E	1.0					1
475				S	1.45		4,10,12 N = 22			
2		2.2m: turning grey mottled orange								2
474					2.5					
		2.8m: turning grey mottled red		S	2.95		6,9,10 N = 19			3
3	3.2	SILTSTONE - very low to low strength, yellow-brown siltstone, damp								
473										
4				S	4.0		7,15,20/100mm refusal bouncing			4
472										
4.45		Bore discontinued at 4.45m - target depth reached								
5										5
471										
6										6
470										
7										7
469										
8										8
468										
9										9
467										

RIG: Edson 3000

DRILLER: A Britton

LOGGED: LS

CASING: Uncased

TYPE OF BORING: 110mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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)

BOREHOLE LOG

CLIENT: Health Infrastructure
PROJECT: Mudgee Hospital Redevelopment
LOCATION: Lewis Street, Mudgee

SURFACE LEVEL: 474.2 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: BH8
PROJECT No: 86091.00
DATE: 17/8/2017
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
474	0.1	TOPSOIL - dark grey silty clay topsoil, humid		D/E	0.0					
				B	0.1					
					0.3					
				D/E	0.4					
					0.5					
1				E	1.0					
473				S	1.45		8,13,15 N = 28			
1.6										
2		SILTSTONE - extremely low to very low strength, grey mottled red and orange siltstone with some ironstone								
472										
					2.5		5,10,15 N = 25			
2.6m:		siltstone gravel		S						
3					2.95					
2.9		SILTSTONE - extremely low to very low strength, yellow-brown siltstone, moist								
471										
		3.5m: seepage observed								
4				S	4.0		18/100mm refusal bouncing			
470	4.1	Bore discontinued at 4.1m - target depth reached								
5										
469										
6										
468										
7										
467										
8										
466										
9										
465										

RIG: Edson 3000

DRILLER: A Britton

LOGGED: LS

CASING: Uncased

TYPE OF BORING: 110mm diameter solid flight auger

WATER OBSERVATIONS: Seepage observed at 3.5m

REMARKS:

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)

BOREHOLE LOG

CLIENT: Health Infrastructure
PROJECT: Mudgee Hospital Redevelopment
LOCATION: Lewis Street, Mudgee

SURFACE LEVEL: 475.3 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: BH9
PROJECT No: 86091.00
DATE: 17/8/2017
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
475	0.3	TOPSOIL - brown clay topsoil with some medium grained sand and some ironstone gravel, humid		E/D*	0.0 0.1					
		CLAY - very stiff, brown clay with traces of medium sand, humid		E/D	0.4 0.5					
1	1.3	SILTSTONE - very low to low strength, yellow-brown siltstone, damp		E	1.0		5,9,11 N = 20		1	
1.45	1.45	SILTSTONE - very low to low strength, yellow-brown siltstone, damp		S	1.45					
2	2.2	SILTSTONE - low to medium strength, red siltstone, damp		D	2.3				2	
2.5	2.5	Bore discontinued at 2.5m - auger refusal			2.5					
3									3	
4									4	
5									5	
6									6	
7									7	
8									8	
9									9	

RIG: Edson 3000

DRILLER: A Britton

LOGGED: LS

CASING: Uncased

TYPE OF BORING: 110mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS: *Replicate samples T3 and T4 collected

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)



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BOREHOLE LOG

CLIENT: Health Infrastructure
PROJECT: Mudgee Hospital Redevelopment
LOCATION: Lewis Street, Mudgee

SURFACE LEVEL: 477.1 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: BH10
PROJECT No: 86091.00
DATE: 18/8/2017
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
477		TOPSOIL - brown silty clay topsoil with traces of gravel and medium grained sand, humid		D/E*	0.0					
	0.35				0.1					
	0.4	CLAY - red-brown clay with traces of silt and fine sand, damp		D/E	0.4					
					0.5					
	1	CLAY - very stiff, light brown clay with some siltstone gravel and traces of fine sand, damp		S	1.0		4,11,13 N = 24			1
					1.45					
	1.9	CLAY - very stiff, grey mottled orange clay with some silt		S	2.5		4,9,15 N = 24			2
					2.95					3
	3									
		3.6m: extremely weathered rock								
	4	4.0m: quartzite gravel		S	4.0		13,22/100mm refusal bouncing			4
	4.45	Bore discontinued at 4.45m - target depth reached in very low to low strength siltstone								
	5									5
	6									6
	7									7
	8									8
	9									9

RIG: Edson 3000

DRILLER: A Britton

LOGGED: LS

CASING: Uncased

TYPE OF BORING: 110mm diameter solid flight auger

WATER OBSERVATIONS: No free groundwater observed

REMARKS: *Replicate sample T6 collected

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	W	Water seep	S	Standard penetration test
E	Environmental sample	W	Water level	V	Shear vane (kPa)

