

BOREHOLE LOG

CLIENT: Sydney Broadcasting Property Pty Ltd
PROJECT: Epping Park
LOCATION: 61 Mobbs Lane, Epping

SURFACE LEVEL: 115.0 AHD BORE No: 18
EASTING: 321377 PROJECT No: 45925
NORTHING: 6260425 DATE: 18 Dec 09
DIP/AZIMUTH: 90°/- SHEET 2 OF 2

RL	Depth (m)	Description of Strata	Degree of Weathering				Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities	Sampling & In Situ Testing							
			EW	HW	MW	SW		FS	FR	Ex	Low	Very Low			Low	Medium	High	Very High	Ex	High	B - Bedding S - Shear	J - Joint D - Drill Break	Type
105	10.15	LAMINITE - (continued)																					pp>600kPa
	10.2	LAMINITE - low strength, moderately weathered, slightly fractured, grey laminite																	C	91	75		PL(A) = 0.2MPa
	10.7	LAMINITE - low strength, extremely to highly weathered, fractured to slightly fractured, grey and brown laminite																					
	11	LAMINITE - low to medium strength, slightly weathered to fresh, slightly fractured, grey laminite (20% fine grained sandstone)																					
	11.15																		C	100	65		PL(A) = 0.6MPa
	12																						PL(A) = 0.7MPa PL(A) = 0.8MPa
	13																						
	13.27	Bore discontinued at 13.27m																					
	14																						
	15																						
	16																						
	17																						
	18																						
	19																						

RIG: Edson 3000 DRILLER: John Simon LOGGED: PH CASING: NW to 1.75

TYPE OF BORING: Solid flight auger to 1.75m; NMLC-Coring to 13.27m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

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	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	Δ	Water seep
		≡	Water level

CHECKED
Initials: <i>RLD</i>
Date: <i>4-3-09</i>



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BOREHOLE LOG

CLIENT: Sydney Broadcasting Property Pty Ltd
PROJECT: Epping Park
LOCATION: 61 Mobbs Lane, Epping

SURFACE LEVEL: 115.6 AHD BORE No: 19
EASTING: 321404 PROJECT No: 45925
NORTHING: 6260330 DATE: 23 Dec 09
DIP/AZIMUTH: 90°/- SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing				
			EW	HW	MW	SW	FS		FR	Ex	Low	Very Low	Low			Medium	High	Very High	Ex	High	B - Bedding	J - Joint
	0.2	PAVEMENT																	A			
115		CLAY - very stiff, light brown and light grey, clay with a trace of sand and gravel. Humid																	A			
1	1.15	LAMINITE/SILTSTONE - very low strength, extremely and highly weathered, light grey and brown laminite/siltstone with medium and high strength ironstone bands																	A			
2	2.57																		C	89	0	PL(A) = 0.5MPa PL(A) = 1.9MPa
3	3.07																					
3.31	3.7	LAMINITE/SILTSTONE - low strength, highly to moderately weathered, fractured to slightly fractured, grey brown laminite/siltstone, with low to medium strength ironstone bands																	C	84	39	PL(A) = 0.3MPa PL(A) = 0.2MPa
4	5.0	LAMINITE - low then low to medium strength, slightly weathered, slightly fractured and unbroken, grey laminite																				PL(A) = 0.2MPa
6	7.2	Bore discontinued at 7.2m																	C	100	96	PL(A) = 0.4MPa
8																						
9																						

RIG: Edson 3000 DRILLER: John Simon LOGGED: SI CASING: NW to 1.0m
TYPE OF BORING: Solid flight auger to 1.0m; Rotary to 1.15m; NMLC-Coring to 7.2m
WATER OBSERVATIONS: No free groundwater observed whilst augering
REMARKS:

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 ₁ Tube sample (x mm dia)	PL Point load strength Is(50) MPa		
W ₁ Water sample	V Shear Vane (kPa)		
C Core drilling	Δ Water seep	≡ Water level	

CHECKED	
Initials: <i>RLD</i>	
Date: <i>4-3-09</i>	



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BOREHOLE LOG

CLIENT: Sydney Broadcasting Property Pty Ltd
PROJECT: Epping Park
LOCATION: 61 Mobbs Lane, Epping

SURFACE LEVEL: 104.3 AHD **BORE No:** 20
EASTING: 321298 **PROJECT No:** 45925
NORTHING: 6260243 **DATE:** 11 Dec 08
DIP/AZIMUTH: 90°/-- **SHEET 1 OF 1**

RL	Depth (m)	Description of Strata	Degree of Weathering				Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities	Sampling & In Situ Testing				
			EW	HW	MW	SW		FS	FR	Ex Low	Very Low	Low			Medium	High	Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break
104	0.2	TOPSOIL - dark brown, silty clay topsoil with rootlets. Damp													Note: Unless otherwise stated, rock is fractured along rough, ironstained, planar bedding planes or joints dipping 0°- 10°		A			
		CLAY - red brown clay, with some ironstone bands. Damp															A			
1	0.8	SHALY CLAY - hard, light grey and orange, shaly clay with some ironstone bands. Humid															A			
103	1.25	LAMINITE - extremely to very low strength, extremely weathered, fractured, grey and brown, extremely low strength laminite													1.25m: CORE LOSS: 400mm					
102	2													2.02-2.18m: fractured zone 2.28-2.33m: fractured zone 2.44-2.51m: fractured zone		C	75	18		PL(A) = 1.1MPa
101	2.85	LAMINITE - low to medium then medium strength, highly weathered, highly fractured to fractured, brown laminite with some extremely weathered bands												2.85m: CORE LOSS: 100mm						PL(A) = 1.5MPa
100	4													3.55m: J85°, ironstained						PL(A) = 0.8MPa
99	4.56	LAMINITE - medium strength, fresh, slightly fractured laminite (approximately 20% fine grained sandstone laminations)												4.19m: J45°, ironstained 4.25m: J25°, clayey 4.27-4.33m: fractured zone 4.37m: J90°, ironstained 4.89m: J70°, rough		C	97	45		PL(A) = 0.7MPa PL(A) = 0.7MPa
98	5.95	Bore discontinued at 5.95m												5.75m: J30°, clayey & ironstained						PL(A) = 0.9MPa PL(A) = 1.6MPa
97	7																			
96	8																			
95	9																			

RIG: Edson 3000 **DRILLER:** John Simon **LOGGED:** PH **CASING:** NW to 1.2m
TYPE OF BORING: Solid flight auger to 1.0m; Rotary to 1.25m; NMLC-Coring to 5.95m
WATER OBSERVATIONS: No free groundwater observed whilst augering
REMARKS:

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	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: <i>RLB</i>
Date: <i>4-3-09</i>



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BOREHOLE LOG

CLIENT: Sydney Broadcasting Property Pty Ltd
PROJECT: Epping Park
LOCATION: 61 Mobbs Lane, Epping

SURFACE LEVEL: 116.2 AHD BORE No: 21
EASTING: 321426 PROJECT No: 45925
NORTHING: 6260316 DATE: 21 Dec 09
DIP/AZIMUTH: 90°/- SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			
			EW	HW	MW	SW	FS		Ex Low	Very Low	Low	Medium	High	Very High		B - Bedding S - Shear	J - Joint D - Drill Break	Type	Core Rec. %	RQD %	Test Results & Comments
116	0.2	PAVEMENT																A			
	0.5	FILLING - dark brown, sandy clay filling with some gravel, damp																A			
		CLAY - very stiff, dark brown light grey and orange clay, with some ironstone gravel, damp																			
115	1																				
115	1.55	SHALE/SILTSTONE - extremely low strength, extremely weathered, light grey and red brown, shale/siltstone with some high strength ironstone bands																			
114	2																				
114	2.75																				
113	3																				
113	3.38	SHALE/SILTSTONE - very low strength, highly weathered, light grey and red brown, shale/siltstone with some high strength ironstone bands																			
112	4																				
112	5																				
111	5.16	LAMINITE/SILTSTONE - low then low to medium strength, highly to moderately then slightly weathered, fractured to slightly fractured, brown then grey laminite/siltstone																			
111	6																				
110	7																				
109	7.18	Bore discontinued at 7.18m																			
109	8																				
108																					
108																					
107																					

RIG: Edson 3000

DRILLER: John Simon

LOGGED: PH

CASING: NW to 0.8m

TYPE OF BORING: Solid flight auger to 0.6m; Rotary to 1.55m; NMLC-Coring to 7.18m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: Groundwater monitoring well installed at completion of drilling

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	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	Δ	Water seep
		≡	Water level

CHECKED	
Initials:	RLC
Date:	4-3-09



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BOREHOLE LOG

CLIENT: Sydney Broadcasting Property Pty Ltd
PROJECT: Epping Park
LOCATION: 61 Mobbs Lane, Epping

SURFACE LEVEL: 86.3 AHD
EASTING: 321040
NORTHING: 6260144
DIP/AZIMUTH: 90°/--

BORE No: 101
PROJECT No: 45925
DATE: 15 Dec 08
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
86.0	0.2	TOPSOIL - dark brown, silty sandy topsoil. Damp		A	0.1					
		CLAY - stiff to very stiff, orange and red brown clay. Damp		A	0.5					
1	0.9	CLAY - stiff, red brown clay. Damp		A	1.0					
2				B						
2.1		CLAY - stiff to very stiff, light grey, red brown and orange clay. Damp			2.2					
3	3.0	CLAY - very stiff, light grey and orange clay with some ironstone bands. Damp		A	3.5					
4										
4.7		SHALY CLAY - very stiff to hard, grey brown shaly clay. Humid								
5	5.0	Bore discontinued at 5.0m - limit of investigation		A	5.0					
6										
7										
8										
9										

RIG: Edson 3000

DRILLER: John Simon

LOGGED: PH

CASING: Uncased

TYPE OF BORING: Solid flight auger (TC-bit) to 5.0m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

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	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	Δ	Water seep
		≡	Water level

CHECKED

Initials:

Date: 4-3-09



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BOREHOLE LOG

CLIENT: Sydney Broadcasting Property Pty Ltd
PROJECT: Epping Park
LOCATION: 61 Mobbs Lane, Epping

SURFACE LEVEL: 85.8 AHD
EASTING: 321052
NORTHING: 6260119
DIP/AZIMUTH: 90°/--

BORE No: 102
PROJECT No: 45925
DATE: 15 Dec 08
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
85.8 85 84	0.2	TOPSOIL - dark brown, silty clay topsoil with some rootlets. Humid		A	0.1					
		CLAY - firm to stiff, red brown clay with a trace of roots. Humid		A	0.5					
	1			A	1.0					
					1.1					
84 83	2	CLAY - firm to stiff, light grey, red and orange clay. Damp		B						
				A	2.4					
	3				2.5					
				A	3.0					
82 81	4			A	4.0					
	4.5	CLAY - firm to stiff, light grey and orange clay, with some ironstone bands and silt. Damp								
				A	5.5					
	6									
79 78	6.5	SHALY CLAY - very stiff, grey shaly clay. Moist								
				A	7.0					
76	7.2	Bore discontinued at 7.2m - limit of investigation								

