

# RECORD OF BOREHOLE No 06-01

1 OF 1

**METRIC**

W.P. 392-98-00 LOCATION 10+425 Lt 13.5m ORIGINATED BY P.R.  
 DIST 54 HWY 17 BOREHOLE TYPE Hollow Stem Auger COMPILED BY T.G.  
 DATUM Geodetic DATE 2004.11.12 CHECKED BY R.C.

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT   NATURAL MOISTURE CONTENT   LIQUID LIMIT			UNIT WEIGHT  $\gamma$  kN/m <sup>3</sup>	REMARKS & GRAIN SIZE DISTRIBUTION (%)  GR   SA   SI   CL			
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES			SHEAR STRENGTH kPa		WATER CONTENT (%)							
								○ UNCONFINED      ✕ FIELD VANE □ QUICK TRIAXIAL    ★ LAB VANE		w <sub>p</sub> w                      w <sub>L</sub>							
						20   40   60   80   100		20   40   60   80   100			10   20   30						
173.1						▼	172								0   60   (40)	Water level @ 1.5m on completion. Cave @ 2.0m on completion.	
170.0	TOPSOIL - 100mm		1	AS													
172.5	SAND - trace silt, trace gravel, brown																
0.6	SAND & SILT - layered, brown, loose to compact		2	SS	8												
			3	SS	10		171										
170.9																	
2.2	SAND - trace silt, brown		4	SS	5												
170.1							170										
3.0	SAND & SILT - layered, brown, loose to compact		5	SS	>99												
169.8																	
3.3	SAND & SILT - layered, brown, loose to compact																
	End of Borehole @ 3.3m. Auger Refusal.																

RECORD OF BOREHOLE No 06-02

1 OF 1

METRIC

W.P. 392-98-00 LOCATION 10+450 Lt 14.5m ORIGINATED BY P.R.  
DIST 54 HWY 17 BOREHOLE TYPE Hollow Stem Auger COMPILED BY T.G.  
DATUM Geodetic DATE 2004.11.12 CHECKED BY R.C.




SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			UNIT WEIGHT $\gamma$ kN/m <sup>3</sup>	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE			"N" VALUES	SHEAR STRENGTH kPa					WATER CONTENT (%)			
						20	40	60	80	100	W <sub>p</sub>	W	W <sub>L</sub>			
173.0																
170.0	TOPSOIL - 150mm		1	AS												
0.2	PEAT AND SAND - black															
172.3																
0.7	SAND - trace silt, trace gravel, brown		2	SS	101											
172.0																
1.1	End of Borehole @ 1.05m. Auger Refusal.															

# RECORD OF BOREHOLE No 06-03

1 OF 1

**METRIC**

W.P. 392-98-00 LOCATION 10+475 Lt 13.0m ORIGINATED BY P.R.  
 DIST 54 HWY 17 BOREHOLE TYPE Hollow Stem Auger COMPILED BY T.G.  
 DATUM Geodetic DATE 2004.11.12 CHECKED BY R.C.


SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			UNIT WEIGHT $\gamma$ kN/m <sup>3</sup>	REMARKS & GRAIN SIZE DISTRIBUTION (%)
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES			SHEAR STRENGTH kPa					WATER CONTENT (%)				
							20	40	60	80	100	W <sub>p</sub>	W	W <sub>L</sub>			
173.0																	
172.4	TOPSOIL - 100mm PEAT & SAND - black		1	AS													
172.4	SAND - Silty, grey/brown, compact		2	SS	13												
171.5	SILT - trace sand, grey, loose																
170.9			3	SS	6												
170.9	End of Borehole @ 2.1m. Auger Refusal.																

**RECORD OF BOREHOLE No 06-04**

1 OF 1

**METRIC**

W.P. 392-98-00 LOCATION 10+490 Lt 8.0m ORIGINATED BY P.R.  
 DIST 54 HWY 17 BOREHOLE TYPE Hollow Stem Auger COMPILED BY T.G.  
 DATUM Geodetic DATE 2004.11.12 CHECKED BY R.C.

SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			UNIT WEIGHT $\gamma$ kN/m <sup>3</sup>	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL	
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE			"N" VALUES	SHEAR STRENGTH kPa					WATER CONTENT (%)				
							20	40	60	80	100	W <sub>p</sub>	W	W <sub>L</sub>			
174.6	FILL - SAND & GRAVEL - some silt, brown																
0.0			1	AS													
173.9																	
0.7	End of Borehole @ 0.72m. Auger Refusal.																Numerous attempts, auger refusal @ 0.72m.

