

RECORD OF BOREHOLE No 07-12

1 OF 1

METRIC

W.P. 392-98-00 LOCATION 11+280 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					UNIT WEIGHT $\gamma$ kN/m <sup>3</sup>	REMARKS & GRAIN SIZE DISTRIBUTION (%)
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES			20	40	60	80	100		
173.1	TOPSOIL - 300mm						173							
172.8	ORGANICS - black		1	AS										
172.4														
0.7	SAND - Silty, some gravel, grey, compact		2	SS	22		172							16 57 (27)
	----- - occasional cobble													
			3	SS	10									
170.9							171							
2.2	End of Borehole @ 2.2m. Auger Refusal.													Water level @ 0.9m on completion. Cave @ 1.0m on completion.

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

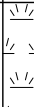
ENCLOSURE 1

# RECORD OF BOREHOLE No 07-13

1 OF 1

**METRIC**

W.P. 392-98-00 LOCATION 11+304 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 (%) 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>		
173.2	ROOTMAT - 300mm		1	AS		173									167	Water level @ 0.3m on completion. Cave @ 1.0m on completion.
	- ORGANICS - black		2	SS	1	172									135	
171.9	End of Borehole @ 1.3m. Auger Refusal.															
1.3																

# RECORD OF BOREHOLE No 07-14

1 OF 1

METRIC

W.P. 392-98-00 LOCATION 11+333 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 NATURAL LIQUID LIMIT MOISTURE CONTENT LIMIT			UNIT WEIGHT  γ	REMARKS & GRAIN SIZE DISTRIBUTION (%)				
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES			SHEAR STRENGTH kPa				WATER CONTENT (%)								
172.8						☒		20	40	60	80	100		W <sub>p</sub>	W	W <sub>L</sub>	kN/m <sup>3</sup>	GR SA SI CL		
0.0	ROOTMAT - 300mm																			Water level @ 0.3m on completion. Cave @ 2.0m on completion.
	----- - ORGANICS - black		1	AS																
	----- - some silty sand		2	AS																
171.6																				
1.2	SAND - Silty, grey, loose to compact																			
	----- -trace cobble		3	SS	9															
			4	SS	14															
170.0																				
2.8	End of Borehole @ 2.8m. Auger Refusal.																			

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

ENCLOSURE 3

# RECORD OF BOREHOLE No 07-15

1 OF 1

METRIC

W.P. 392-98-00 LOCATION 11+348 Lt 7.8m 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 (%)		
								<div><div><div></div><div></div><div></div><div></div><div></div></div><div>20406080100</div></div> <div>○ UNCONFINED      ✕ FIELD VANE □ QUICK TRIAXIAL    ★ LAB VANE</div>							<div><div><div></div><div></div><div></div></div><div>W<sub>p</sub>      W      W<sub>L</sub></div></div> <div>102030</div>		
174.5																	
0.0	FILL - SAND & GRAVEL ----- - SAND - Gravelly, some silt, brown, compact		1	AS			174							26 61 (13)  Organic content = 9.2% @ 1.6m. 60 for 150mm.  Water level @ 2.2m on completion. Cave @ 2.3m on completion.			
			2	SS	12												
			3	SS				173									
			4	AS													
172.3	----- - SAND - Silty, occasional cobbles, some organics, roots, brown		5	SS	12		172										
2.2	SAND - Silty, grey, compact to very loose		6	SS	6												
			7	SS	5			171									
			8	SS	3			170									
169.2																	
5.3	End of Borehole @ 5.3m. Auger Refusal.												Initial BH auger refusal @ 0.75m. Moved BH 1.5m East.				

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

ENCLOSURE 4

**RECORD OF BOREHOLE No 07-16**

1 OF 1

**METRIC**

W.P. 392-98-00 LOCATION 11+355 Lt 17.0m 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>				
172.9	TOPSOIL - 250mm					▼												
172.9	ORGANICS - black		1	AS														
172.1	SAND - trace silt, grey/brown		2	SS	4													
0.9 171.7	End of Borehole @ 1.2m. Auger Refusal.																	
1.2																		

**RECORD OF BOREHOLE No 07-17**

1 OF 1

**METRIC**

W.P. 392-98-00 LOCATION 11+380 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 NATURAL LIQUID LIMIT MOISTURE CONTENT			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>				
172.9 0.0	ROOTMAT - 300mm		1	AS		172 171 170										184	Water level @ 0.3m on completion. Cave @ 1.9m on completion.	
172.2 0.8	- ORGANICS - black		2	SS	10													
	SAND - Silty, grey, very loose to compact		3	SS	10													
			4	SS	13													
			5	SS	3													
169.1 3.8	End of Borehole @ 3.8m. Auger Refusal.																	

# RECORD OF BOREHOLE No 07-18

1 OF 1

METRIC

W.P. 392-98-00 LOCATION 11+420 Lt 15.5m ORIGINATED BY P.R.  
 DIST 54 HWY 17 BOREHOLE TYPE Hollow Stem Auger COMPILED BY T.G.  
 DATUM Geodetic DATE 2004.12.18 CHECKED BY R.C.