RIG: Edson 3000

DRILLER: John Simon

LOGGED: PH

CASING: Uncased

TYPE OF BORING: Solid flight auger (TC-bit) to 7.2m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
B	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	Δ	Water seep
		≡	Water level

CHECKED
Initials: <i>RLD</i>
Date: <i>4-3-09</i>



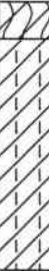
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BOREHOLE LOG

CLIENT: Sydney Broadcasting Property Pty Ltd
PROJECT: Epping Park
LOCATION: 61 Mobbs Lane, Epping

SURFACE LEVEL: 87.2 AHD
EASTING: 321071
NORTHING: 6260131
DIP/AZIMUTH: 90°/--

BORE No: 103
PROJECT No: 45925
DATE: 15 Dec 08
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
87	0.25	TOPSOIL - dark brown, silty clay topsoil with some rootlets. Humid		A	0.1					
		SILTY CLAY - stiff, dark red brown, silty clay. Humid		A	0.4					
				B	0.5					
1				A	1.0					
				A	1.5					
1.8		CLAY - stiff to very stiff, light grey and red brown clay with some ironstone bands. Humid								
2				A	2.5					
3	3.0	CLAY - stiff, light grey, red and orange clay with some ironstone bands. Humid								
4	4.0	SHALY CLAY - very stiff, light grey and orange shaly clay with some ironstone bands. Moist								
4.5		Bore discontinued at 4.5m - limit of investigation								
5										
6										
7										
8										
9										

RIG: Edson 3000

DRILLER: John Simon

LOGGED: PH

CASING: Uncased

TYPE OF BORING: Solid flight auger (TC-bit) to 4.5m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

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	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	Δ	Water seep
		≡	Water level

CHECKED

Initials: *ALC*

Date: *4-3-09*



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BOREHOLE LOG

CLIENT: Sydney Broadcasting Property Pty Ltd
PROJECT: Epping Park
LOCATION: 61 Mobbs Lane, Epping

SURFACE LEVEL: 97.2 AHD
EASTING: 321232
NORTHING: 6260217
DIP/AZIMUTH: 90°/--

BORE No: 104
PROJECT No: 45925
DATE: 15 Dec 08
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
97	0.2	TOPSOIL - dark brown, silty sandy clay topsoil with some rootlets. Damp		A	0.1					
					0.3					
	0.4	CLAY - firm to stiff, red brown clay with some rootlets. Humid		A B	0.5					
		CLAY - stiff to very stiff, light grey, red and orange clay. Humid								
1	1.1	SHALY CLAY - hard, light grey and red, clay with some ironstone bands. Humid		A	0.9					
	1.4	Bore discontinued at 1.4m - limit of investigation			1.0					
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									

RIG: Edson 3000

DRILLER: John Simon

LOGGED: PH

CASING: Uncased

TYPE OF BORING: Solid flight auger (TC-bit) to 1.4m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND

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

CHECKED

Initials: *PHD*

Date: *4-3-09*



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BOREHOLE LOG

CLIENT: Sydney Broadcasting Property Pty Ltd
PROJECT: Epping Park
LOCATION: 61 Mobbs Lane, Epping

SURFACE LEVEL: 112.9 AHD **BORE No:** 105
EASTING: 321356 **PROJECT No:** 45925
NORTHING: 6260269 **DATE:** 16 Dec 08
DIP/AZIMUTH: 90°/-- **SHEET 1 OF 1**

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing			Water	Well Construction Details	
				Type	Depth	Sample			
112 1 111 2 110 3 109 4 108 5 107 6 106 7 105 8 104 9 103	0.2	TOPSOIL - dark brown, silty clay topsoil. Humid		A	0.1				
		CLAY - stiff to very stiff, dark brown clay. Humid			0.2				
			A	0.5					
	0.8	CLAY - very stiff, light brown clay. Humid	B						
	1		A	1.0					
	1.3				1.2				
	1.5	SHALY CLAY - hard, light brown shaly clay with some ironstone bands. Humid							
		Bore discontinued at 1.5m - limit of investigation							

RIG: Edson 3000 **DRILLER:** John Simon **LOGGED:** PH **CASING:** Uncased
TYPE OF BORING: Solid flight auger (TC-bit) to 1.5m
WATER OBSERVATIONS: No free groundwater observed whilst augering
REMARKS:

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	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: <i>ALD</i>
Date: <i>4-3-09</i>



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BOREHOLE LOG

CLIENT: Sydney Broadcasting Property Pty Ltd
PROJECT: Epping Park
LOCATION: 61 Mobbs Lane, Epping

SURFACE LEVEL: 114.9 AHD
EASTING: 321399
NORTHING: 6260404
DIP/AZIMUTH: 90°/--

BORE No: 106
PROJECT No: 45925
DATE: 22 Dec 08
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
114	0.2	PAVEMENT		A	0.2					
		CLAY - stiff, red-brown clay with some gravel. Damp		A	0.5					
				A	0.7					
113	0.8	CLAY - stiff to very stiff, light brown and grey, silty clay. Humid		A	1.0					
				B						
					1.7					
112	2.0	CLAY - very stiff, red and grey clay with some ironstone bands. Humid								
111	2.8	CLAY - very stiff, light orange brown clay, with some ironstone bands. Humid		A	2.8					
110	3.1	Bore discontinued at 3.1m - limit of investigation								
109										
108										
107										
106										
105										

RIG: Edson 3000

DRILLER: John Simon

LOGGED: PH

CASING: Uncased

TYPE OF BORING: Solid flight auger (TC-bit) to 3.1m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

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	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	Δ	Water seep
		≡	Water level

CHECKED

Initials: *RLD*

Date: *4-3-09*



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BOREHOLE LOG

CLIENT: Sydney Broadcasting Property Pty Ltd
PROJECT: Epping Park
LOCATION: 61 Mobbs Lane, Epping

SURFACE LEVEL: 115.7 AHD
EASTING: 321423
NORTHING: 6260361
DIP/AZIMUTH: 90°/--

BORE No: 107
PROJECT No: 45925
DATE: 22 Dec 08
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
115 1 114 1.8	0.2	PAVEMENT		A	0.1					
		CLAY - stiff, brown clay. Humid		A	0.5					
					0.6					
	0.9	CLAY - stiff, red and light grey clay. Humid		A	1.0					
		- becoming very stiff		B						
2 3 4 5 6 7 8 9	1.8	Bore discontinued at 1.8m - limit of investigation			1.7					

RIG: Edson 3000

DRILLER: John Simon

LOGGED: PH

CASING: Uncased

TYPE OF BORING: Solid flight auger (TC-bit) to 1.8m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

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	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	Δ	Water seep
		≡	Water level

CHECKED

Initials: *RLD*

Date: *4-3-09*



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BOREHOLE LOG

CLIENT: Sydney Broadcasting Property Pty Ltd
PROJECT: Epping Park
LOCATION: 61 Mobbs Lane, Epping

SURFACE LEVEL: 116.3 AHD
EASTING: 321456
NORTHING: 6260332
DIP/AZIMUTH: 90°/--

BORE No: 108
PROJECT No: 45925
DATE: 22 Dec 08
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing				Water	Well Construction Details	
				Type	Depth	Sample	Results & Comments			
116	0.1	PAVEMENT		A	0.1					
115.6	0.4	CLAY - stiff, orange brown and dark red clay. Humid		A	0.5					
115.2	0.7				0.7					
114.8	0.9	CLAY - stiff to very stiff, red and light grey clay. Humid		A	1.0					
114.4	1.0			B						
113.6	1.6	SHALY CLAY - very stiff to hard, light grey and orange, shaly clay with some ironstone bands. Humid			1.6					
113.2	1.9	Bore discontinued at 1.9m - limit of investigation		A	1.9					
112.8										
112.4										
112.0										
111.6										
111.2										
110.8										
110.4										
110.0										
109.6										
109.2										
108.8										
108.4										
108.0										
107.6										
107.2										
106.8										
106.4										
106.0										
105.6										
105.2										
104.8										
104.4										
104.0										
103.6										
103.2										
102.8										
102.4										
102.0										
101.6										
101.2										
100.8										
100.4										
100.0										

RIG: Edson 3000

DRILLER: John Simon

LOGGED: PH

CASING: Uncased

TYPE OF BORING: Solid flight auger (TC-bit) to 1.9m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

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	Tube sample (x mm dia.)	PL	Point load strength ls(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	Δ	Water seep
		≡	Water level

