TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 69
PROJECT No: 39663C
DATE: 02 Nov 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0	FILLING - Stiff grey mottled red silty clay, trace gravel (siltstone 1-2%), with abundant rootlets, humid		D, PID, pp	0.0		<1ppm 250kPa		
	0.2	FILLING - Generally comprising dark brown clayey silt, trace gravel (1%), trace rootlets, humid		D, A, PID, pp	0.2 0.3 0.5		<1ppm 80kPa		
	0.7	CLAYEY SILT - Soft brown clayey silt		A	0.8		Moist		
1		from 1.1m, trace sand		A, pp	1.0 1.3 1.5		13 kPa, saturated		1
		from 1.7m, dark brown with some sand and trace rootlets		A, pp	1.8 1.9		40kPa		
2	2.0	CLAYEY SAND/SANDY CLAY - Soft grey clayey sand/sandy clay							2
		from 2.4m, with gravel and cobble inclusions		A, pp	2.3 2.5		40kPa		
	2.9	Pit discontinued at 2.9m, refusal on sandstone							
3									3
4									4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED	
Initials:	
Date:	

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 70
PROJECT No: 39663C
DATE: 02 Nov 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
		FILLING - Light grey clay filling, trace silt with some rootlets to 0.2m, dry			0.0		<1ppm 270kPa		
					0.15		<1ppm 220kPa		
	1								1
	1.1	FILLING - Generally comprising red brown clayey sandy gravel, predominately angular sandstone, trace sandstone cobbles, humid			1.2		<1ppm		
					1.3				
	1.4	FILLING - Generally comprising clayey sandy gravel, gravel predominately sandstone with up to 20% sand and gravel sized coal/coal chitter, humid		D, PID, pp					
	1.6			D, PID, pp					
		SANDSTONE - Low strength, weathered, light grey fine grained sandstone		D, PID	1.7		<1ppm		
				D, PID	1.8				
	1.9	Pit discontinued at 1.9m, refusal on sandstone							
	2								2
	3				3.0				3
	4								4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 71
PROJECT No: 39663C
DATE: 31 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0			D, PID	0.0		<1ppm		
	0.2	FILLING - Generally comprising dark brown gravelly clayey sand, fine grained sand with sub-angular sandstone gravel up to 10mm, trace rootlets, humid			0.15				
		FILLING - Generally comprising black gravelly sand (coal), predominately up to 10mm, trace sandstone fragments up to 30mm, dry to humid		D, PID	0.3		<1ppm		
					0.5				
	0.65	SANDSTONE - Light grey, low to medium strength, extremely weathered fine grained sandstone		D, PID	0.7		<1ppm		
	0.8	Pit discontinued at 0.8m, refusal on sandstone			0.8				
	1								1
	2								2
	3								3
	4								4

5 10 15 20

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 72
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0			D,PID	0.0		<1 ppm		
					0.1				
	0.2	FILLING - Generally comprising dark brown sandy silt trace clay and angular gravel (coal chitter), abundant rootlets, dry to humid							
		FILLING - Generally comprising light grey sandy clay, trace rootlets, humid		D,PID	0.3		<1 ppm		
	0.4				0.4				
		FILLING - Generally comprising brown clayey silty sand with some subangular sandy gravel, coal chitter (5%), trace brick fragments and scrap metal / pipes (40mm diameter) and possible rail lines at 1.5m		D,PID	0.5		<1 ppm		
					0.6				
1									1
					1.3		21 ppm		
				D,PID					
					1.5				
	1.7	FILLING - Generally comprising grey clayey medium grained sand with some gravel sized angular coal chitter (5%) and trace angular red-brown mudstone / siltstone, trace scrap metal pipes							
				D,PID	1.8		2 ppm		
2					2.0				2
	2.4	FILLING - Generally comprising grey silty clay, trace angular gravel (possible natural), moist							
				D,PID	2.7		<1 ppm		
	2.9	Pit discontinued at 2.9m, due to scrap metal in overlying fill (1.3m to 1.5m) preventing further excavation			2.9				
3									3
4									4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 73
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.1	FILLING - Brown silty sand, trace subrounded gravel, abundant rootlets, humid							
		FILLING - Generally comprising fine light red fine grained gravelly clayey sand; gravel predominantly fine grained sandstone with fragments up to 40mm		D,PID	0.2 0.3		<1 ppm		
	0.6	FILLING - Generally comprising black fine to coarse gravel sized coal chitter (70%) with some dark brown silt		D,PID	0.8 1.0		<1 ppm		
	1								1
		some inclusions of light red gravel sized sandstone with fragments up to 150mm at 1.4m to 3m							
	2								2
	3								3
	3.0	Pit discontinued at 3.0m, limit of investigation							
	4								4

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 74
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		FILLING - Generally comprising dark brown-black silty gravelly sand, gravel predominantly coal / coal chitter (10%) and coked sandstone (10-15%), humid		D,PID	0.0 0.15		<1 ppm		
	0.3	FILLING - Light brown gravelly clayey silt, trace coal chitter (3%), up to 10mm		D,PID	0.3 0.4		<1 ppm		
	0.65	FILLING - Generally comprising dark brown-black sandy silt with some gravel, some gravel sized coal chitter (5%) and coked sandstone (5%)to 30mm, humid		D,PID	0.8		<1 ppm		
1	1.0	SANDSTONE - Low strength, extremely weathered, light brown mottled orange sandstone grading to medium strength at 1.3m		D,PID	1.0 1.1 1.2		<1 ppm		1
	1.45	Pit discontinued at 1.45m, refusal on sandstone							
2									2
3									3
4									4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 75
PROJECT No: 39663C
DATE: 02 Nov 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
		FILLING - Generally comprising dark brown/black sandy gravel, cobbles/minor clay inclusions up to 60% angular siltstone and gravelly cobbles (up to 150mm), some gravel sized coal chitter (<5%)		D, PID	0.3 0.5		21ppm		
	0.9	FILLING - Generally comprising dark brown clayey sand, gravel cobbles, gravel and cobbles predominately (90%) siltstone, minor coal chitter (<5%), dry		D, PID	1.1 1.3		<1ppm		
	1.75	SILTY CLAY - Stiff orange brown mottled grey silty clay from 2.3m, colour change to grey mottled red brown, becoming hard		D, PID, pp	1.8 2.0		<1ppm 310kPa		
	2.7	Pit discontinued at 2.7m, due to slow progress							

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 76
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		FILLING - Generally comprising dark brown silty sand with some gravel sized coal / coal chitter (10%), abundant rootlets, humid		D,PID	0.1 0.2		<1 ppm		
	0.25	FILLING - Generally comprising light red, fine to medium grained clayey sand / sandstone, gravel predominantly fine to medium grained sandstone, trace gravel sized fragments of siltstone		D,PID	0.3 0.5		<1 ppm		
	1								1
		from 1.7m, trace cobble sized fine grained sandstone fragments 100-300mm							
	2								2
				D,PID	2.8 3.0		<1 ppm		
	3								3
	3.2	Pit discontinued at 3.2m, limit of investigation, practical reach of backhoe							
	4								4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Test pit collapse on side walls - unstable

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 77
PROJECT No: 39663C
DATE: 31 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
		FILLING - Generally comprising dark brown silty sand with some clay and trace gravel sized coal chitter and coked siltstone ranging up to 40mm		D,PID	0.0 0.15		<1 ppm		
	0.21	FILLING - Generally comprising light red-brown silty sand (coked waste) with some gravel and cobble sized coked siltstone (10-12%)		D,PID	0.3 0.5		<1 ppm		
	1	from 1.2m, trace coal / coal chitter (2%)		D,PID	1.3 1.4		<1 ppm		
	1.45	SANDSTONE - Extremely weathered to weathered, low strength, light grey fine grained sandstone							
	1.8	Pit discontinued at 1.8m, refusal on sandstone							
	2								
	3								
	4								

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Sample of fibre cement collected from sfc near test pit

