



BOREHOLE LOG

CLIENT: Lachlan Project Development Pty Ltd
PROJECT: Cochlear Global Headquarters
LOCATION: Macquarie University South Precinct

SURFACE LEVEL: 64.5 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/-

BORE No: 3
PROJECT No: 45298
DATE: 18 Dec 08
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			Test Results & Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
			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	Core Rec. %	RQD %																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
54	11	SANDSTONE - high strength, fresh, slightly fractured, light grey, fine to medium grained sandstone (continued)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														</

RIG: Edson 3000

DRILLER: JS

LOGGED: JC

CASING: HW to 1.60m

TYPE OF BORING: Solid flight auger (TC-bit) to 1m, rotary (water) to 2.1m, NMLC-coring to 14.0m

WATER OBSERVATIONS: No free groundwater observed whilst augering

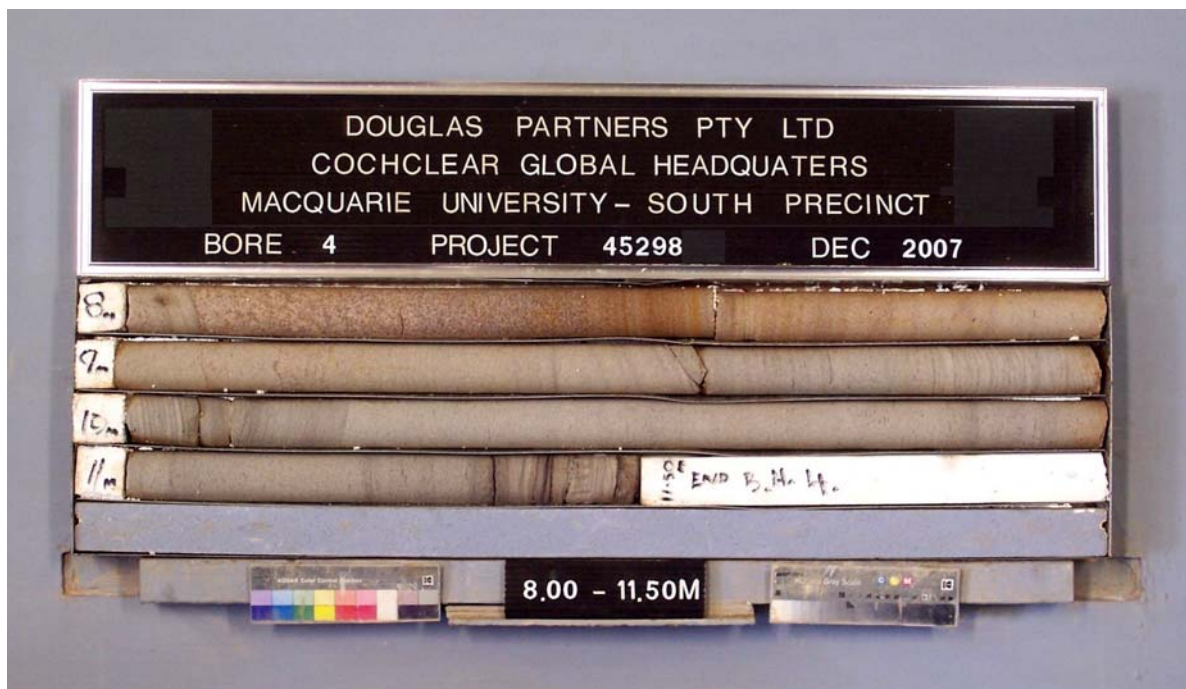
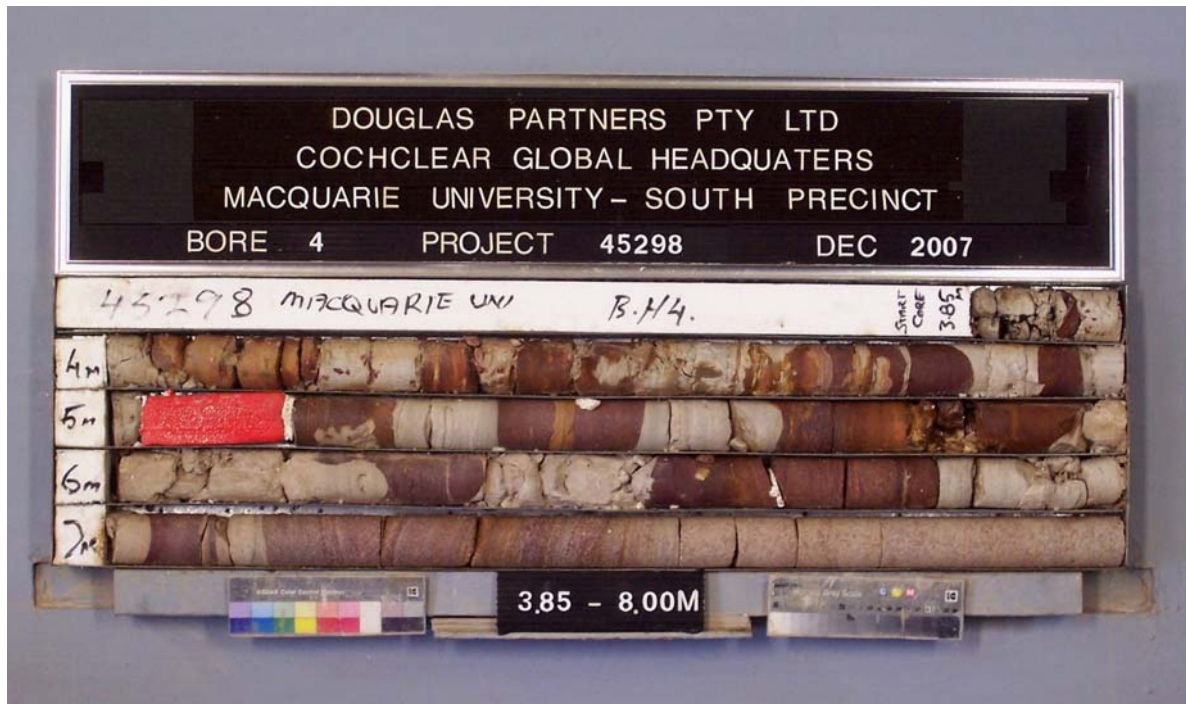
REMARKS: Approximately 50% water loss at 10.50m

