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REPORT OF BOREHOLE: BH425

SHEET: 1 OF 4

DRILL RIG: Hydrapower Scout

CONTRACTOR: GeoDrill Pty Ltd

LOGGED: BT DATE: 8/9/11

CHECKED: NK DATE: 26/9/11

CLIENT: McConnell Dowell Constructors (Aust) P/L COORDS: 85499.6 m E 60133.3 m N GCCC

PROJECT: Gold Coast Rapid Transit SURFACE RL: 1.79 m DATUM: AHD

LOCATION: Zone 4 INCLINATION: -90°

JOB NO: 117632047 HOLE DEPTH: 22.00 m

Drilling				Sampling		Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
ADT			0	1.75				ASPHALT			Inferred 20-40 mm quarry product
			0.55					FILL: Clayey Sandy GRAVEL			
			1.24	SPT 0.50-0.95 m 7, 8, 8 N=16		SM	fine to coarse grained, sub-rounded to sub-angular, pale brown, fine to coarse grained sand, low plasticity clay				
			1	SPT 1.00-1.45 m 5, 8, 6 N=14			Silty SAND fine to coarse grained, pale brown	M			
			2	2.00 -0.21			grey	VL			
			3	SPT 2.50-2.95 m 0, 1, 2 N=3							
			4	SPT 4.00-4.45 m 10, 14, 16 N=30							
			5	SPT 5.50-5.95 m 7, 9, 9 N=18							
			6					W			
			7	SPT 7.00-7.45 m 10, 13, 11 N=24				MD			
L			8								
			9	SPT 8.50-8.95 m 9, 12, 14 N=26							
RT			9	9.50 -7.71				shell fragments up to 5 mm in diameter			
			10								

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GAP gINT FN. F01a
RL3



REPORT OF BOREHOLE: BH425

SHEET: 2 OF 4

DRILL RIG: Hydrapower Scout

CONTRACTOR: GeoDrill Pty Ltd

LOGGED: BT DATE: 8/9/11

CHECKED: NK DATE: 26/9/11

CLIENT: McConnell Dowell Constructors (Aust) P/L COORDS: 85499.6 m E 60133.3 m N GCCC

PROJECT: Gold Coast Rapid Transit SURFACE RL: 1.79 m DATUM: AHD

LOCATION: Zone 4 INCLINATION: -90°

JOB NO: 117632047 HOLE DEPTH: 22.00 m

Drilling				Sampling		Field Material Description							
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USC SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS	
RT	L		10		SPT 10.00-10.45 m 17, 23, 27 N=50			SM	Silty SAND fine to coarse grained, pale brown	VD			
			11										
			12		SPT 11.90-12.35 m 17, 19, 11 N=30			SM	Silty SAND fine to coarse grained, sub-rounded to sub-angular, brown, inferred coffee rock				W
			13		SPT 13.00-13.45 m 11, 18, 27 N=45								
			14	12.30 -10.51	SPT 14.50-14.95 m 6, 9, 30 N=39			CL- CI	Silty CLAY low to medium plasticity, pale grey with green staining, inferred EW argillite				D - VD
			15	14.00 -12.21	SPT 15.60-15.64 m 20/40 mm HB								
			16						For Continuation Refer to Sheet 3				
			17										
			18										
			19										
			20										

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GAP gINT FN. F01a
RL3



REPORT OF BOREHOLE: BH425

SHEET: 3 OF 4

DRILL RIG: Hydrapower Scout

CONTRACTOR: GeoDrill Pty Ltd

LOGGED: BT DATE: 8/9/11

CHECKED: NK DATE: 26/9/11

CLIENT: McConnell Dowell Constructors (Aust) P/L COORDS: 85499.6 m E 60133.3 m N GCCC
PROJECT: Gold Coast Rapid Transit SURFACE RL: 1.79 m DATUM: AHD
LOCATION: Zone 4 INCLINATION: -90°
JOB NO: 117632047 HOLE DEPTH: 22.00 m