Appendix F

Laboratory Test Results

Table F1: Contaminant Concentrations in Soils

Sample/ Depth (m)	B	T	E	X	Napth.	F1	F2	+PAH	B.TEQ	OCP	OPP	PCB	Phenol	Asbestos	As	Cd	Cr	Cu	Pb	Hg	Ni	Zn
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(Y/N)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Topsoil/Filling																						
BH1/0-0.1	<0.2	<0.5	<1	<3	<1	<25	<50	1.4	<0.5	NIL +ve	NIL +ve	NIL +ve	<5	N	<4	<0.4	2	12	4	<0.1	7	22
BH2/0-0.1	<0.2	<0.5	<1	<3	<1	<25	<50	<0.05	<0.05	NIL +ve	NIL +ve	NIL +ve	<5	N	6	<0.4	16	12	24	<0.1	11	80
BH3/0.4-0.5	<0.2	<0.5	<1	<3	<1	<25	<50	<0.05	<0.05	NIL +ve	NIL +ve	NIL +ve	<5	N	6	<0.4	21	8	13	<0.1	10	14
BH4/0-0.1	<0.2	<0.5	<1	<3	<1	<25	<50	<0.05	<0.05	NIL +ve	NIL +ve	NIL +ve	<5	N	5	<0.4	17	20	24	<0.1	10	59
BH6/0-0.1	<0.2	<0.5	<1	<3	<1	<25	<50	<0.05	<0.05	NIL +ve	NIL +ve	NIL +ve	<5	N	5	<0.4	17	6	23	<0.1	9	34
BH8/0-0.1	<0.2	<0.5	<1	<3	<1	<25	<50	<0.05	<0.05	NIL +ve	NIL +ve	NIL +ve	<5	N	4	<0.4	12	10	23	<0.1	11	33
BH10/0-0.1	<0.2	<0.5	<1	<3	<1	<25	<50	<0.05	<0.05	NIL +ve	NIL +ve	NIL +ve	<5	N	5	<0.4	11	18	40	<0.1	10	59
Natural Soils																						
BH1/0.5-0.6	<0.2	<0.5	<1	<3	<1	<25	<50	<0.05	<0.05	NIL +ve	NIL +ve	NIL +ve	<5	N	<4	<0.4	16	8	12	<0.1	7	19
BH5/0.4-0.5	<0.2	<0.5	<1	<3	<1	<25	<50	<0.05	<0.05	NIL +ve	NIL +ve	NIL +ve	<5	N	<4	<0.4	9	5	8	<0.1	9	10
BH7/0.4-0.5	<0.2	<0.5	<1	<3	<1	<25	<50	<0.05	<0.05	NIL +ve	NIL +ve	NIL +ve	<5	N	<4	<0.4	14	7	10	<0.1	10	14
BH9/0.4-0.5	<0.2	<0.5	<1	<3	<1	<25	<50	<0.05	<0.05	NIL +ve	NIL +ve	NIL +ve	<5	N	5	<0.4	15	7	11	<0.1	14	14
BH10/0.4-0.5	<0.2	<0.5	<1	<3	<1	<25	<50	<0.05	<0.05	NIL +ve	NIL +ve	NIL +ve	<5	N	5	<0.4	14	7	10	<0.1	10	27
QA/QC Soil Samples																						
T5(BH4/0-0.1)	<0.2	<0.5	<1	<3	<1	<25	<50	<0.05	<0.05	NIL +ve	NIL +ve	NIL +ve	<5	N	9	<0.4	13	17	42	<0.1	10	65
T6(BH10/0-0.1)	<0.2	<0.5	<1	<3	<1	<25	<50	<0.05	<0.05	NIL +ve	NIL +ve	NIL +ve	<5	N	5	<0.4	12	18	45	<0.1	11	62

Notes: B = Benzene; T = Toluene; E = Ethylbenzene; X = Xylene; Napth. = Naphthalene; F1 = (C₆ – C₁₀) – BTEX; F2 = (C₁₁ – C₁₆) – Naphthalene; +PAH = Positive polycyclic aromatic hydrocarbons; B.TEQ = Carcinogenic PAHs (as B(a)P TEQ); OCP = Organochlorine pesticides; OPP = Organophosphorus pesticides; PCB = Polychlorinated biphenyls; As = Arsenic; Cd = Cadmium; Cr = Chromium; Cu = Copper; Pb = Lead; Hg = Mercury; Ni = Nickel; Zn = Zinc; NT = Not tested

Table F2: Adopted Comparative Criteria

Sample/ Depth (m)	B	T	E	X	Napth.	F1	F2	+PAH	B.TEQ	OCP	OPP	PCB	Phenol	Asbestos	As	Cd	Cr	Cu	Pb	Hg	Ni	Zn
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	(Y/N)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Adopted Investigation/Screening Levels (mg/kg)																						
Health-Based ¹	4	NL	NL	NL	NL	250	NL	4000	40	Various	Various	7	240000		3000	900	3600	240000	1500	730	6000	400000
Ecological ²					370										160		660	285	1810		300	620

Notes: B = Benzene; T = Toluene; E = Ethylbenzene; X = Xylene; Napth. = Naphthalene; F1 = (C₆ – C₁₀) – BTEX; F2 = (C₁₁ – C₁₆) – Naphthalene; +PAH = Positive polycyclic aromatic hydrocarbons; B.TEQ = Carcinogenic PAHs (as B(a)P TEQ); OCP = Organochlorine pesticides; OPP = Organophosphorus pesticides; PCB = Polychlorinated biphenyls; As = Arsenic; Cd = Cadmium; Cr = Chromium; Cu = Copper; Pb = Lead; Hg = Mercury; Ni = Nickel; Zn = Zinc; NT = Not tested

¹Based on NEPM Commercial/Industrial Sites; ²Based on NEPM ACL and average background concentrations from natural soil samples analysed

