

## Engineering Log - Borehole

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1  
Project No: GEOTKARI02021AA

### Principal:

Date completed: **4.10.2007**

Project: **WARNERVALE TOWN CENTRE**

Date completed: **4.10.2007**

Borehole Location: **See Figure -**

Logged by: **DH**

## Engineering Log - Borehole

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1  
Project No: GEOTKARI02021AA

### Principal:

Date completed: **4.10.2007**

Project: **WARNERVALE TOWN CENTRE**

Date completed: **4.10.2007**

Borehole Location: **See Figure -**

Logged by: **DH**

drill model and mounting:	HAND AUGER	Easting:	357012	slope:	-90°	R.L. Surface:	49
hole diameter:	50 mm	Northing	6321095	bearing:		datum:	AHD

drilling information					material substance								structure and additional observations				
method	penetration	support	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material			moisture condition	consistency/density index	100	200	300	400	structure and additional observations
	1 2 3	water						soil type: plasticity or particle characteristics, colour, secondary and minor components.									
HA		NIL	None Observed				SM	TOPSOIL; Silty SAND, fine to medium grained sand, brown, some fine to medium grained gravel.			D						TOPSOIL
								SANDSTONE; Orange/brown.			D						HIGHLY WEATHERED BEDROCK
								Borehole HA33 terminated at 0.5m									
								48.0 0.5									
								48.0 1.0									
method					support		penetration		notes, samples, tests			classification symbols and soil description			consistency/density index		
AS	auger screwing*		M mud		N nil		U <sub>50</sub>		undisturbed sample 50mm diameter			based on unified classification system			VS very soft		
AD	auger drilling*		C casing		no resistance ranging to refusal		U <sub>63</sub>		undisturbed sample 63mm diameter			S soft			S firm		
RR	roller/tricone		W washbore		CT cable tool		HA hand auger		D disturbed sample			F stiff			St very stiff		
W	diatube		B blank bit		V V bit		T TC bit		N standard penetration test (SPT)			Vt hard			H friable		
CT	diatube		B blank bit		V V bit		T TC bit		N* SPT - sample recovered			Fb very loose			VL loose		
HA	diatube		B blank bit		V V bit		T TC bit		Nc SPT with solid cone			L medium dense			MD dense		
DT	diatube		B blank bit		V V bit		T TC bit		V vane shear (kPa)			D very dense			D very dense		
B	diatube		B blank bit		V V bit		T TC bit		P pressuremeter			VD			VD		
V	diatube		B blank bit		V V bit		T TC bit		Bs bulk sample			VS			VS		
T	diatube		B blank bit		V V bit		T TC bit		E environmental sample			S			S		
DT	diatube		B blank bit		V V bit		T TC bit		R refusal			F			F		
	diatube		B blank bit		V V bit		T TC bit		water			St			St		
	diatube		B blank bit		V V bit		T TC bit		10/1/98 water level on date shown			Vt			Vt		
	diatube		B blank bit		V V bit		T TC bit		water inflow			H			H		
	diatube		B blank bit		V V bit		T TC bit		water outflow			Fb			Fb		
*bit shown by suffix e.g. ADT																	

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Client: **WYONG SHIRE COUNCIL**

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Project No: **GEOTKARI02021AA**

Principal:

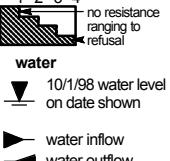
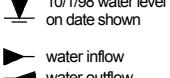
Date started: **4.10.2007**

Project: **WARNERVALE TOWN CENTRE**

Date completed: **4.10.2007**

Borehole Location: **See Figure -**

Logged by: **DH**  
Checked by: **SD**

drill model and mounting:							HAND AUGER	Easting:	357047	slope:	-90°	R.L. Surface:	45					
hole diameter:							50 mm	Northing	6321092	bearing:		datum:	AHD					
drilling information							material substance											
method	penetration 1 2 3	support NIL	water None Observed	notes samples, tests, etc	RL depth metres	graphic log	classification symbol	material	soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetrometer 100 200 300 400 kPa	structure and additional observations					
HA							SM	TOPSOIL; Silty SAND, fine to medium grained sand, brown, some fine to medium grained gravel.			D		TOPSOIL					
								SANDSTONE; Orange/brown.			D		HIGHLY WEATHERED BEDROCK					
					44.5	0.5		Borehole HA34 terminated at 0.5m										
					44.0	1.0												
<b>method</b> AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit e.g. ADT							<b>support</b> M mud C casing <b>penetration</b> 1 2 3 4  <b>water</b> 					<b>notes, samples, tests</b> U <sub>50</sub> undisturbed sample 50mm diameter U <sub>63</sub> undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N' SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal			<b>classification symbols and soil description</b> based on unified classification system  <b>moisture</b> D dry M moist W wet W <sub>p</sub> plastic limit W <sub>l</sub> liquid limit		<b>consistency/density index</b> VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense	

## Engineering Log - Borehole

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1  
Project No: GEOTKARI02021AA