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:	STE
Date:	25/1/08



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BOREHOLE LOG

CLIENT: Lachlan Project Development Pty Ltd
PROJECT: Cochlear Global Headquarters
LOCATION: Macquarie University South Precinct

SURFACE LEVEL: 61.8 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/-

BORE No: 4
PROJECT No: 45298
DATE: 12 Dec 07
SHEET 1 OF 2

RL	Depth (m)	Description of Strata	Degree of Weathering	Graphic Log	Rock Strength	Fracture Spacing (m)	Discontinuities	Sampling & In Situ Testing			
								Type	Core Rec %	RQD %	Test Results & Comments
			EW HW MW SW FS FR		Ex Low Very Low Low Medium High Very High Ex High	0.01 0.05 0.10 0.50 1.00	B - Bedding S - Shear J - Joint D - Drill Break				
61.2	0.2	BITUMEN OVER ROADBASE									
61.1	1	FILLING - grey and light brown silty clay filling, with shale and ironstone gravel						S			1,1,1 N = 2
60.2	2.2	SILTY CLAY - firm, grey to dark grey silty clay, with some wood fragments (possibly old topsoil)						S			
59.8	2.8	SILTY SANDY CLAY - very stiff to hard, grey and orange silty sandy clay with ironstone gravel					Note: Unless otherwise stated, rock is fractured along tight planar rough bedding planes dipping at 0°- 10° & joints	S			2,2,7 N = 9
58.5	3.85	SANDSTONE - very low to medium strength, extremely weathered and highly weathered, slightly fractured, red brown and grey, fine to medium grained sandstone with ironstone and clay bands					3.85m: J90° 1mm rootlet	C	87	68	PL(A) = 0.2MPa PL(A) = 0.8MPa
57.5	5.03						4.35m: 40mm crushed rock & clay				
56.5	5.33	SANDSTONE - medium to high strength, moderately weathered, fractured to slightly fractured, red brown and grey, fine to medium grained sandstone					5.03m: CORE LOSS: 140mm 5.32m: B0° 10mm clay 5.56m: B0° 8mm clay	C	100	90	PL(A) = 1.2MPa PL(A) = 1.3MPa
55.5	6.4	- very low strength band 6.4 to 6.55m					5.81m: 30mm clay & rounded sandstone gravel 5.93m: J70° 1mm ironstained				
54.5	7.03	SANDSTONE - high strength, moderately to slightly weathered, slightly fractured to unbroken, fine to medium grained sandstone						C		89	PL(A) = 1.1MPa PL(A) = 1.7MPa
53.5	8.6	SANDSTONE - medium strength, fresh, slightly fractured to unbroken, fine to medium grained sandstone					9.56m: J40° 2mm clay	C	100	100	PL(A) = 0.9MPa