CERTIFICATE OF ANALYSIS 174352

Client Details

Client	Douglas Partners Pty Ltd
Attention	Peter Oitmaa
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	<u>86091.00, Mudgee</u>
Number of Samples	16 soils
Date samples received	28/08/2017
Date completed instructions received	28/08/2017

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	05/09/2017
Date of Issue	04/09/2017
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Asbestos Approved By

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Authorised By



David Springer, General Manager

vTRH(C6-C10)/BTEXN in Soil

Our Reference		174352-1	174352-2	174352-4	174352-5	174352-7
Your Reference	UNITS	BH1	BH1	BH2	BH3	BH4
Depth		0-0.1	0.5-0.6	0-0.1	0.4-0.5	0-0.1
Date Sampled		17/08/2017	17/08/2017	17/08/2017	18/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017	31/08/2017
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C 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
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	120	119	112	124	121

vTRH(C6-C10)/BTEXN in Soil

Our Reference		174352-8	174352-9	174352-10	174352-11	174352-12
Your Reference	UNITS	BH5	BH6	BH7	BH8	BH9
Depth		0.4-0.5	0-0.1	0.4-0.5	0-0.1	0.4-0.5
Date Sampled		17/08/2017	18/08/2017	18/08/2017	17/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017	31/08/2017
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25	<25
vTPH C 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
Total +ve Xylenes	mg/kg	<1	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	122	120	126	133	111

vTRH(C6-C10)/BTEXN in Soil					
Our Reference		174352-13	174352-14	174352-15	174352-16
Your Reference	UNITS	BH10	BH10	T5	T6
Depth		0-0.1	0.4-0.5	-	-
Date Sampled		18/08/2017	18/08/2017	18/08/2017	18/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL
Date extracted	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017
TRH C ₆ - C ₉	mg/kg	<25	<25	<25	<25
TRH C ₆ - C ₁₀	mg/kg	<25	<25	<25	<25
vTPH C ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1	<1
Total +ve Xylenes	mg/kg	<1	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	126	119	122	120

svTRH (C10-C40) in Soil						
Our Reference		174352-1	174352-2	174352-4	174352-5	174352-7
Your Reference	UNITS	BH1	BH1	BH2	BH3	BH4
Depth		0-0.1	0.5-0.6	0-0.1	0.4-0.5	0-0.1
Date Sampled		17/08/2017	17/08/2017	17/08/2017	18/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	140	<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	120	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	110	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	240	<50	<50	<50	<50
Surrogate o-Terphenyl	%	87	85	84	84	86

svTRH (C10-C40) in Soil						
Our Reference		174352-8	174352-9	174352-10	174352-11	174352-12
Your Reference	UNITS	BH5	BH6	BH7	BH8	BH9
Depth		0.4-0.5	0-0.1	0.4-0.5	0-0.1	0.4-0.5
Date Sampled		17/08/2017	18/08/2017	18/08/2017	17/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100	<100
TRH C 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
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50	<50
Surrogate o-Terphenyl	%	84	82	83	83	83

svTRH (C10-C40) in Soil					
Our Reference		174352-13	174352-14	174352-15	174352-16
Your Reference	UNITS	BH10	BH10	T5	T6
Depth		0-0.1	0.4-0.5	-	-
Date Sampled		18/08/2017	18/08/2017	18/08/2017	18/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL
Date extracted	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017
TRH C ₁₀ - C ₁₄	mg/kg	<50	<50	<50	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100	<100	<100	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100	<100	<100	<100
TRH >C ₁₀ -C ₁₆	mg/kg	<50	<50	<50	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50	<50
TRH >C ₁₆ -C ₃₄	mg/kg	<100	<100	<100	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100	<100	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50	<50	<50
Surrogate o-Terphenyl	%	85	82	83	82

PAHs in Soil						
Our Reference		174352-1	174352-2	174352-4	174352-5	174352-7
Your Reference	UNITS	BH1	BH1	BH2	BH3	BH4
Depth		0-0.1	0.5-0.6	0-0.1	0.4-0.5	0-0.1
Date Sampled		17/08/2017	17/08/2017	17/08/2017	18/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017	31/08/2017
Date analysed	-	01/09/2017	01/09/2017	01/09/2017	01/09/2017	01/09/2017
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	0.3	<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	0.2	<0.1	<0.1	<0.1	<0.1
Chrysene	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	0.09	<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 calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	1.4	<0.05	<0.05	<0.05	<0.05
Surrogate <i>p</i> -Terphenyl-d14	%	89	87	88	90	88

PAHs in Soil						
Our Reference		174352-8	174352-9	174352-10	174352-11	174352-12
Your Reference	UNITS	BH5	BH6	BH7	BH8	BH9
Depth		0.4-0.5	0-0.1	0.4-0.5	0-0.1	0.4-0.5
Date Sampled		17/08/2017	18/08/2017	18/08/2017	17/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017	31/08/2017
Date analysed	-	01/09/2017	01/09/2017	01/09/2017	01/09/2017	01/09/2017
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,j+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 calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Surrogate p-Terphenyl-d14	%	88	88	87	91	90

PAHs in Soil					
Our Reference		174352-13	174352-14	174352-15	174352-16
Your Reference	UNITS	BH10	BH10	T5	T6
Depth		0-0.1	0.4-0.5	-	-
Date Sampled		18/08/2017	18/08/2017	18/08/2017	18/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL
Date extracted	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017
Date analysed	-	01/09/2017	01/09/2017	01/09/2017	01/09/2017
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,j+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 calc (zero)	mg/kg	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	<0.05	<0.05	<0.05	<0.05
Surrogate <i>p</i> -Terphenyl-d14	%	88	88	87	87