CHECKED

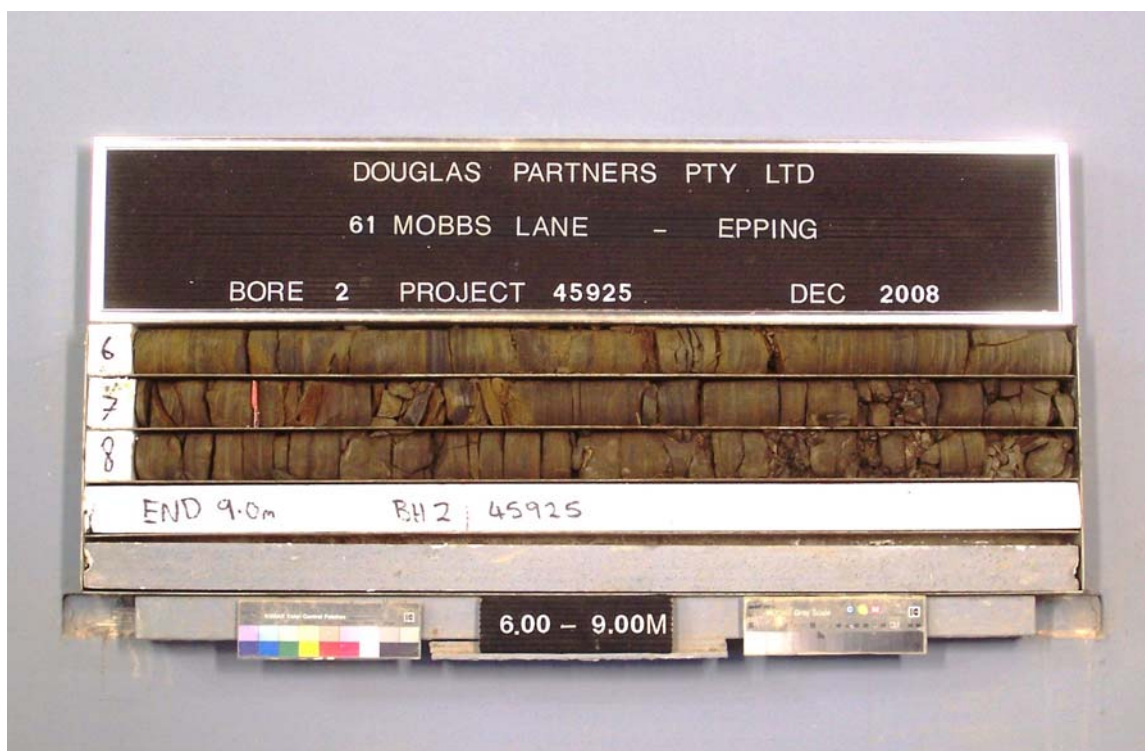
Initials: *RLD*

Date: *4-3-09*

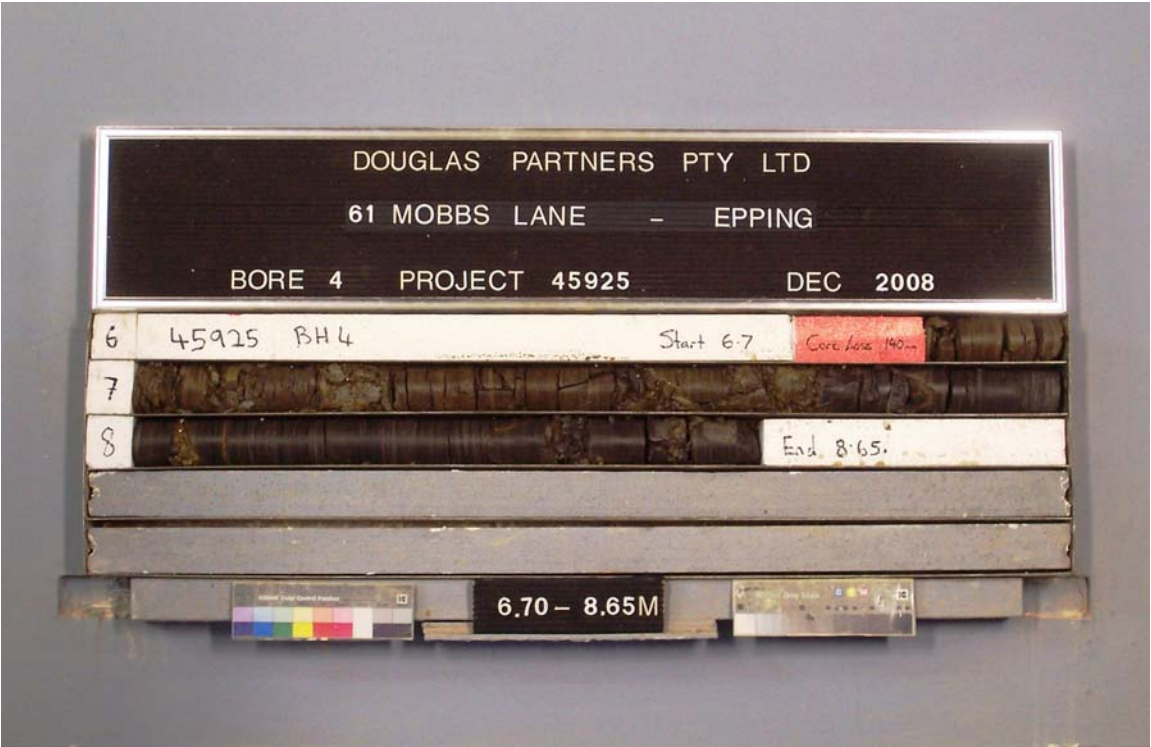


Douglas Partners
Geotechnics • Environment • Groundwater



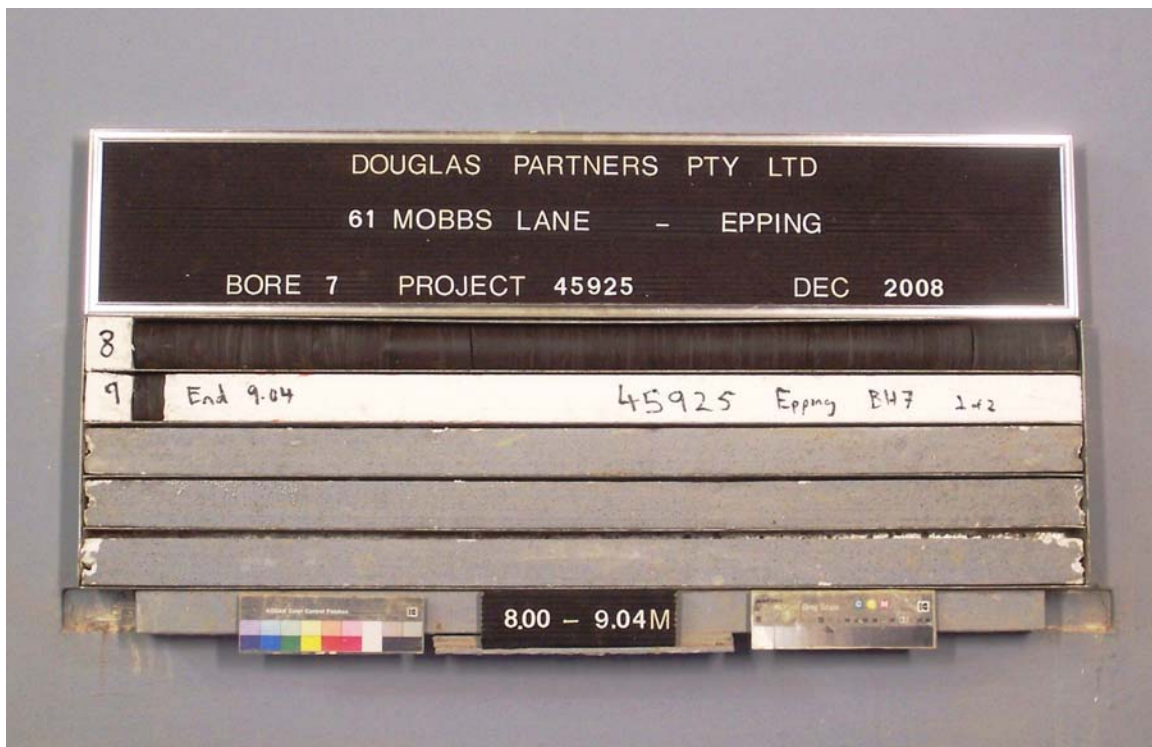


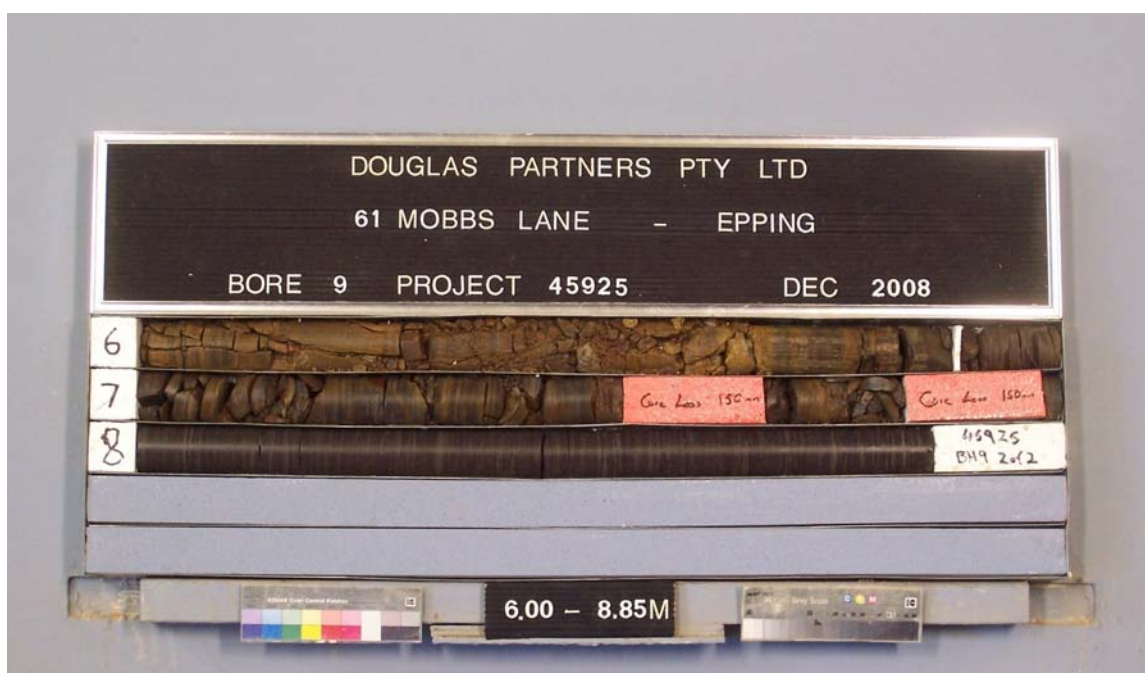
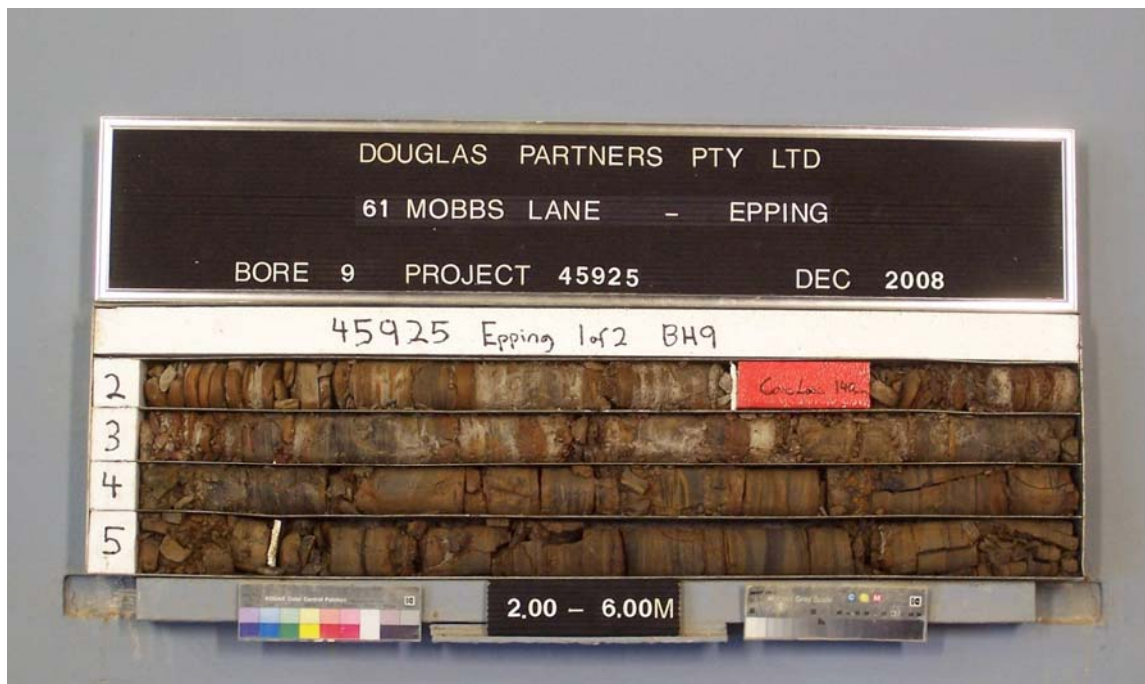