### Principal:

Date completed: **4.10.2007**

Project: **WARNERVALE TOWN CENTRE**

Logged by: **D**

Borehole Location: **See Figure -**

Checked by: **SD**

drill model and mounting:			HAND AUGER			Easting:	356936	slope:	-90°	R.L. Surface:	52					
hole diameter:			50 mm			Northing	6321093	bearing:		datum:	AHD					
drilling information						material substance						structure and additional observations				
method	penetration	support	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material			moisture condition	consistency/density index	pocket penetrometer			
	1 2 3	water						soil type: plasticity or particle characteristics, colour, secondary and minor components.			100 200 300 400					
HA		NIL					SM	TOPSOIL; Silty SAND, fine to medium grained sand, brown.			D			TOPSOIL		
								E						DUP 64		
			None Observed													
								SANDSTONE; Orange/brown.			D			HIGHLY WEATHERED BEDROCK		
								51.5 0.5								
								Borehole HA35 terminated at 0.5m								
								51.0 1.0								
method	support			notes, samples, tests			classification symbols and soil description			consistency/density index						
AS	auger screwing*			U <sub>50</sub> undisturbed sample 50mm diameter			based on unified classification system			VS	very soft					
AD	auger drilling*			U <sub>63</sub> undisturbed sample 63mm diameter						S	soft					
RR	roller/tricone			D disturbed sample						F	firm					
W	washbore			N standard penetration test (SPT)						St	stiff					
CT	cable tool			N* SPT - sample recovered						VSt	very stiff					
HA	hand auger			Nc SPT with solid cone						H	hard					
DT	diatube			V vane shear (kPa)						Fb	friable					
B	blank bit			P pressuremeter						VL	very loose					
V	V bit			Bs bulk sample						L	loose					
T	TC bit			E environmental sample						MD	medium dense					
*bit shown by suffix e.g. ADT				R refusal						D	dense					
										VD	very dense					

## Appendix D

### **Test Pit Logs**

# Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

Principal:

Date completed: **18.9.2007**

**Project: *WARNERVALE TOWN CENTRE***

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 8t Kubota Pit Orientation:

R.L. Surface:

excavation dimensions: 2m long 1m wide Northing: 6321440 m datum: AHD

**excavation information** **material substance**

## Sketch



# Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

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Principal:

Project No: **GEOTKARI02021AA**

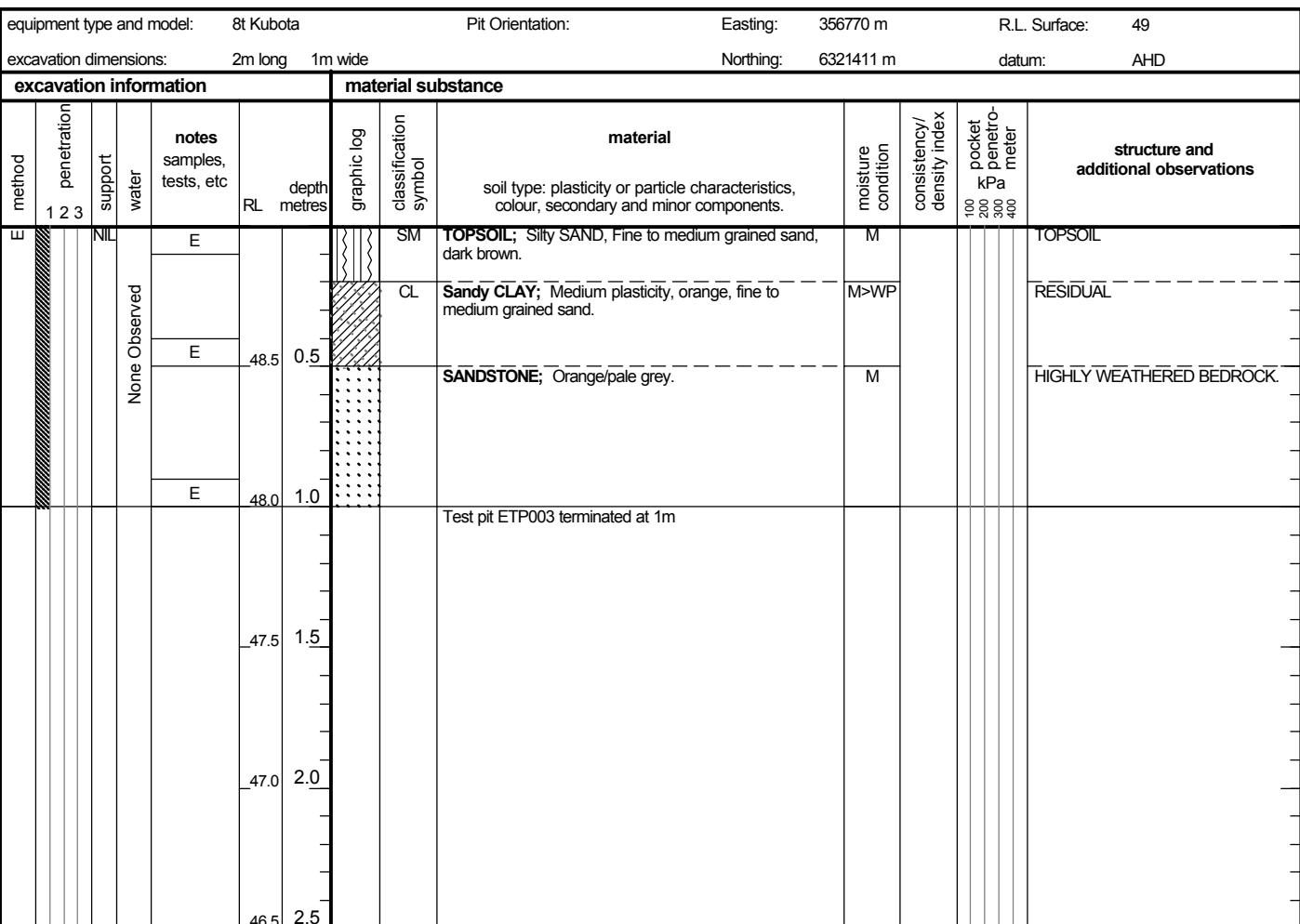
Project: **WARNERVALE TOWN CENTRE**

Date started: **18.6.2007**

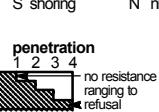
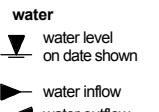
Test pit location: **See Figure -**