RECORD OF BOREHOLE No 06-04A

1 OF 1

METRIC

W.P. 392-98-00 LOCATION 10+493 Lt 8.0m ORIGINATED BY P.R.  
DIST 54 HWY 17 BOREHOLE TYPE Hollow Stem Auger COMPILED BY T.G.  
DATUM Geodetic DATE 2004.11.12 CHECKED BY R.C.

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			UNIT WEIGHT $\gamma$ kN/m <sup>3</sup>	REMARKS & GRAIN SIZE DISTRIBUTION (%)	
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES			SHEAR STRENGTH kPa					WATER CONTENT (%)					
							20	40	60	80	100	W <sub>p</sub>	W	W <sub>L</sub>				
174.6	FILL - SAND & GRAVEL		1	AS			174						○				Water level @ 3.0m on completion. Cave @ 3.4m on completion.	
0.0	----- - SAND - trace gravel, trace silt, brown, compact		2	SS	10		173							○				
			3	SS	16		172								○			
172.2	----- - trace organics	4	SS	2	171										○			
2.4	SILT - trace sand to Sandy, grey, very loose to compact	5	SS	12	170										○			
		6	SS	11	169											○		
		7	SS	6														
168.2	----- - trace gravel	8	SS	4												○		
6.4	End of Borehole @ 6.4m. Auger Refusal.																	

×<sup>3</sup>, ★<sup>3</sup>: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE

ENCLOSURE 5

RECORD OF BOREHOLE No 06-05

1 OF 1

METRIC

W.P. 392-98-00 LOCATION 10+500 Lt 19.0m ORIGINATED BY P.R.  
DIST 54 HWY 17 BOREHOLE TYPE Hollow Stem Auger COMPILED BY T.G.  
DATUM Geodetic DATE 2004.11.12 CHECKED BY R.C.

SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			UNIT WEIGHT $\gamma$ kN/m <sup>3</sup>	REMARKS & GRAIN SIZE DISTRIBUTION (%)
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE			"N" VALUES	SHEAR STRENGTH kPa					WATER CONTENT (%)			
							20	40	60	80	100	W <sub>p</sub>	W	W <sub>L</sub>		
173.5																
173.0	TOPSOIL - 150mm		1	AS		173										Water level @ 1.0m on completion.
0.2	SILT - some sand, brown, compact		2	SS	15											Cave @ 2.0m on completion.
	-----					172										0 20 (80)
	- brown/grey, loose		3	SS	9											
			4	SS	3	171										
170.8	End of Borehole @ 2.7m. Auger Refusal.															
2.7																



**ENCLOSURE 7**

# RECORD OF BOREHOLE No 06-07

1 OF 1

**METRIC**

W.P. 392-98-00 LOCATION 10+550 Lt 18.5m ORIGINATED BY P.R.  
 DIST 54 HWY 17 BOREHOLE TYPE Hollow Stem Auger COMPILED BY T.G.  
 DATUM Geodetic DATE 2004.11.12 CHECKED BY R.C.

SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			UNIT WEIGHT $\gamma$	REMARKS & GRAIN SIZE DISTRIBUTION (%)
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE			"N" VALUES	SHEAR STRENGTH kPa					WATER CONTENT (%)			
							20	40	60	80	100	W <sub>p</sub>	W	W <sub>L</sub>		
174.5																
173.9	TOPSOIL - 150mm															
0.2	SAND - trace silt, trace rootlets, brown		1	HS		174										
0.7	End of Borehole @ 0.65m. On Bedrock.															

$\times^3, \star^3$ : Numbers refer to Sensitivity       $\bigcirc$  3% STRAIN AT FAILURE

**ENCLOSURE 8**





# RECORD OF BOREHOLE No 06-08

1 OF 1

**METRIC**

W.P. 392-98-00 LOCATION 10+575 Lt 13.0m ORIGINATED BY P.R.  
 DIST 54 HWY 17 BOREHOLE TYPE Hollow Stem Auger COMPILED BY T.G.  
 DATUM Geodetic DATE 2004.11.12 CHECKED BY R.C.

SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			UNIT WEIGHT $\gamma$ kN/m <sup>3</sup>	REMARKS & GRAIN SIZE DISTRIBUTION (%)
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE			"N" VALUES	SHEAR STRENGTH kPa					WATER CONTENT (%)			
							20	40	60	80	100	W <sub>p</sub>	W	W <sub>L</sub>		
173.6																
173.6 0.1	TOPSOIL - 100mm SAND - Silty, brown		1	AS												Water level @ 0.6m on completion.
172.8 0.8	End of borehole @ 0.8m. Auger Refusal.															Attempted 3 times to penetrate past 0.8m.