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧩ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 77A
PROJECT No: 39663C
DATE: 31 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
	0.05	FILLING - Generally comprising brown silty clayey sand, trace subangular gravel (sandstone), abundant rootlets							
	0.3	FILLING - Generally comprising light red-brown silty sandy gravel (coked waste), gravel with trace cobbles predominantly red coked sandstone, trace coal / coal chitter (2%) and trace slag (1-2%), humid							
		Pit discontinued at 0.3m, refusal on fill							
	1								1
	2								2
	3								3
	4								4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 77B
PROJECT No: 39663C
DATE: 31 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
									5 10 15 20
				D,PID	0.0		<1 ppm		
	0.15	FILLING - Generally comprising silty clayey sand with trace subangular gravel sized coal / coal chitter (1-2%), abundant rootlets, humid			0.15				
				D,PID	0.2		<1 ppm		
	0.35	FILLING - Generally comprising light red-brown silty sand (coked waste), with some gravel and cobble sized sandstone (10-15%), trace coal / coal chitter (1-2%) up to 40mm, trace slag, humid			0.3				
				D,PID	0.4		<1 ppm		
	0.6	SANDSTONE - Extremely weathered, medium strength, light grey fine grained sandstone			0.6				
		Pit discontinued at 0.6m, refusal on sandstone							
	1								1
	2								2
	3								3
	4								4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 78
PROJECT No: 39663C
DATE: 31 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
									5 10 15 20
		FILLING - Generally comprising dark brown-black fine grained sandy gravel (coked waste), gravel predominantly		D,PID	0.0		<1 ppm		
	0.2	coal chitter (50%) and coked sandstone (20%), with trace			0.15				
	0.25	inclusion of grey coke ash, dry to humid							
		SANDSTONE - Low to medium strength, weathered slightly grey with red ironstaining in parts, fine grained sandstone							
		Pit discontinued at 0.25m, refusal on sandstone							
	1								1
	2								2
	3								3
	4								4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 79
PROJECT No: 39663C
DATE: 31 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
									5 10 15 20
		FILLING - Generally comprising dark brown sandy gravel with predominantly coal / coal chitter 40% and coked sandstone (30%, trace rootlets, humid		D,PID	0.0		<1 ppm		
					0.15				
	0.3	SILTY CLAY - Hard, grey mottled orange silty clay with some fine grained sand and trace rootlets, M<Wp			0.3		<1 ppm, 600 kPa		
				D,PID,A,pp					
					0.5				
					0.8		<1 ppm, 600 kPa		
				D,PID,A,pp					
	1				1.0				1
		from 1.2m, grading to silty sandy clay			1.3		<1 ppm		
				D,PID					
		at 1.5m, grading to extremely low strength, weathered fine grained sandstone			1.5				
	1.6	Pit discontinued at 1.6m, refusal on sandstone							
	2								2
	3								3
	4								4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED
Initials:
Date:

Douglas Partners
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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 80
PROJECT No: 39663C
DATE: 31 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0	FILLING - Generally comprising light brown clayey sandy gravel; gravel predominantly coked sandstone (50-60%), trace rootlets, humid		D,PID	0.0		<1 ppm		
					0.15				
	0.45	FILLING - Generally comprising dark brown clayey sandy silt with some subangular gravel, trace rootlets, (possibly residual topsoil)		D,PID,pp	0.4		<1 ppm, 120 kPa		
	0.7	CLAYEY SANDY SILT - Stiff, light grey fine grained clayey sandy silt			0.5				
					0.8		<1 ppm, 140 kPa		
	1			D,PID,pp	1.0				1
					1.8		<1 ppm, 300 kPa		
	2			D,PID,pp	2.0				2
	2.5	SILTY CLAY - Very stiff, grey mottled orange silty caly, slightly sandy, trace subangular gravel, M>Wp			2.6		<1 ppm		
				D,PID	2.7				
	2.75	Pit discontinued at 2.75m, slow progress in silty clay							
	3								3
	4								4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Fine sample collected from surface near test pit 80

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 81
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0			A,PID	0.0		<1 ppm		
	0.15	TOPSOIL - Generally comprising brown silt abundant rootlets, dry			0.15				
		CLAYEY SILT - Very stiff, brown clayey silt, trace rootlets, M<Wp			0.3		<1 ppm, 230 kPa		
				A,D,PID	0.5				
	0.75								
		SILTY CLAY/CLAYEY SILT - Stiff, grey-brown mottled orange-brown silty clay / clayey silt, M<Wp			0.8		<1 ppm, 110 kPa		
				A,PID,pp	1.0				
1		from 1.2m, with trace fine grained sand			1.3		<1 ppm, 140 kPa		1
				D,PID,pp	1.5				
	1.9				1.9		<1 ppm	▼	
2		CLAYEY GRAVELLY SAND - (Medium dense), orange-brown mottled grey clayey gravelly fine to coarse sand with some subrounded gravel, wet		A,PID	2.1				2
		seepage from 1.9m							
		from 2.5m, trace organics			2.5		<1 ppm		
				A,PID	2.7				
					2.8		<1 ppm		
3				D,PID	3.0				3
	3.1	Pit discontinued at 3.1m, refusal on rock (sandstone?)							
4									4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: Seepage from 1.9m

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 82
PROJECT No: 39663C
DATE: 31 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0			D,PID	0.0		<1 ppm		
	0.15	FILLING - Generally comprising dark brown clayey silt, trace subangular gravel, glass and scrap metal, abundant rootlets, humid			0.15				
		FILLING - Generally comprising light brown clayey silt, trace charcoal fragments (possibly natural), M<Wp		D,PID	0.3		<1 ppm		
	0.55				0.5				
		CLAY - Very stiff, grey brown mottled orange-brown clay, trace rootlets, M<Wp			0.8		<1 ppm, 310 kPa		
	1			D,PID,pp	1.0				1
	1.2	grading to extremely weathered medium strength claystone at 1.2m							
	1.35	CLAYSTONE? - Brown, weathered medium strength claystone?							
		Pit discontinued at 1.35m, refusal on possible claystone							
	2								2
	3								3
	4								4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 83
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
					0.0		<1 ppm		
	0.15	TOPSOIL - Generally comprising brown silt, trace clay and sand, abundant rootlets, dry		A,PID	0.15				
		SILT - Very stiff, brown silt trace fine grained sand and rootlets, M<Wp			0.3		<1 ppm, 350 kPa		
				D,A,PID,pp	0.5				
					0.8		<1 ppm, 250 kPa		
				D,PID,pp					
1	0.95	CLAYEY SILT - Very stiff, brown clayey silt, M<Wp			1.0				1
		at 1.2m, becoming wet to saturated with trace sand			1.3		<1 ppm		
				D,PID	1.5				
	1.7	CLAYEY SAND - (Loose to medium), brown loose fine grained clayey sand, saturated			1.8		<1 ppm	▼	
				D,A,PID					
2					2.0				2
					2.3		<1 ppm		
				A,PID	2.5				
					2.8		<1 ppm		
				D,A,PID					
3	3.0	Pit discontinued at 3.0m, limit of investigation			3.0				3
4									4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: Water seepage at 1.7m

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 84
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0								
	0.15	TOPSOIL - Generally comprising brown silt, trace clay and sand, abundant rootlets, dry		A	0.15				
		SANDY SILT - Hard, light brown fine grained sandy silt, trace rootlets, M<Wp		D,A,PID,pp	0.3		<1 ppm, 420 kPa		
	0.6				0.5				
		SILTY CLAY - Stiff, grey-brown mottled orange-brown silty clay, M<Wp		A,pp	0.8		150 kPa		
1					1.0				1
	1.25	SILTY CLAY - Very stiff, grey-brown silty clay with some sand and gravel		D,A,pp	1.3		350 kPa		
					1.5				
				A	1.8				
2					2.0				2
	2.2	SANDY CLAY - Very stiff, orange-brown fine grained sandy clay / clayey sand		D,A,pp	2.3				
					2.5				
	2.7	CLAYEY SAND - (Stiff), orange-brown fine to medium grained clayey grained sand, (moist)		A	2.8		350 kPa		
3	3.0	Pit discontinued at 3.0m, limit of investigation			3.0				3
4									4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 85
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0	FILLING - Generally comprising brown sandy silt, slightly gravelly, gravel and trace cobbles predominantly comprising angular siltstone (10%) and coal / coal chitter (10%) with abundant rootlets to 0.15m, dry to moist		D	0.3				
	0.55	FILLING - Dark brown clayey silt, trace subangular gravel, M<Wp		D,A,pp	0.5 0.8		300 kPa		
	1.2	FILLING - Grey-brown mottled orange-brown silty clay, M<Wp		A,pp	1.0 1.3		150 kPa		
		from 1.7m, fine grained sandy clay fill		D,A,pp	1.5 1.8		130 kPa		
	2.1	FILLING - Light brown fine grained silty clayey sand, moist to wet		A	2.0 2.5				
		saturated at 2.85m		D,A	2.6 2.9			▼	
	3.2	Pit discontinued at 3.2m, limit of investigation			3.0				

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: Free groundwater observed at 2.85m

