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Drilling Method				Depth	Graphic	Description	Weathering	Strength Estimated	Defect Spacing	Rec (%)	RQD	Samples and Remarks
TC	WB	RR	NM/LC									
				0.10		BITUMEN						
				1.0		FILL Clayey Sandy GRAVEL (GP) Medium dense, fine to medium size, brown, fine to coarse grained sand, low to medium plasticity fines, moist.						
				1.10		NATURAL CLAY (CH) Firm to stiff, high plasticity, brown grey, moist.						
				2.0								U50 PP = 120
				3.0								
				4.0								SPT 1, 2, 3 N=5
				5.0								U50 PP = 50
				5.20								
				5.50		CLAY (CH) Firm to stiff, high plasticity, brown grey, trace of organics and tree roots, with strong organic odour, moist.						
				6.0		CLAY (CH) Soft to firm, high plasticity, brown grey, trace of organics and tree roots, with strong organic odour, moist.						U50 PP = 40
				7.0								
				8.0								U50 PP = 50
				9.0								
				9.80								U50 PP = 70
				10.0								

SOIL SURVEYS 00:LIBRARY 2012:05:G.LB Log SOIL SURVEY BOREHOLE LOG 111-12936 NEW.GPJ <<DrawingFiles>> 21/05/2012 14:34 8.30.002 Developed by Dajgeal

Comments:
1) Groundwater not observed. 2) Borehole grouted on completion.

Defects - 1.54m : F,60°,P,R,O,C

Depth (m)	Type	Dip (Deg)	Planarity	Roughness	Aperture	Fill
B	Bedding		C - Curvilinear	L - Slickensides	C - Closed	C - Clay
C	Clay seam		D - Discontinuous	P - Polished	F - Filled	F - Iron Oxide
F	Foliation		P - Planar	R - Rough	N - Clean	K - Calcite
H	Schistosity		S - Subplanar	S - Smooth	O - Open	L - Limonite
J	Joint		T - Stepped	V - Very rough	S - Stain	Q - Quartz
L	Dissemination		U - Undulating			S - Secondary mineral
R	Fracture					U - Unidentified mineral
S	Shear zone					W - Weathered rock
T	Contact					X - Carbonaceous
V	Vein					Z - Clean
Z	Decomposed Zone					
DI	Drilling induced break					

Weathering Grades

RS - Residual Soil
XW - Extremely weathered
DW - Distinctly weathered
SW - Slightly weathered
FR - Fresh

Rock Strength

VW - Very weak
W - Weak
MS - Medium strong
S - Strong
VS - Very strong
ES - Extremely strong

Samples

U50
SPT
Disturbed Sample

Approved: _____
Date: _____



Easting: 502541 Northing: 6957749 RL: 5.46 m

Logger: SO/CB Operator: SO Machine: Scout 2

Drilling Method				Depth	Graphic	Description	Weathering	Strength Estimated	Defect Spacing	Rec (%)	RQD	Samples and Remarks
TC	WB	FR	NW/CL									
				11.0		Gravelly SAND (SP) Very dense, fine to coarse grained, grey, fine to medium sized gravel, some clay/silt fines. (continued)						SPT 30/130mm N=R
				12.0		SANDSTONE, Coarse grained, yellow brown mottled grey orange, granular.						
				12.19		CONGLOMERATE, Coarse grained, grey mottled yellow brown orange, medium sized sub-rounded clasts, fragmented.	DW					SPT 30/45mm N=R
				12.46			XW					12.33 m; J, 70°, P, V, O, C
				12.80		MUDSTONE, Fine grained, dark brown, thinly laminated, fragmented.	RS			67	33	
				13.0								
				13.20		CORE LOSS 0.40m (12.80-13.20)						
				13.20		MUDSTONE, Fine grained, dark brown, thinly laminated, fragmented.	RS					13.20-13.36 m; B, 5°, P, S, O, Z
				14.0						100	46	
				15.0								
				15.47		MUDSTONE, Fine grained, dark brown, thinly laminated, closely spaced fractures.	XW - DW					15.52m, Is50 = 2.51 MPa
				16.0						100	60	
				17.0								16.72m, Is50 = 4.51 MPa 15.50-18.00 m; DI, 5°, P, S, O, Z
				18.0			DW					
				18.13		SANDSTONE, Fine grained, grey with black bands, granular, thinly laminated, closely spaced fractures.	SW			100	50	18.11 m; B, 12°, P, S, O, C 18.13 m; B, 5°, P, S, O, Z
				18.20								
				18.66		SILTSTONE, Fine grained, dark grey, thinly laminated, closely spaced fractures.						
				19.0		SANDSTONE, Fine grained, grey, granular.						
				19.0		SILTSTONE, Fine grained, dark grey, thinly laminated, closely spaced fractures.						
				20.0						94	66	