Organochlorine Pesticides in soil						
Our Reference		174352-1	174352-2	174352-4	174352-5	174352-7
Your Reference	UNITS	BH1	BH1	BH2	BH3	BH4
Depth		0-0.1	0.5-0.6	0-0.1	0.4-0.5	0-0.1
Date Sampled		17/08/2017	17/08/2017	17/08/2017	18/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017	31/08/2017
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
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	87	79	82	82	83

Organochlorine Pesticides in soil						
Our Reference		174352-8	174352-9	174352-10	174352-11	174352-12
Your Reference	UNITS	BH5	BH6	BH7	BH8	BH9
Depth		0.4-0.5	0-0.1	0.4-0.5	0-0.1	0.4-0.5
Date Sampled		17/08/2017	18/08/2017	18/08/2017	17/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017	31/08/2017
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
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	82	80	81	79	81

Organochlorine Pesticides in soil					
Our Reference		174352-13	174352-14	174352-15	174352-16
Your Reference	UNITS	BH10	BH10	T5	T6
Depth		0-0.1	0.4-0.5	-	-
Date Sampled		18/08/2017	18/08/2017	18/08/2017	18/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL
Date extracted	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017
HCB	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	81	81	79	81

Organophosphorus Pesticides

Our Reference		174352-1	174352-2	174352-4	174352-5	174352-7
Your Reference	UNITS	BH1	BH1	BH2	BH3	BH4
Depth		0-0.1	0.5-0.6	0-0.1	0.4-0.5	0-0.1
Date Sampled		17/08/2017	17/08/2017	17/08/2017	18/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017	31/08/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	87	79	82	82	83

Organophosphorus Pesticides

Our Reference		174352-8	174352-9	174352-10	174352-11	174352-12
Your Reference	UNITS	BH5	BH6	BH7	BH8	BH9
Depth		0.4-0.5	0-0.1	0.4-0.5	0-0.1	0.4-0.5
Date Sampled		17/08/2017	18/08/2017	18/08/2017	17/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017	31/08/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	82	80	81	79	81

Organophosphorus Pesticides					
Our Reference		174352-13	174352-14	174352-15	174352-16
Your Reference	UNITS	BH10	BH10	T5	T6
Depth		0-0.1	0.4-0.5	-	-
Date Sampled		18/08/2017	18/08/2017	18/08/2017	18/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL
Date extracted	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1	<0.1	<0.1
Dichlorvos	mg/kg	<0.1	<0.1	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCMX	%	81	81	79	81

PCBs in Soil						
Our Reference	UNITS	174352-1	174352-2	174352-4	174352-5	174352-7
Your Reference		BH1	BH1	BH2	BH3	BH4
Depth		0-0.1	0.5-0.6	0-0.1	0.4-0.5	0-0.1
Date Sampled		17/08/2017	17/08/2017	17/08/2017	18/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017	31/08/2017
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	87	79	82	82	83

PCBs in Soil						
Our Reference	UNITS	174352-8	174352-9	174352-10	174352-11	174352-12
Your Reference		BH5	BH6	BH7	BH8	BH9
Depth		0.4-0.5	0-0.1	0.4-0.5	0-0.1	0.4-0.5
Date Sampled		17/08/2017	18/08/2017	18/08/2017	17/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date extracted	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017	31/08/2017
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	82	80	81	79	81

PCBs in Soil					
Our Reference		174352-13	174352-14	174352-15	174352-16
Your Reference	UNITS	BH10	BH10	T5	T6
Depth		0-0.1	0.4-0.5	-	-
Date Sampled		18/08/2017	18/08/2017	18/08/2017	18/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL
Date extracted	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017
Aroclor 1016	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1	<0.1	<0.1
Surrogate TCLMX	%	81	81	79	81

Acid Extractable metals in soil

Our Reference		174352-1	174352-2	174352-4	174352-5	174352-7
Your Reference	UNITS	BH1	BH1	BH2	BH3	BH4
Depth		0-0.1	0.5-0.6	0-0.1	0.4-0.5	0-0.1
Date Sampled		17/08/2017	17/08/2017	17/08/2017	18/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Arsenic	mg/kg	<4	<4	6	6	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	2	16	16	21	17
Copper	mg/kg	12	8	12	8	20
Lead	mg/kg	4	12	24	13	24
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	7	7	11	10	10
Zinc	mg/kg	22	19	80	14	59

Acid Extractable metals in soil

Our Reference		174352-8	174352-9	174352-10	174352-11	174352-12
Your Reference	UNITS	BH5	BH6	BH7	BH8	BH9
Depth		0.4-0.5	0-0.1	0.4-0.5	0-0.1	0.4-0.5
Date Sampled		17/08/2017	18/08/2017	18/08/2017	17/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Arsenic	mg/kg	<4	5	<4	4	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	9	17	14	12	15
Copper	mg/kg	5	6	7	10	7
Lead	mg/kg	8	23	10	23	11
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	9	9	10	11	14
Zinc	mg/kg	10	34	14	33	14