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 86
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0	FILLING - Generally comprising dark brown silty sand with some cobble and gravel sized coal chitter (10%)							
		rootlets at 0.2m, humid		D,PID	0.3		<1 ppm		
	0.5	SANDY SILT - Stiff, light brown fine grained sandy silt, M<Wp			0.5				
				D,PID,pp	0.8		<1 ppm, 150 kPa		
	1				0.9				1
	1.2	SILTY CLAY - Hard, light brown mottled red silty clay, trace gravel (ironstone), M<Wp		D,PID,pp	1.3		<1 ppm, 400 kPa		
					1.5				
	2	from 2m, colour change to light brown, trace sand and trace gravel		D,PID,pp	2.2		<1 ppm, 400 kPa		2
					2.4				
	2.7	at 2.7m, damp, M<Wp Pit discontinued at 2.7m, slow progress							
	3								3
	4								4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 87
PROJECT No: 39663C
DATE: 07 Nov 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0	FILLING - Generally comprising brown fine grained sandy clay with some angular gravel predominantly coal chitter (5-10%) and siltstone (5%), humid		D,PID	0.0 0.05		<1 ppm		
		from 0.2m, trace sandstone gravel (2%)							
				D,PID	0.8 1.0		<1 ppm		
	1.45	FILLING - (Dense) orange-brown fine grained clayey sand with some sand and gravel sized coal (5-10%), humid		D,PID	1.6 1.7		<1 ppm		
	1.8	SANDSTONE - Low strength, weathered grey fine grained sandstone							
	1.9	Pit discontinued at 1.9m, refusal on sandstone							

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 88
PROJECT No: 39663C
DATE: 07 Nov 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
									5 10 15 20
		FILLING - Generally comprising brown fine grained clayey sand with trace gravel, comprising sands (2-3%), coal (1-2%), trace rootlets, damp		D,PID	0.0 0.05		<1 ppm		
	0.3	CLAYEY SAND/SANDY CLAY - (Medium dense to hard), yellow fine grained clayey sand / sandy clay, trace subangular gravel at 0.6m, grading to low strength, weathered sandstone		D,PID,pp	0.4 0.5		<1 ppm, 420 kPa		
	0.8								
	0.9	SANDSTONE - Low strength weathered yellow fine grained sandstone							
	1	Pit discontinued at 0.9m, refusal on sandstone							1
	2								2
	3								3
	4								4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 89
PROJECT No: 39663C
DATE: 06 Nov 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0	FILLING - Generally comprising brown gravelly clayey fine grained sand, gravel predominantly coal chitter (20%) angular sandstone (15%) up to 100mm, dry to humid		D,PID	0.3		<1 ppm		
					0.5				
	0.7	FILLING - Black gravel with minor clay and sand, gravel predominantly coal chitter (80-90%) up to 100mm		D,PID	1.3		<1 ppm		
	1.9	FILLING - Generally comprising light brown fine grained clayey sand with some angular sandstone gravel and trace sand sized coal chitter (1-2%), dry		D,PID	2.1		<1 ppm		
					2.3				
	2.6	FILLING - (Medium dense), yellow-brown clayey sand with minor subrounded sandstone, gravel (dry)		D,PID	3.0		<1 ppm		
	3.2	Pit discontinued at 3.2m, limit of investigation			3.2				

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 90
PROJECT No: 39663C
DATE: 07 Nov 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.05	FILLING - Generally comprising brown silty clay, abundant rootlets, damp		D,PID,pp	0.1		<1 ppm, 120 kPa		
		FILLING - Generally comprising (dense) to medium grained clayey sand with some subangular gravel, predominantly coal chitter (10-15%), humid			0.2				
					0.8		<1 ppm		
	1			D,PID	1.0				1
	1.6	FILLING - Black clayey silty gravel, gravel predominantly coal (40-50%), humid							
	1.7	FILLING - Generally comprising grey mottled orange gravelly silty clayey gravel, typically angular ironstone (10%), claystone (10%) and coal (15%)		D,PID,pp	1.8		<1 ppm, 170 kPa		
	2				2.0				2
	2.7	FILLING - Generally comprising, clayey silty gravel, gravel predominantly coal (40-50%)							
	2.8	FILLING - Grey mottled orange fine grained sandy clay with some angular gravel sized coal (5-10%) and siltstone (5-10%)			2.8		<1 ppm		
				D,PID					
	3				3.0				3
	3.6	Pit discontinued at 3.6m, limit of investigation							
	4								4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED
Initials:
Date:

Douglas Partners
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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 92
PROJECT No: 39663C
DATE: 06 Nov 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0	FILLING - Generally comprising brown fine grained gravelly clayey sand, gravel predominantly angular sandstone (20%) or with some coal chitter (10%), dry		D,PID	0.3		<1 ppm		
					0.5				
	0.7	FILLING - Light grey clay, slightly fine grained sand with minor angular ironstone gravel, M<Wp		D,PID,pp	1.3		<1 ppm, 250 kPa		
	1.9				1.5				
		FILLING - Light grey fine grained sand, dry							
				D,PID	2.8		<1 ppm		
	3.2				3.1				
		Pit discontinued at 3.2m, limit of investigation							

5 10 15 20

1 2 3 4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 93
PROJECT No: 39663C
DATE: 07 Nov 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
		FILLING - Generally comprising grey gravelly clay, gravel predominantly angular siltstone, trace rootlets, humid							
				D,PID	0.3		1 ppm		
					0.5				
		from 0.6m to 0.7m, some dark brown clayey silt							
	0.7	FILLING - Generally comprising brown gravelly clay with some sand, gravel predominantly angular siltstone (20%), some sandstone (1-2%), humid							
				D,PID	0.8		<1 ppm		
	1				1.0				1
				D,PID	1.3		<1 ppm		
					1.5				
	2								2
				D,PID	2.8		<1 ppm		
	3				3.0				3
		at 3.1m to 3.4m, trace gravel sized coal (1-2%)							
		at 3.4m to 3.5m, trace cobble sized siltstone up to 400mm							
	3.7	Pit discontinued at 3.7m, refusal possibly on rock							
	4								4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED
Initials:
Date:

Douglas Partners
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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 95
PROJECT No: 39663C
DATE: 06 Nov 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		FILLING - Generally comprising light brown gravelly fine grained sandy clay, gravel generally comprising angular sandstone (10%) and trace coal chitter (1-2%), dry		D,PID	0.1 0.2		<1 ppm		
	1			D,PID	1.3 1.5		<1 ppm		1
	2	from 2.6m to 2.7m, trace scrap metal and brick fragments		D,PID	2.5 2.7		<1 ppm		2
	3	with some brown staining at 3.2m to 3.7m		D,PID	3.5		<1 ppm		3
	3.7	Pit discontinued at 3.7m, maximum reach of backhoe			3.7				
	4								4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 96
PROJECT No: 39663C
DATE: 06 Nov 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0	FILLING - Generally comprising light brown gravelly silty clay, gravel predominantly angular sandstone (5-10%) and coal chitter (5%), dry		D,PID	0.1 0.2		<1 ppm		
	0.6	FILLING - Generally comprising light brown and orange silty clay with some angular gravel, comprising sandstone (10%), coal chitter (5%), trace rootlets, dry		D,PID	0.8 1.0		2 ppm		
1	1.05	FILLING - Generally comprising black clayey silt with some orange silty clay inclusions, dry		D,PID,pp	1.3 1.5		<1 ppm, 450 kPa		
2	2.1	CLAY - (Hard), grey clay							
	2.2	SANDSTONE - Low strength, weathered grey fine grained sandstone							
	2.3	Pit discontinued at 2.3m, refusal on sandstone							
3									
4									

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 99
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
		FILLING - Brown intermixed sandy silt, clay and fine to coarse grained subangulr gravel including trace coal, moist		D,PID	0.2		7.4 ppm		
	0.4	FILLING - Black silt, sand and fine to medium grained gravel szied coal reject, generally comprising 85% coal, 15% carbonaceous siltstone		D,PID	0.6		6.3 ppm		
	0.85	FILLING - Grey-brown clayey sandy silt with trace fine to medium grained subangular gravel, moist		D,PID	1.0		<1 ppm		
	1.15	CLAY - Very stiff, grey mottled orange clay with trace to some silt and sand, M≫ Wp		D,PID,pp	1.3		<1 ppm, 350-380 kPa		
		from 1.6m, hard		pp	1.6		>400 kPa		
	1.9	SILTSTONE - Very low to low strength, moderately weathered, grey siltstone							
	2.2	Pit discontinued at 2.2m, refusal							