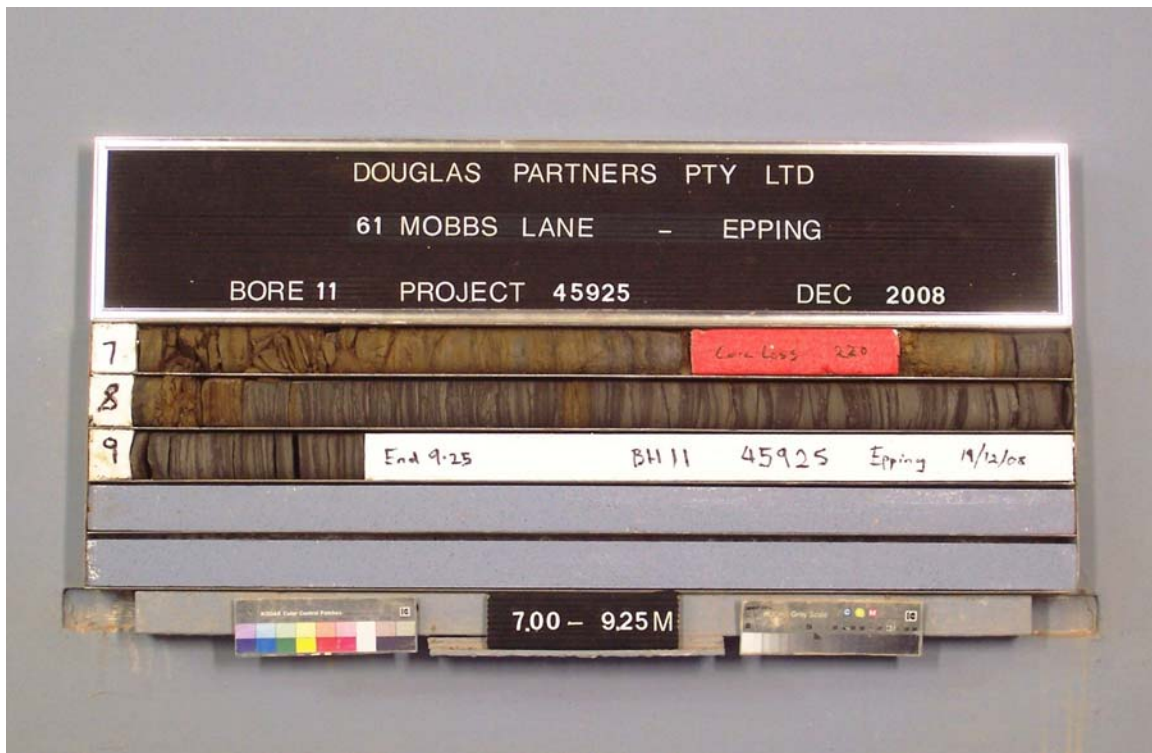




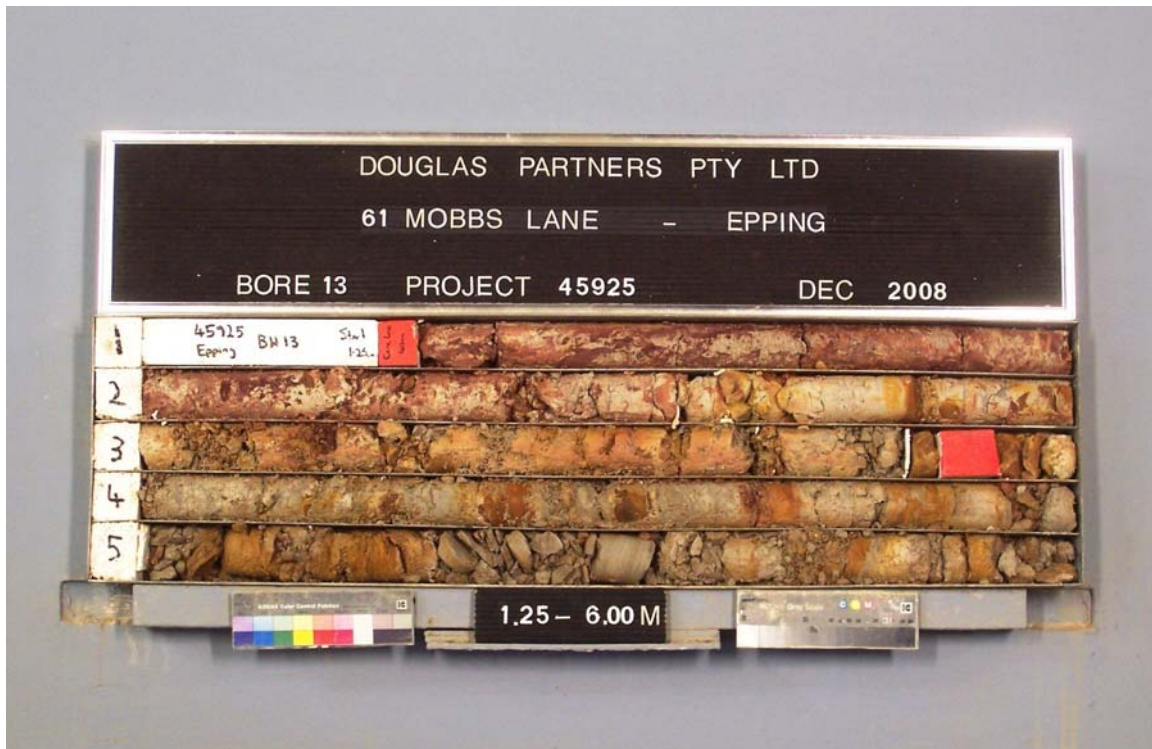




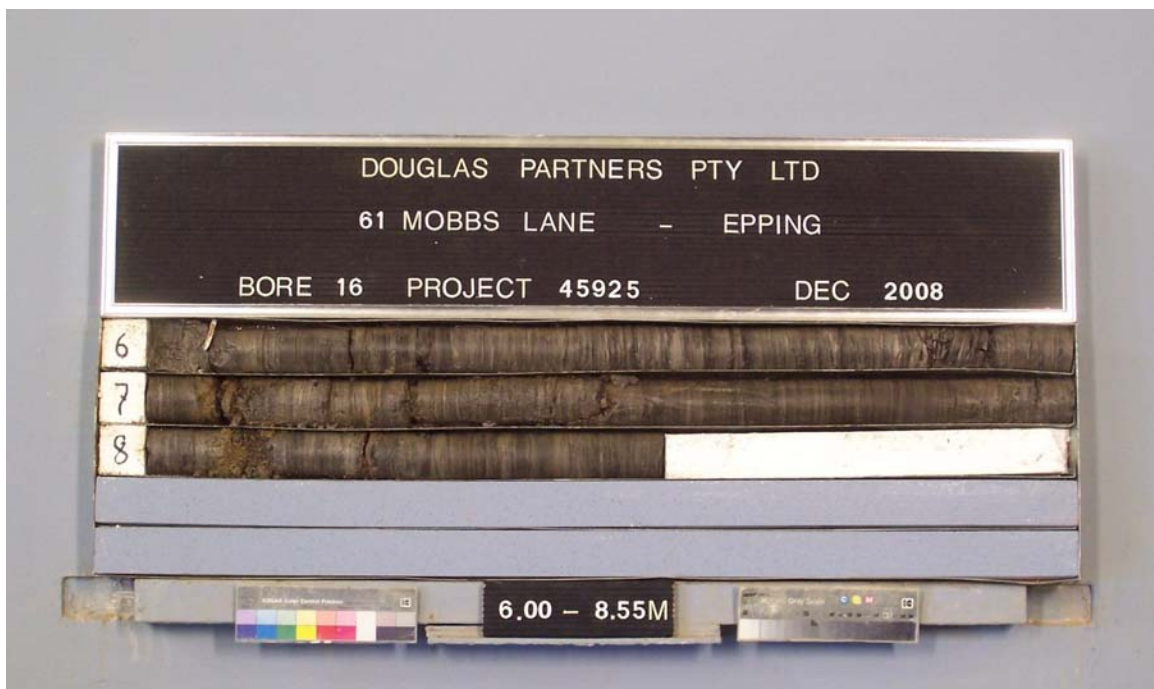
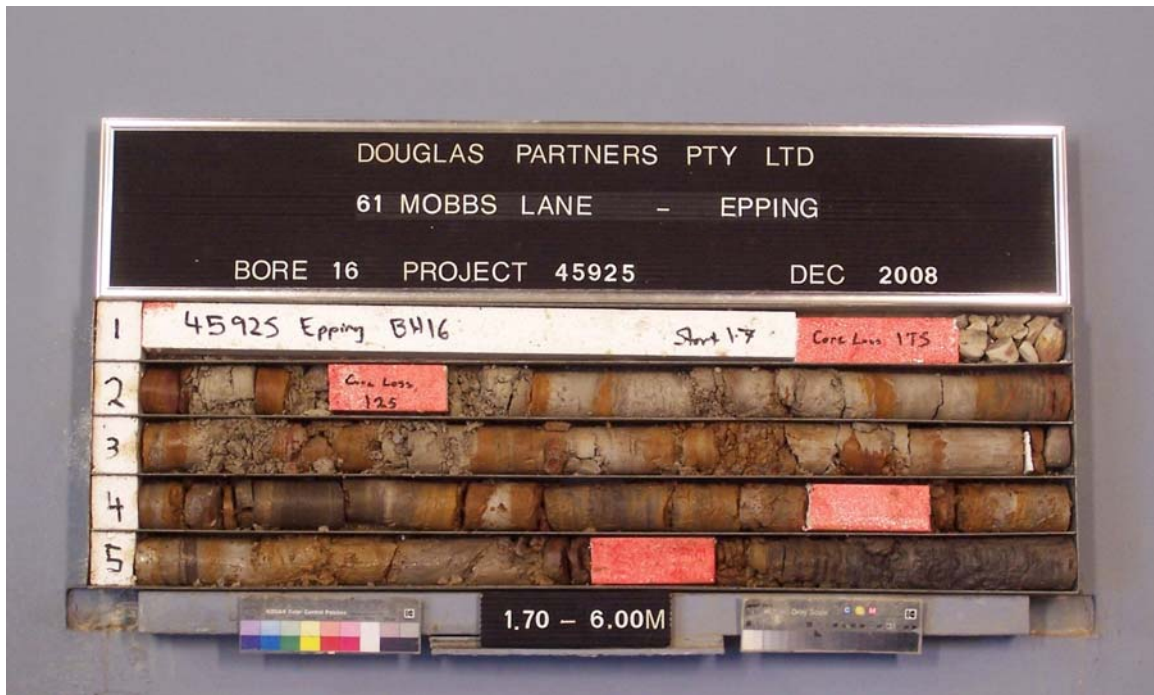


