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BOREHOLE ENGINEERING LOG

BOREHOLE NO.

RTBH03

SHEET 1 OF 4

Client:	Department of Transport and Main Roads	Date Commenced:	19/2/10
Project:	Gold Coast Rapid Transit	Date Completed:	19/2/10
Borehole Location:	Parklands Drive, Ch: 19490.6	Recorded By:	DS
Project Number:	2161016A	Log Checked By:	<i>Lmck</i>

Drill Model/Mounting:	Drillpower Hydrapower Scout	Hole Angle:	90°	Surface RL:	22.70 m AHD*
Borehole Diameter:	75 mm	Bearing:	---	Co-ords:	E 81476.88 N 62088.54 GCCC Grid*

Borehole Information						Field Material Description							
1	2	3	4	5	6	7	8	9	10	11	12	13	
METHOD	SUPPORT	WATER	RL(m) AHD*	DEPTH(m)	FIELD TEST	SAMPLE	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL FIELD DESCRIPTION	MOISTURE	RELATIVE DENSITY / CONSISTENCY	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS
										VS FB VL SL FL ST MD VST D H VD			
TC	C			0.05					ASPHALT	D			PAVEMENT MATERIALS
				0.50				CH	FILL (Silty GRAVEL): fine to coarse grained, dark grey, roadbase				
				0.80					Silty CLAY: high plasticity, pale grey-brown mottled orange and red-brown	MO<PL			RESIDUAL SOIL
WB				1	SPT 10,21,22 N=43	SPT			META-SILTSTONE: grey-white mottled orange and brown				WEATHERED ROCK
				2					... 2.1 m: colour change to grey-green				trace coarse grained sand and fine grained gravel size quartz in SPT sample.
				20	SPT 14,28,30 /95mm	U50							
				3									
				3.50					META-SANDSTONE: coarse grained, pale grey with orange and brown staining				
				4					REFER TO CORED BOREHOLE LOG				
				18									
				5									
				17									
				6									
				16									
				7									
				15									
				8									
				14									
				9									
				13									

This borehole log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

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CORED BOREHOLE ENGINEERING LOG

BOREHOLE NO.

RTBH03

SHEET 2 OF 4

Client: Department of Transport and Main Roads
 Project: Gold Coast Rapid Transit
 Borehole Location: Parklands Drive, Ch: 19490.6
 Project Number: 2161016A

Date Commenced: 19/2/10
 Date Completed: 19/2/10
 Recorded By: DS
 Log Checked By: LMGK

Drill Model/Mounting: Drillpower Hydrapower Scout Hole Angle: 90° Surface RL: 22.70 m AHD*
 Borehole Diameter: 75 mm Bearing: --- Co-ords: E 81476.88 N 62088.54 GCCC Grid*

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	
METHOD	SUPPORT	WATER	CORE RECOVERY	RQD	RL(m) AHD*	DEPTH(m)	GRAPHIC LOG	SOIL/ROCK MATERIAL FIELD DESCRIPTION	WEATHERING	INFERRED STRENGTH (s50) MPa	AVERAGE DEFECT SPACING mm	STRUCTURE AND ADDITIONAL OBSERVATIONS
									EL 0.03 VL 0.1 L 0.3 M 1 H 3 VH 10 FH 10			
						22						
						1						
						21						
						2						
						3						
						4		COMMENCE CORING AT 4 m				
	NMLC		100	0		5		META-SANDSTONE: pale grey with orange and brown staining, trace fine grained gravel size quartz rock fragments	XW			4.32 m - 4.76 m: Non intact core
						5.36		CORE LOSS				5.0 m - 5.32 m: Non intact core
			32	0		6		META-SANDSTONE: fine to medium grained, pale grey with orange brown and red-brown staining, fine grained gravel size quartz, fragments	XW			
	WB					7		META-SILTSTONE: grey with orange brown and red-brown staining				7.0 m - 7.4 m: SPT 30/140mm
						7.45		... quartz vein				
						8	 quartz vein				8.5 m - 8.95 m: SPT 17, 30/100 mm
						8.10						
						9						
						13						

This borehole log should be read in conjunction with Parsons Brinckerhoff's accompanying standard notes.

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CORED BOREHOLE ENGINEERING LOG

BOREHOLE NO.

RTBH03

SHEET 3 OF 4

Client: **Department of Transport and Main Roads**
 Project: **Gold Coast Rapid Transit**
 Borehole Location: **Parklands Drive, Ch: 19490.6**
 Project Number: **2161016A**

Date Commenced: **19/2/10**
 Date Completed: **19/2/10**
 Recorded By: **DS**
 Log Checked By: *JMK*

Drill Model/Mounting: **Drillpower Hydrapower Scout** Hole Angle: **90°** Surface RL: **22.70 m AHD***
 Borehole Diameter: **75 mm** Bearing: **---** Co-ords: **E 81476.88 N 62088.54 GCCC Grid***