**RECORD OF BOREHOLE No 06-09**

1 OF 1

**METRIC**

W.P. 392-98-00 LOCATION 10+598 Lt 9.0m ORIGINATED BY P.R.  
 DIST 54 HWY 17 BOREHOLE TYPE Hollow Stem Auger COMPILED BY T.G.  
 DATUM Geodetic DATE 2004.11.12 CHECKED BY R.C.

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			UNIT WEIGHT $\gamma$ kN/m <sup>3</sup>	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL	
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES			SHEAR STRENGTH kPa					WATER CONTENT (%)					
							20	40	60	80	100	W <sub>p</sub>	W	W <sub>L</sub>				
174.7 0.0	FILL - SAND & GRAVEL - 150mm ----- - SAND - trace gravel, trace silt, trace cobble, brown, loose to very loose		1	AS			174						○				3 89 (8)	
			2	SS	6		173						○					4 89 (7)
			3	SS	3													
172.3 2.4	----- - trace organics SAND - trace silt, grey, very loose		4	SS	3		172								○			Water level @ 1.8m on completion. Cave @ 1.8m on completion.
			5	SS	101										○			
171.4 3.3	End of Borehole @ 3.3m. Auger Refusal.																	

✕<sup>3</sup>, ★<sup>3</sup>: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE



**ENCLOSURE 10**

**RECORD OF BOREHOLE No 06-09A**

1 OF 1

**METRIC**

W.P. 392-98-00 LOCATION 10+598 Lt 14.5m ORIGINATED BY P.R.  
 DIST 54 HWY 17 BOREHOLE TYPE Hollow Stem Auger COMPILED BY T.G.  
 DATUM Geodetic DATE 2004.11.12 CHECKED BY R.C.








SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			UNIT WEIGHT $\gamma$ kN/m <sup>3</sup>	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES			SHEAR STRENGTH kPa					WATER CONTENT (%)				
							20	40	60	80	100	W <sub>p</sub>	W	W <sub>L</sub>			
173.0																	
172.8	TOPSOIL - 250mm																
0.3	SAND - Silty, some organics, brown to grey, loose		1	AS													
			2	SS	7												
171.7																	
1.4	End of Borehole @ 1.35m. Auger Refusal.																

# RECORD OF BOREHOLE No 06-10

1 OF 1

**METRIC**

W.P. 392-98-00 LOCATION 10+625 Lt 14.0m ORIGINATED BY P.R.  
 DIST 54 HWY 17 BOREHOLE TYPE Hollow Stem Auger COMPILED BY T.G.  
 DATUM Geodetic DATE 2004.11.12 CHECKED BY R.C.





SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			UNIT WEIGHT $\gamma$ kN/m <sup>3</sup>	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL	
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES			SHEAR STRENGTH kPa					WATER CONTENT (%)					
							20	40	60	80	100	W <sub>p</sub>	W	W <sub>L</sub>				
173.3	TOPSOIL - 200mm						173										Water level @ 0.7m on completion. Cave @ 2.4m on completion.	
170.0	SAND - some organics, brown/black		1	AS														
172.6	SAND - Silty, brown, loose to compact		2	SS	6													
			3	SS	14													
			4	SS	12													
169.8	----- - trace cobble		5	SS			170										On Cobble.	
3.5	End of Borehole @ 3.5m. Auger Refusal.																	

# RECORD OF BOREHOLE No 06-11

1 OF 1

METRIC

W.P. 392-98-00 LOCATION 10+650 Lt 19.0m ORIGINATED BY P.R.  
 DIST 54 HWY 17 BOREHOLE TYPE Hollow Stem Auger COMPILED BY T.G.  
 DATUM Geodetic DATE 2004.11.12 CHECKED BY R.C.

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			UNIT WEIGHT  $\gamma$  kN/m <sup>3</sup>	REMARKS & GRAIN SIZE DISTRIBUTION (%)  GR SA SI CL
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES			SHEAR STRENGTH kPa					WATER CONTENT (%)				
								<div><div></div><div>20406080100</div></div>					<div><div></div><div>W<sub>p</sub></div></div>	<div><div></div><div>W</div></div>	<div><div></div><div>W<sub>L</sub></div></div>		
174.1	TOPSOIL - 100mm SAND - trace silt, brown, compact						174									0 94 (6)	
173.0			1	AS													
			2	SS	15												
			3	SS	11												
			4	SS	17												
171.1	SAND - Silty, trace gravel, grey/brown, loose to compact						171										Water level @ 2.2m on completion. Cave @ 3.0m on completion.
3.0			5	SS	9												
			6	SS	7												
			7	SS	10												
			8	SS													
167.7	End of Borehole @ 6.4m. Auger Refusal.					168											
6.4																	

×<sup>3</sup>, ★<sup>3</sup>: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE

ENCLOSURE 13

UNIFIED SOIL CLASSIFICATION SYSTEM