Acid Extractable metals in soil					
Our Reference		174352-13	174352-14	174352-15	174352-16
Your Reference	UNITS	BH10	BH10	T5	T6
Depth		0-0.1	0.4-0.5	-	-
Date Sampled		18/08/2017	18/08/2017	18/08/2017	18/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL
Date prepared	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Arsenic	mg/kg	5	5	9	5
Cadmium	mg/kg	<0.4	<0.4	<0.4	<0.4
Chromium	mg/kg	11	14	13	12
Copper	mg/kg	18	7	17	18
Lead	mg/kg	40	10	42	45
Mercury	mg/kg	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	10	10	10	11
Zinc	mg/kg	59	17	65	62

Misc Soil - Inorg						
Our Reference		174352-1	174352-2	174352-4	174352-5	174352-7
Your Reference	UNITS	BH1	BH1	BH2	BH3	BH4
Depth		0-0.1	0.5-0.6	0-0.1	0.4-0.5	0-0.1
Date Sampled		17/08/2017	17/08/2017	17/08/2017	18/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg						
Our Reference		174352-8	174352-9	174352-10	174352-11	174352-12
Your Reference	UNITS	BH5	BH6	BH7	BH8	BH9
Depth		0.4-0.5	0-0.1	0.4-0.5	0-0.1	0.4-0.5
Date Sampled		17/08/2017	18/08/2017	18/08/2017	17/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5	<5

Misc Soil - Inorg					
Our Reference		174352-13	174352-14	174352-15	174352-16
Your Reference	UNITS	BH10	BH10	T5	T6
Depth		0-0.1	0.4-0.5	-	-
Date Sampled		18/08/2017	18/08/2017	18/08/2017	18/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL
Date prepared	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5	<5

Moisture						
Our Reference	UNITS	174352-1	174352-2	174352-4	174352-5	174352-7
Your Reference		BH1	BH1	BH2	BH3	BH4
Depth		0-0.1	0.5-0.6	0-0.1	0.4-0.5	0-0.1
Date Sampled		17/08/2017	17/08/2017	17/08/2017	18/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017	31/08/2017
Moisture	%	15	14	18	17	21

Moisture						
Our Reference	UNITS	174352-8	174352-9	174352-10	174352-11	174352-12
Your Reference		BH5	BH6	BH7	BH8	BH9
Depth		0.4-0.5	0-0.1	0.4-0.5	0-0.1	0.4-0.5
Date Sampled		17/08/2017	18/08/2017	18/08/2017	17/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017	31/08/2017
Moisture	%	16	9.5	10	7.9	12

Moisture					
Our Reference	UNITS	174352-13	174352-14	174352-15	174352-16
Your Reference		BH10	BH10	T5	T6
Depth		0-0.1	0.4-0.5	-	-
Date Sampled		18/08/2017	18/08/2017	18/08/2017	18/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL
Date prepared	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017
Moisture	%	4.3	11	6.8	5.6

Asbestos ID - soils						
Our Reference	UNITS	174352-1	174352-2	174352-4	174352-5	174352-7
Your Reference		BH1	BH1	BH2	BH3	BH4
Depth		0-0.1	0.5-0.6	0-0.1	0.4-0.5	0-0.1
Date Sampled		17/08/2017	17/08/2017	17/08/2017	18/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date analysed	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017	31/08/2017
Sample mass tested	g	Approx. 20g	Approx. 45g	Approx. 35g	Approx. 45g	Approx. 35g
Sample Description	-	Brown fine-grained soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown coarse-grained soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils						
Our Reference	UNITS	174352-8	174352-9	174352-10	174352-11	174352-12
Your Reference		BH5	BH6	BH7	BH8	BH9
Depth		0.4-0.5	0-0.1	0.4-0.5	0-0.1	0.4-0.5
Date Sampled		17/08/2017	18/08/2017	18/08/2017	17/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date analysed	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017	31/08/2017
Sample mass tested	g	Approx. 40g	Approx. 45g	Approx. 40g	Approx. 35g	Approx. 55g
Sample Description	-	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - soils					
Our Reference		174352-13	174352-14	174352-15	174352-16
Your Reference	UNITS	BH10	BH10	T5	T6
Depth		0-0.1	0.4-0.5	-	-
Date Sampled		18/08/2017	18/08/2017	18/08/2017	18/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL
Date analysed	-	31/08/2017	31/08/2017	31/08/2017	31/08/2017
Sample mass tested	g	Approx. 50g	Approx. 55g	Approx. 35g	Approx. 35g
Sample Description	-	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey soil & rocks	Brown clayey 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
		Organic fibres detected	Organic fibres detected	Organic fibres detected	Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Misc Inorg - Soil					
Our Reference		174352-3	174352-6	174352-9	174352-12
Your Reference	UNITS	BH1	BH3	BH6	BH9
Depth		4.0-4.35	2.4-2.5	0-0.1	0.4-0.5
Date Sampled		17/08/2017	18/08/2017	18/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL
Date prepared	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017
pH 1:5 soil:water	pH Units	4.6	9.0	7.6	8.5
Electrical Conductivity 1:5 soil:water	µS/cm	840	150	33	830
Chloride, Cl 1:5 soil:water	mg/kg	420	20	<10	310
Sulphate, SO4 1:5 soil:water	mg/kg	1,100	36	<10	1,200