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	
METHOD	SUPPORT	WATER	CORE RECOVERY	RQD	RL(m) AHD*	DEPTH(m)	GRAPHIC LOG	SOIL/ROCK MATERIAL FIELD DESCRIPTION	WEATHERING	INFERRED STRENGTH Is(50) MPa	AVERAGE DEFECT SPACING mm	STRUCTURE AND ADDITIONAL OBSERVATIONS
									EL 0.03 VL 0.3 L 1-3 M 1-3 H 1-3 VH 1-3 FH 1-3	10 300 3000 10000 30000		
NMLC			100	20		10.35		META-SILTSTONE: grey with orange brown and red-brown staining (<i>continued</i>)	MW			10.25 m - 10.4 m: Non intact core
			100	70		10.51		META-SILTSTONE: pale green-grey ... brown orange and red-brown staining along healed defects	HW			10.63 m - 11 m: Non intact core
			100	80		11						11.07 m: DB along foliation, 60°, P, S, clean 11.11 m: DB along foliation, 60°, P, S, clean
			100	75		11.67						11.67 m - 12.0 m: Non intact core
			100	80		12			HW-MW			12.15 m: strong Fe staining 12.35 m: strong Fe staining
			100	80		12.56		... 12.56 m - 12.7 m: Fe cemented				12.7 m - 13 m: Non intact core
			100	75		13.02		META-SANDSTONE: fine grained, grey with purple red orange-brown staining				13.31 m: DB along BP
			100	75		13.55		META-SILTSTONE: green-grey				13.52 m - 13.67 m: multiple DB's
			100	90		13.82		META-SANDSTONE: fine to medium grained, grey ... 13.86 m: red-brown, purple and orange staining	MW			14.06 m: DB 14.16 m: DB 14.34 m: J, 20°, Ir, R, Fe stained. 14.46 m - 14.5 m: Non intact core
			100	90		14			HW			14.96 m: BP, 60°, P, S, clean. 15.06 m: Fe stained band, 10 mm
			100	90		15.40		META-SANDSTONE: fine grained, grey ... 15.46 m: colour change to pale brown				15.34 m - 15.4 m: washed out 15.6 m - 15.7 m: J, 70°, S, clean
			100	90		16.20		... 16.2 m mottled purple				16.09 m: DB 16.12 m: DB 16.14 m - 16.21 m: B, 60°, P, S, clean
			100	95		16.76		... 16.76 m - 17.5 m: purple mottled red-brown and orange				16.8 m: DB 17.1 m: Fe stained, 10 mm 17.13 m - 17.24 m: B, 60°, P, S, clean 17.19 m: DB 17.36 m - 17.5 m: DB, 60°, P, S, clean
			100	95		17.95		... 17.95 m - 18.15 m: mottled orange brown				17.73 m: washout 5 mm 17.94 m: DS, 10 mm 18.15 m: DB
			100	100		18.60		META-SILTSTONE: green-grey				18.65 m - 19.0 m: 4 x BP, 60°, R, S, clean.
			100	100		19						
			100	100		19.70		... 19.7 m: Fe staining				

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CORED BOREHOLE ENGINEERING LOG

BOREHOLE NO.

RTBH03

SHEET 4 OF 4

Client: Department of Transport and Main Roads
 Project: Gold Coast Rapid Transit
 Borehole Location: Parklands Drive, Ch: 19490.6
 Project Number: 2161016A

Date Commenced: 19/2/10
 Date Completed: 19/2/10
 Recorded By: DS
 Log Checked By: *LMEK*

Drill Model/Mounting: Drillpower Hydrapower Scout Hole Angle: 90° Surface RL: 22.70 m AHD*
 Borehole Diameter: 75 mm Bearing: --- Co-ords: E 81476.88 N 62088.54 GCCC Grid*

Borehole Information						Field Material Description						
1	2	3	4	5	6	7	8	9	10	11	12	
METHOD	SUPPORT	WATER	CORE RECOVERY	ROD	RL(m) AHD*	DEPTH(m)	GRAPHIC LOG	SOIL/ROCK MATERIAL FIELD DESCRIPTION	WEATHERING	INFERRED STRENGTH I _s (50) MPa	AVERAGE DEFECT SPACING mm	STRUCTURE AND ADDITIONAL OBSERVATIONS
									EL 0.03 VL 0.1 L 0.3 M 1 H 3 VH 10 FH 10	10 300 3000 10000 30000		
NMLC						20.13		META-SANDSTONE: grey with Fe staining along healed defects ... 20.40 m: mottled red-brown	HW			20.14 m: B, 60°, P, S, clean 20.32 m: DB
			80	80	21	21.31	META-SILTSTONE: pale grey-green with purple and orange staining.		HW-MW			21.23 m: DB 21.36 m: DB 21.51 m: B, 60°, P, S, clean
						22.02		INTERBEDDED META-SILTSTONE and META-SANDSTONE: red-brown and dark grey bands < 0 mm - 5 mm thick ... fine grained, grey with purple staining ... grey with orange purple and brown staining ... fine grained grey-brown with purple and orange staining	HW			22 m - 22.1 m: Non intact core 22.3 m - 22.41 m: B, 65°, P, S, Fe stained 22.35 m: foliation 60° 22.39 m: DB 22.73 m - 22.9 m: Non intact core
			100	80	23	23.86			HW-MW			23.05 m: DB 23.14 m: DB 23.24 m: DB 23.46 m: DB 23.71 m: DB 23.9 m: B, 60°, P, S, clean 24.4 m - 25 m: 4 x BP, 60°, P, S, clean 24.9 m - 25 m: Non intact core
						25		END OF BOREHOLE AT 25.00 m				Limit of Investigation
						26						* Horizontal and vertical data determined by Ground Survey
						27						
						28						
						29						

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REPORT OF PHOTOGRAPHS



Borehole number: **RTBH03**

Sheet 1 of 1

Client:	Department of Transport and Main Roads	Coordinates:	E 81476.88 N 62088.54	Depth range:	4.0 m – 25.0 m
Project:	Gold Coast Rapid Transit	Surface RL:	22.70 m AHD	Inclined length:	-
Borehole location:	Ch: 19526.7	Hole angle:	90 °	Drill model/mounting:	Hydrapower Scout
Project number:	2161016A	Bearing:	-	Borehole diameter:	75 mm