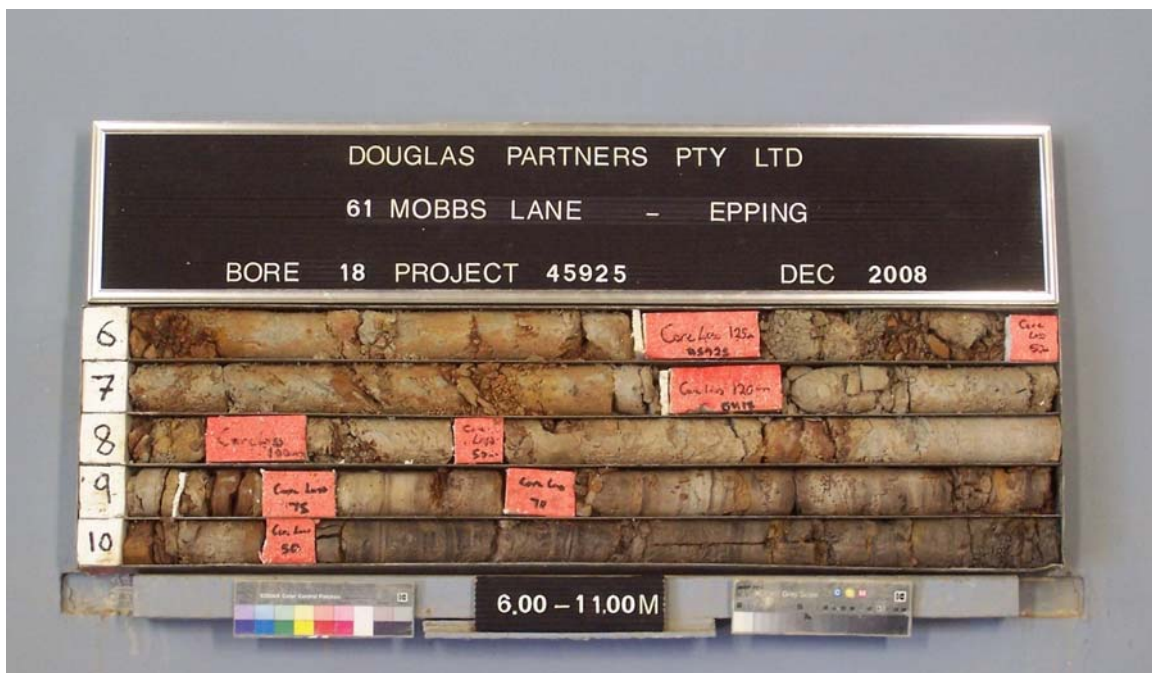
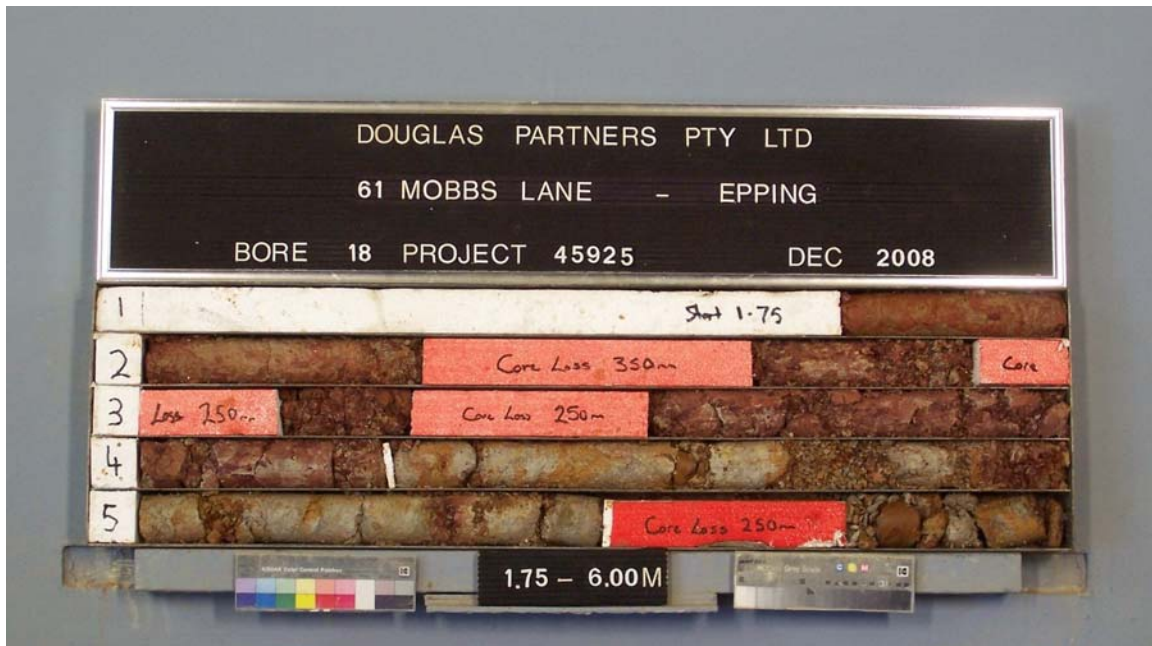


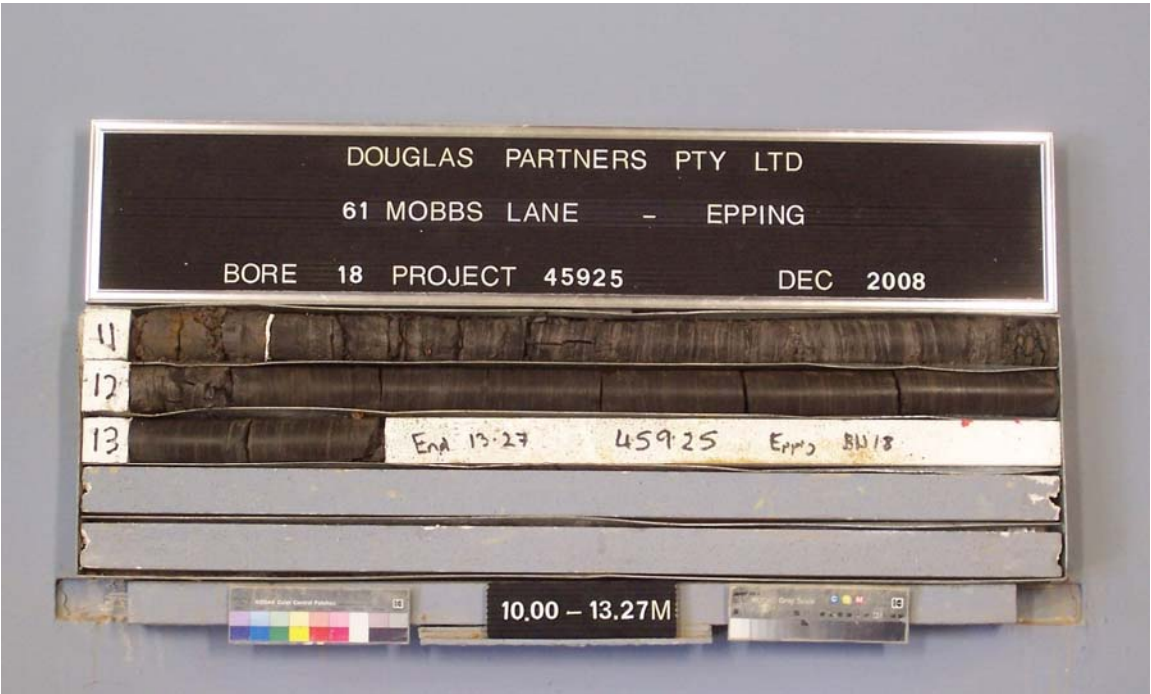






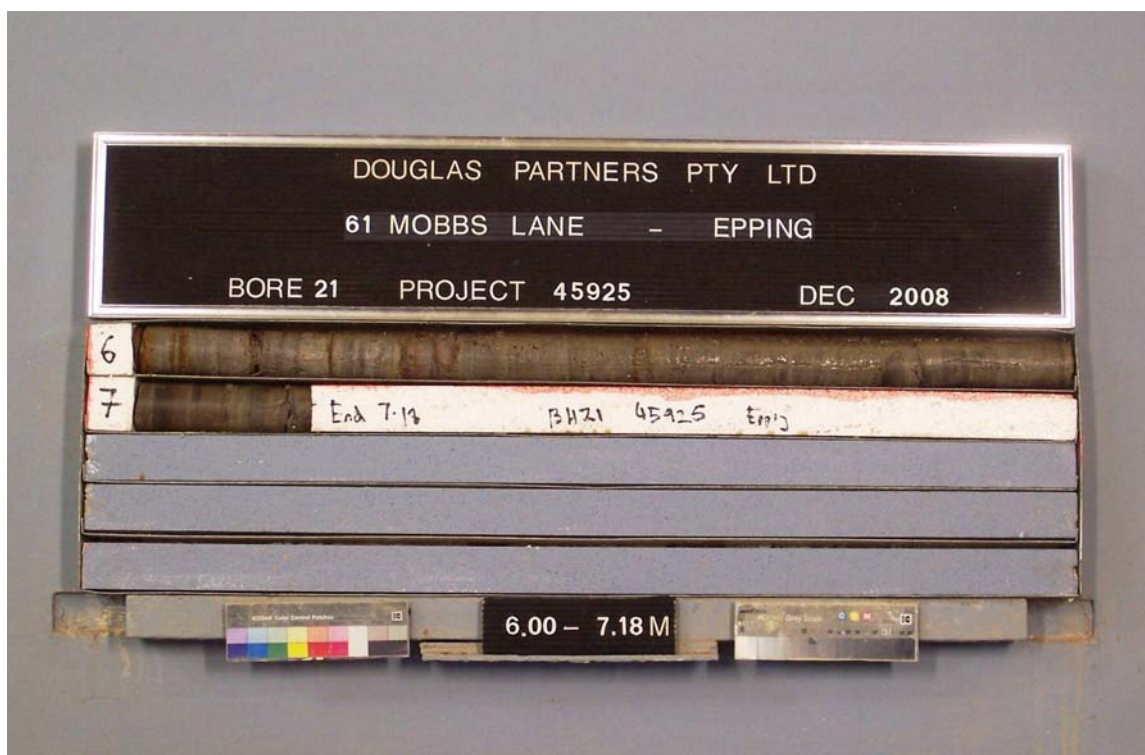












APPENDIX C
Laboratory Test Results



RESULTS OF MOISTURE CONTENT, PLASTICITY AND LINEAR SHRINKAGE TESTS

Client:	SYDNEY BROADCASTING PROPERTY P/L	Project No:	45925
Project:	PROPOSED RESIDENTIAL DEVELOPMENT	Report No:	S09-004 A
		Report Date:	21/01/09
Location:	61 MOBBS LANE, EPPING	Date Sampled:	-
		Date of Test:	15-19/01/09
		Page:	1 of 2

