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BOREHOLE ENGINEERING LOG

BOREHOLE NO.

BH54

SHEET 1 OF 6

Client: QUEENSLAND MAIN ROADS

Date Commenced: 16/5/05

Project: TUGUN BYPASS GEOTECHNICAL INVESTIGATION

Date Completed: 19/5/05

Borehole Location: Tweed Heads Bypass Overbridge; Abutment A RHS;

Recorded By: AO

Project Number: 2134070C

Log Checked By: DAW

Drill Model/Mounting: HYDRAPOWER SCOUT 250

Hole Angle: 90°

Surface RL: 1.3 m AHD

Borehole Diameter: 100 mm

Bearing: ---

Co-ords: E 51564.7 N 86410.1 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
VS	FB	VL	MD	ST	MD	ST	MD	VS	FB	VL	MD	ST
WB	NH							SP	SAND: medium grained, grey, occasional brown lenses, trace of low plasticity fines and black heavy minerals.	M		ESTUARINE/ FLOODPLAIN/TIDAL DELTA DEPOSITS
					SPT 1,3,6 N=9	SPT				W		
					SPT 2,4,10 N=14	SPT						
					SPT 5,6,3 N=9	SPT						
					SPT 1,2,2 N=4	SPT		MH-SM	Interbedded Sandy Clayey SILT and Silty SAND with some Clay: medium plasticity, fine grained sand, dark grey, shell fragments throughout.			
					SPT 2,4,2 N=6	SPT		SM	Silty SAND: fine grained, dark grey brown, low plasticity fines.			
					SPT 7,9,11 N=20	SPT		SM	Slightly Cemented Silty SAND (Coffee Rock): fine grained, dark grey brown, low plasticity fines.			

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



BOREHOLE ENGINEERING LOG

BOREHOLE NO.

BH54

SHEET 3 OF 6

Client: QUEENSLAND MAIN ROADS

Project: TUGUN BYPASS GEOTECHNICAL INVESTIGATION

Borehole Location: Tweed Heads Bypass Overbridge; Abutment A RHS;

Project Number: 2134070C

Date Commenced: 16/5/05

Date Completed: 19/5/05

Recorded By: AO

Log Checked By:

Drill Model/Mounting: HYDRAPOWER SCOUT 250

Hole Angle: 90°

Surface RL: 1.3 m AHD

Borehole Diameter: 100 mm

Bearing: ---

Co-ords: E 51564.7 N 86410.1 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
										VS VL SL ST VD VH	HAND PENETROMETER (kPa)	
WB									... becoming grey-brown.(continued)	W		
			19									
			21									
			21.10		SPT				...fine grained with increasing medium plasticity silt fines.			
			20		4,2,2	SPT						
					N=4							
					Su=31.9	U50						
					kPa							
			22									
			21									
			22.50					CH	Silty CLAY: high plasticity, grey, trace of fine grained sand throughout.	M		
			23									
			22		Su=53.9	U50						
					kPa							
			24									
			23									
			24.50		SPT				... becoming grey-brown and some clayey silt lenses.			
			25		4,4,4	SPT						
					N=8							
			26									
			25		SPT							
					4,6,7	SPT						
					N=13							
			27									
			26									
			27.00		SPT				... becoming mottled with orange, brown and red.			
			28		7,9,9	SPT						
					N=18							
			29									
			28		SPT				...lense of grey silty sand with some clay, medium to high plasticity fines and medium to coarse grained sand.			
					5,6,9	SPT						
					N=15							
			29.40									
			29.45									

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Client: QUEENSLAND MAIN ROADS
 Project: TUGUN BYPASS GEOTECHNICAL INVESTIGATION
 Borehole Location: Tweed Heads Bypass Overbridge; Abutment A RHS;
 Project Number: 2134070C

Date Commenced: 16/5/05
 Date Completed: 19/5/05
 Recorded By: AO
 Log Checked By: *DAW*

