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REPORT OF BOREHOLE: BH443

SHEET: 1 OF 4

DRILL RIG: Hydrapower Scout

CONTRACTOR: GeoDrill Pty Ltd

LOGGED: BT DATE: 9/9/11

CHECKED: NK DATE: 26/9/11

CLIENT: McConnell Dowell Constructors (Aust) P/L COORDS: 85503.5 m E 60107.0 m N GCCC

PROJECT: Gold Coast Rapid Transit SURFACE RL: 3.37 m DATUM: AHD

LOCATION: Zone 4 INCLINATION: -90°

JOB NO: 117632047 HOLE DEPTH: 22.75 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	3.37					FILL: Sandy Clayey GRAVEL fine to coarse grained, sub-rounded to sub-angular, pale brown, low plasticity clay, fine to coarse grained sand	M		Grass at surface. Roots	
			0.50										
			2.87	SPT 0.50-0.95 m 3, 4, 4 N=8			FILL: Sandy CLAY low to medium plasticity, pale brown with black staining, fine to coarse grained sand						
			1		SPT 1.00-1.45 m 4, 3, 6 N=9								
			2	2.00				FILL: Silty SAND fine to coarse grained, sub-rounded to sub-angular, pale brown, trace low plasticity clay					
			1.37										
			3		SPT 2.50-2.95 m 2, 2, 5 N=7								
			4	3.90									
			-0.53	SPT 4.00-4.45 m 3, 5, 8 N=13		SM	Silty SAND fine to coarse grained, sub-rounded to sub-angular, pale grey	W	MD				
			5										
6		SPT 5.50-5.95 m 6, 8, 9 N=17											
7		SPT 7.00-7.45 m 5, 6, 9 N=15											
8													
RT	L		9		SPT 8.50-8.95 m 14, 18, 19 N=37				D				
			10										

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GAP gINT FN. F01a
RL3



REPORT OF BOREHOLE: BH443

SHEET: 2 OF 4

DRILL RIG: Hydrapower Scout

CONTRACTOR: GeoDrill Pty Ltd

LOGGED: BT DATE: 9/9/11

CHECKED: NK DATE: 26/9/11

CLIENT: McConnell Dowell Constructors (Aust) P/L COORDS: 85503.5 m E 60107.0 m N GCCC

PROJECT: Gold Coast Rapid Transit SURFACE RL: 3.37 m DATUM: AHD

LOCATION: Zone 4 INCLINATION: -90°

JOB NO: 117632047 HOLE DEPTH: 22.75 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 13, 16, 18 N=34			SM	Silty SAND fine to coarse grained, sub-rounded to sub-angular, pale grey	D		
			11									
			11.50	-8.13	SPT 11.50-11.93 m 18, 25, 30/130 mm N>55			shell fragments up to 5 mm in diameter				
			12							VD		
			13	13.20 -9.83	SPT 13.00-13.45 m 15, 10, 7 N=17			dark grey, increased silt content		MD		
			14	14.50 -11.13	SPT 14.50-15.00 m 1 N=0			grey brown, fines tending to low plasticity clay, hydrogen sulfide gas noted		VL		
			15							VS		
			16	15.80 -12.43	SPT 16.00-16.45 m 4, 9, 13 N=22			Silty CLAY low to medium plasticity, pale grey with green staining, inferred EW argillite		St		
			17							H		
								SPT 17.50-17.63 m 30/130 mm				
			18					For Continuation Refer to Sheet 3				
			19									
			20									