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 100
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
		FILLING - Dark grey-brown clayey gravelly silt, gravel generally comprising ash, moist		D,PID	0.1		6.7 ppm		
	0.25	FILLING - Grey gravelly silt (ash), damp		D,PID	0.4		7.3 ppm		
		from 0.45m, increased gravel content							
	0.9	CLAY - Very stiff grey-brown slightly silty clay with some fine grained sand, M≫ Wp		D,PID,pp	1.0		<1 ppm, 240-310 kPa		
		from 1.2m, hard, some fine to coarse grained subangular gravel		pp	1.2		>400 kPa		
		from 1.4m, light grey mottled orange							
	1.6	CLAYEY SILTSTONE - Very low to low strength, moderately weathered, grey mottled orange clayey siltstone							
	1.8	Pit discontinued at 1.8m, refusal							

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 101
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
		FILLING - Grey-brown clayey silt with some sand and fine to coarse grained gravel including trace ash, moist		D,PID	0.1		<1 ppm		
	0.25	SILT - Grey silt with some clay and trace cobbles to 100mm, humid							
	0.5	CLAY - Very stiff to hard, light grey mottled orange clay with trace to some sand and silt in upper 100mm, M≤Wp from 0.6m, M>Wp		D,PID,pp	0.6		<1 ppm, 360->400 kPa		
	1								1
	1.3	from 1.2m, light grey with some silt and fine grained sand							
	1.4	SILTSTONE - Very low to low strength, moderately weathered, light grey siltstone with some ironstaining							
		Pit discontinued at 1.4m, refusal							
	2								2
	3								3
	4								4

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧩ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 102
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.2	CLAY - Hard, grey mottled orange clay, M<Wp		D,PID,pp	0.1		<1 ppm, >400 kPa		
		SILTY CLAY - Firm to stiff, light grey mottled orange silty clay with some fine grained sand, gravel and cobbles to 200mm, M>>Wp							
		from 0.6m, stiff to very stiff, M>Wp		D,PID,pp	0.7		<1 ppm, 180-250 kPa		
	1								1
				D,pp	1.4		80-140 kPa		
	1.6	SILTSTONE - Very low strength, highly weathered, grey and orange siltstone							
	2 2.0	Pit discontinued at 2.0m, refusal							2
	3								3
	4								4

Dynamic Penetrometer Test (blows per mm): 5 10 15 20

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 103
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		FILLING - Dark grey-brown clayey silt with trace fine to coarse grained subangular gravel and PVC and concrete inclusion, moist		D,PID	0.1		<1 ppm		
	0.3	SILT - Grey silt with some subangular gravel and cobbles to 200mm, moist from 0.4m, humid		D,PID	0.5		<1 ppm		
	0.6	SILTSTONE - Very low strength, highly weathered, grey mottled orange siltstone							
	0.8	Pit discontinued at 0.8m, refusal							
	1								1
	2								2
	3								3
	4								4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 104
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
	0.15	FILLING - Dark grey-brown gravelly silt with some clay, gravel generally comprising ash and coal (20-40%), moist		D,PID	0.1		7.2 ppm		
	0.4	FILLING - Grey silty sandy fine to coarse grained gravel (ash), damp		D,PID	0.3		7.1 ppm		
	0.8	SANDY SILT - Brown sandy silt with some fine to coarse grained subangular gravel and cobbles to 150mm, damp		D,PID	0.5		<1 ppm		
	1	SILTSTONE - Extremely low to very low strength, light grey mottled orange siltstone							1
	1.2	Pit discontinued at 1.2m, refusal							
	2								2
	3								3
	4								4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 105
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		FILLING - Grey-brown clayey silt with some fine to coarse grained subangular gravel, moist		D,PID	0.2		<1 ppm		
	0.4	FILLING - Loose, clayey fine to coarse grained subangular gravel, cobbles and boulders to 400mm, with some glass, porcelain, brick and metal inclusions		D,PID	0.6		<1 ppm		
		at 0.7m, timber post							
1		from 1.5m, numerous timber posts							1
2	2.0	Pit discontinued at 2.0m							2
3									3
4									4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 106
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0	FILLING - Dark grey-brown clayey gravelly silt with some sand and trace porcelain fragments, gravel generally comprising ash and coal, moist		D,PID	0.1		7.0 ppm		
	0.25	CLAYEY SILTY SAND - Grey clayey silty fine to medium grained sand, moist		D,PID	0.3		<1 ppm		
	0.45	CLAY - Very stiff, orange-brown clay with some silt, M>Wp		D,PID,pp	0.6		<1 ppm, 290-360 kPa		
	1	from 0.5m, very stiff to hard, light grey mottled orange-red, M≤Wp		pp	0.9		380->400 kPa		
				pp	1.5		>400 kPa		
	2								
	2.2	SILTY CLAYSTONE - Extremely low strength, extremely weathered, light grey mottled orange-red silty claystone							
	2.7	Pit discontinued at 2.7m, refusal							
	3								
	4								

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 107
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		FILLING - Intermixed sandy silt, clay, gravel, cobbles and boulders to 400mm with brick, plastic, metal and glass inclusions, moist		D,PID	0.2		<1 ppm		
		from 0.5m, including gravel content, saturated		D,PID	0.7		<1 ppm		
	1								1
		from 1.2m, large timber beam in eastern edge of pit							
	1.8	Pit discontinued at 1.8m, pit walls collapsing							
	2								2
	3								3
	4								4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: Perched groundwater observed at 0.5m

REMARKS: Within possible pothole on former well

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 108
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0	FILLING - Dark grey-black silty sandy fine to coarse grained gravel sized coal reject, generally comprising 65% coal, 35% carbonaceous siltstone, damp		D,PID	0.2		8.1 ppm		
	0.3	FILLING - Intermixed silt, clay, gravel and cobbles to 200mm (possible natural), humid							
	0.6	SILT - Grey silt, humid		D,PID	0.7		<1 ppm		
	1								1
	1.1	SILTSTONE - Very low to low strength, moderately weathered, grey and orange siltstone with some ironstaining							
	1.25	Pit discontinued at 1.25m, refusal							
	2								2
	3								3
	4								4

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 109
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		FILLING - Dark grey silt with some clay, fine to coarse grained subangular gravel, cobbles and boulders to 450mm (siltstone), moist		D,PID	0.1		<1 ppm		
	0.45	at 0.4m, brick fragments							
		CLAYEY SILT - Grey clayey silt with some fine ot medium grained sand, moist to wet		D	0.6				
1	1.0	SILTY CLAY - Firm to stiff, grey mottled orange silty clay with some fine grained sand, M>>Wp		D,pp	1.2		80-120 kPa		1
		from 1.6m, increased sand		pp	1.8		150-180 kPa		
2	2.2	Pit discontinued at 2.2m, limit of investigation							2
3									3
4									4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧩ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 110
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		FILLING - Grey-brown clayey silt with some silty clay clumps and trace fine grained sand, damp to moist		D,PID	0.3		<1 ppm		
				D,PID	0.7		<1 ppm		
	0.85	FILLING - Stiff to very stiff, dark grey silty clay with some fine grained sand, M>Wp		pp	1.0		140-220 kPa		
1	1.05	CLAYEY SANDY SILT - Grey clayey sandy silt, moist to wet (likely fill to 1.3m)		D,PID	1.1		<1 ppm		1
		from 1.6m, wet to saturated, some organics							
	1.85	SILTY CLAY - Very stiff, grey mottled orange-brown silty clay, M>Wp		pp	2.0		190-280 kPa		
2	2.2	Pit discontinued at 2.2m, limit of investigation							2
3									3
4									4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 111
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.1	TOPSOIL - Brown clayey silt, moist							
		CLAY - Stiff to very stiff, orange-brown clay, M>Wp		D,PID,pp	0.15		<1 ppm, 180-210 kPa		
		from 0.5m, hard, M<Wp		D,pp	0.5		>400 kPa		
	0.65	CLAYSTONE - Extremely low strength, extremely weathered, grey mottled orange claystone, fractured							
	1	from 1m, very low strength, highly weathered							1
		from 1.5m, very low to low strength		D	1.5				
	2 2.0	Pit discontinued at 2.0m, limit of investigation							2
	3								3
	4								4