Drill Model/Mounting: HYDRAPOWER SCOUT 250 Hole Angle: 90° Surface RL: 1.3 m AHD
 Borehole Diameter: 100 mm Bearing: --- Co-ords: E 51564.7 N 86410.1 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									... becoming dark grey-brown, very high silt content. (continued)	M		
			-29		SPT 5,6,7 N=13	SPT						
			-31									
			-30									
			-32		SPT 1,0,0 N=0	SPT			... becoming clayey sandy silt lenses and numerous wood fragments.			
			-31									
			-33									
			-32									
			-31.50		SPT 14,20,26 N=46	SPT		SM	Silty SAND: fine grained, grey to grey-brown, with medium plasticity clay fines. ...with medium and coarse grained sand.	W		
			-33.80									
			-34									
			-33									
			-34.60					GW-GC	Sandy Clayey GRAVEL: fine to medium angular quartz gravel, grey-brown, fine to coarse grained sand, high plasticity fines.	M		
			-35		SPT 16,18,17 N=35	SPT						
			-34									
			-36									
			-35		SPT 10,15,15 N=30	SPT			GREYWACKE: coarse grained, greenish-grey, extremely weathered with the consistency of sandy silt, very low strength, with fine to medium angular white quartz gravel, fine to coarse grained sand, and high plasticity fines.			WEATHERED ROCK
			-37									
			-36									
			-38		SPT 10,14,19 N=33	SPT						
			-37									
			-39									
			-38									
			-39.50		SPT 9,13,24 N=37	SPT			... becoming pale-grey with a trace of orange iron staining.			

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

Client: QUEENSLAND MAIN ROADS
Project: TUGUN BYPASS GEOTECHNICAL INVESTIGATION
Borehole Location: Tweed Heads Bypass Overbridge; Abutment A RHS;
Project Number: 2134070C

Date Commenced: 16/5/05
Date Completed: 19/5/05
Recorded By: AO
Log Checked By: Dan

Drill Model/Mounting:	HYDRAPOWER SCOUT 250	Hole Angle:	90°	Surface RL:	1.3 m AHD
Borehole Diameter:	100 mm	Bearing:	---	Co-ords:	E 51564.7 N 86410.1 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			
										VS	FB	VL	LD	ST	VS	VS	VS
WB				39					... becoming pale-grey with a trace of orange iron staining. (continued)	M							
				41	SPT												
				40	21,30												
					/150mm												
				42													
				41													
				42.50	SPT				GREYWACKE: fine to medium grained, pale grey, mostly stained orange brown and red brown, highly weathered, very low strength, occasional black, white and grey chert gravel bands, occasionally extremely weathered.								
				43	18,30												
					/150mm												
				44													
				43	SPT												
					18,30												
					/150mm												
				45													
				44	SPT												
					28				REFER TO CORED BOREHOLE LOG								
					/110mm												
				46													
				45													
				47													
				46													
				48													
				47													
				49													
				48													

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



CORED BOREHOLE ENGINEERING LOG

BOREHOLE NO.

BH54

SHEET 6 OF 6

Client: QUEENSLAND MAIN ROADS
Project: TUGUN BYPASS GEOTECHNICAL INVESTIGATION
Borehole Location: Tweed Heads Bypass Overbridge; Abutment A RHS;
Project Number: 2134070C

Date Commenced: 16/5/05
Date Completed: 19/5/05
Recorded By: AO
Log Checked By: *DAW*

Drill Model/Mounting: HYDRAPOWER SCOUT 250 Hole Angle: 90° Surface RL: 1.3 m AHD
Borehole Diameter: 100 mm Bearing: --- Co-ords: E 51564.7 N 86410.1 PMG

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
									0.03 0.1 0.3 1 3 10			
									EL VL J H HT BT	0 50 100 300 1000 3000		
						39						
						41						
						40						
						42						
						41						
						43						
						42						
						44						
						43						
						45						
						44						
NMLC	Nil		44	0	45.61			COMMENCE CORING AT 45.61 m GREYWACKE: fine grained with coarse bands, orange-brown, highly weathered greywacke with extremely weathered bands with the consistency of clayey silt, very low strength, fine to coarse quartz gravel. CORE LOSS END OF BOREHOLE AT 48.11 m	HW			Non-Intact core
						45						
						46						
						47						
						48						
						48						
						47						
						49						
						48						

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