TEST LOCATION	DEPTH (m)	DESCRIPTION	CODE	W _F %	W _L %	W _P %	PI %	*LS %
BH 1	1.0	CLAY – Very stiff, red brown clay	2,5	-	84	38	46	20 CU
BH 8	2.8-3.25	FILLING – Orange brown and light grey clay filling	2,5	-	33	19	14	9
BH 12	1.0	FILLING – Dark red, orange and brown clay filling	2,5	-	29	20	9	5.5
BH 18	1.0	FILLING – Orange brown and dark red clay filling	2,5	-	52	25	27	14
BH 101	1.0	CLAY – Stiff, red brown clay	2,5	-	29	17	12	6.5
BH 104	0.5	CLAY – Stiff to very stiff, light grey, red and orange clay	2,5	-	60	28	32	15.5 CU

Legend:

W_F Field Moisture Content
W_L Liquid limit
W_P Plastic limit
PI Plasticity index
LS Linear shrinkage from liquid limit condition (Mould length 150mm)

NO No Result
NP Non Plas

Test Methods:

Moisture Content: AS 1289 2.1.1 - 2005
Liquid Limit: AS 1289 3.1.2 - 1995
Plastic Limit: AS 1289 3.2.1 - 1995
Plasticity Index: AS 1289 3.3.1 - 1995
Linear Shrinkage: AS 1289 3.4.1 - 1995

Code

Sample history for plasticity tests

1. Air dried
2. Low temperature (<50°C) oven dried
3. Oven (105°C) dried
4. Unknown

Method of preparation for plasticity tests

5. Dry sieved
6. Wet sieved
7. Natural

*Specify if sample crumbled CR or curled CU

Sampling Method(s): AS 1289.1.2.1-1998, AS 1289.1.1-2001

Remarks:

Approved Signatory:

Norman Weimann

Norman Weimann
Laboratory Manager



NATA Accredited Laboratory Number: 828

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

Tested: LW

Checked: NW



RESULTS OF MOISTURE CONTENT, PLASTICITY AND LINEAR SHRINKAGE TESTS

Client:	SYDNEY BROADCASTING PROPERTY P/L	Project No:	45925
Project:	PROPOSED RESIDENTIAL DEVELOPMENT	Report No:	S09-004 A
		Report Date:	21/01/09
Location:	61 MOBBS LANE, EPPING	Date Sampled:	-
		Date of Test:	15-19/01/09
		Page:	2 of 2

TEST LOCATION	DEPTH (m)	DESCRIPTION	CODE	W _F %	W _L %	W _P %	PI %	*LS %
BH 107	1.0	CLAY – Stiff, red and light grey clay	2,5	-	72	29	43	19 CU
Bh 108	0.5	CLAY – Orange brown and dark red clay	2,5	-	70	29	41	16.5

Legend:

W_F Field Moisture Content
W_L Liquid limit
W_P Plastic limit
PI Plasticity index
LS Linear shrinkage from liquid limit condition (Mould length 150mm)

NO No Result

NP Non Plas

Test Methods:

Moisture Content: AS 1289 2.1.1 - 2005
Liquid Limit: AS 1289 3.1.2 - 1995
Plastic Limit: AS 1289 3.2.1 - 1995
Plasticity Index: AS 1289 3.3.1 - 1995
Linear Shrinkage: AS 1289 3.4.1 - 1995

Code

Sample history for plasticity tests

1. Air dried
2. Low temperature (<50°C) oven dried
3. Oven (105°C) dried
4. Unknown

Method of preparation for plasticity tests

5. Dry sieved
6. Wet sieved
7. Natural

*Specify if sample crumbled CR or curled CU

Sampling Method(s): AS 1289.1.2.1-1998, AS 1289.1.1-2001

Remarks:

Approved Signatory:

Norman Weimann

Norman Weimann
Laboratory Manager



NATA Accredited Laboratory Number: 828

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ACCREDITED FOR
TECHNICAL
COMPETENCE

Tested: LW

Checked: NW



DETERMINATION OF EMERSON CLASS NUMBER OF SOIL

Client:	SYDNEY BROADCASTING PROPERTY P/L	Project No:	45925
Project:	PROPOSED RESIDENTIAL DEVELOPMENT	Report No:	S09-004 H
		Report Date:	21/01/09
Location:	61 MOBBS LANE, EPPING	Date of Test:	20/01/09
		Page:	1 of 1

SAMPLE NO	DEPTH (m)	DESCRIPTION	WATER TYPE	WATER TEMP	CLASS NO.
BH 2	0.5	CLAY – Firm to stiff, red brown clay	Distilled	20	4
BH 5	1.0	CLAY – Very stiff, light brown and grey clay with some ironstone	Distilled	20	2
BH 11	1.0	CLAY – Very stiff, light brown and grey clay with some ironstone bands	Distilled	20	4
BH 21	0.5	CLAY – Very stiff, dark brown, light grey and orange clay with some ironstone gravel	Distilled	20	4

Test Method(s): AS 1289 3.8.1 - 1997

Sampling Method(s): AS 1289.1.2.1-1998, AS 1289.1.1-2001

Remarks:

Approved Signatory:

Norman Weimann
Laboratory Manager



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Tested: LW
Checked: NW

CHEMICAL TEST RESULTS

CLIENT: SYDNEY BROADCASTING PROPERTY P/L PROJECT NO: 45925

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT DATE: 21/01/09

LOCATION: 61 MOBBS LANE, EPPING DATE OF TESTING: 09/01/09

PAGE: 1 of 1

SAMPLE	Depth (m)	SAMPLE DESCRIPTION	Chloride Cl (mg/kg)	Sulphate SO ₄ (mg/kg)	Electrical Conductivity (μS/cm)	pH (pH Units)
BH 3	0.5	CLAY – Stiff, red brown clay with a trace of ironstone	<100	150	80	4.7
BH 8	1.0	FILLING – Orange brown and light grey clay filling with some sand and gravel	<100	59	42	5.1
BH 13	0.5	CLAY – Very stiff, red and grey clay with some ironstone gravel	110	35	77	4.6
BH 19	1.0	CLAY – Very stiff, light brown and light grey clay with a trace of gravel	<100	27	50	4.8

Test Methods:

The pH value: AS 1289 4.3.1 - 1997

ENVIROLAB SERVICES:

Reports: 25550-1 BH3/0.5m
25550-2 BH 8/1.0m
25550-3 BH13/0.5m
25550-4 BH19/1.0m

Laboratory: SYDNEY

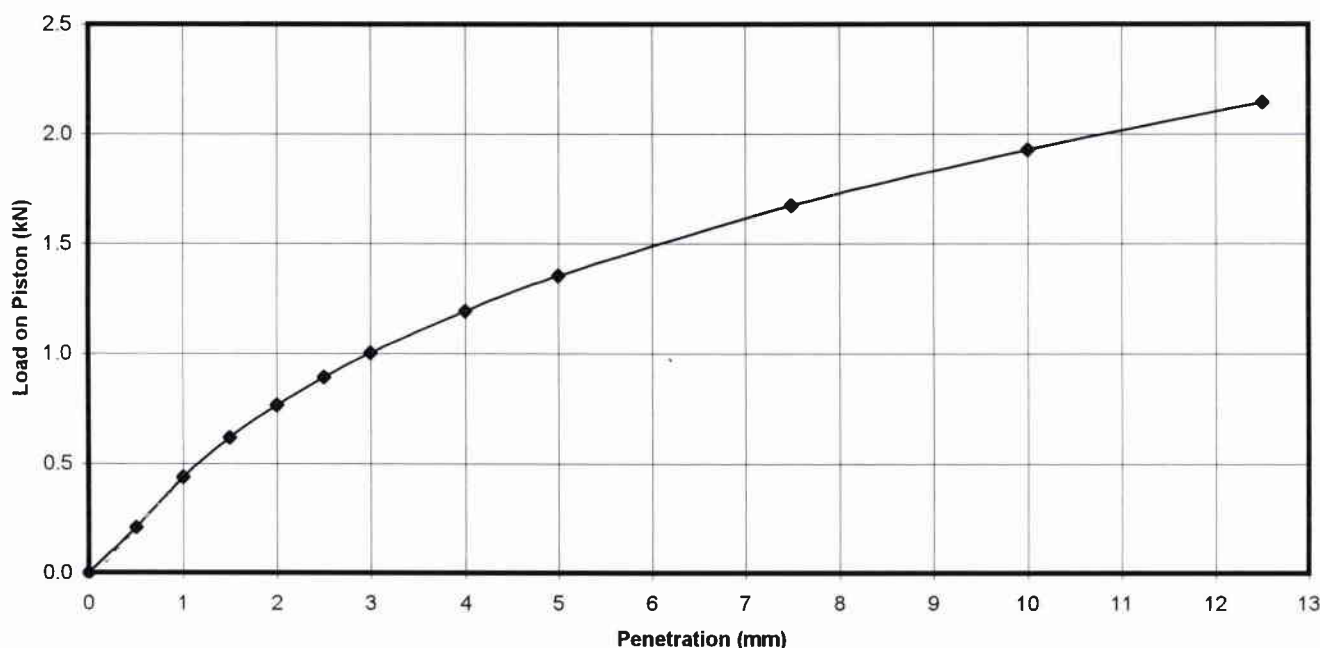


Signed: N. Weimann
Manager. Earthworks / Laboratory Testing Services



RESULT OF CALIFORNIA BEARING RATIO TEST

Client :	SYDNEY BROADCASTING PROPERTY P/L	Project No. :	45925
Project :	PROPOSED RESIDENTIAL DEVELOPMENT	Report No. :	S09-004 B
Location :	61 MOBBS LANE, EPPING	Report Date :	21/01/09
Test Location :	BH 101	Date Sampled :	-
Depth / Layer :	1.0-2.2m	Date of Test:	09/01/09
		Page:	1 of 1