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 112
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.15	FILLING - Dark grey-brown clayey sandy silt, gravel generally comprising fine to medium grained subangular coal and carbonaceous siltstone with trace glass and porcelain fragments, damp		D,PID	0.1		<1 ppm		
	0.5	CLAYEY SILT - Grey-brown clayey silt with trace to some fine grained sand, humid from 0.25m, light grey-brown							
	1.0	CLAY - Hard, light grey mottled orange silt and fine grained sand, M<Wp		D,PID,pp	0.6		<1 ppm, >400 kPa		
1		SILTSTONE - Extremely low strength, extremely weathered, light grey mottled orange siltstone, sandy and orange clayey in parts							1
		from 1.5m, extremely low to very low strength							
2		from 2.2m, extremely low strength clayey sandstone							2
		from 2.5m, some fine to medium grained subangular gravel							
		from 2.9m, very low strength							
3	3.0	Pit discontinued at 3.0m, limit of investigation							3
4									4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 113
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
		FILLING - Grey-brown clayey silt with some clay clumps and trace fine to coarse grained subangular gravel, moist		D,PID	0.2		<1 ppm		
	0.4	FILLING - Dark grey-black clay, silt, sand and fine to medium grained gravel sized coal reject, generally comprising 40% clay and silt, 30% coal, 30% carbonaceous siltstone, moist		D,PID	0.5		<1 ppm		
	0.6	FILLING - Brown clayey silt, gravelly in parts, including trace coal, moist		D,PID	0.7		<1 ppm		
	0.85	CLAYEY SILT - Grey-brown clayey silt, damp from 1m, humid		D,PID	1.0		<1 ppm		
	1	SILTY CLAY - Hard, grey mottled orange silty clay, M<Wp		D,pp	1.3		>400 kPa		
	1.1								
	2								
	2.4	CLAYSTONE - Extremely low strength, extremely weathered, grey claystone with some very low strength red sandy siltstone in parts							
	2.6	Pit discontinued at 2.6m							
	3								
	4								

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 114
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
		CLAY - Stiff, grey mottled orange clay with some silt and rootlets, M>Wp		D,PID,pp	0.2		<1 ppm, 150-180 kPa		
	0.25	SILTY CLAY - Firm to stiff, grey silty clay, M>Wp		D,PID,pp	0.4		<1 ppm, 90-100 kPa		
		from 0.5m, stiff to very stiff grey mottled orange with trace fine to medium grained subangular gravel including coal, silt content decreasing		pp	0.6		170-220 kPa		
	1			D,pp	1.0		220-280 kPa		
		from 1.5m, very stiff		pp	1.5		270-300 kPa		
				pp	1.8		320-380 kPa		
	2 2.0	CLAYEY SILTSTONE - Extremely low to very low strength, highly weathered, light grey mottled orange clayey siltstone with some ironstaining / cementing						▼	
	2.2	Pit discontinued at 2.2m, refusal							
	3								
	4								

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: Seepage observed at 2m

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 115
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.05	TOPSOIL - Brown clayey silt, moist							
		GRAVELLY SILT - Light grey gravelly silt, humid		D,PID	0.2		<1 ppm		
	0.5	SILTSTONE - Very low strength, highly weathered grey and orange siltstone							
	0.9	SILTY CLAY - Very stiff to hard, grey mottled orange silty clay, M≤Wp		pp	1.0		360->400 kPa		
	1.2	SILTSTONE - Very low strength, highly weathered grey mottled orange siltstone							
	1.8	Pit discontinued at 1.8m, refusal							

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20; 1, 2, 3, 4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED	
Initials:	
Date:	

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 117
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0	CLAY - Stiff, grey mottled orange clay with some silt and organics, M>Wp		D,PID,pp	0.1		<1 ppm, 120-170 kPa		
	0.3	SILTY CLAY - Firm to stiff, dark grey silty clay, some organics, M>Wp		D,PID,pp	0.4		<1 ppm, 80-130 kPa		
	0.7	CLAY - Firm, grey mottled orange clay, M>Wp						▼	
1				D,pp	1.0		70-90 kPa		1
		from 1.5m, firm to stiff		D,pp	1.5		90-120 kPa		
2		from 2.3m, firm, silty, grading into clayey silt							2
				D,pp	2.5		60-90 kPa		
		from 2.8m, trace shell flecks							
3	3.0	Pit discontinued at 3.0m, limit of investigation							3
4									4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth
LOGGED: Collins

WATER OBSERVATIONS: Seepage at 0.7m

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 118
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.04	TOPSOIL - Brown clayey silt, moist							
		CLAY - Hard, grey mottled orange-red clay, M<<Wp		D,PID,pp	0.2		<1 ppm, <400 kPa		
					0.3				
				B					
		from 0.5m, M⩽Wp			0.5				
				D,PID,pp	0.7		<1 ppm, >400 kPa		
	1								1
				pp	1.2		>400 kPa		
		from 1.3m, grading into claystone							
	1.8	CLAYSTONE - Extremely low strength, extremely weathered, light grey claystone with some ironstaining							
	2								2
		from 2.2m, extremely low to very low strength							
	2.5	Pit discontinued at 2.5m, limit of investigation							
	3								3
	4								4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

Douglas Partners
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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 119
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
		CLAYEY SILT - Dark grey clayey silt with some rootlets, moist		D,PID	0.1		<1 ppm		
		from 0.5m, grey mottled orange		D,pp	0.6				
	0.9	CLAY - Firm to stiff, grey mottled orange clay with some silt and fine grained sand, M>Wp		D,pp	1.0		90-140 kPa		
		from 1.5m, stiff		D,pp	1.5		160-180 kPa		
		from 2m, very stiff to hard		D,pp	2.0		370->400 kPa		
				D,pp	2.5		>400 kPa		
	3.0	Pit discontinued at 3.0m, limit of investigation							

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20; 1, 2, 3, 4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth
LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 120
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
	0.05	TOPSOIL - Grey-brown clayey silt, moist		D,PID	0.1		<1 ppm		
		SANDY CLAY / GRAVEL AND COBBLES - Grey mottled orange sandy clay, fine to coarse grained subangular gravel and cobbles to 200mm, damp							
	0.5	SILTSTONE - Extremely low strength, extremely weathered, light grey mottled orange siltstone		D,PID	0.6		<1 ppm		
	1	from 1m, claystone and siltstone							1
		from 1.4m, very low strength							
	1.5	Pit discontinued at 1.5m, refusal							
	2								2
	3								3
	4								4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 121
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		SILT - Grey-brown silt with some clay, fine grained sand and trace fine to medium grained subangular gravel, moist		D,PID	0.1		<1 ppm		
		from 0.25m, light grey-brown, humid		D,PID	0.5		<1 ppm		
	0.65	CLAY - Hard, grey clay with some silt and fine to coarse grained sand, sand content increasing, M<Wp		pp	0.7		>400 kPa		
	0.8	SANDY CLAYSTONE - Very low strength, moderately weathered grey sandy claystone							
	1								1
	1.2	Pit discontinued at 1.2m, refusal							
	2								2
	3								3
	4								4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

Douglas Partners
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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 123
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
		CLAY - Very stiff grey clay with some orange mottling, some silt and rootlets, M≥ Wp		D,PID,pp	0.1		<1 ppm, 280-320 kPa		
				D	0.2				
	0.35	CLAYEY SILT/SILTY CLAY - Very stiff, dark grey clayey silt / silty caly, moist / M>Wp		D,PID,pp	0.4		<1 ppm, 200-280 kPa		
				D	0.9		D		
1	1.0	SILTY CLAY - Very stiff, grey mottled orange-brown silty clay, M>Wp		pp	1.1		270-340 kPa		1
				D	1.5				
		from 1.7m, reduced silt content							
2				D,pp	2.0		230-280 kPa		2
		from 2.1m, stiff to very stiff, light grey mottled orange		pp	2.1		180-220 kPa		
				pp	2.3		240-290 kPa		
	2.45	SILTY SAND - Grey mottled orange silty clayey fine to medium grained sand, saturated with soem clay and trace fine to medium grained subangular and subrounded gravel (including extremely weathered coal / carbonaceous siltstone)		D	2.5			▼	
3	3.0	Pit discontinued at 3.0m, limit of investigation							3
4									4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: Free groundwater observed at 2.45

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

Douglas Partners
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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 124
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.05	FILLING - Brown silty sand, moist		D,PID	0.1		<1 ppm		
		FILLING - Orange-brown sandy fine to coarse grained subangular gravel and cobbles with some clay, (ripped sandstone), damp							
	0.45	FILLING - Stiff to hard, grey mottled orange and brown silty sandy clay with some fine to coarse grained subangular gravel including trace coal, M≤Wp		D,PID,pp	0.6		<1 ppm, 120->400 kPa		
	1.1	CLAYEY SILT - Dark grey-brown clayey silt, moist		D,PID	1.2		<1 ppm		
	1.5	SILTY CLAY - Stiff, dark grey mottled orange-red silty clay, M>Wp		D,pp	1.7		140-190 kPa		
	2.1	CLAY - Very stiff to hard grey clay with some orange mottling, M>Wp		pp	2.3		340->400 kPa		
	3.0	Pit discontinued at 3.0m, limit of investigation							

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧩ Water level

CHECKED
Initials:
Date:

Douglas Partners
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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 125
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0	SANDY SILT - Grey-brown sandy silt with trace fine to coarse grained subangular gravel, damp		D,PID	0.1		<1 ppm		
		from 0.15m, light grey-brown, increased sand content, humid			0.2				
				B					
					0.5				
	0.6	SANDY CLAY - Very stiff to hard, grey mottled orange sandy clay with some fine to coarse grained subangular gravel, M≤Wp		D,PID,pp	0.8		<1 ppm, 290->400 kPa		
	1								1
		from 1.2m, increasing gravel content, some cobbles to 200mm							
	2			pp	2.0		>400 kPa		2
		from 2.5m, very stiff, no gravel, trace silt, M>Wp		pp	2.5		270-340 kPa		
		from 2.85m, grading into claystone / siltstone							
	3 3.0	Pit discontinued at 3.0m, limit of investigation							3
	4								4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧩ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 126
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0	CLAY - Very stiff to hard, grey clay with some orange mottling and trace silt, M≤Wp		D,PID,pp	0.1		<1 ppm, 360->400 kPa		
		from 0.4m, stiff to very stiff, M>Wp		D,PID,pp	0.5		<1 ppm, 180-250 kPa		
	1			D,PID,pp	1.2		<1 ppm, 160-200 kPa		
	1.4	CLAY - Stiff to very stiff, light grey mottled orange clay, M>Wp		D,PID,pp	1.7		<1 ppm, 190-300 kPa		
	2	from 2.2m, stiff, trace ironstained shells		D,pp	2.4		150-190 kPa		
	3								
	3.0	Pit discontinued at 3.0m, limit of investigation							
	4								

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 127
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0	CLAY - Stiff, grey-brown clay with some silt and fine to medium grained subangular gravel, M>Wp		D,PID,pp	0.1		<1 ppm, 140-180 kPa		
	0.4	CLAY - Very stiff to hard, light grey mottled orange clay, M ≤Wp		D,PID,pp	0.5		290->400 kPa		
	1.2	CLAYSTONE - Extremely low strength, extremely weathered, light grey claystone							
	1.5	Pit discontinued at 1.5m							

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 128
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0	FILLING - Hard, dark grey-brown silty clay, M<Wp		D,PID,pp	0.1		<1 ppm, >400 kPa		
	0.25	FILLING - Hard, grey and orange-brown clay, M≤Wp		D,PID,pp	0.3		<1 ppm, >400 kPa		
	0.4	CLAY - Stiff to very stiff, grey-dark grey slightly silty clay, M≥Wp							
		from 0.6m, M>>Wp		D,PID,pp	0.6		<1 ppm, 180-220 kPa		
	0.85	CLAY - Stiff, grey mottled orange clay with some silt, M>>Wp							
1				D,PID,pp	1.0		<1 ppm, 150-180 kPa		1
		from 1.5m, very stiff		pp	1.5		200-260 kPa		
		from 1.7m, some sand, stiff		pp	1.8		140-180 kPa	▼	
2	2.0	SANDY CLAYEY SILT - Grey mottled orange sandy clayey silt and abundant shell flecks, saturated		D	2.1				2
	2.5	Pit discontinued at 2.5m, limit of investigation							
3									3
4									4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: Free groundwater observed at 1.7m

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal and Allied
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 129
PROJECT No: 39663C
DATE: 19 Dec 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.05	TOPSOIL - Brown silty clay with abundant rootlets and organic matter, M>>Wp							
		SILTY CLAY/CLAYEY SILT - Stiff to very stiff, grey/dark grey silty clay/clayey silt with some rootlets, very moist, M>>Wp		D, pp	0.1		170-210kPa		
		from 0.3m to 0.5m, trace sandstone cobbles to 150mm						▷	
		from 0.4m, grey mottled orange/brown silty clay		D, pp	0.5		150-230kPa		
	0.85	CLAY - Very stiff grey clay with some orange/brown mottling and trace silt and rootlets, M>Wp							
1				D, pp	1.0		260-320kPa		1
				D, pp	1.5		260-350kPa		
	1.6	SILTY CLAYEY SAND - Light grey mottled orange silty clayey sand, saturated						▼	
2									2
	2.2	SILTSTONE - Extremely low to very low strength, highly weathered grey and orange/brown clayey siltstone							
3	3.0	Pit discontinued at 3.0m- limit of investigation							3

RIG: CASE 450mm bucket

LOGGED: Collins

WATER OBSERVATIONS: Seepage water observed at 0.4m, Free groundwater observed at 1.6m

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal and Allied
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 130
PROJECT No: 39663C
DATE: 19 Dec 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0	FILLING - Grey/brown clayey sand and fine to coarse sub angular gravel including coal with trace silt and coal and sandstone cobbles, moist		D/PID	0.1		<1ppm		
	0.35	FILLING - Dark grey/black fine to coarse grey sand and gravel sized coal reject, generally comprising 60% coal, 40% carbonaceous siltstone, moist to wet		D/PID	0.5		<1ppm		
		from 0.6m, saturated						▼	
	0.9	SILTY SANDY CLAY - Stiff grey mottled orange/brown silty sandy clay, M>>Wp		D, pp, PID	1.0		130-190kPa, <1ppm		
	1								1
	2	from 2.0m, very stiff clay with some silt		D, pp	2.0		210-260kPa		2
	2.5	Pit discontinued at 2.5m- due to pit wall collapsing							
	3								3

RIG: CASE 450mm bucket

LOGGED: Collins

WATER OBSERVATIONS: Free groundwater observed at 0.6m

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 131
PROJECT No: 39663C
DATE: 06 Nov 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
	0.1	FILLING - Generally comprising brown silty sand with some angular gravel, sandstone (5%) and coal chitter (5%), abundant rootlets, dry		D,PID	0.0 0.05		<1 ppm		
	0.3	CLAYEY SAND - (Medium dense), grey fine grained clayey sand, trace rootlets, dry		D,PID	0.2 0.3		<1 ppm		
	0.45	SANDSTONE - Low strength, extremely weathered, grey and orange fine grained sandstone							
		Pit discontinued at 0.45m, refusal on sandstone							
	1								1
	2								2
	3								3
	4								4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

Douglas Partners
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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 132
PROJECT No: 39663C
DATE: 06 Nov 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0								
		FILLING - Generally comprising brown clayey silt with some fine grained sand and angular gravel		D,PID	0.1		<1 ppm		
	0.15								
		CLAYEY SAND - (Medium dense), light brown fine grained clayey sand		D,PID	0.2		<1 ppm		
	0.3				0.3				
		SANDSTONE - Low strength, extremely weathered, light yellow fine grained sandstone							
	0.55	Pit discontinued at 0.55m, refusal on sandstone							
	1								
	2								
	3								
	4								

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

Douglas Partners
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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 133
PROJECT No: 39663C
DATE: 06 Nov 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.05	FILLING - Generally comprising brown clayey silt with trace angular gravel, abundant rootlets, damp		D,PID	0.0 0.05		<1 ppm		
		FILLING - Generally comprising brown mottled orange-brown silty clay, trace angular gravel and rootlets, dry		D,PID	0.2 0.3		<1 ppm		
	0.45	SILTY CLAY - (Hard), light brown mottled orange silty clay, trace rootlets, dry		D,PID,pp	0.5 0.6		<1 ppm, 450 kPa		
	0.65	Pit discontinued at 0.65m, refusal on sandstone							

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 134
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		FILLING - Grey-brown clayey silt with some fine grained sand, moist		D,PID	0.2		<1 ppm		
		from 0.1m, light grey-brown, some cobbles							
	0.3	SILTY SANDSTONE - Very low to low strength, moderately weathered, orange silty sandstone							
	0.65	Pit discontinued at 0.65m, refusal							
	1								1
	2								2
	3								3
	4								4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Some coal chitter / ash in western edge of pit

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 135
PROJECT No: 39663C
DATE: 06 Nov 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.05	TOPSOIL - Dark brown sandy silt with trace gravel and abundant rootlets		D,PID	0.0		<1 ppm		
				D,PID	0.05		<1 ppm		
	0.3	CLAYEY SAND - (Dense), brown fine grained clayey sand with some low to medium strength weathered sandstone			0.1				
	0.45	SANDSTONE - Light grey and yellow, low strength, extremely weathered, fine grained sandstone			0.2				
		Pit discontinued at 0.45m, refusal on sandstone							
	1								
	2								
	3								
	4								

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 136
PROJECT No: 39663C
DATE: 06 Nov 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
	0.05	TOPSOIL - Dark brown sandy silt with trace gravel and abundant rootlets		D,PID	0.0 0.1		<1 ppm		
		CLAYEY SAND - (Dense), brown clayey fine grained sand, trace sandstone (ironstone) fragments ranging up to 100mm		D,PID	0.3 0.4		<1 ppm		
	0.5 0.55	SANDSTONE - Light grey and yellow, low strength, extremely weathered sandstone							
		Pit discontinued at 0.55m, refusal on sandstone							
	1								1
	2								2
	3								3
	4								4