REPORT OF BOREHOLE: BH443

SHEET: 3 OF 4

DRILL RIG: Hydrapower Scout

CONTRACTOR: GeoDrill Pty Ltd

LOGGED: BT DATE: 9/9/11

CHECKED: NK DATE: 26/9/11

CLIENT: McConnell Dowell Constructors (Aust) P/L COORDS: 85503.5 m E 60107.0 m N GCCC
PROJECT: Gold Coast Rapid Transit SURFACE RL: 3.37 m DATUM: AHD
LOCATION: Zone 4 INCLINATION: -90°
JOB NO: 117632047 HOLE DEPTH: 22.75 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										
				16										
				17										
				17.78 -14.41			Continuation of Sheet 2							
NMLC			100 44	18			ARGILLITE fine grained, dark grey, bedded, dipping 10-30°, quartz veins up to 5 mm thick at approximately 10 mm spacings	EW		17.78-18.19 m: extremely weathered zone, easily indented with fingure pressure, grey green residual clay coating on surface				
								HW		18.21-18.28 m: CZ 18.36 m: J, 40°, Un, Ro, Sn, 1 mm, iron oxide 18.44 m: J, 40°, Un, Sm, Sn, 1 mm, iron oxide				
				19				MW		18.68 m: J, 20°, Un, closed 18.72-18.80 m: CZ, fractures may be caused by drilling 18.86-18.92 m: HB 18.92-19.00 m: DB 19.09 m: J, 20°, Un, Ro, closed				
			100 93	20						19.43 m: J, 30°, Un, Ro, 1 mm 19.58 m: grey clay coated on surface 19.70 m: J, 40°, Un, closed				

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GAP gINT FN. F02a
RL3

GAP 8_03 LIB.GLB Log GAP CORED BOREHOLE 117632047BH.GPJ <<DrawingFile>> 27/10/2011 15:39 8.2.800



REPORT OF BOREHOLE: BH443

SHEET: 4 OF 4

DRILL RIG: Hydrapower Scout

CONTRACTOR: GeoDrill Pty Ltd

LOGGED: BT DATE: 9/9/11

CHECKED: NK DATE: 26/9/11

CLIENT: McConnell Dowell Constructors (Aust) P/L COORDS: 85503.5 m E 60107.0 m N GCCC
PROJECT: Gold Coast Rapid Transit SURFACE RL: 3.37 m DATUM: AHD
LOCATION: Zone 4 INCLINATION: -90°
JOB NO: 117632047 HOLE DEPTH: 22.75 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)
								EL 0.03 VL 0.01 L 0.1 M 0.3 H 1 VH 3 EH 10				10 100 1000 10000 30000
NMLC	Partial loss into highly fractured zone	100	93	20			ARGILLITE fine grained, dark grey, bedded, dipping 10-30°, quartz veins up to 5 mm thick at approximately 10 mm spacings	SW FR		20.12 m: J, 20°, Un, closed 20.13 m: J, 20°, Un, closed 20.28-20.42 m: HB 20.43-20.47 m: DB 20.58 m: 20°, Un, Sm, Cn 20.61 m: J, 30°, Un, Sm, Sn, 1 mm, pale brown mica crystals 20.68 m: J, 40°, Un, Sm, 1 mm 20.82 m: J, 40°, Un, Sm, 1 mm 20.93 m: J, 10°, healed, closed 21.05 m: J, 20°, Un, Sm, Cn, 1 mm 21.07 m: J, 20°, Un, Sm, Cn, 1 mm 21.12-21.15 m: CZ 21.49 m: J, 30°, Un, Sm, Sn, 2 mm, pale brown mica crystals 21.53 m: J, 30°, Un, Sm, Sn, 2 mm, pale brown mica crystals 21.60 m: J, 20°, Un, Sm, Sn, 1 mm, pale brown mica crystals 21.92 m: J, 30°, Un, Sm, Cn, 1 mm 22.04 m: J, 30°, Un, Sm, Cn, 2 mm 22.25-22.50 m: J, 70°, Un, Sm, 1 mm 22.58 m: J, 30°, Un, Sm, 1 mm 22.61 m: J, 40°, Un, Sm, Cn, 1 mm 22.66-22.75 m: HB		
		100	54	21								
				22								
				22.75	-19.38		END OF BOREHOLE @ 22.75 m TARGET DEPTH GROUNDWATER ENCOUNTERED @ 2.90 m DEPTH Borehole collapsed upon removal of casing, 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: BH443

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

COORDS: 85503.5 m E, 60107.1 m N
SURFACE RL: 3.37 m DATUM: AHD
INCLINATION: -90°
HOLE DEPTH: 22.75 m

DEPTH RANGE: 17.78 – 22.75 m
DRILL RIG: Hydropower Scout
DRILLER: Geodrill Pty Ltd
LOGGED: BT DATE: 9/09/11
CHECKED: NK DATE: 26/09/11