RIG: Edson 3000

DRILLER: JS

LOGGED: P Hartcliff

CASING: HW to 3.0m

TYPE OF BORING: Solid flight auger (V-bit) to 2.50m; Rotary (water) to 3.85m; NMLC-Coring to 11.50m

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:	STE
Date:	25/1/08



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BOREHOLE LOG

CLIENT: Lachlan Project Development Pty Ltd
PROJECT: Cochlear Global Headquarters
LOCATION: Macquarie University South Precinct

SURFACE LEVEL: 61.8 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/--

BORE No: 4
PROJECT No: 45298
DATE: 12 Dec 07
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
51	11	SANDSTONE - medium strength, fresh, slightly fractured to unbroken, fine to medium grained sandstone (continued)																C	100	100	PL(A) = 0.5MPa
50	11.5																				PL(A) = 0.9MPa
12		Bore discontinued at 11.5m																			
13																					
14																					
15																					
16																					
17																					
18																					
19																					
20																					
21																					

RIG: Edson 3000

DRILLER: JS

LOGGED: P Hartcliff

CASING: HW to 3.0m

TYPE OF BORING: Solid flight auger (V-bit) to 2.50m; Rotary (water) to 3.85m; NMLC-Coring to 11.50m

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

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Date:	25/1/08



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BOREHOLE LOG

CLIENT: Lachlan Project Development Pty Ltd
PROJECT: Cochlear Global Headquarters
LOCATION: Macquarie University South Precinct

SURFACE LEVEL: 62.4 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/-

BORE No: 5
PROJECT No: 45298
DATE: 20 Dec 07
SHEET 1 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	Core Rec. %
62 61 60 59 58 57 56 55 54 53	0.1	TOPSOIL - black sandy topsoil																				
		FILLING - light grey and yellow clay and shale filling																				
	0.8	CLAY - very stiff, brown clay with some shale and ironstone bands																				9,10,12 N = 22
	2.0	SANDSTONE - extremely low strength, light grey sandstone																				
	2.5	SANDSTONE - very low strength, highly weathered, banded light grey and yellow brown, fine grained sandstone with medium strength ironstone bands																				PL(A) = 0.7MPa
	2.86																					
	4.06																					
	4.76	LAMINITE - low strength, highly weathered, fractured, grey and brown laminite with 20% sandstone laminations																				PL(A) = 0.2MPa
5.45																						
5.66																						
6.49	LAMINITE - medium to high strength, slightly weathered, fractured to slightly fractured, brown grey laminite with 20% sandstone laminations																				PL(A) = 0.8MPa PL(A) = 1.8MPa	
7.56																						
9.05	SANDSTONE - high strength, fresh, slightly fractured, light grey and dark grey, fine grained sandstone with some thinly laminated shale																				PL(A) = 1.5MPa	