Description: CLAY - Stiff, red brown clay

Test Method(s): AS 1289.6.1.1-1998, AS 1289.2.1.1-2005

Sampling Method(s): AS 1289.1.2.1-1998, AS 1289.1.1-2001

Percentage > 19mm: 0.0%

LEVEL OF COMPACTION: 101% of STD MDD

SURCHARGE: 4.5 kg

SWELL: 1.1%

MOISTURE RATIO: 92% of STD OMC

SOAKING PERIOD: 4 days

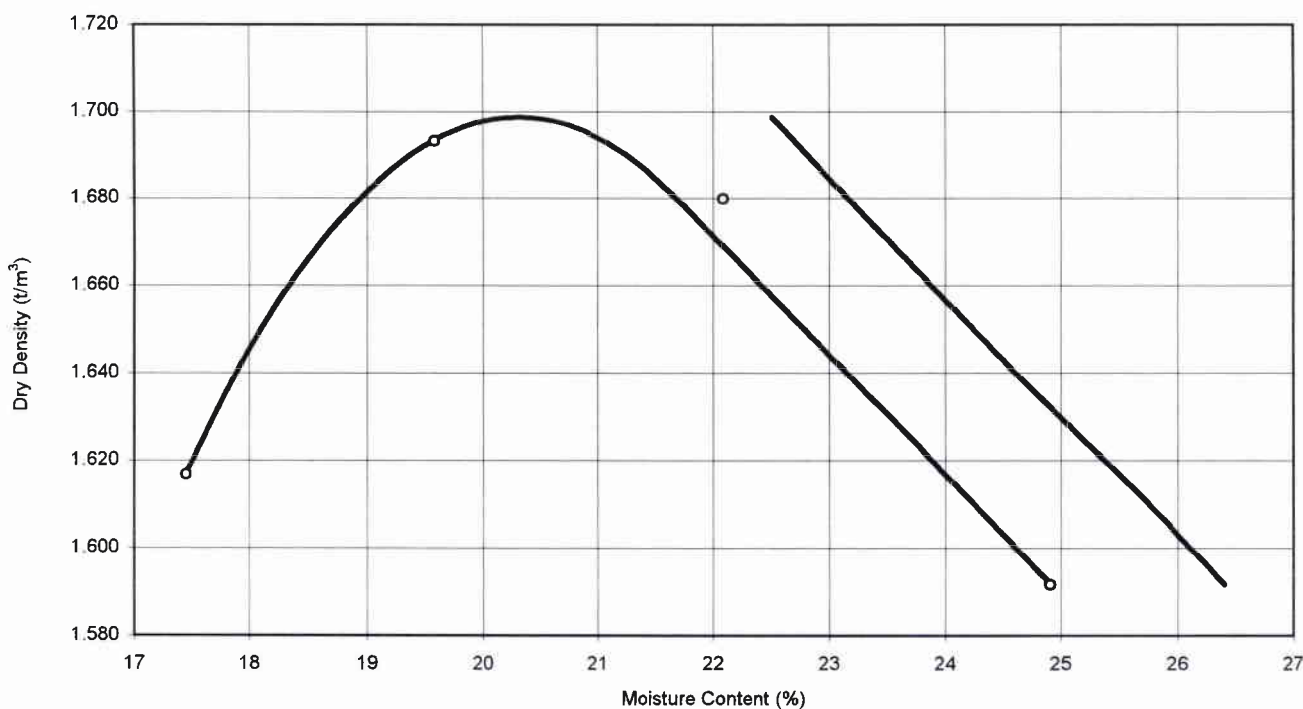
CONDITION	MOISTURE CONTENT %	DRY DENSITY t/m ³
At compaction	18.8	1.72
After soaking	21.3	1.70
After test		
Top 30mm of sample	21.3	-
Remainder of sample	19.4	-
Field values	22.1	-
Standard Compaction	20.3	1.70

RESULTS		
TYPE	PENETRATION	CBR (%)
TOP	2.5 mm	7
	5.0 mm	7



RESULTS OF COMPACTION TEST

Client :	SYDNEY BROADCASTING PROPERTY P/L	Project No. :	45925
Project :	PROPOSED RESIDENTIAL DEVELOPMENT	Report No. :	S09-004 B
Location :	61 MOBBS LANE, EPPING	Report Date :	09/01/09
		Date of Test:	09/01/09
		Page:	1 of 1



Sample Details **Location:** BH 101
Depth: 1.0-2.2m

Particles > 19mm: 0%

Description: CLAY - Stiff, red brown clay

Maximum Dry Density:	1.70 t/m³
Optimum Moisture Content:	20.5 %

Remarks:

Test Methods: AS 1289.5.1.1-2003 (STD), AS1289.2.1.1-2005

Sampling Methods: AS 1289.1.1-2001, AS 1289.1.2.1-1998



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Approved Signatory:

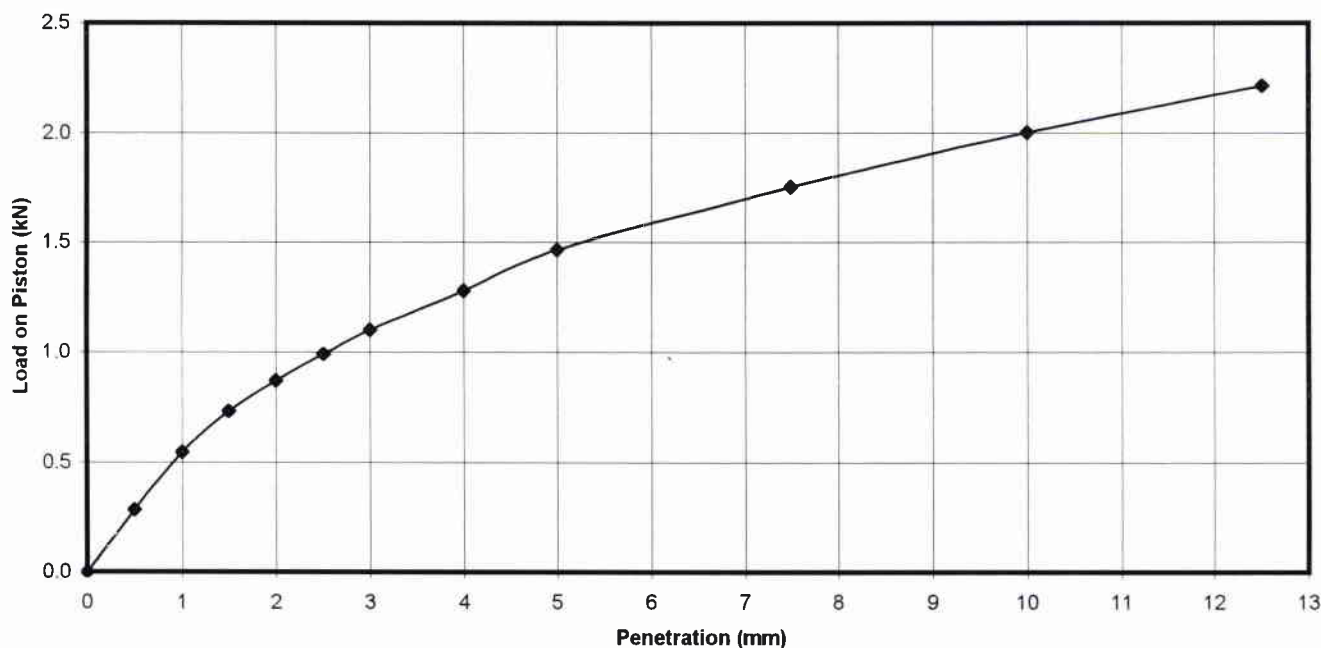
Tested:	AH
Checked:	NW

Norman Weimann
Laboratory Manager



RESULT OF CALIFORNIA BEARING RATIO TEST

Client :	SYDNEY BROADCASTING PROPERTY P/L	Project No. :	45925
Project :	PROPOSED RESIDENTIAL DEVELOPMENT	Report No. :	S09-004 C
Location :	61 MOBBS LANE, EPPING	Report Date :	21/01/09
Test Location :	BH 102	Date Sampled :	-
Depth / Layer :	1.1-2.4m	Date of Test:	09/01/09
		Page:	1 of 1



Description: CLAY - Firm to stiff, red brown clay

Test Method(s): AS 1289.6.1.1-1998, AS 1289.2.1.1-2005

Sampling Method(s): AS 1289.1.2.1-1998, AS 1289.1.1-2001

Percentage > 19mm: 0.0%

LEVEL OF COMPACTION: 100% of STD MDD

SURCHARGE: 4.5 kg

SWELL: 0.9%

MOISTURE RATIO: 101% of STD OMC

SOAKING PERIOD: 4 days

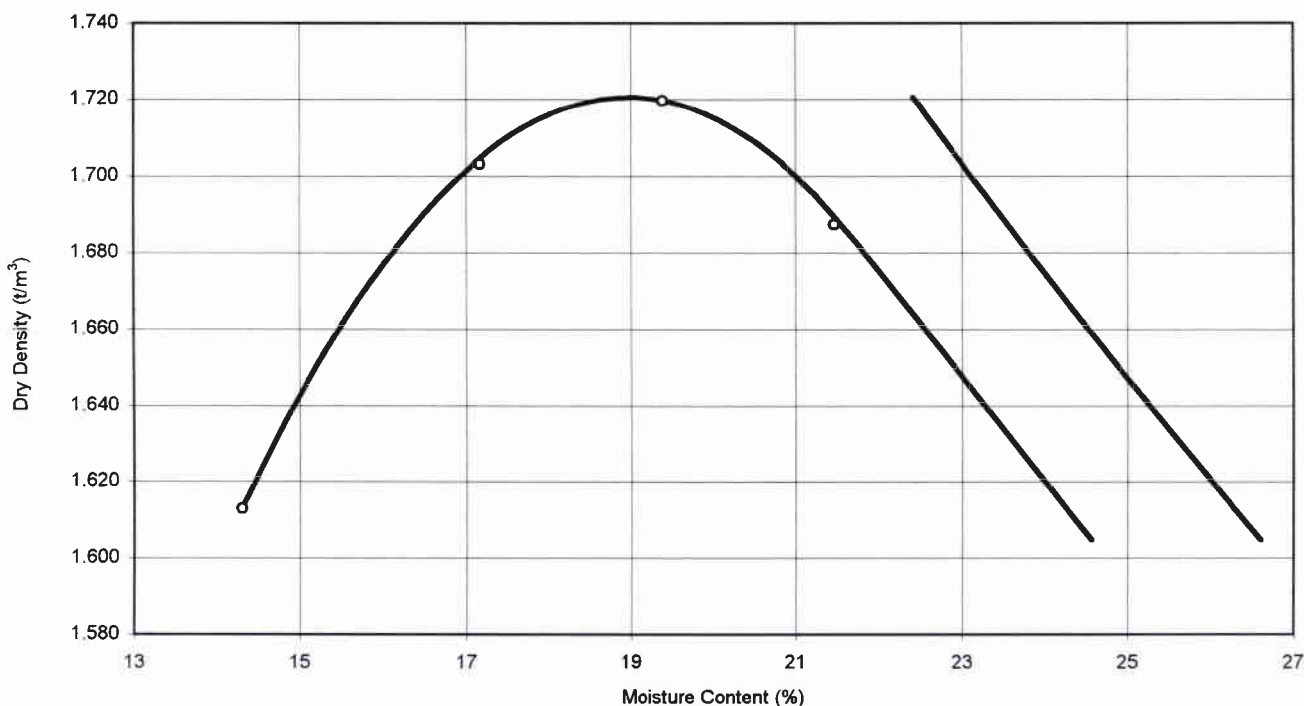
CONDITION	MOISTURE CONTENT %	DRY DENSITY t/m ³
At compaction	19.2	1.72
After soaking	21.6	1.70
After test		
Top 30mm of sample	21.2	-
Remainder of sample	19.1	-
Field values	19.4	-
Standard Compaction	19.0	1.72