Drilling					Field Material Description					Defect Information					
METHOD	WATER	TCR	RQD (SCR)	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	ROCK / SOIL MATERIAL DESCRIPTION	WEATHERING	INFERRED STRENGTH Is(50) MPa	DEFECT DESCRIPTION & Additional Observations			AVERAGE DEFECT SPACING (mm)		
				10											
				11											
				12											
				13											
				14											
				15											
					15.77 -13.98		Continuation of Sheet 2								
NMLC			100	13			ARGILLITE fine grained, dark grey, bedded, dipping 10-20°, quartz veins up to 5 mm thick at approximately 10 mm spacings, green and white chlorite crystals bedded in joints	MW		15.77-15.95 m: DB					
							SW		15.95-16.41 m: J, Pl, Sm, Cn, 1 mm, subvertical, conjugate joints at 15.97 m, 16.04 m, 16.05 m, 16.12 m, 16.15 m, 16.21 m, 16.24 m, 16.32 m, 16.37 m, 16.41 m, mostly filled with green and white chlorite crystals 16.50 m: IS, 20 mm, green and white chlorite crystals 16.54 m: J, 20°, Un, Sm, Cn, 2 mm 16.62 m: J, Un, Sm, Cn 16.63-16.67 m: HB 16.68-16.88 m: DB 17.05 m: J, 10°, Pl, Sm, Ct, green chlorite crystals 17.06-17.23 m: J, Pl, Sm, Cn, subvertical, conjugate joints at 17.08 m, 17.11 m, 17.18 m, 17.21 m, 17.23 m 17.27 m: J, 20°, Pl, Sm, Ct, 1 mm, clay 17.33 m: J, 20°, Un, Sm, Ct, 1 mm 17.41 m: J, 20°, Un, Sm, Ct, 3 mm, green and white chlorite crystals 17.59 m: J, 20°, Un, Sm, Ct, 1 mm 17.63 m: J, Un, Sm, Cn 17.71-17.75 m: HB 17.82 m: J, 0°, Un, Sm, 3 mm 17.90 m: J, 10°, Un-St, Sm 17.96 m: J, 20°, Un, Sm, Ct, green and white chlorite crystals 17.97-18.05 m: J, Pl, Sm, 1 mm, subvertical 18.18-18.34 m: J, Un, subvertical, closed, with conjugate joints at 18.22 m, 18.28 m 18.40 m: CZ 18.50-18.57 m: CZ 18.60 m: J, 60°, Un, Sm, 1 mm 18.64 m: J, 0°, Un, Sm, 2 mm 18.68 m: J, 20°, Un, Sm 18.92 m: DB 18.96 m: DB 19.10-19.12 m: CZ 19.17-19.30 m: CZ, subvertical joint						
			100	20											
			100	27											
			100	15											
				16											
				17											
				18											
				19											
				20											

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GAP gINT FN. F02a
RL3



REPORT OF BOREHOLE: BH425

SHEET: 4 OF 4

CLIENT: McConnell Dowell Constructors (Aust) P/L COORDS: 85499.6 m E 60133.3 m N GCCC
PROJECT: Gold Coast Rapid Transit SURFACE RL: 1.79 m DATUM: AHD
LOCATION: Zone 4 INCLINATION: -90°
JOB NO: 117632047 HOLE DEPTH: 22.00 m

DRILL RIG: Hydrapower Scout
CONTRACTOR: GeoDrill Pty Ltd
LOGGED: BT DATE: 8/9/11
CHECKED: NK DATE: 26/9/11

Drilling					Field Material Description					Defect Information				
METHOD	WATER	TCR	RQD (SCR)	DEPTH (metres)	DEPTH RL	GRAPHIC LOG	ROCK / SOIL MATERIAL DESCRIPTION	WEATHERING	INFERRED STRENGTH $I_{s(50)}$ MPa	DEFECT DESCRIPTION & Additional Observations			AVERAGE DEFECT SPACING (mm)	
NMLC		100	15	20			ARGILLITE fine grained, dark grey, bedded, dipping 10-20°, quartz veins up to 5 mm thick at approximately 10 mm spacings, green and white chlorite crystals bedded in joints	SW		19.34 m: J, 10°, Pl, Sm, Cn, 1 mm 19.39 m: J, 20°, Un, Sm, Cn, 3 mm 19.46 m: 60°, Un, 1 mm, conjugate joint 19.53 m: J, 30°, Pl, Sm, Ct, clay 19.54-19.70 m: J, subvertical, with conjugate joints at 19.57 m, 19.61 m, 19.68 m 19.80 m: J, 40°, Un, Sm, Ct, 2 mm, green and white chlorite crystals 19.90 m: CZ 20.13 m: J, 20°, Un, Sm, Cn, 2 mm 20.20 m: J, 20°, Un, Sm, Ct, 2 mm, green and white chlorite crystals 20.23-20.30 m: J, Un, Sm, Ct, 2 mm, conjugate joints, green and white chlorite crystals 20.45 m: J, 20°, Un, Sm, Cn, 2 mm 20.55 m: J, 0°, Un, Ro, Cn, 2 mm 20.63-20.67 m: CZ 20.77 m: J, healed, infilled with green and white chlorite crystals 20.82 m: J, Un, Sm, 2 mm, subvertical, with conjugate joints at 20.83m, 20.87m, 20.91m 21.05 m: HB 21.20 m: J, 20°, Un, Sm, Cn, 2 mm 21.23 m: J, 50°, Un, Sm, Cn, 2 mm 21.30 m: J, Un, Sm, Ct, green and white chlorite crystals 21.57 m: J, 30°, Un, Sm, 2 mm 21.72 m: J, 10°, Un, Sm, Cn, 3 mm 21.78 m: HB				
		100	57	21										
				22	22.00 -20.21		END OF BOREHOLE @ 22.00 m TARGET DEPTH GROUNDWATER ENCOUNTERED @ 2.50 m DEPTH Borehole collapsed on itself after completion Concrete placed at surface							
				23										
				24										
				25										
				26										
				27										
				28										
				29										
				30										

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GAP gINT FN. F02a
RL3



REPORT OF CORE PHOTOGRAPHS: BH425

CLIENT: McConnell Dowell Constructors
PROJECT: Gold Coast Rapid Transit
LOCATION: Zone 4
JOB NO: 117632047

COORDS: 85499.6 m E, 60133.3 m N
SURFACE RL: 1.79 m DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 22.00 m

DEPTH RANGE: 15.77 – 22.00 m
DRILL RIG: Hydropower Scout
DRILLER: Geodrill Pty Ltd
LOGGED: BR DATE: 8/09/11
CHECKED: NK DATE: 26/09/11



15.77 – 22.00 m