17.78 – 22.75 m



REPORT OF STANDPIPE INSTALLATION: BH433

SHEET: 1 OF 1

DRILL RIG: Hydrapower Scout

CONTRACTOR: GeoDrill Pty Ltd

LOGGED: BT DATE: 31/8/11

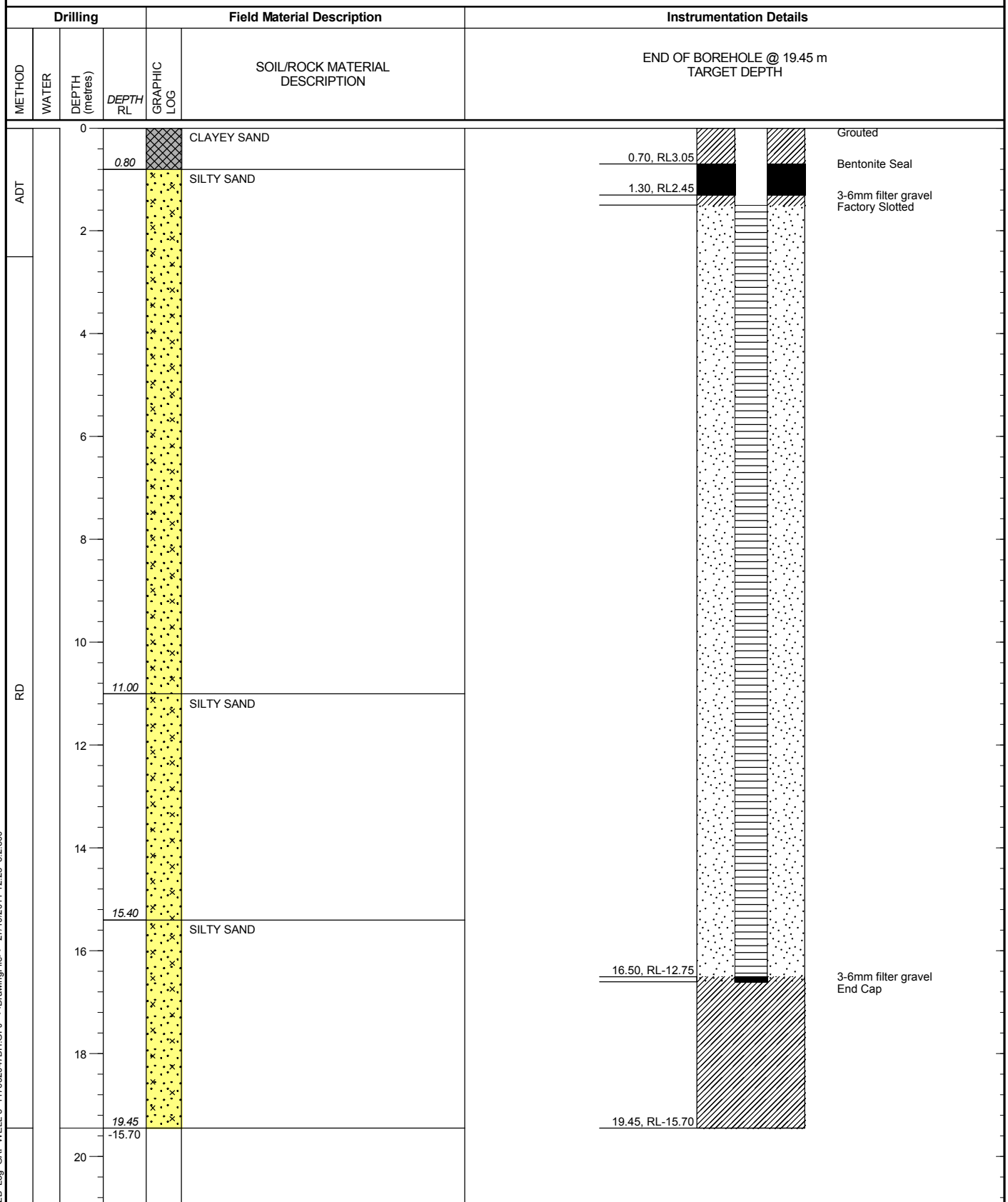
CHECKED: NK DATE: 26/9/11

CLIENT: McConnell Dowell Constructors (Aust) P/L COORDS: 86061.5 m E 59110.2 m N GCCC

PROJECT: Gold Coast Rapid Transit SURFACE RL: 3.75 m DATUM: AHD

LOCATION: Zone 4 INCLINATION: -90°

JOB NO: 117632047 HOLE DEPTH: 19.45 m



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GAP gINT FN. F17
RL1