Date completed: **18.9.2007**

Logged by: **DH**

Checked by: **SD**


Sketch

method N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper M excavator	support S shoring N nil  penetration 1 2 3 4  no resistance ranging to refusal	water  water level on date shown	notes, samples, tests U <sub>50</sub> U <sub>63</sub> D V Bs E R undisturbed sample 50mm diameter undisturbed sample 63mm diameter disturbed sample vane shear (kPa) bulk sample environmental sample refusal	classification symbols and soil description based on unified classification system			consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense
				moisture D dry M moist W wet Wp plastic limit WL liquid limit			

# Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

Principal:

Date completed: **18.9.2007**

**Project: *WARNERVALE TOWN CENTRE***

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

## Sketch

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

 Sheet 1 of 1  
 Project No: **GEOTKARI02021AA**

Principal:

 Date started: **18.9.2007**

 Project: **WARNERVALE TOWN CENTRE**

 Date completed: **18.9.2007**

 Test pit location: **See Figure -**

 Logged by: **DH**  
 Checked by: **SD**

excavation information				material substance								
method	penetration 1 2 3	support water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	100 200 300 400 pocket penetro- meter kPa	structure and additional observations
E	Nil	None Observed	E			OL	TOPSOIL	Silty SAND, Fine to medium grained sand, dark brown.	M		TOPSOIL	
						CL	Sandy CLAY	Medium plasticity, orange, fine to medium grained sand.	M>WP		RESIDUAL	
			E	54.5	0.5			Test pit ETP005 terminated at 0.5m				
				54.0	1.0							
				53.5	1.5							
				53.0	2.0							
				52.5	2.5							

Sketch

<b>method</b> N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper excavator	<b>support</b> S shoring N nil  <b>penetration</b> 1 2 3 4 no resistance ranging to refusal	<b>notes, samples, tests</b> U <sub>50</sub> undisturbed sample 50mm diameter U <sub>63</sub> undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	<b>classification symbols and soil description</b> based on unified classification system	<b>consistency/density index</b>			
				VS	very soft	S	soft
				F	firm	St	stiff
				VSt	very stiff	H	hard
				Fb	friable	VL	very loose
				W	wet	L	loose
				Wp	plastic limit	MD	medium dense
				WL	liquid limit	D	dense
						VD	very dense

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

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Principal:

 Project No: **GEOTKARI02021AA**

 Project: **WARNERVALE TOWN CENTRE**

 Date started: **18.9.2007**

 Test pit location: **See Figure -**

 Date completed: **18.9.2007**

 Logged by: **DH**

 Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	Easting: 356811 m	R.L. Surface: 54.3
excavation dimensions:	2m long 1m wide		Northing: 6321351 m	datum: AHD

excavation information			material substance								
method	penetration 1 2 3	support water	notes samples, tests, etc	depth RL metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	100 200 300 400	structure and additional observations
E		NIL	None Observed	E			<b>FILL</b> ; Gravelly SAND, fine to medium grained sand, brown, fine to medium grained gravel.	D			FILL
				54.0			<b>Sandy CLAY</b> ; Clay, medium plasticity, orange, fine to medium grained sand.	M>WP			RESIDUAL
				0.5			<b>Sandstone</b> ; Orange/red/pale grey.	M			HIGHLY WEATHERED BEDROCK.
				53.5							
				1.0							
							Test pit ETP006 terminated at 1m				
				53.0							
				1.5							
				52.5							
				2.0							
				52.0							
				2.5							

Sketch

method	natural exposure	support	S shoring	N nil	notes, samples, tests	classification symbols and soil description based on unified classification system	consistency/density index
N	existing excavation				U <sub>50</sub> U <sub>63</sub> D V Bs E R	undisturbed sample 50mm diameter undisturbed sample 63mm diameter disturbed sample vane shear (kPa) bulk sample environmental sample refusal	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense
X	backhoe bucket	penetration	1 2 3 4	no resistance ranging to refusal			
BH	bulldozer blade	water					
B	ripper						
R	excavator						

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

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 Project No: **GEOTKARI02021AA**

Principal:

 Date started: **18.9.2007**

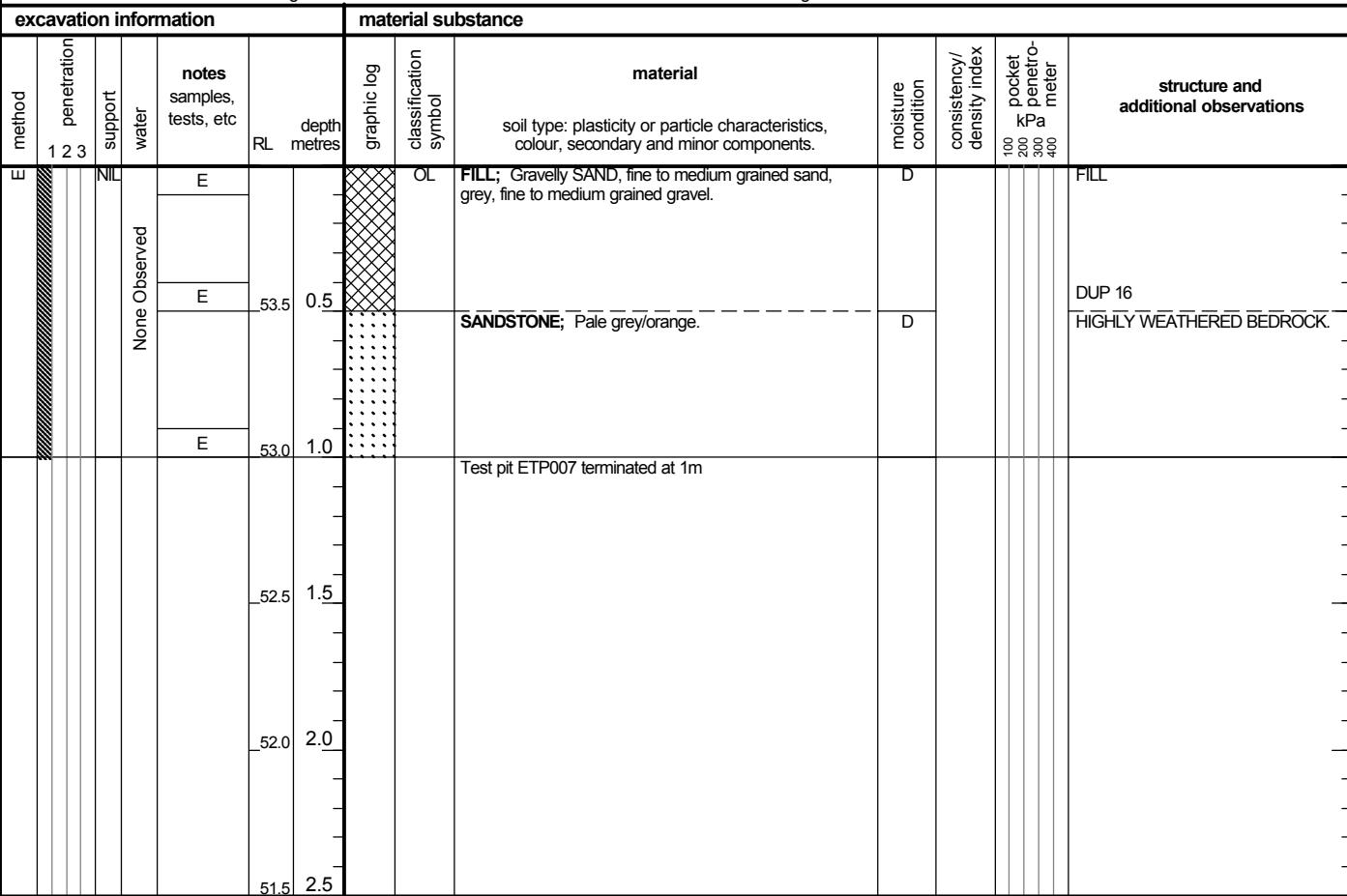
 Project: **WARNERVALE TOWN CENTRE**

 Date completed: **18.9.2007**

 Test pit location: **See Figure -**

 Logged by: **DH**  
 Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	Easting: 356786 m	R.L. Surface: 54
excavation dimensions:	2m long 1m wide		Northing: 6321365 m	datum: AHD



Sketch

# Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

Principal:

Date completed: **18.9.2007**

Project: **WARNERVALE TOWN CENTRE**

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 8t Kubota Pit Orientation:

R.L. Surface: 55

## Sketch

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

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Principal:

 Project No: **GEOTKARI02021AA**

 Project: **WARNERVALE TOWN CENTRE**

 Date started: **18.9.2007**

 Test pit location: **See Figure -**

 Date completed: **18.9.2007**

 Logged by: **DH**

 Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	Easting: 356793 m	R.L. Surface: 55
excavation dimensions:	2m long 1m wide		Northing: 6321290 m	datum: AHD

excavation information			material substance											
method	penetration 1 2 3	support water	notes samples, tests, etc	depth metres	RL	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	100 200 300 400	pocket penetro- meter kPa	structure and additional observations	
E	NIL	None Observed	E		54.5	X X X X		FILL; Gravelly SAND, fine to medium grained sand, brown, fine to medium grained gravel.	D				FILL	
			E	0.5		.....		SANDSTONE; Orange/pale grey.	D				HIGHLY WEATHERED BEDROCK.	
			E	54.0	1.0	.....								
								Test pit ETP009 terminated at 1m						
					53.5	1.5								
					53.0	2.0								
					52.5	2.5								

Sketch

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

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 Project No: **GEOTKARI02021AA**

Principal:

 Date started: **18.9.2007**

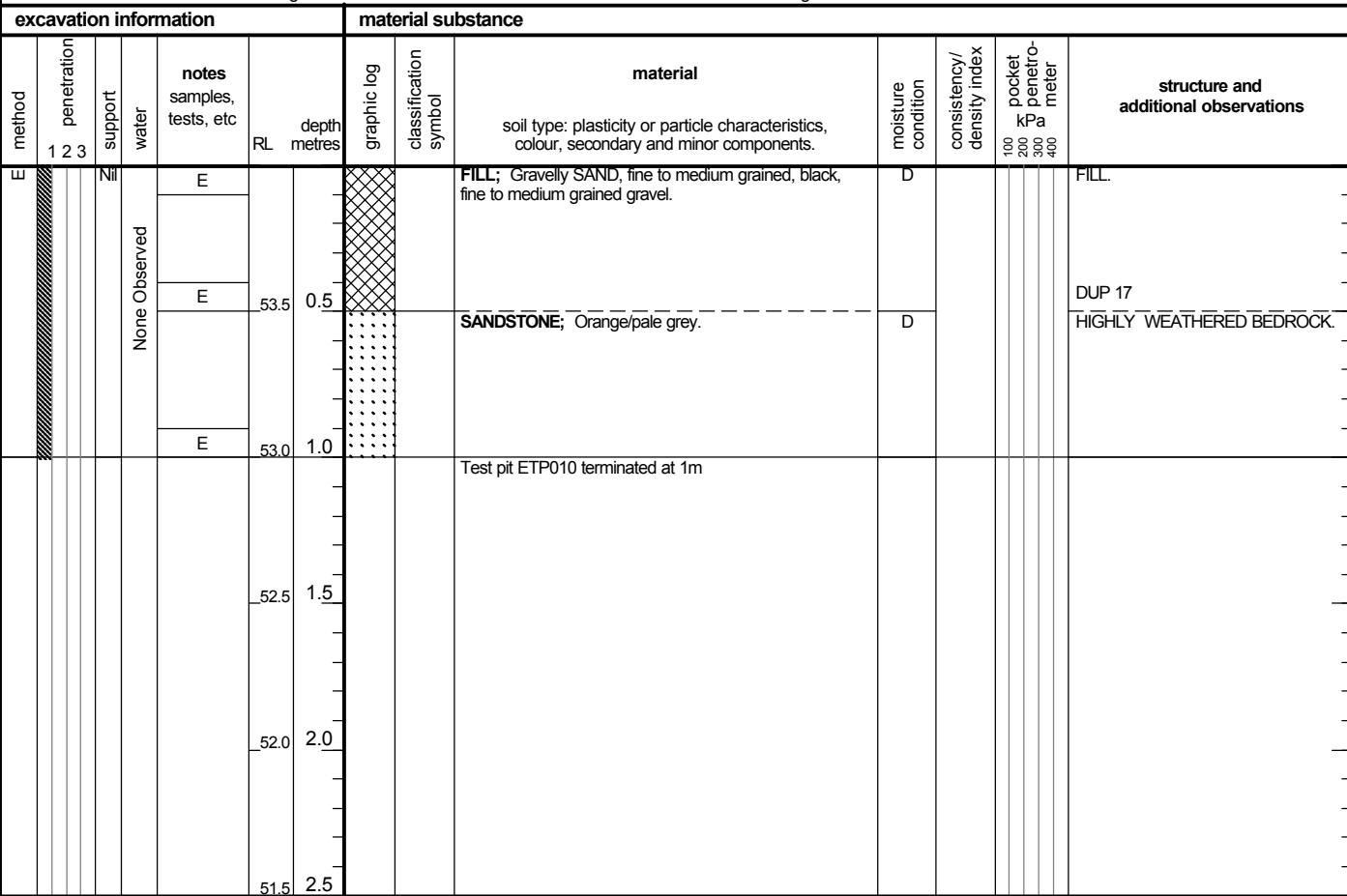
 Project: **WARNERVALE TOWN CENTRE**

 Date completed: **18.9.2007**

 Test pit location: **See Figure -**

 Logged by: **DH**  
 Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	Easting: 356769 m	R.L. Surface: 54
excavation dimensions:	2m long 1m wide		Northing: 6321307 m	datum: AHD



Sketch

method N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	support S shoring N nil  penetration 1 2 3 4 no resistance ranging to refusal  water water level on date shown  water inflow water outflow	notes, samples, tests U <sub>50</sub> U <sub>63</sub> D V Bs E R undisturbed sample 50mm diameter undisturbed sample 63mm diameter disturbed sample vane shear (kPa) bulk sample environmental sample refusal	classification symbols and soil description based on unified classification system  moisture D dry M moist W wet W <sub>p</sub> plastic limit W <sub>l</sub> liquid limit	consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense
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## Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

Principal:

Date completed: **18.9.2007**

**Project: *WARNERVALE TOWN CENTRE***

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 8t Kubota Pit Orientation:

R.L. Surface: 54.2

## Sketch

## Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

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Principal:

Date completed: **18.9.2007**

**Project: *WARNERVALE TOWN CENTRE***

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 8t Kubota Pit Orientation:

R.L. Surface: 50.3

excavation information			material substance									
method	penetration 1 2 3	support water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	100 200 300 400	structure and additional observations
E		NIL	None Observed	E			SM	TOPSOIL; Silty SAND, fine to medium grained sand, dark brown	M			TOPSOIL
					50.0							
				E	0.5		CL	Sandy CLAY; Medium plasticity, orange, fine to medium grained sand.	M>WP			RESIDUAL
								Test pit ETP012 terminated at 0.5m				
					49.5							
					1.0							
					49.0							
					1.5							
					48.5							
					2.0							
					48.0							
					2.5							

## Sketch

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

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Principal:

 Project No: **GEOTKARI02021AA**

 Project: **WARNERVALE TOWN CENTRE**

 Date started: **18.9.2007**

 Test pit location: **See Figure -**

 Date completed: **18.9.2007**

 Logged by: **DH**

 Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	Easting: 356737 m	R.L. Surface: 48.1
excavation dimensions:	2m long 1m wide		Northing: 6321396 m	datum: AHD

excavation information			material substance								
method	penetration 1 2 3	support water	notes samples, tests, etc	RL depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	100 200 300 400	structure and additional observations
E		NIL	None Observed	E 48.0 E 47.5 E 47.0 1.0	X X X X X X X X X X X X	CL	FILL; Gravelly SAND, fine to medium, grained sand, brown, fine to medium grained gravel.  Sandy CLAY; Medium plasticity, orange/brown, fine to medium grained sand, trace of extremely weathered sandstone.	D M<WP		100 200 300 400	FILL  RESIDUAL  EXTREMELY WEATHERED BEDROCK DUP 18
				47.0 1.5 46.5 2.0 46.0 2.5			Test pit ETP013 terminated at 1m				

Sketch

method N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	support S shoring N nil  penetration 1 2 3 4 no resistance ranging to refusal  water water level on date shown  water inflow water outflow	notes, samples, tests U <sub>50</sub> U <sub>63</sub> D V Bs E R undisturbed sample 50mm diameter undisturbed sample 63mm diameter disturbed sample vane shear (kPa) bulk sample environmental sample refusal	classification symbols and soil description based on unified classification system  moisture D dry M moist W wet Wp plastic limit WL liquid limit	consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense
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# Engineering Log - Excavation

 Sheet 1 of 1  
 Project No: **GEOTKARI02021AA**

 Client: **WYONG SHIRE COUNCIL**

 Date started: **18.9.2007**

Principal:

 Date completed: **18.9.2007**

 Project: **WARNERVALE TOWN CENTRE**

 Logged by: **DH**

 Test pit location: **See Figure -**

 Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	Easting: 356714 m	R.L. Surface: 43.1
excavation dimensions:	2m long 1m wide		Northing: 6321411 m	datum: AHD

excavation information			material substance								
method	penetration 1 2 3	support water	notes samples, tests, etc	RL depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	100 200 300 400	structure and additional observations
E	NIL	None Observed	E	43.0		CL	Sandy CLAY; High plasticity, orange/pale grey, fine to medium grained sand, trace fine to medium coarse gravel and extremely weathered sandstone.	M<WP			RESIDUAL
			E	0.5							EXTREMELY WEATHERED BEDROCK
				42.5			Test pit ETP014 terminated at 0.5m				
				1.0							
				42.0							
				1.5							
				41.5							
				2.0							
				41.0							
				2.5							

Sketch

## Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

Principal:

Date completed: **18.9.2007**

**Project: *WARNERVALE TOWN CENTRE***

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 8t Kubota Pit Orientation:

R.L. Surface:

excavation information				material substance					structure and additional observations			
method	penetration 1 2 3	support water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	100 200 300 400	pocket penetro- meter kPa
E		NIL	None Observed	E	43.5			FILL; Gravely SAND, fine to medium grained sand, brown, fine to medium grained gravel.	D			FILL
				E	0.5		CL	Sandy CLAY; Medium plasticity, orange/pale grey, fine to medium grained sand.	M<WP			RESIDUAL
				E	43.0							
				E	1.0							
								Test pit ETP015 terminated at 1m				
					42.5							
					1.5							
					42.0							
					2.0							
					41.5							
					2.5							

## Sketch

## Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

Principal:

Date completed: **18.9.2007**

Project: **WARNERVALE TOWN CENTRE**

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 8t Kubota Pit Orientation:

R.L. Surface: 44.2

## Sketch

# Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1  
Project No: **GEOTKARI02021AA**

Principal:

Date started: **18.9.2007**

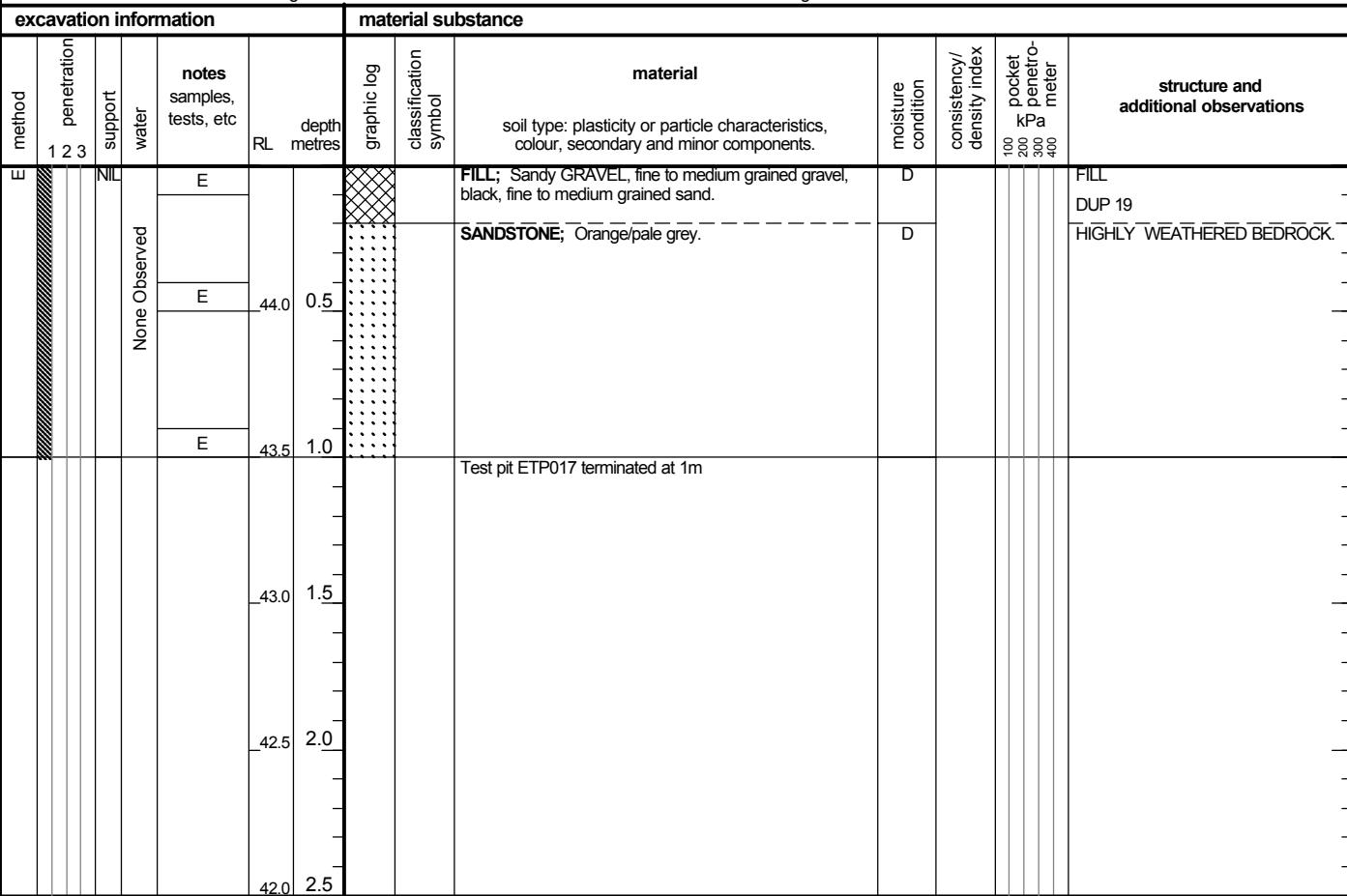
Project: **WARNERVALE TOWN CENTRE**

Date completed: **18.9.2007**

Test pit location: **See Figure -**

Logged by: **DH**  
Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	Easting: 356668 m	R.L. Surface: 44.5
excavation dimensions:	2m long 1m wide		Northing: 6321370 m	datum: AHD



