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BOREHOLE ENGINEERING LOG

BOREHOLE NO.

BH55

SHEET 1 OF 5

Client: QUEENSLAND MAIN ROADS

Date Commenced: 20/5/05

Project: TUGUN BYPASS GEOTECHNICAL INVESTIGATION

Date Completed: 24/5/05

Borehole Location: Tweed Heads Bypass Overbridge; Abutment B LHS;

Recorded By: AO

Project Number: 2134070C

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 51579.1 N 86354.7 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	ST	MD	VST	D	H	VD	HAND	PENETROMETER (kPa)		
TC	C							SM	Silty SAND: fine to medium grained, dark grey, low plasticity fines, gravel and cobbles throughout.	M		FILL
								SP	SAND: fine grained, grey, some low to medium plasticity silt fines.			ESTUARINE/ FLOODPLAIN/TIDAL DELTA DEPOSITS
WB	C				SPT 1,2,2 N=4	SPT				W		
					SPT 4,9,10 N=19	SPT						
					SPT 6,7,7 N=14	SPT						
					SPT 8,11,12 N=23	SPT						
					SPT 10,11,6 N=17	SPT						
					SPT 1,0,0 N=0	SPT		MH	Clayey SILT: high plasticity, dark grey-brown, shells throughout.	M		

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



BOREHOLE ENGINEERING LOG

BOREHOLE NO.

BH55

SHEET 2 OF 5

Client: QUEENSLAND MAIN ROADS

Date Commenced: 20/5/05

Project: TUGUN BYPASS GEOTECHNICAL INVESTIGATION

Date Completed: 24/5/05

Borehole Location: Tweed Heads Bypass Overbridge; Abutment B LHS;

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 51579.1 N 86354.7 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												
				-9				MH	Clayey SILT: high plasticity, dark grey-brown, shells throughout. (continued)	M		
				10.50				SM	Silty SAND: fine to medium grained, grey to dark grey-brown, with low to medium plasticity fines.	W		
				11		Su=14.71 kPa	U50					
				12								
				13								
				14								
				15								
				16								
				17								
				18								
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BOREHOLE ENGINEERING LOG

BOREHOLE NO.

BH55

SHEET 3 OF 5

Client: QUEENSLAND MAIN ROADS

Project: TUGUN BYPASS GEOTECHNICAL INVESTIGATION

Borehole Location: Tweed Heads Bypass Overbridge; Abutment B LHS;

Project Number: 2134070C

Date Commenced: 20/5/05

Date Completed: 24/5/05

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 51579.1 N 86354.7 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 SL FL ST VD H	HAND PENETROMETER (kPa)	
WB			19					SM	Silty SAND: fine to medium grained, pale grey, low plasticity fines. (continued)	W		
			21.00	21	SPT 2,5,10 N=15	SPT			...fine grained sand.			
			22									
			21									
			22.50	22.50	SPT 0	SPT		MH	Clayey SILT: high plasticity, dark grey, some silty clay lenses, and some sandy lenses containing fine grained sand.			
			23									
			22									
			24.00	24	SPT 2,3,5 N=8	SPT			...increased occurrence of sandy lenses.			
			23									
			25									
			24									
			25.50	25.50	SPT 0,2,5 N=7	SPT		CH	Silty CLAY: high plasticity, grey, trace of fine grained sand throughout, trace of orange iron staining throughout.	M		
			26									
			25									
			27.00	27	SPT 0,6,6 N=12	SPT		SC	Clayey SAND: fine to medium grained, grey, low to medium plasticity fines.	W		
			26									
			28									
			27									
			28.50	28.50	SPT 0,0,7 N=7	SPT			...Interbedded with clayey silt.			
			29									
			28									

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



BOREHOLE ENGINEERING LOG

BOREHOLE NO.

BH55

SHEET 4 OF 5

Client:	QUEENSLAND MAIN ROADS	Date Commenced:	20/5/05
Project:	TUGUN BYPASS GEOTECHNICAL INVESTIGATION	Date Completed:	24/5/05
Borehole Location:	Tweed Heads Bypass Overbridge; Abutment B LHS;	Recorded By:	AO
Project Number:	2134070C	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 51579.1 N 86354.7 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	SOIL/ROCK MATERIAL FIELD DESCRIPTION	MOISTURE	RELATIVE DENSITY / CONSISTENCY	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS
WB					SPT	SPT	SM	Silty SAND with some CLAY interbedded with Sandy Clayey SILT: fine to medium grained sand, grey, soft silt interbeds.	W			
			29		6,8,3 N=11							
			31									
			30									
			32		9,6,2 N=8							
			31									
			33									
			32		4,11,12 N=23			... becoming pale grey-brown.				
			33					... becoming dark grey.				
			34					... becoming grey.				
			35		8,5,5 N=10							
			36									
			37									
			38		9,16,16 N=32			GREYWACKE: medium to coarse grained, with some quartz gravel bands, greenish-grey, extremely weathered with the consistency of sandy silt, medium plasticity, fine to medium grained sand, fine to medium angular quartz gravel and rounded grey chert gravel, very low strength to occasional low strength, highly weathered greywacke corestones.	M			WEATHERED ROCK Planar defects dipping at 60° with thin quartz coating and trace of orange iron staining.
			39		12,18,26 N=44							

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



BOREHOLE ENGINEERING LOG

BOREHOLE NO.

BH55

SHEET 5 OF 5

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

Date Commenced: 20/5/05
Date Completed: 24/5/05
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 51579.1 N 86354.7 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	SOIL/ROCK MATERIAL FIELD DESCRIPTION	MOISTURE	RELATIVE DENSITY / CONSISTENCY	HAND PENETROMETER (kPa)	STRUCTURE AND ADDITIONAL OBSERVATIONS
WB									M			
			39					... becoming pale grey below 40.5m.				
			40.50		SPT 32	SPT						
					150mm							
			41									
			40									
			42		SPT 12	SPT						
			41		150mm							
			43									
			42									
			41.50		SPT 21	SPT		GREYWACKE: fine to medium grained, pale grey with orange iron staining throughout rock mass, extremely weathered with the consistency of sandy silt, medium to high plasticity, fine grained sand, black chert gravel, trace of low strength, highly weathered greywacke corestones.				
			44		100mm							
			43									
			45		SPT 12	SPT		END OF BOREHOLE AT 45.04 m				
			44		140mm							
			46									
			45									
			47									
			46									
			48									
			47									
			49									
			48									

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