RIG: Edson 3000

DRILLER: JS

LOGGED: JC

CASING: H to 1.60m

TYPE OF BORING: Solid flight auger (TC-bit) to 1.6m; Rotary to 2.3m; NMLC-Coring to 11.65m

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:	STE
Date:	25/1/08



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BOREHOLE LOG

CLIENT: Lachlan Project Development Pty Ltd
PROJECT: Cochlear Global Headquarters
LOCATION: Macquarie University South Precinct

SURFACE LEVEL: 62.4 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/-

BORE No: 5
PROJECT No: 45298
DATE: 20 Dec 07
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	NW	SW	FS		FR	Ex Low	Very Low	Low	Medium				High	Very High	Ex High	B - Bedding	J - Joint	S - Shear	D - Drill Break	Type	Core Rec. %
52		SANDSTONE - high strength, fresh, slightly fractured, light grey and dark grey, fine grained sandstone with some thinly laminated shale (continued)																							
11	10.93																								PL(A) = 1.4MPa
51																									PL(A) = 1.6MPa
11.65		Bore discontinued at 11.65m																							
12																									
50																									
13																									
49																									
14																									
48																									
15																									
47																									
16																									
46																									
17																									
45																									
18																									
44																									
19																									
43																									

RIG: Edson 3000

DRILLER: JS

LOGGED: JC

CASING: H to 1.60m

TYPE OF BORING: Solid flight auger (TC-bit) to 1.6m; Rotary to 2.3m; NMLC-Coring to 11.65m