Sketch

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

 Sheet 1 of 1  
 Project No: **GEOTKARI02021AA**

Principal:

 Date started: **19.9.2007**

 Project: **WARNERVALE TOWN CENTRE**

 Date completed: **19.9.2007**

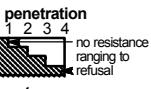
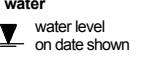
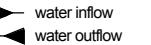
 Test pit location: **See Figure -**

 Logged by: **DH**  
 Checked by: **SD**

excavation information					material substance							
method	penetration 1 2 3	support water	notes samples, tests, etc	RL depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	100 200 300 400	pocket penetro- meter kPa	structure and additional observations
E	Nil	None Observed	E	44.0	X X X X	FILL	FILL; Gravely SAND, fine to medium grained sand, black, fine to medium grained gravel.	D				FILL DUP 19
				0.5	X X X X	CL	Sandy CLAY; Medium plasticity, orange/brown, fine to medium grained sand.	M<WP				RESIDUAL
				43.5								
			E	1.0								

Test pit ETP018 terminated at 1m

Sketch

<b>method</b> N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper M excavator	<b>support</b> S shoring N nil  <b>penetration</b>   <b>water</b>   	<b>notes, samples, tests</b> U <sub>50</sub> undisturbed sample 50mm diameter U <sub>63</sub> undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	<b>classification symbols and soil description</b> based on unified classification system	<b>moisture</b> D dry M moist W wet Wp plastic limit WL liquid limit	<b>consistency/density index</b>	
					VS very soft	S soft
					F firm	St stiff
					VSt very stiff	
					H hard	
					Fb friable	
					VL very loose	
					L loose	
					MD medium dense	
					D dense	
					VD very dense	

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

Principal:

 Project No: **GEOTKARI02021AA**

 Project: **WARNERVALE TOWN CENTRE**

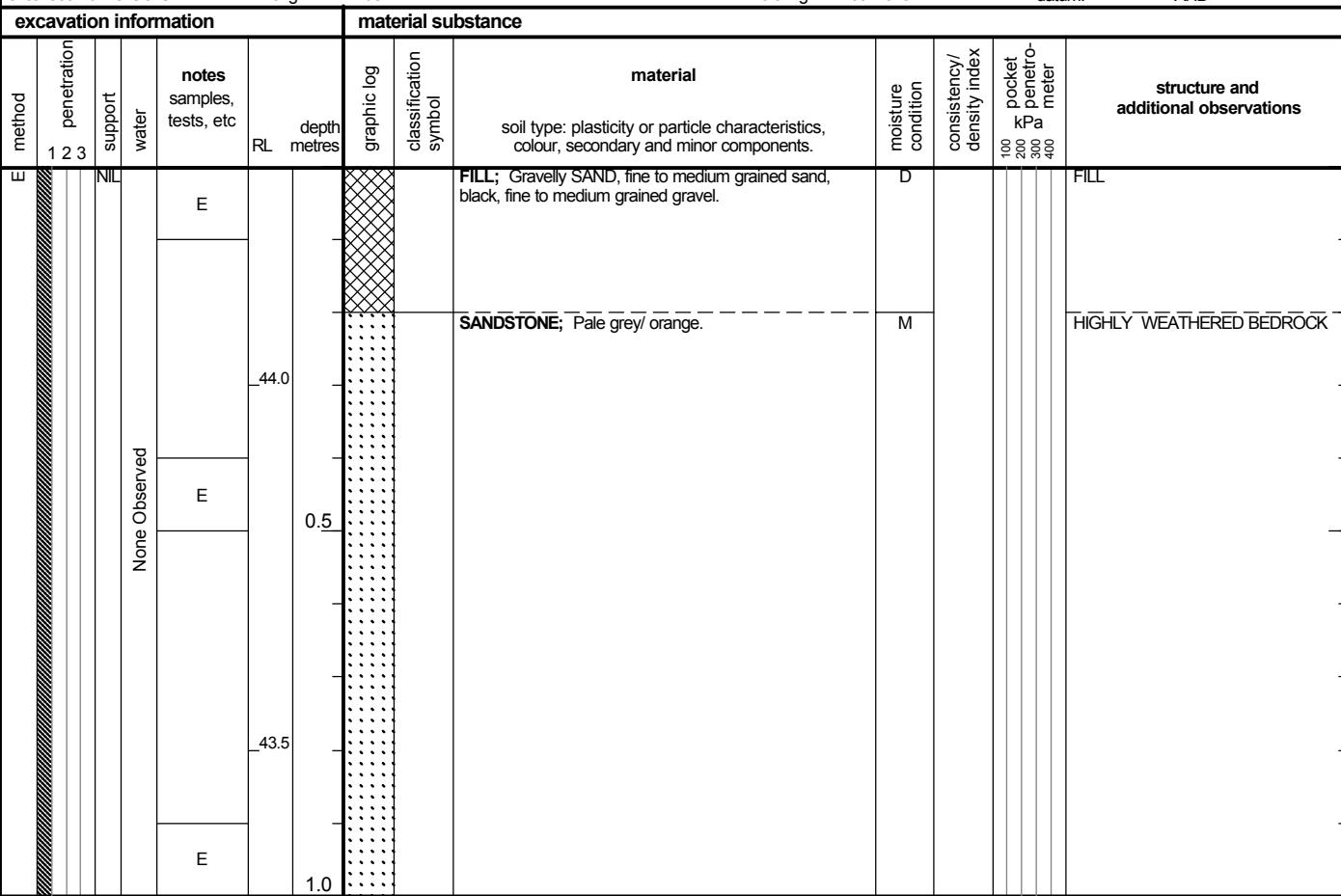
 Date started: **19.9.2007**

 Test pit location: **See Figure -**

 Date completed: **19.9.2007**

 Logged by: **DH**

 equipment type and model: 8t Kubota Pit Orientation: N-S Easting: 356684 m R.L. Surface: 44.3  
 excavation dimensions: 2m long 1m wide Northing: 6321323 m datum: AHD