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 137
PROJECT No: 39663C
DATE: 06 Nov 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.3	FILLING - Generally comprising brown silty clay, some gravel, comprising coal (1-2%) and sandstone (5%), abundant rootlets, dry		D,PID	0.2 0.3		<1 ppm		
	0.55	FILLING - Generally comprising orange-red fine grained clayey sand, trace gravel sized coal (1-2%), trace rootlets, dry		D,PID	0.4 0.5		<1 ppm		
	0.8	SANDSTONE - Low strength, extremely weathered, light grey and orange sandstone		D,PID	0.7 0.8		<1 ppm		
	1	Pit discontinued at 0.8m, refusal on sandstone							
	2								
	3								
	4								

RIG: Backhoe, 450mm bucket with teeth

LOGGED: Karpiel

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 138
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0	FILLING - Grey-brown clayey silt, damp		D,PID	0.1		<1 ppm		
		from 0.4m, grey, moist		D,PID	0.7		<1 ppm		
	1.2	FILLING - Grey mottled orange clay with some sand and trace fine to coarse grained subangular gravel, M≥Wp		D,PID,pp	1.3		<1 ppm, 200-250 kPa		
	1.35	CLAY - Stiff to very stiff, grey clay with some orange mottling, M≥Wp		D,PID,pp	1.5		<1 ppm, 180-220 kPa		
	2.2	CLAYSTONE - Extremely low strength, extremely weathered, light grey mottled orange claystone grading into very low strength siltstone							
	2.6	Pit discontinued at 2.6m, limit of investigation							

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 140
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		FILLING - Grey-brown clayey silt with trace fine to medium grained gravel including ash, moist (possible disturbed natural)		D,PID	0.1		<1 ppm		
	0.3	from 0.2m, clay content increasing							
		CLAY - Very stiff, grey mottled orange clay, M≫Wp		D,PID,pp	0.5		<1 ppm, 270-320 kPa		
		from 0.7m, hard, M≪Wp		pp	0.7		>400 kPa		
	0.85	CLAYSTONE - Extremely low strength, extremely weathered, light grey mottled orange claystone							
	1	from 1.1m, very low strength							1
	1.5	Pit discontinued at 1.5m, refusal							
	2								2
	3								3
	4								4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 141
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0	FILLING - Grey-brown clayey silt with trace fine to coarse grained gravel including coal and ash and minor glass and porcelain inclusions, moist (possible disturbed natural)		D,PID	0.1		<1 ppm		
	0.3	CLAY - Very stiff, grey clay with some orange mottling and trace fine to coarse grained subangular gravel and cobbles to 200mm, M>Wp		D,PID,pp	0.5		<1 ppm, 260-300 kPa		
	0.8	CLAYSTONE - Extremely low strength, extremely weathered, grey mottled orange claystone with some ironstaining / cementing							
	1	from 1.3m, very low strength							
	1.5	Pit discontinued at 1.5m, refusal							
	2								
	3								
	4								

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED	
Initials:	
Date:	

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 142
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.2	FILLING - Grey-brown intermixed sandy silt and fine to coarse grained gravel sized coal reject, generally comprising 40% sandy silt, 40% coal, 20% carbonaceous siltstone, damp		D,PID	0.1		<1 ppm		
				D,PID	0.3		<1 ppm		
	0.45	FILLING - Dark grey silty sandy fine to coarse grained gravel sized coal reject, generally comprising 50% coal, 50% carbonaceous siltstone		D,PID,pp	0.5		<1 ppm, 300-380 kPa		
		CLAY - Very stiff, grey and orange-brown clay, M>Wp							
	1	from 0.9m, hard, grey mottled orange, M≤Wp		D,PID,pp	1.0		<1 ppm, >400 kPa		1
	1.4	CLAYSTONE - Extremely low strength, extremely weathered, grey mottled orange claystone							
	2			D	2.0				2
		from 2.7m, very low strength grading into siltstone							
	3 3.0	Pit discontinued at 3.0m, limit of investigation							3
	4								4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 143
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.25	FILLING - Grey-brown clayey sand, fine to coarse grained subangular gravel and cobbles to 100mm including trace coal, moist		D,PID	0.1		<1 ppm		
	0.7	FILLING - Dark grey-black clayey fine to coarse grained gravel and cobble sized coal reject, generally comprising 50% coal, 35% clay, 15% carbonaceous siltstone, moist		D,PID	0.4		<1 ppm		
	0.9	FILLING - Grey-brown silt with some clay and sand and brick and metal inclusions, moist		D,PID	0.8		<1 ppm		
1		FILLING - Hard intermixed grey and orange-brown silty sandy clay with some fine to coarse gravel, M⩾ Wp		D,PID,pp	1.1		<1 ppm, >400 kPa		1
	1.35	SILTY SANDY CLAY - Stiff to very stiff, grey-brown silty sandy clay with some fine to medium grained subrounded gravel, M>Wp		D,PID,pp	1.5		<1 ppm, 190-230 kPa		
2	2.0	PEBBLY CLAYSTONE - Extremely low strength, extremely weathered, grey mottled pebbly claystone, sand and gravel content increasing with depth							2
	2.2	CONGLOMERATE - Very low to low strength, moderately weathered, orange conglomerate		D	2.3				
	2.4	Pit discontinued at 2.4m, refusal							
3									3
4									4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 144
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
		SILT - Grey silt with trace clay and fine grained sand, moist		D,PID	0.05		<1 ppm		
	0.3	CLAY - Very stiff grey clay, M>Wp		D,PID,pp	0.4		<1 ppm, 290-320 kPa		
		from 0.7m, hard, M⩽Wp		pp	0.7		>400 kPa		
	0.9	SILTSTONE / CLAYSTONE - Extremely low strength, grey mottled orange siltstone / claystone with some medium strength boulders to 450mm							
	1	from 1.1m, low strength							
	1.4	Pit discontinued at 1.4m, refusal							
	2								
	3								
	4								

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 145
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		FILLING - Brown sandy silt with some gravel (crushed slag) in upper 100mm, moist		D,PID	0.1		<1 ppm		
	0.25	SILTY CLAYEY SAND - Grey-brown silty clayey fine to coarse grained sand with some fine to medium grained gravel, moist		D,PID	0.3		<1 ppm		
	0.45	SANDSTONE - Very low strength, highly weathered, grey mottled orange sandstone, clayey and pebbly in parts, some ironstaining / cementing							
	0.8	Pit discontinued at 0.8m, refusal							
	1								1
	2								2
	3								3
	4								4

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Localised area of slag gravel at surface adjacent to power pole

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal & Allied Pty Ltd
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 146
PROJECT No: 39663C
DATE: 30 Oct 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		SILT - Grey silt with some fine grained sand and trace fine to coarse grained subangular gravel, humid		D,PID	0.1		<1 ppm		
	0.4	CLAYEY SILT - Grey mottled orange clayey silt with some fine to coarse grained gravel and cobbles to 200mm, damp		D,PID	0.5		<1 ppm		
	0.7	SILTSTONE - Very low strength, highly weathered, grey mottled orange siltstone from 0.9m, low to medium strength							
	1.0	Pit discontinued at 1.0m, refusal							

RIG: JCB 3CX Backhoe, 600mm bucket with teeth

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧩ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal and Allied
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 147
PROJECT No: 39663C
DATE: 19 Dec 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
		SANDY CLAYEY SILT - Grey sandy clayey silt with trace fine/medium sub rounded gravel, mottled		D/PID	0.1		<1ppm		
		from 0.2m, light grey, brown, increased sand and gravel content		D/PID	0.4		<1ppm		
		from 0.75m, clayey gravelly fine/medium grained sand with some silt, very moist							
	1			D	1.0				1
	1.5	SANDY CLAY/CLAYEY SANDY GRAVEL - Interbedded stiff to very stiff grey sandy clay (M>>Wp), and clayey sandy fine/coarse sub angular and sub rounded gravel, moist							
				D, pp	1.8		170-230kPa		
	2								2
				pp	2.5		190-250kPa		
	2.9	SANDSTONE/CONGLOMERATE - Very low to low strength highly weathered grey and orange sandstone/conglomerate							
	3 3.0	Pit discontinued at 3.0m- refusal							3

RIG: CASE 450mm bucket

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal and Allied
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 148
PROJECT No: 39663C
DATE: 19 Dec 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		TOPSOIL - Grey clayey silt with trace sand and fine/medium grained sub rounded gravel, damp		D/PID	0.1		<1ppm		
	0.15	CLAYEY SAND - Light grey mottled orange clayey fine/medium grained sand with some fine/medium grained sub rounded gravel		D/PID	0.5		<1ppm		
		from 0.7m, extremely low strength, extremely weathered sandstone (soil like properties)							
		from 0.9m, very low strength highly weathered							
	1.0	Pit discontinued at 1.0m- refusal							