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT				PLASTIC LIMIT W <sub>p</sub>	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W <sub>L</sub>	UNIT WEIGHT  γ  kN/m <sup>3</sup>	REMARKS & GRAIN SIZE DISTRIBUTION (%)		
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES			SHEAR STRENGTH kPa										
173.2																Water level @ 0.3m 1.5hrs after completion. Cave @ 1.0m 1.5hrs after completion.		
0.0	TOPSOIL - 300mm																	
172.9																		
0.3	ORGANICS - black		1	AS														
172.4																		
0.8	SAND - Silty, grey, very loose to loose		2	SS	1													
			3	SS	3													
			4	SS	5													
			5	SS	2													
			6	SS	4													
168.6																		
4.6	End of Borehole @ 4.6m. Auger Refusal.																	

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





















ENCLOSURE 7

RECORD OF BOREHOLE No 07-19

1 OF 1

METRIC

W.P. 392-98-00 LOCATION 11+438 Lt 11.5m ORIGINATED BY P.R.  
DIST 54 HWY 17 BOREHOLE TYPE Hollow Stem Auger COMPILED BY T.G.  
DATUM Geodetic DATE 2004.11.14 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 (%)					
173.4														49	Water level @ 0.6m on completion. Cave @ 2.0m on completion.
170.2	TOPSOIL - 200mm														
0.2	ORGANICS - some sand, black		1	AS											
172.7															
0.8	SAND - Silty, grey, compact		2	SS	10										
172.0															
1.4	SAND - trace silt, brown, very loose to loose		3	SS	7										
															
			4	SS	6										
															
			5	SS	3										
															
			6	SS	3										
															
			7	SS	6										
															
			8	SS	6										
166.5															
6.9	SAND - Silty, trace gravel, grey, loose cobbles														
165.7			9	SS											
7.7	End of Borehole @ 7.7m. Auger Refusal.												70 for 150mm.		



# RECORD OF BOREHOLE No 07-20

1 OF 1

METRIC

W.P. 392-98-00 LOCATION 11+450 Lt 5.5m ORIGINATED BY P.R.  
 DIST 54 HWY 17 BOREHOLE TYPE Hollow Stem Auger COMPILED BY T.G.  
 DATUM Geodetic DATE 2004.12.09 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				W <sub>p</sub> W                      W <sub>L</sub> WATER CONTENT (%)				
								20   40   60   80   100	20   40   60   80   100	20   40   60   80   100	10   20   30					
174.1							174									
0.0	FILL - SAND & GRAVEL  ----- - SAND - trace gravel, trace silt, brown		1	AS			173								11 72 (17)	
			2	SS	23		172									Organic content = 8% @ 1.8m.
172.3			3	SS	5		171									0 97 (3)
1.8	----- - 100mm organics with sand SAND - trace silt, grey, loose to compact		4	SS	14		170									Water level @ 1.0m 1hr after completion. Cave @ 2.5m 1hr after completion.
			5	SS	12		169									
			6	SS	5		168									
			7	SS	6		167									
							166									
168.1			8	SS	5		165									
6.0	SILT - Sandy, grey, loose						164									
166.6			9	SS	3											
7.5	SILT - trace sand, grey, very loose															
			10	SS	2											
			11	SS	1											
163.6																
10.5	End of Borehole @ 10.5m. Auger Refusal.															

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

ENCLOSURE 9

## 1 OF 1

METRIC

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

**ENCLOSURE 10**






# RECORD OF BOREHOLE No 07-23

1 OF 1

METRIC

W.P. 392-98-00 LOCATION 11+525 Lt 17.0m ORIGINATED BY P.R.  
 DIST 54 HWY 17 BOREHOLE TYPE Hollow Stem Auger COMPILED BY T.G.  
 DATUM Geodetic DATE 2004.11.14 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  γ  kN/m³	REMARKS & GRAIN SIZE DISTRIBUTION (%)					
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES			SHEAR STRENGTH kPa							W <sub>p</sub> W                      W <sub>L</sub>				
								○ UNCONFINED                      ✕ FIELD VANE □ QUICK TRIAXIAL                      ★ LAB VANE							WATER CONTENT (%)				
173.7								20	40	60	80	100							
170.0	TOPSOIL - 200mm																		
0.2	ORGANICS - black		1	AS															
173.2																			
0.5	SAND - Silty, grey/brown, loose to compact		2	SS	11														
			3	SS	11														
			4	SS	5														
			5	SS	7														
170.8	SILT - some sand, loose, grey		6	SS	10														
2.9			7	SS	7														
			8	SS	7														
167.0	End of Borehole @ 6.7m. Auger Refusal.																		
6.7																			

UNIFIED SOIL CLASSIFICATION SYSTEM