WATER OBSERVATIONS: No free groundwater observed whilst augering

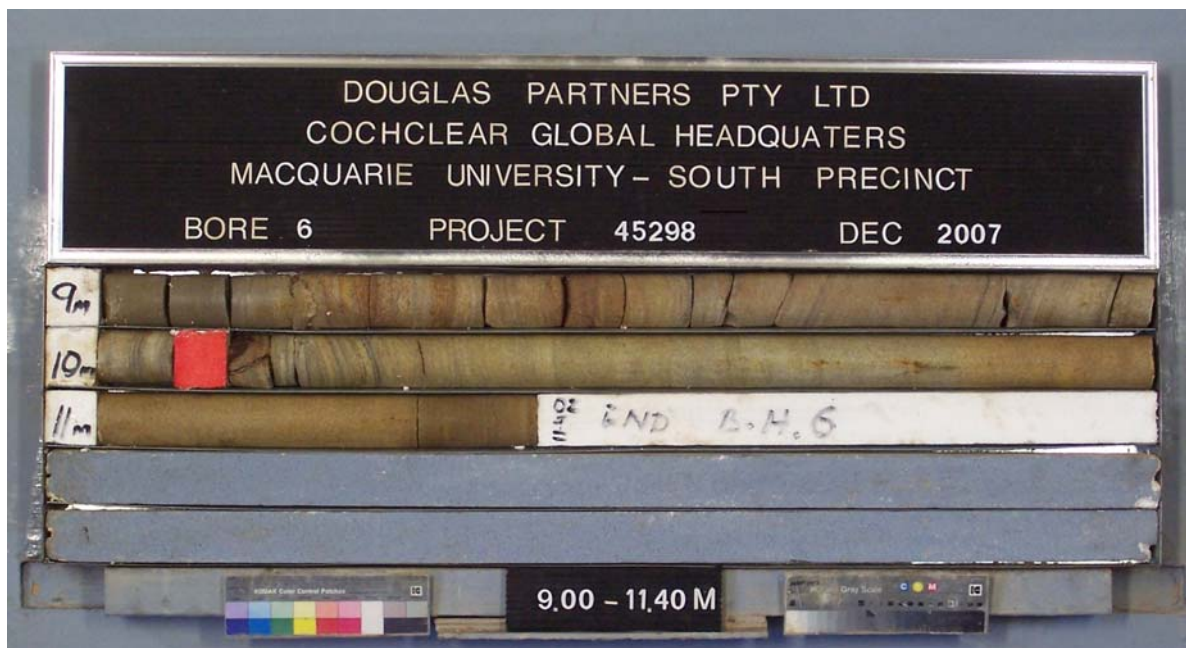
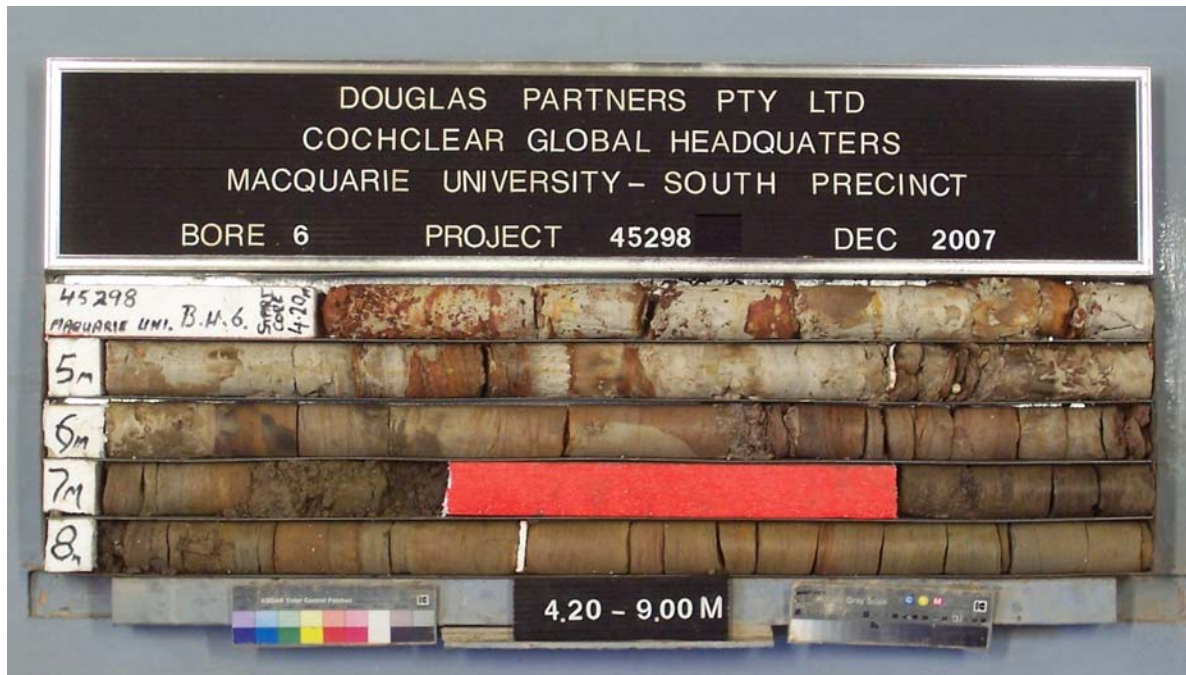
REMARKS:

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:	STE
Date:	25/1/08



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BOREHOLE LOG

CLIENT: Lachlan Project Development Pty Ltd
PROJECT: Cochlear Global Headquarters
LOCATION: Macquarie University South Precinct

SURFACE LEVEL: 61.0 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/-

BORE No: 6
PROJECT No: 45298
DATE: 13 Dec 08
SHEET 1 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	Core Rec. %
61	0.03	BITUMEN																				
60	0.2	ROADBASE																				
59	1	FILLING - grey and brown sandy clay filling with sandstone, shale and ironstone gravel																S				2,2,2 N = 4
58	2	FILLING - dark brown and grey sandy silty clay filling																	S			2,2,2 N = 4
57	2.85	FILLING - firm to stiff, light brown and grey silty clay filling with fine ironstone gravel (possibly natural)																				
56	3.7	CLAY - very stiff, red-brown clay with ironstone gravel																				
55	3.95	SILTY CLAY - hard, light grey and red-brown silty clay with ironstone bands																				
54	4.2	SANDSTONE - low strength, highly weathered, fractured to slightly fractured, light grey, fine grained sandstone with medium to high strength ironstone bands and clay bands																				PL(A) = 0.3MPa
53	5																					PL(A) = 0.3MPa
52	6.08	SANDSTONE - high strength, moderately weathered, fractured to slightly fractured, grey and brown, fine grained sandstone																				PL(A) = 1.4MPa
51	7.15	LAMINITE - very low to medium strength, highly to moderately weathered, highly fractured, dark brown and grey, laminite																				PL(A) = 2.3MPa
50	7.33																					PL(A) = 1.3MPa
49	8.12	SANDSTONE - high strength, slightly weathered, fractured to slightly fractured, yellow grey, fine grained sandstone																				PL(A) = 2.6MPa
48	9.2	SANDSTONE - high strength, fresh stained, slightly fractured, yellow grey, medium grained sandstone																				PL(A) = 1MPa
47	9.6	SANDSTONE - continued next page																				