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Depth (m)	Type	Dip (Deg)	Planarity	Roughness	Aperture	Width
	B - Bedding		C - Curvilinear	L - Slickensides	C - Closed	C - Clay
	C - Clay seam		D - Discontinuous	P - Polished	F - Filled	F - Iron Oxide
	F - Fault		P - Planar	R - Rough	N - Clean	K - Calcite
	H - Schistosity		S - Subplanar	S - Smooth	O - Open	L - Limonite
	J - Joint		T - Stepped	V - Very rough	S - Stain	Q - Quartz
	L - Cleavage		U - Undulating			S - Secondary mineral
	R - Fracture					U - Unidentified mineral
	S - Shear zone					W - Weathered rock
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	DI - Drilling induced break					

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Easting: 502541 Northing: 6957749 RL: 5.46 m
Logger: SO/CB Operator: SO Machine: Scout 2

Drilling Method				Depth	Graphic	Description	Weathering	Strength Estimated	Defect Spacing	Rec (%)	RQD	Samples and Remarks	
TC	WB	FR	NW/LC										
				21.0		SILTSTONE, Fine grained, dark grey, thinly laminated, closely spaced fractures. <i>(continued)</i>	SW			94	66	18.86-22.10 m; DI, 5°, P, S, O, Z	
				22.10									
				22.43		MUDSTONE, Fine grained, dark brown, thinly laminated, fragmented.	RS			100	86		
				22.74		SILTSTONE, Fine grained, dark grey, thinly laminated, closely spaced fractures.	SW					22.60 m; J, 80°, P, R, O, Z	
				23.0		Interbedded SILTSTONE and SANDSTONE, Fine to medium grained, grey, laminated, widely spaced fractures.							
				23.86									
				24.0		SANDSTONE, Fine to medium grained, grey, granular, thinly bedded, with closely spaced fractures, beds infilled with carbonaceous material with a coal band from 24.67m to 24.71m. Coarse grained from 27.71m.						24.19 m; J, 25°, P, R, O, Z 24.21 m; J, 5°, P, R, O, Z	
				24.91									
				25.0		CONGLOMERATE, Coarse grained, pale grey, light grey and light brown clasts, granular, massively bedded, closely to moderately widely spaced fractures. Clasts are medium to coarse gravel sized, sub-rounded of siltstone, sandstone, tuff. Clast supported.	FR			98	95	25.18 m; DI, 5°, U, R, O, Z 25.37 m; DI, 5°, U, R, O, Z 25.58 m; J, 10°, C, V, O, Z 25.75 m; J, 20°, C, R, O, Z 25.89 m; J, 25°, S, R, O, Z	
				26.0									
				27.0									
				28.0									
				29.0						95	95	28.36 m; DI, 10°, S, V, O, Z 28.54 m; DI, 15°, U, V, O, Z 28.80 m; DI, 15°, S, V, O, Z	
				29.85								29.21 m; DI, 5°, U, R, O, Z 29.28 m; J, 40°, P, R, O, Z 29.40 m; J, 10°, S, V, O, S	
				30.0		BOREHOLE BH 324 TERMINATED AT 29.85 m							

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	L - Cleavage					S - Secondary mineral
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TITLE

AECOM
Brisbane
Cross River Rail
Core Photo - BH 324

DRAWN	DT	DATE	26/04/2012
CHECKED	CB	DATE	26/04/2012
SCALE	Not To Scale		A4
PROJECT No	110-12936	FIGURE No	1/1