RESULTS		
TYPE	PENETRATION	CBR (%)
TOP	2.5 mm	8
	5.0 mm	7



RESULTS OF COMPACTION TEST

Client :	SYDNEY BROADCASTING PROPERTY P/L	Project No. :	45925
Project :	PROPOSED RESIDENTIAL DEVELOPMENT	Report No. :	S09-004 C
Location :	61 MOBBS LANE, EPPING	Report Date :	09/01/09
		Date of Test:	09/01/09
		Page:	1 of 1



Sample Details **Location:** BH 102
Depth: 1.1-2.4m

Particles > 19mm: 0%

Description: CLAY - Firm to stiff, red brown clay

Maximum Dry Density:	1.72 t/m³
Optimum Moisture Content:	19.0 %

Remarks:

Test Methods: AS 1289.5.1.1-2003 (STD), AS1289.2.1.1-2005

Sampling Methods: AS 1289.1.1-2001, AS 1289.1.2.1-1998



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Approved Signatory:

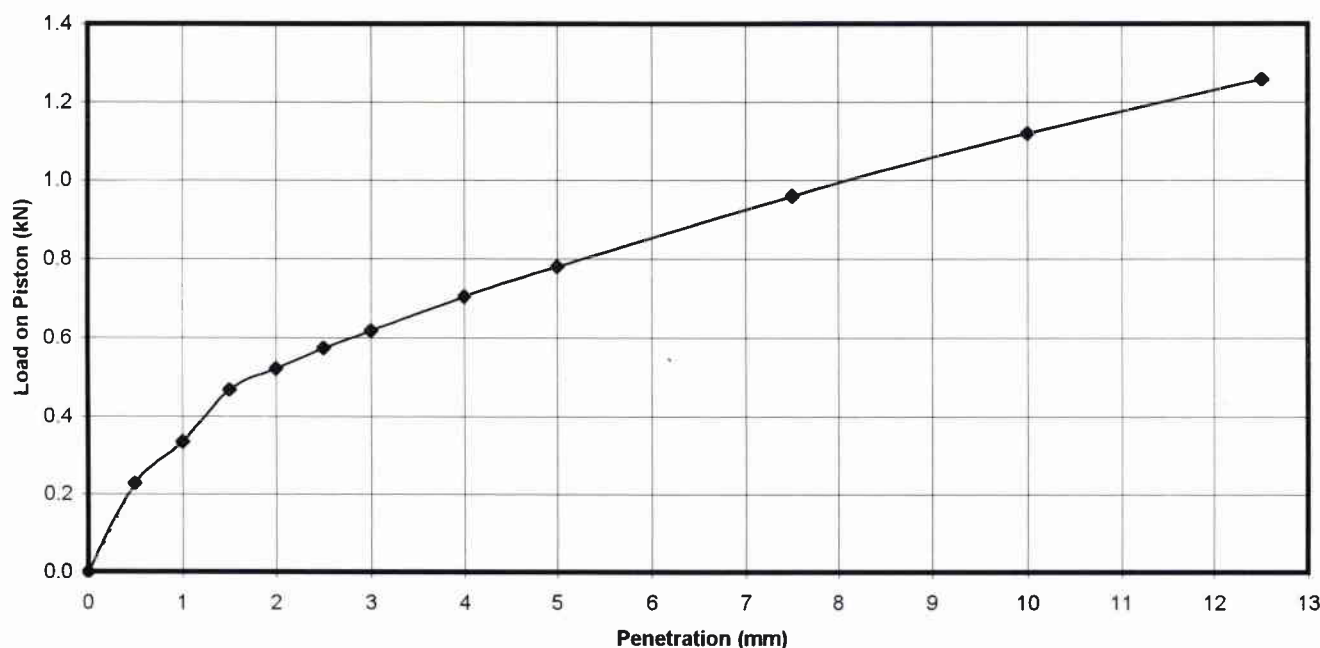
Tested:	AH
Checked:	NW

Norman Weimann
Norman Weimann
Laboratory Manager



RESULT OF CALIFORNIA BEARING RATIO TEST

Client :	SYDNEY BROADCASTING PROPERTY P/L	Project No. :	45925
Project :	PROPOSED RESIDENTIAL DEVELOPMENT	Report No. :	S09-004 D
Location :	61 MOBBS LANE, EPPING	Report Date :	21/01/09
Test Location :	BH 104	Date Sampled :	-
Depth / Layer :	0.3-0.9m	Date of Test:	09/01/09
		Page:	1 of 1



Description: CLAY - Stiff to very stiff, light grey, red and orange clay

Test Method(s): AS 1289.6.1.1-1998, AS 1289.2.1.1-2005

Sampling Method(s): AS 1289.1.2.1-1998, AS 1289.1.1-2001

Percentage > 19mm: 0.0%

LEVEL OF COMPACTION: 100% of STD MDD

SURCHARGE: 4.5 kg

SWELL: 2.2%

MOISTURE RATIO: 101% of STD OMC

SOAKING PERIOD: 4 days

CONDITION	MOISTURE CONTENT %	DRY DENSITY t/m ³
At compaction	24.7	1.57
After soaking	27.7	1.54
After test		
Top 30mm of sample	27.0	-
Remainder of sample	23.8	-
Field values	22.8	-
Standard Compaction	24.4	1.58

RESULTS		
TYPE	PENETRATION	CBR (%)
TOP	2.5 mm	4.5
	5.0 mm	4.0



RESULTS OF COMPACTION TEST

Client : SYDNEY BROADCASTING PROPERTY P/L

Project : PROPOSED RESIDENTIAL DEVELOPMENT

Location : 61 MOBBS LANE, EPPING

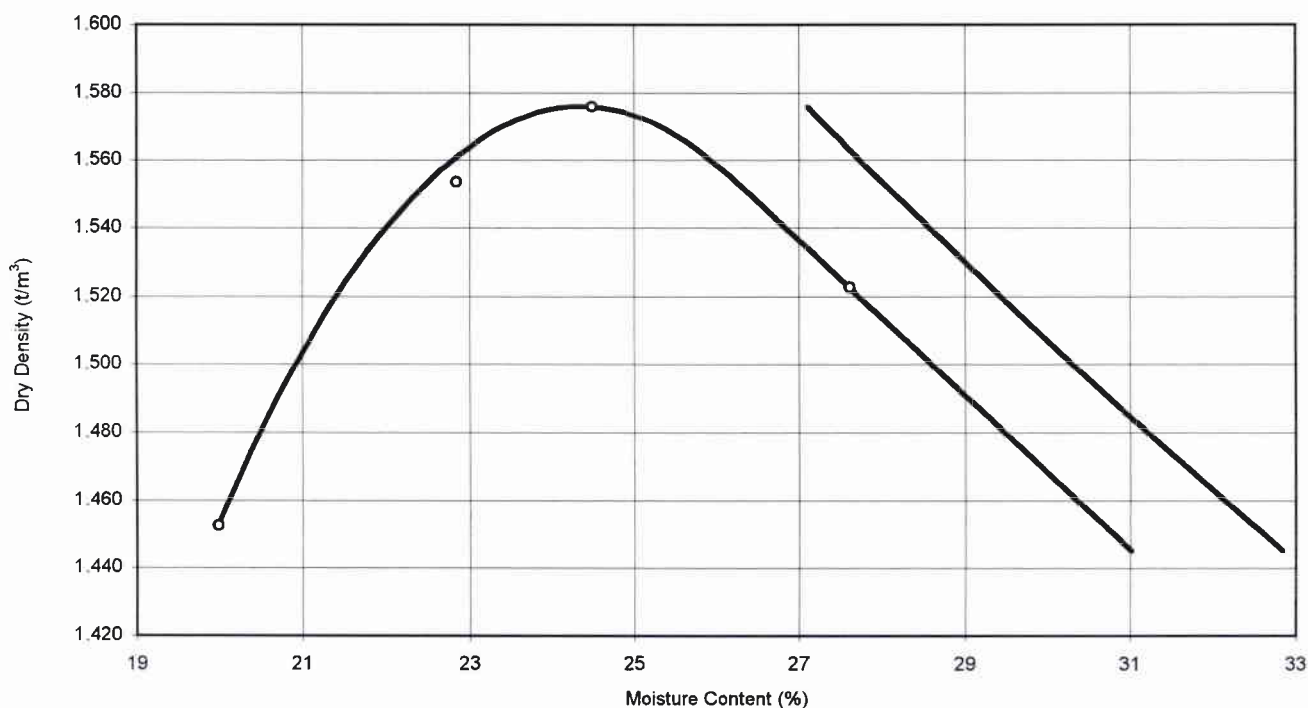
Project No. : 45925

Report No. : S09-004 D

Report Date : 09/01/09

Date of Test: 09/01/09

Page: 1 of 1



Sample Details **Location:** BH 104
Depth: 0.3-0.9m

Particles > 19mm: 0%

Description: CLAY - Stiff to very stiff, light grey, red and orange clay

Maximum Dry Density: 1.58 t/m³

Optimum Moisture Content: 24.5 %

Remarks:

Test Methods: AS 1289.5.1.1-2003 (STD), AS1289.2.1.1-2005

Sampling Methods: AS 1289.1.1-2001, AS 1289.1.2.1-1998



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Approved Signatory:

Tested: AH
Checked: NW

Norman Weimann

Norman Weimann
Laboratory Manager