RIG: Edson 3000

DRILLER: JS

LOGGED: PGH/JC

CASING: HW to 3.60m

TYPE OF BORING: Solid flight auger (TC bit) to 2.50m, Rotary (water) to 4.20m, NMLC-Coring to 11.40m

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:	STE
Date:	25/1/08



Douglas Partners
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BOREHOLE LOG

CLIENT: Lachlan Project Development Pty Ltd
PROJECT: Cochlear Global Headquarters
LOCATION: Macquarie University South Precinct

SURFACE LEVEL: 61.0 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/-

BORE No: 6
PROJECT No: 45298
DATE: 13 Dec 08
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			Test Results & Comments
			EW	HW	MW	SW	FS		Ext Low	Very Low	Low	Medium	High	Very High		B - Bedding S - Shear	J - Joint D - Drill Break	Type	Core Rec. %	RQD %	
61	10.07	SANDSTONE - high strength, fresh, slightly fractured to unbroken, light grey medium grained sandstone (continued)																			
60	11																				
59	11.4	Bore discontinued at 11.4m																			
48	12																				
46	13																				
45	14																				
44	15																				
43	16																				
42	17																				
41	18																				
40	19																				

RIG: Edson 3000

DRILLER: JS

LOGGED: PGH/JC

CASING: HW to 3.60m

TYPE OF BORING: Solid flight auger (TC bit) to 2.50m, Rotary (water) to 4.20m, NMLC-Coring to 11.40m

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>STE</i>
Date: <i>25/1/08</i>



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BOREHOLE LOG

CLIENT: Lachlan Project Development Pty Ltd
PROJECT: Cochlear Global Headquarters
LOCATION: Macquarie University South Precinct

SURFACE LEVEL: 61.1 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/-

BORE No: 7
PROJECT No: 45298
DATE: 14 Dec 08
SHEET 1 OF 2

RL	Depth (m)	Description of Strata	Degree of Weathering EW HW NW SW PS FR	Graphic Log	Rock Strength Ex Low Very Low Low Medium High Very High Ex High	Water	Fracture Spacing (m) 0.01 0.05 0.10 0.50 1.00	Discontinuities		Sampling & In Situ Testing			
								B - Bedding S - Shear	J - Joint D - Drill Break	Type	Core Rec. %	RQD %	Test Results & Comments
61	0.1	TOPSOIL - brown silty sand topsoil FILLING - grey and brown sandy silty clay filling, with sandstone and ironstone gravel and a trace of roots and basalt gravel											
60	1									S			2,6,10 N = 16
59	2.0	FILLING - red brown silty clay filling, with shale and ironstone gravel and a trace of organics								S			2,3,3 N = 6
58	3.0	FILLING - light grey sandy clay filling											
57	3.25	FILLING - dark grey brown sandy clay filling (possibly old topsoil)											
56	3.75	SILTY CLAY - stiff, light brown, silty clay with a trace of ironstone gravel - light grey mottled red from 4.3m								S			3,5,7 N = 12
55	5.1	LAMINITE - extremely low strength, extremely weathered, fractured, light grey laminite with some ironstone bands								C	71	0	
54	5.18												
53	5.8												
52	6.36	LAMINITE - very low to low strength, highly to moderately weathered, highly fractured to fractured red brown and grey laminite								C	92	18	PL(A) = 0.2MPa
51	7.06	LAMINITE - medium strength, moderately weathered, fractured red brown laminite with some extremely low strength bands											PL(A) = 0.5MPa
50	7.64	LAMINITE - very low to low strength, highly weathered, fractured, grey brown laminite								C	100	0	
49	8.47	LAMINITE - high strength, slightly weathered, fractured to slightly fractured, grey and light brown laminite with 50% sandstone laminations											PL(A) = 1.3MPa
48	9.81									C	100	87	PL(A) = 1.3MPa
47													PL(A) = 1.7MPa

