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BOREHOLE ENGINEERING LOG

BOREHOLE NO.

BH46

SHEET 1 OF 4

Client:	QUEENSLAND MAIN ROADS	Date Commenced:	7/6/05
Project:	TUGUN BYPASS GEOTECHNICAL INVESTIGATION	Date Completed:	10/5/05
Borehole Location:	Airport Tunnel	Recorded By:	MCM
Project Number:	2134070C	Log Checked By:	DAW

Drill Model/Mounting:	LEWIS 350 TRACKED RIG	Hole Angle:	90°	Surface RL:	1.0 m AHD
Borehole Diameter:	100 mm	Bearing:	---	Co-ords:	E 50910 N 86808.6 PMG

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	STRUCTURE AND ADDITIONAL OBSERVATIONS
TC	NII	MSO12										
			0.30					SM	Silty SAND: medium grained, dark brown to black, with a trace of clay.	M		TOPSOIL
								SP	SAND: medium grained, grey.	W		ESTUARINE/ FLOODPLAIN/TIDAL DELTA DEPOSITS
WB	M				SPT 2.1,2 N=3	SPT						
			-1	2								
			-2	3	SPT 5,5,7 N=12	SPT		SM	Cemented Silty SAND (Coffee Rock):medium grained, dark brown, with a trace of shell material.			
			-3	4								
			-4	5	SPT 8,14,18 N=32	SPT			...with a trace of fine to medium grained gravel (HW, VLS, Green sedimentary or low grade metamorphic).			
			-5	6	SPT 10,21,27 N=48	SPT			... no shell material.			% passing 0.425mm=95% % passing 0.075mm=8%
			-6	7								
			-7	8	SPT 21,30 N=49	SPT			... no gravel.			
			-8	9	SPT 15,22,27 N=49	SPT						% passing 0.425mm=96% % passing 0.075mm=5%

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



BOREHOLE ENGINEERING LOG

BOREHOLE NO.

BH46

SHEET 2 OF 4

Client: QUEENSLAND MAIN ROADS
Project: TUGUN BYPASS GEOTECHNICAL INVESTIGATION
Borehole Location: Airport Tunnel
Project Number: 2134070C

Date Commenced: 7/6/05
Date Completed: 10/5/05
Recorded By: MCM
Log Checked By: DAW

Drill Model/Mounting: LEWIS 350 TRACKED RIG
Borehole Diameter: 100 mm
Hole Angle: 90°
Bearing: ---
Surface RL: 1.0 m AHD
Co-ords: E 50910 N 86808.6 PMG

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	
WB									... no gravel. (continued)	W	VS	FB			
				10.50	SPT 4.7, 9 N=16	SPT		SP	SAND: medium grained, grey.		SL	VC			
				11							ST	UD			
				11.00							VS	UD			
				11.50	SPT 13, 26, 30 /105mm	SPT			... with a trace of fine to medium grained gravel (typical lithic fragments of alluvial gravel, i.e. quartz, jasper etc).		VS	UD			% passing 0.425mm=89% % passing 0.075mm=5%
				12							VS	UD			
				12.00							VS	UD			
				12.50	SPT 6, 10, 12 N=22	SPT			... no gravel.		VS	UD			
				13							VS	UD			
				13.50							VS	UD			
				14							VS	UD			
				14.00	SPT 9, 13, 24 N=37	SPT					VS	UD			
				15							VS	UD			
				15.50							VS	UD			
				16							VS	UD			
				16.50	SPT 2, 2, 10 N=12	SPT		SC	Clayey SAND: medium grained, dark grey.		VS	UD			
				17							VS	UD			
				17.00							VS	UD			
				17.50	SPT 2, 2, 2 N=4	SPT		SP	SAND: medium grained, grey.		VS	UD			
				18							VS	UD			
				18.00							VS	UD			
				18.50							VS	UD			
				19							VS	UD			
					SPT 5, 9, 13 N=22	SPT					VS	UD			% passing 0.425mm=100% % passing 0.075mm=9%

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BOREHOLE ENGINEERING LOG

BOREHOLE NO.

BH46

SHEET 3 OF 4

Client: QUEENSLAND MAIN ROADS
Project: TUGUN BYPASS GEOTECHNICAL INVESTIGATION
Borehole Location: Airport Tunnel
Project Number: 2134070C

Date Commenced: 7/6/05
Date Completed: 10/5/05
Recorded By: MCM
Log Checked By: Dan

Drill Model/Mounting: LEWIS 350 TRACKED RIG Hole Angle: 90° Surface RL: 1.0 m AHD
Borehole Diameter: 100 mm Bearing: --- Co-ords: E 50910 N 86808.6 PMG

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
WB									SAND: medium grained, grey.(continued)	M			
				20.00	SPT 9,13,13 N=26	SPT			... medium to coarse grained, with a trace of fine grained gravel.				
				21.00									
				22.50	SPT 9,13,16 N=29	SPT			... no gravel.				
				22.00									
				23.00									
				23.00	SPT 1,2,2 N=4	SPT		CH	CLAY: high plasticity, dark grey, with a trace of medium grained sand.				MC=29.3% LL=36% PI=20% LS=7%
				24.00									
				25.50		U50		SP	Silty SAND: fine to medium grained, grey, high plasticity fines.			0 - 25	U50-1: 25.50 - 26.00m. P = 500mm, R = 500mm % passing 0.425mm=100% % passing 0.075mm=14%
				25.92				CH	CLAY: high plasticity, dark grey.				
				26.00	SPT 4,7,8 N=15	SPT							
				27.00									
				28.00									
				28.50		U50						50 - 100	U50-2: 28.50 - 29.00m. P = 500mm, R = 70mm.
				29.00									

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BOREHOLE ENGINEERING LOG

BOREHOLE NO.

BH46

SHEET 4 OF 4

Client: QUEENSLAND MAIN ROADS
Project: TUGUN BYPASS GEOTECHNICAL INVESTIGATION
Borehole Location: Airport Tunnel
Project Number: 2134070C

Date Commenced: 7/6/05
Date Completed: 10/5/05
Recorded By: MCM
Log Checked By: *DAW*

Drill Model/Mounting: LEWIS 350 TRACKED RIG
Borehole Diameter: 100 mm

Hole Angle: 90°
Bearing: ---

Surface RL: 1.0 m AHD
Co-ords: E 50910 N 86808.6 PMG

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	STRUCTURE AND ADDITIONAL OBSERVATIONS
WB					SPT 7,10,17 N=27	SPT		SC	Clayey SAND: medium grained, dark grey.	M		
			-30	31								
			-31	32		U50						
			-32	33	SPT 4,7,17 N=24	SPT						
			-33	34								
			-34	35	SPT 10,15,15 N=30	SPT		SP	SAND: medium grained, dark grey.			U50-3: 31.50 - 32.00m. P = 500mm, R = 500mm.
			-35	36	SPT 24,30 N=95mm	SPT		CH	CLAY: high plasticity, pale grey - white.			RESIDUAL SOIL
			-36	37					END OF BOREHOLE AT 36.25 m			Lost SPT cone down hole.
			-37	38								
			-38	39								

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