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BOREHOLE ENGINEERING LOG

BOREHOLE NO.

RTBH21

SHEET 1 OF 4

Client:	Department of Transport and Main Roads	Date Commenced:	24/2/10
Project:	Gold Coast Rapid Transit	Date Completed:	26/2/10
Borehole Location:	Gold Coast Highway, Ch: 25209.8	Recorded By:	NG
Project Number:	2161016A	Log Checked By:	<i>LMK</i>

Drill Model/Mounting:	Drillpower Hydrapower Scout	Hole Angle:	90°	Surface RL:	1.16 m AHD*
Borehole Diameter:	75 mm	Bearing:	---	Co-ords:	E 85460.3 N 60124.24 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			
RAB	C		0.15	1					CONCRETE: FILL (Cobble with SAND): cobbles of indurated meta-sediment <300 mm, medium grained sand.				PAVEMENT MATERIALS FILL
TC			1.30	0				SW	SAND: fine to medium grained, trace of shell material, pale grey to pale brown.	W			ESTUARINE SEDIMENTS SPT: not taken until 5 m due to hole collapse.
				1									
				2									
				3									
				4									
				5	SPT 6,5,7 N=12	SPT							
				6									
				7	SPT 18,21,19 N=40	SPT							
				8	SPT 10,14,17 N=31	SPT							
				9									
				9.6	SPT 11,13,17 N=30	SPT			... 9.6 m: increasing quantities of shell fragments.				

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

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BOREHOLE ENGINEERING LOG

BOREHOLE NO.

RTBH21

SHEET 2 OF 4

Client: **Department of Transport and Main Roads**
 Project: **Gold Coast Rapid Transit**
 Borehole Location: **Gold Coast Highway, Ch: 25209.8**
 Project Number: **2161016A**

Date Commenced: **24/2/10**
 Date Completed: **26/2/10**
 Recorded By: **NG**
 Log Checked By: *LMK*

Drill Model/Mounting: **Drillpower Hydrapower Scout** Hole Angle: **90°** Surface RL: **1.16 m AHD***
 Borehole Diameter: **75 mm** Bearing: **---** Co-ords: **E 85460.3 N 60124.24 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 S.F. L ST VST D H			
TC				-9				SW	SAND: fine to medium grained, trace of shell material, pale grey to pale brown. (continued)	W			
				-10									
				-11.50				SC	CLAY & Clayey SAND: fine to medium grained sand, high plasticity fines, pale green to grey.	MC-PL			RESIDUAL SOIL
				-12	SPT 1.4,5 N=9	SPT		CH	Sandy CLAY: high plasticity, pale green to grey.				SPT: Some rock fabric noted.
				-13.40					META-GREYWACKE: fine grained, pale green to grey, extremely to highly weathered, extremely low to very low strength.				WEATHERED ROCK Increasing TC resistance
				-14					REFER TO CORED BOREHOLE LOG				
				-15									
				-16									
				-17									
				-18									

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CORED BOREHOLE ENGINEERING LOG

BOREHOLE NO.

RTBH21

SHEET 3 OF 4

Client: Department of Transport and Main Roads
 Project: Gold Coast Rapid Transit
 Borehole Location: Gold Coast Highway, Ch: 25209.8
 Project Number: 2161016A

Date Commenced: 24/2/10
 Date Completed: 26/2/10
 Recorded By: NG
 Log Checked By: *Lmyk*

Drill Model/Mounting: Drillpower Hydrapower Scout Hole Angle: 90° Surface RL: 1.16 m AHD*
 Borehole Diameter: 75 mm Bearing: --- Co-ords: E 85460.3 N 60124.24 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 Is(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 LH 30 100 300 1000 3000			
					-9							
					-10							
					-11							
					-12							
					-13			COMMENCE CORING AT 14 m				
			70	0	14.50			META-GREYWACKE: fine grained, pale green to grey.	XW-HW			14.0 m - 14.5 m: Non intact, rock fragments in clay matrix
					14.60			CORE LOSS				
					15			META-GREYWACKE: fine grained, pale green to grey.	XW-HW			14.6 m - 15.0 m: Non intact, rock fragments in clay matrix
			90	0	15.20			META-SILTSTONE: grey.	XW-HW			
					15.30			CORE LOSS				
			90	0	15.35			META-SILTSTONE: grey, laminated dark and pale grey.	HW-MW			Bedding lamination dip 10°-20° to end of hole 15.3 m - 16.8 m: Non intact core
			90	0	16.00			META-GREYWACKE: fine grained, pale green to grey.	FR			
					16.40			META-SILTSTONE: grey, laminated dark and pale grey.	XW-HW			
			100	62	17				FR			16.9 m: J, 45°, P, R, clay veneer
					18							17.35 m - 17.45 m: J x 3, 30°, P, R, clean 17.5 m - 17.6 m: Non intact core
			100	65	19				MW			18.45 m: J, 50°, P, R, clay coating
					19.05				FR			18.7 m: J, 70°, P, R, clean 18.9 m: J x 2, 45°, P, R, clean 19.05 m - 19.55 m: Non intact core 19.1 m: Driller reported loss of circulation

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CORED BOREHOLE ENGINEERING LOG

BOREHOLE NO.

RTBH21

SHEET 4 OF 4

Client: Department of Transport and Main Roads
 Project: Gold Coast Rapid Transit
 Borehole Location: Gold Coast Highway, Ch: 25209.8
 Project Number: 2161016A

Date Commenced: 24/2/10
 Date Completed: 26/2/10
 Recorded By: NG
 Log Checked By: *LMK*

Drill Model/Mounting: Drillpower Hydrapower Scout Hole Angle: 90° Surface RL: 1.16 m AHD*
 Borehole Diameter: 75 mm Bearing: --- Co-ords: E 85460.3 N 60124.24 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 IS(50) MPa	AVERAGE DEFECT SPACING mm	STRUCTURE AND ADDITIONAL OBSERVATIONS
			95	80	-19			META-SILTSTONE: grey, laminated dark and pale grey. (continued)	FR	VL 0.03 VL 0.1 L 0.3 M 1 H 3 VH 10 EH 30	TO 30 100 300 1000 3000	19.95 m: J x 2, 30°, P, R, clean 20.1 m - 20.7 m: Appears to be silicified 20.2 m: J, 80°, P, R, clean 20.45 m: J, 45°, P, R, clean 20.5 m: J x 2, 60°, P, R, Clay veneer 20.7 m: J, 45°, P, R, clean 20.9 m: J, 45°, P, R, clean
					-20			END OF BOREHOLE AT 21.00 m				Limit of Investigation * Horizontal and vertical data determined by Ground Survey
					-21							
					-22							
					-23							
					-24							
					-25							
					-26							
					-27							
					-28							

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REPORT OF PHOTOGRAPHS



Borehole number: **RTBH21**

Sheet 1 of 1

Client:	Department of Transport and Main Roads	Coordinates:	E 85460.30 N 60124.24	Depth range:	14.0 m – 21.0 m
Project:	Gold Coast Rapid Transit	Surface RL:	1.16 m AHD	Inclined length:	-
Borehole location:	Ch: 25204.6	Hole angle:	90 °	Drill model/mounting:	Hydrapower Scout
Project number:	2161016A	Bearing:	-	Borehole diameter:	75 mm