RIG: Edson 3000

DRILLER: JS

LOGGED: JC

CASING: HW to 4.60m

TYPE OF BORING: Solid flight auger (TC-bit) to 4.00m, rotary (water) to 5.10m, NMLC-Coring to 11.55m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS: PVC standpipe installed

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
		W	Water level

CHECKED	
Initials:	STE
Date:	25/1/08



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BOREHOLE LOG

CLIENT: Lachlan Project Development Pty Ltd
PROJECT: Cochlear Global Headquarters
LOCATION: Macquarie University South Precinct

SURFACE LEVEL: 61.1 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/-

BORE No: 7
PROJECT No: 45298
DATE: 14 Dec 08
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			Test Results & Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
			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	Core Rec. %	RQD %																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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RIG: Edson 3000

DRILLER: JS

LOGGED: JC

CASING: HW to 4.60m

TYPE OF BORING: Solid flight auger (TC-bit) to 4.00m, rotary (water) to 5.10m, NMLC-Coring to 11.55m

WATER OBSERVATIONS: No free groundwater observed whilst augering

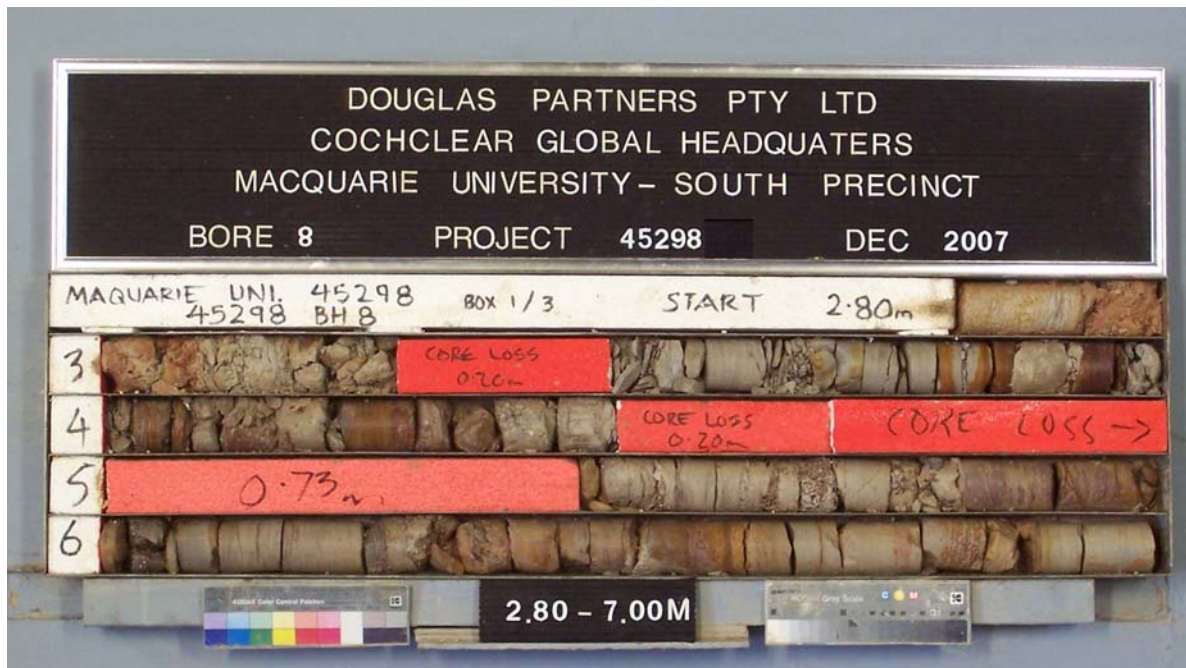
REMARKS: PVC standpipe installed

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	>	Water seep
		W	Water level