CEC					
Our Reference		174352-3	174352-6	174352-9	174352-12
Your Reference	UNITS	BH1	BH3	BH6	BH9
Depth		4.0-4.35	2.4-2.5	0-0.1	0.4-0.5
Date Sampled		17/08/2017	18/08/2017	18/08/2017	17/08/2017
Type of sample		SOIL	SOIL	SOIL	SOIL
Date prepared	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Date analysed	-	30/08/2017	30/08/2017	30/08/2017	30/08/2017
Exchangeable Ca	meq/100g	0.1	1.1	7.3	6.5
Exchangeable K	meq/100g	0.1	<0.1	0.6	0.3
Exchangeable Mg	meq/100g	7.7	7.5	1.9	14
Exchangeable Na	meq/100g	1.5	2.0	<0.1	1.6
Cation Exchange Capacity	meq/100g	9.4	11	9.7	23

Method ID	Methodology Summary
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.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-031	Total Phenolics by segmented flow analyser (in line distillation with colourimetric finish). Solids are extracted in a caustic media prior to analysis.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
Metals-009	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-AES analytical finish.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
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 (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
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 (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.

Method ID	Methodology Summary
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-012	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. For soil results:- 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
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-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. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	174352-2
Date extracted	-			30/08/2017	1	30/08/2017	30/08/2017		30/08/2017	30/08/2017
Date analysed	-			31/08/2017	1	31/08/2017	31/08/2017		31/08/2017	31/08/2017
TRH C ₆ - C ₉	mg/kg	25	Org-016	<25	1	<25	<25	0	105	108
TRH C ₆ - C ₁₀	mg/kg	25	Org-016	<25	1	<25	<25	0	105	108
Benzene	mg/kg	0.2	Org-016	<0.2	1	<0.2	<0.2	0	88	91
Toluene	mg/kg	0.5	Org-016	<0.5	1	<0.5	<0.5	0	104	107
Ethylbenzene	mg/kg	1	Org-016	<1	1	<1	<1	0	108	111
m+p-xylene	mg/kg	2	Org-016	<2	1	<2	<2	0	112	116
o-Xylene	mg/kg	1	Org-016	<1	1	<1	<1	0	107	110
naphthalene	mg/kg	1	Org-014	<1	1	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	120	1	120	118	2	119	119

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	12	30/08/2017	30/08/2017		[NT]	[NT]
Date analysed	-			[NT]	12	31/08/2017	31/08/2017		[NT]	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-016	[NT]	12	<25	<25	0	[NT]	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-016	[NT]	12	<25	<25	0	[NT]	[NT]
Benzene	mg/kg	0.2	Org-016	[NT]	12	<0.2	<0.2	0	[NT]	[NT]
Toluene	mg/kg	0.5	Org-016	[NT]	12	<0.5	<0.5	0	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-016	[NT]	12	<1	<1	0	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-016	[NT]	12	<2	<2	0	[NT]	[NT]
o-Xylene	mg/kg	1	Org-016	[NT]	12	<1	<1	0	[NT]	[NT]
naphthalene	mg/kg	1	Org-014	[NT]	12	<1	<1	0	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	12	111	132	17	[NT]	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	174352-2
Date extracted	-			30/08/2017	1	30/08/2017	30/08/2017		30/08/2017	30/08/2017
Date analysed	-			30/08/2017	1	30/08/2017	30/08/2017		30/08/2017	30/08/2017
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	1	<50	<50	0	113	115
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	1	<100	<100	0	108	103
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	1	140	180	25	106	87
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	1	<50	<50	0	113	115
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	1	120	150	22	108	103
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	1	110	130	17	106	87
Surrogate o-Terphenyl	%		Org-003	89	1	87	88	1	95	85

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	12	30/08/2017	30/08/2017		[NT]	[NT]
Date analysed	-			[NT]	12	30/08/2017	30/08/2017		[NT]	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-003	[NT]	12	<50	<50	0	[NT]	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-003	[NT]	12	<100	<100	0	[NT]	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-003	[NT]	12	<100	<100	0	[NT]	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-003	[NT]	12	<50	<50	0	[NT]	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-003	[NT]	12	<100	<100	0	[NT]	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-003	[NT]	12	<100	<100	0	[NT]	[NT]
Surrogate o-Terphenyl	%		Org-003	[NT]	12	83	84	1	[NT]	[NT]

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	174352-2
Date extracted	-			31/08/2017	1	31/08/2017	31/08/2017		31/08/2017	31/08/2017
Date analysed	-			01/09/2017	1	01/09/2017	01/09/2017		01/09/2017	01/09/2017
Naphthalene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	94	93
Acenaphthylene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	107	105
Phenanthrene	mg/kg	0.1	Org-012	<0.1	1	0.3	0.4	29	110	108
Anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	<0.1	1	0.2	0.2	0	104	101
Pyrene	mg/kg	0.1	Org-012	<0.1	1	0.2	0.2	0	106	103
Benzo(a)anthracene	mg/kg	0.1	Org-012	<0.1	1	0.2	0.2	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	<0.1	1	0.2	0.2	0	100	98
Benzo(b,j,k)fluoranthene	mg/kg	0.2	Org-012	<0.2	1	0.2	0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	<0.05	1	0.09	0.09	0	103	104
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	89	1	89	90	1	89	88