RIG: CASE 450mm bucket

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Car suspension spring at surface

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal and Allied
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 149
PROJECT No: 39663C
DATE: 19 Dec 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		FILLING - Grey/brown clayey silty sand with some fine/medium grained gravel and numerous inclusions brick, plastic, glass, sheet metal and fibro, moist at 0.05m		D/PID	0.1		<1ppm		
	0.2	SILT - Hard grey silt with trace fine/medium grained gravel, fine grained sand and clay, humid from 0.35m clay count increasing		D/PID	0.4		<1ppm		
	0.55	SANDSTONE - Extremely low strength extremely weathered light grained mottled or sandstone (clayey sand like properties) from 0.7m, very low strength highly weathered							
	1.0	Pit discontinued at 1.0m- refusal							

RIG: CASE 450mm bucket

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧗ Water level

CHECKED
Initials:
Date:

Douglas Partners
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TEST PIT LOG

CLIENT: Coal and Allied
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 150
PROJECT No: 39663C
DATE: 19 Dec 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
		SANDY SILT - Grey/dark grey sandy silt with trace clay and fine/medium grained sub rounded gravel, very moist		D/PID	0.1		<1ppm		
	0.25	SILTY SAND/CLAY - Grey mottled orange silty sand/clay M>>Wp/wet		D, pp, PID	0.4		90-190kPa, <1ppm	▷	
				pp	0.75		190-280kPa		
	1.6	CLAYEY SAND/CLAYEY SANDY GRAVEL - Interbedded stiff to very stiff grey clayey sand (M>>Wp) and clayey sandy fine/coarse sub angular and sub rounded gravel, moist						▼	
	2.0	SANDSTONE/CONGLOMERATE - Light strength moderately weathered grey and orange sandstone/congromerate							
	2.1	Pit discontinued at 2.1m- refusal							

1 2 3 (Depth and Dynamic Penetrometer Test scales)

5 10 15 20 (Dynamic Penetrometer Test scale)

RIG: CASE 450mm bucket

LOGGED: Collins

WATER OBSERVATIONS: Seepage at 0.45m, free groundwater observed at 1.9m

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal and Allied
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 151
PROJECT No: 39663C
DATE: 19 Dec 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
		SILT - Light brown silt with trace clay, humid to damp		D/PID	0.1		<1ppm		
		from 0.2m, including clay content							
	0.3	CLAY - Light grey mottled orange clay, silty in parts, M ≤ Wp		pp	0.4		270-400kPa		
	0.45	SILTSTONE - Very low strength highly weathered light grey mottled orange siltstone, clayey in parts							
	1								1
	2 2.0	Pit discontinued at 2.0m							2
	3								3

Dynamic Penetrometer Test (blows per mm): 5 10 15 20

RIG: CASE 450mm bucket

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal and Allied
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 152
PROJECT No: 39663C
DATE: 19 Dec 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		TOPSOIL - Very stiff grey silty clay M>Wp		D, pp, PID	0.1		300-330kPa, <1ppm		
	0.3	CLAY - Very stiff light grey clay, M>Wp		D, pp, PID	0.5		250-320kPa, <1ppm		
	0.7	CLAYSTONE - Low to medium strength grey claystone							
	0.8	Pit discontinued at 0.8m- refusal							
	1								1
	2								2
	3								3

RIG: CASE 450mm bucket

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Brick, concrete, tile, glass and fibro at surface

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

Douglas Partners
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TEST PIT LOG

CLIENT: Coal and Allied
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 153
PROJECT No: 39663C
DATE: 19 Dec 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		FILLING - Hard grey clay and fine/coarse grey sub angular gravel, humid (possible natural)		D/PID	0.1		<1ppm		
	0.4	GRAVELLY SILT - Hard grained fine/coarse grey gravelly silt, humid							
	0.55	CONGLOMERATE - Very low strength grey or orange conglomerate							
	0.75	Pit discontinued at 0.75m- refusal							
	1								1
	2								2
	3								3

RIG: CASE 450mm bucket

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Fibro at surface adjacent to pit sheet

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal and Allied
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 154
PROJECT No: 39663C
DATE: 20 Dec 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		GRAVELLY SILT - Dark grey/brown fine/coarse grained sub angular and sub rounded gravelly silt with some clay and sand, moist		D/PID	0.1		<1ppm		
	0.25	CLAY - Grey mottled orange clay with some silt, M<Wp		pp	0.3		320-400kPa		
	0.45	SILT - Light grey brown silt with some clay and fine/medium grained sand, humid		D/PID	0.5		<1ppm		
	0.75	SANDY SILTY CLAY - Hard grey mottled sandy silty clay, M<Wp		pp	0.8		>400kPa		
	1								1
	2	from 2.2m, grading into extremely low strength sandy claystone with some fine/medium sub rounded gravel							2
	2.5	SILTSTONE/SANDSTONE - Very low to low strength moderately weathered grey and orange siltstone/sandstone							
	2.6	Pit discontinued at 2.6m- refusal							
	3								3

RIG: CASE 450mm bucket

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Some general fly tipping at surface (plastic & metal)

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧩ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal and Allied
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 155
PROJECT No: 39663C
DATE: 20 Dec 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		TOPSOIL: Dark grey clayey silt, moist grading into silty clay at 0.3m		D/PID	0.1		<1ppm		
	0.4	CLAY: Very stiff grey clay, M>Wp		D, PID, pp	0.5		<1ppm, 330-380kPa		
	1	From 1.0m, grey/brown							1
	1.4	CLAYSTONE: Extremely low to light strength highly weathered light grey claystone							
	1.8	COAL: Extremely low strength extremely weathered black coal (clayey silt properties)							
	2								2
	2.0	CLAYSTONE: Light strength moderately weathered grey mottled orange claystone							
	2.3	Pit discontinued at 2.3m- refusal							
	3								3

RIG: CASE 450mm bucket

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧩ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal and Allied
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 156
PROJECT No: 39663C
DATE: 20 Dec 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		TOPSOIL: Grey/brown sandy silt with some clay, damp		D/PID	0.1		<1kPa		
	0.25	SAND: Light grey/brown slightly silty and clayey fine/medium grained sand with trace to some fine/medium grained sub angular gravel, damp		D/PID	0.5		<1kPa		
	0.85	SANDSTONE: Extremely low strength to very low strength extremely weathered light grained mottled orange sandstone with trace fine/medium grained sub rounded gravel							
	1.2	Pit discontinued at 1.2m							

RIG: CASE 450mm bucket

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧭ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal and Allied
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 157
PROJECT No: 39663C
DATE: 20 Dec 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
	0.05	TOPSOIL: Grey/brown silty fine/medium grained sand, damp		D/PID	0.1		<1ppm		
		SANDY SILT/SILTY SAND: Light grey sandy silt/silty fine/medium grained sand, humid							
	0.45	SANDSTONE: Extremely low strength extremely weathered light grained mottled orange sandstone (hard silty sand like properties clayey in parts)		D/PID	0.5		<1ppm		
	1								1
	1.6	Pit discontinued at 1.6m- refusal							
	2								2
	3								3

RIG: CASE 450mm bucket

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Some concrete, brick and terrace rubble at surface

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ⧩ Water level

CHECKED
Initials:
Date:

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TEST PIT LOG

CLIENT: Coal and Allied
PROJECT: Preliminary Geo-Contamination Assessment
LOCATION: Minmi

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

PIT No: 158
PROJECT No: 39663C
DATE: 20 Dec 07
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
		CLAYEY SILT: Dark grey/brown clayey silt, moist grading to very stiff to hard grey/brown silty clay at 0.3m, M>Wp		D/PID	0.1		<1ppm		
				pp	0.3		320-740kPA		
				D/PID	0.5		<1ppm		
				pp	0.6		200-270kPa		
	0.9								
1		CLAY: Hard light grey clay M>Wp		pp	1.0		>400kPa		1
	1.25								
		CARBONACEOUS SILTSTONE: Extremely low to very low strength highly weathered dark grey/brown carbonaceous siltstone with some coal							
		From 1.6m, including coal content, occassional light grey clay bands							
2									2
	2.9								
3	3.0	CLAYSTONE: Very low to low strength moderately weathered grey/brown claystone							3
		Pit discontinued at 3.1m- refusal							

RIG: CASE 580 Super LE

LOGGED: Collins

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

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

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U_x	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ▼ Water level

CHECKED
Initials:
Date:

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