CHECKED
Initials: STE
Date: 25/1/08



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BOREHOLE LOG

CLIENT: Lachlan Project Development Pty Ltd
PROJECT: Cochlear Global Headquarters
LOCATION: Macquarie University South Precinct

SURFACE LEVEL: 64.0 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/-

BORE No: 8
PROJECT No: 45298
DATE: 13 Dec 07
SHEET 1 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
64	0.1	BITUMEN																A			5,5,10 N = 15
	0.25	GRAVEL - grey gravel road base																A			
		FILLING - red-brown silty clay filling with shale and ironstone gravel																A			
	0.75	gravel																S			
63	1	SILTY CLAY - stiff, red-brown silty clay with some fine ironstone gravel																			
		- very stiff from 1.5m																			
62	2	SANDSTONE - very low strength, light grey and red, fine grained sandstone with some ironstone bands																	S		28/130mm refusal
61	3	SANDSTONE - very low to low strength, highly to slightly weathered, fractured, light grey fine grained sandstone with extremely low and high strength bands																C	71	17	PL(A) = 0.2MPa
	3.28																	C	82	30	PL(A) = 1.2MPa
60	4																				
	4.48																				
59	5																				
58	5.81	SANDSTONE - medium to high strength, moderately to slightly weathered, fractured, light brown and grey, fine grained sandstone																C	75	32	PL(A) = 0.7MPa PL(A) = 1.5MPa PL(A) = 0.9MPa
57	7																				
	7.2	SANDSTONE - high strength, fresh stained, slightly fractured, light grey fine to medium grained sandstone																			PL(A) = 1MPa
56	8																	C	100	98	
	8.49	SANDSTONE - high strength, moderately weathered, slightly fractured, yellow brown and red-brown medium grained sandstone																			PL(A) = 1.1MPa PL(A) = 1.3MPa
55	9																				
	9.43	SANDSTONE - high strength, fresh, slightly fractured to unbroken, light grey medium grained sandstone																			PL(A) = 1.3MPa

RIG: Edson 3000

DRILLER: JS

LOGGED: JC

CASING: HW to 2.50m

TYPE OF BORING: Solid flight auger (TC-bit) to 2.5m, rotary (water) to 2.8m, NMLC-Coring to 13.0m

WATER OBSERVATIONS: No free groundwater observed whilst augering

REMARKS:

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
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W	Water sample	V	Shear Vane (kPa)
C	Core drilling	Δ	Water seep
		≡	Water level

CHECKED	
Initials:	STE
Date:	25/1/08



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DOUGLAS PARTNERS PTY LTD
COCHLEAR GLOBAL HEADQUATERS
MACQUARIE UNIVERSITY - SOUTH PRECINCT
BORE 8 PROJECT 45298 DEC 2007

12

12.00 -13.00M

BOREHOLE LOG

CLIENT: Lachlan Project Development Pty Ltd
PROJECT: Cochlear Global Headquarters
LOCATION: Macquarie University South Precinct

SURFACE LEVEL: 64.0 AHD
EASTING:
NORTHING:
DIP/AZIMUTH: 90°/-

BORE No: 8
PROJECT No: 45298
DATE: 13 Dec 07
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	PR	Ex	Low	Very Low				Low	Medium	High	Very High	Ex	High	Ex	Type	Core Rec. %	RQD %	Test Results & Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
54		SANDSTONE - high strength, fresh, slightly fractured to unbroken, light grey medium grained sandstone (continued)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						</

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CHECKED
Initials: STE
Date: 25/1/08



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