QUALITY CONTROL: PAHs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	12	31/08/2017	31/08/2017		[NT]	[NT]
Date analysed	-			[NT]	12	01/09/2017	01/09/2017		[NT]	[NT]
Naphthalene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Acenaphthylene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Fluorene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Phenanthrene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Anthracene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Pyrene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Benzo(b,j,k)fluoranthene	mg/kg	0.2	Org-012	[NT]	12	<0.2	<0.2	0	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-012	[NT]	12	<0.05	<0.05	0	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-012	[NT]	12	90	88	2	[NT]	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	174352-2
Date extracted	-			30/08/2017	1	30/08/2017	30/08/2017		30/08/2017	30/08/2017
Date analysed	-			31/08/2017	1	31/08/2017	31/08/2017		31/08/2017	31/08/2017
HCB	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	99	74
gamma-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	128	97
Heptachlor	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	121	89
delta-BHC	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	122	92
Heptachlor Epoxide	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	118	88
gamma-Chlordane	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	127	96
Dieldrin	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	130	100
Endrin	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	116	85
pp-DDD	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	129	96
Endosulfan II	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	111	77
Methoxychlor	mg/kg	0.1	Org-005	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	92	1	87	92	6	108	104

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	12	30/08/2017	30/08/2017		[NT]	[NT]
Date analysed	-			[NT]	12	31/08/2017	31/08/2017		[NT]	[NT]
HCB	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
alpha-BHC	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
gamma-BHC	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
delta-BHC	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
gamma-Chlordane	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Dieldrin	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Endrin	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Endosulfan II	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Methoxychlor	mg/kg	0.1	Org-005	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-005	[NT]	12	81	82	1	[NT]	[NT]

QUALITY CONTROL: Organophosphorus Pesticides					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	174352-2
Date extracted	-			30/08/2017	1	30/08/2017	30/08/2017		30/08/2017	30/08/2017
Date analysed	-			31/08/2017	1	31/08/2017	31/08/2017		31/08/2017	31/08/2017
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	117	94
Chlorpyrifos-methyl	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	105	97
Dimethoate	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	104	113
Fenitrothion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	114	96
Malathion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	105	74
Parathion	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	122	94
Ronnel	mg/kg	0.1	Org-008	<0.1	1	<0.1	<0.1	0	107	105
Surrogate TCMX	%		Org-008	92	1	87	92	6	101	81

QUALITY CONTROL: Organophosphorus Pesticides					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	12	30/08/2017	30/08/2017		[NT]	[NT]
Date analysed	-			[NT]	12	31/08/2017	31/08/2017		[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-008	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-008	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos	mg/kg	0.1	Org-008	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-008	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-008	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Dichlorvos	mg/kg	0.1	Org-008	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-008	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Ethion	mg/kg	0.1	Org-008	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Fenitrothion	mg/kg	0.1	Org-008	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Malathion	mg/kg	0.1	Org-008	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Parathion	mg/kg	0.1	Org-008	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-008	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCMX	%		Org-008	[NT]	12	81	82	1	[NT]	[NT]

QUALITY CONTROL: PCBs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	174352-2
Date extracted	-			30/08/2017	1	30/08/2017	30/08/2017		30/08/2017	30/08/2017
Date analysed	-			31/08/2017	1	31/08/2017	31/08/2017		31/08/2017	31/08/2017
Aroclor 1016	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	100	103
Aroclor 1260	mg/kg	0.1	Org-006	<0.1	1	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	92	1	87	92	6	101	81

QUALITY CONTROL: PCBs in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date extracted	-			[NT]	12	30/08/2017	30/08/2017		[NT]	[NT]
Date analysed	-			[NT]	12	31/08/2017	31/08/2017		[NT]	[NT]
Aroclor 1016	mg/kg	0.1	Org-006	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-006	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-006	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-006	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-006	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-006	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-006	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Surrogate TCLMX	%		Org-006	[NT]	12	81	82	1	[NT]	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	174352-2
Date prepared	-			30/08/2017	1	30/08/2017	30/08/2017		30/08/2017	30/08/2017
Date analysed	-			30/08/2017	1	30/08/2017	30/08/2017		30/08/2017	30/08/2017
Arsenic	mg/kg	4	Metals-020	<4	1	<4	<4	0	104	79
Cadmium	mg/kg	0.4	Metals-020	<0.4	1	<0.4	<0.4	0	97	80
Chromium	mg/kg	1	Metals-020	<1	1	2	2	0	102	85
Copper	mg/kg	1	Metals-020	<1	1	12	12	0	98	81
Lead	mg/kg	1	Metals-020	<1	1	4	5	22	100	80
Mercury	mg/kg	0.1	Metals-021	<0.1	1	<0.1	<0.1	0	101	91
Nickel	mg/kg	1	Metals-020	<1	1	7	7	0	103	88
Zinc	mg/kg	1	Metals-020	<1	1	22	27	20	97	72

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	12	30/08/2017	30/08/2017		[NT]	[NT]
Date analysed	-			[NT]	12	30/08/2017	30/08/2017		[NT]	[NT]
Arsenic	mg/kg	4	Metals-020	[NT]	12	5	6	18	[NT]	[NT]
Cadmium	mg/kg	0.4	Metals-020	[NT]	12	<0.4	<0.4	0	[NT]	[NT]
Chromium	mg/kg	1	Metals-020	[NT]	12	15	16	6	[NT]	[NT]
Copper	mg/kg	1	Metals-020	[NT]	12	7	8	13	[NT]	[NT]
Lead	mg/kg	1	Metals-020	[NT]	12	11	11	0	[NT]	[NT]
Mercury	mg/kg	0.1	Metals-021	[NT]	12	<0.1	<0.1	0	[NT]	[NT]
Nickel	mg/kg	1	Metals-020	[NT]	12	14	15	7	[NT]	[NT]
Zinc	mg/kg	1	Metals-020	[NT]	12	14	15	7	[NT]	[NT]

QUALITY CONTROL: Misc Soil - Inorg					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	174352-2
Date prepared	-			30/08/2017	1	30/08/2017	30/08/2017		30/08/2017	30/08/2017
Date analysed	-			30/08/2017	1	30/08/2017	30/08/2017		30/08/2017	30/08/2017
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	<5	1	<5	<5	0	103	99

QUALITY CONTROL: Misc Soil - Inorg					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	13	30/08/2017	30/08/2017		[NT]	[NT]
Date analysed	-			[NT]	13	30/08/2017	30/08/2017		[NT]	[NT]
Total Phenolics (as Phenol)	mg/kg	5	Inorg-031	[NT]	13	<5	<5	0	[NT]	[NT]

QUALITY CONTROL: Misc Inorg - Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	174352-3
Date prepared	-			30/08/2017	[NT]	[NT]	[NT]	[NT]	30/08/2017	30/08/2017
Date analysed	-			30/08/2017	[NT]	[NT]	[NT]	[NT]	30/08/2017	30/08/2017
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	[NT]	[NT]	101	[NT]
Electrical Conductivity 1:5 soil:water	µS/cm	1	Inorg-002	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Chloride, Cl 1:5 soil:water	mg/kg	10	Inorg-081	<10	[NT]	[NT]	[NT]	[NT]	99	#
Sulphate, SO4 1:5 soil:water	mg/kg	10	Inorg-081	<10	[NT]	[NT]	[NT]	[NT]	112	#

QUALITY CONTROL: CEC					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date prepared	-			30/08/2017	3	30/08/2017	30/08/2017		30/08/2017	[NT]
Date analysed	-			30/08/2017	3	30/08/2017	30/08/2017		30/08/2017	[NT]
Exchangeable Ca	meq/100g	0.1	Metals-009	<0.1	3	0.1	0.1	0	107	[NT]
Exchangeable K	meq/100g	0.1	Metals-009	<0.1	3	0.1	0.1	0	111	[NT]
Exchangeable Mg	meq/100g	0.1	Metals-009	<0.1	3	7.7	7.5	3	106	[NT]
Exchangeable Na	meq/100g	0.1	Metals-009	<0.1	3	1.5	1.3	14	115	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

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.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	

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 (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics 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.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

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.

Note: Samples 174352 -1, 2, 4, 5, 7 & 8-16 were sub-sampled from jars provided by the client.

MISC INORG

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.

SAMPLE RECEIPT ADVICE

Client Details

Client	Douglas Partners Pty Ltd
Attention	Peter Oitmaa

Sample Login Details

Your reference	86091.00, Mudgee
Envirolab Reference	174352
Date Sample Received	28/08/2017
Date Instructions Received	28/08/2017
Date Results Expected to be Reported	05/09/2017

Sample Condition

Samples received in appropriate condition for analysis	YES
No. of Samples Provided	16 soils
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	12.5
Cooling Method	Ice
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: ahie@envirolab.com.au

Jacinta Hurst

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:



Sample ID	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	Organophosphorus Pesticides	PCBs in Soil	Acid Extractable metals in soil	Misc Soil - Inorg	Asbestos ID - soils	Misc Inorg - Soil	CEC
BH1-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓		
BH1-0.5-0.6	✓	✓	✓	✓	✓	✓	✓	✓	✓		
BH1-4.0-4.35										✓	✓
BH2-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓		
BH3-0.4-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓		
BH3-2.4-2.5										✓	✓
BH4-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓		
BH5-0.4-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓		
BH6-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BH7-0.4-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓		
BH8-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓		
BH9-0.4-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BH10-0-0.1	✓	✓	✓	✓	✓	✓	✓	✓	✓		
BH10-0.4-0.5	✓	✓	✓	✓	✓	✓	✓	✓	✓		
T5	✓	✓	✓	✓	✓	✓	✓	✓	✓		
T6	✓	✓	✓	✓	✓	✓	✓	✓	✓		

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Project Name: MUDGEE
Project No: 86091.00 Sampler: LS
Project Mgr: Peter Oitmaa Mob. Phone: 0412 574 518
Email: peter.oitmaa@douglaspartners.com.au
Date Required: STO Lab Quote No.

To: Envirolab Services
12 Ashley Street, Chatswood NSW 2067
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
BH1	0-0.1	1	17/8	S	Jar	PH EC	Combo	8a		
BH1	0.5-0.6	2				CL SO4				
BH1	4.0-4.35	3				CEC				
BH2	0-0.1	4								
BH3	0.4-0.5	5	18/8							
BH3	2.4-2.5	6								
BH4	0-0.1	7	17/8							
BH5	0.4-0.5	8								
BH6	0-0.1	9	18/8							
BH7	0.4-0.5	10								
BH8	0-0.1	11	17/8							
BH9	0.4-0.5	12								



Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 174352

Date Received: 28/8

Time Received: 17:10

Received by: AZ

Temp: Cool/Ambient

Cooling: Ice/Repack

Security: Intact/Broken/None

Lab Report No:
Send Results to: Douglas Partners Address: 96 Hermitage Road, West Ryde 2114
Relinquished by: PMO Signed: PLD Date & Time: 28/8
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Phone: (02) 9809 0666
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Date & Time: 28/8 17:10