 Checked by: **SD**


Sketch

<b>method</b> N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper excavator	<b>support</b> S shoring N nil  <b>penetration</b>  1 2 3 4 no resistance ranging to refusal	<b>notes, samples, tests</b> U <sub>50</sub> undisturbed sample 50mm diameter U <sub>63</sub> undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	<b>classification symbols and soil description</b> based on unified classification system	<b>moisture</b> D dry M moist W wet Wp plastic limit WL liquid limit	<b>consistency/density index</b>			
					VS	very soft		
					S	soft		
					F	firm		
					St	stiff		
					VSt	very stiff		
					H	hard		
					Fb	friable		
					VL	very loose		
					L	loose		
					MD	medium dense		
					D	dense		
					VD	very dense		

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

 Sheet 1 of 1  
 Project No: **GEOTKARI02021AA**

Principal:

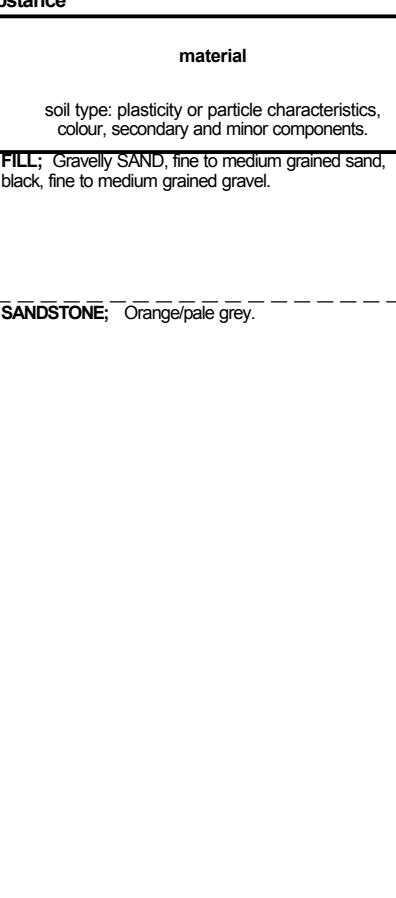
 Date started: **19.9.2007**

 Project: **WARNERVALE TOWN CENTRE**

 Date completed: **19.9.2007**

 Test pit location: **See Figure -**

 Logged by: **DH**  
 Checked by: **SD**

excavation information					material substance						
method	penetration 1 2 3	support water	notes samples, tests, etc	RL depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	100 200 300 400	structure and additional observations
E	Nil	None Observed	E	1.0			<b>FILL</b> ; Gravely SAND, fine to medium grained sand, black, fine to medium grained gravel.	D			<b>FILL</b>
				43.5			<b>SANDSTONE</b> ; Orange/pale grey.	D			<b>HIGHLY WEATHERED BEDROCK</b>
				0.5							
				44.0							

Test pit ETP020 terminated at 1m

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure	S shoring	U <sub>50</sub> undisturbed sample 50mm diameter	VS very soft	
X existing excavation	N nil	U <sub>63</sub> undisturbed sample 63mm diameter	S soft	
BH backhoe bucket		D disturbed sample	F firm	
B bulldozer blade		V vane shear (kPa)	St stiff	
R ripper		Bs bulk sample	VSt very stiff	
excavator		E environmental sample	H hard	
		R refusal	Fb friable	
			VL very loose	
			L loose	
			MD medium dense	
			D dense	
			VD very dense	

## Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

Principal:

Date completed: **19.9.2007**

Project: **WARNERVALE TOWN CENTRE**

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

## Sketch

Test pit ETP021 terminated at 1m

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

 Sheet 1 of 1  
 Project No: **GEOTKARI02021AA**

Principal:

 Date started: **19.9.2007**

 Project: **WARNERVALE TOWN CENTRE**

 Date completed: **19.9.2007**

 Test pit location: **See Figure -**

 Logged by: **DH**  
 Checked by: **SD**

excavation information					material substance							
method	penetration 1 2 3	support water	notes samples, tests, etc	RL depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	100 200 300 400	pocket penetro- meter kPa	structure and additional observations
E	Nil	None Observed	E	47.5 0.5	X X X X	CL	FILL; Gravely SAND, fine to medium grained sand, brown, fine to medium grained gravel.  Sandy CLAY; Medium plasticity, orange/pale grey, fine to medium grained sand.	D	M<WP			FILL  RESIDUAL
			E	47.0 1.0	.	.	SANDSTONE; Pale grey/orange, some medium plasticity clay.	D				HIGHLY WEATHERED BEDROCK.

Test pit ETP022 terminated at 1m

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure	S shoring	U <sub>50</sub> undisturbed sample 50mm diameter	VS very soft	
X existing excavation	N nil	U <sub>63</sub> undisturbed sample 63mm diameter	S soft	
BH backhoe bucket		D disturbed sample	F firm	
B bulldozer blade		V vane shear (kPa)	St stiff	
R ripper		Bs bulk sample	VSt very stiff	
excavator		E environmental sample	H hard	
		R refusal	Fb friable	
			VL very loose	
			L loose	
			MD medium dense	
			D dense	
			VD very dense	

## Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

### Principal:

Date completed: **19.9.2007**

Project: **WARNERVALE TOWN CENTRE**

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 8t Kubota Pit Orientation:

R.L. Surface: 49

## Sketch

Test pit FTP023 terminated at 1m

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

Principal:

 Project No: **GEOTKARI02021AA**

 Project: **WARNERVALE TOWN CENTRE**

 Date started: **19.9.2007**

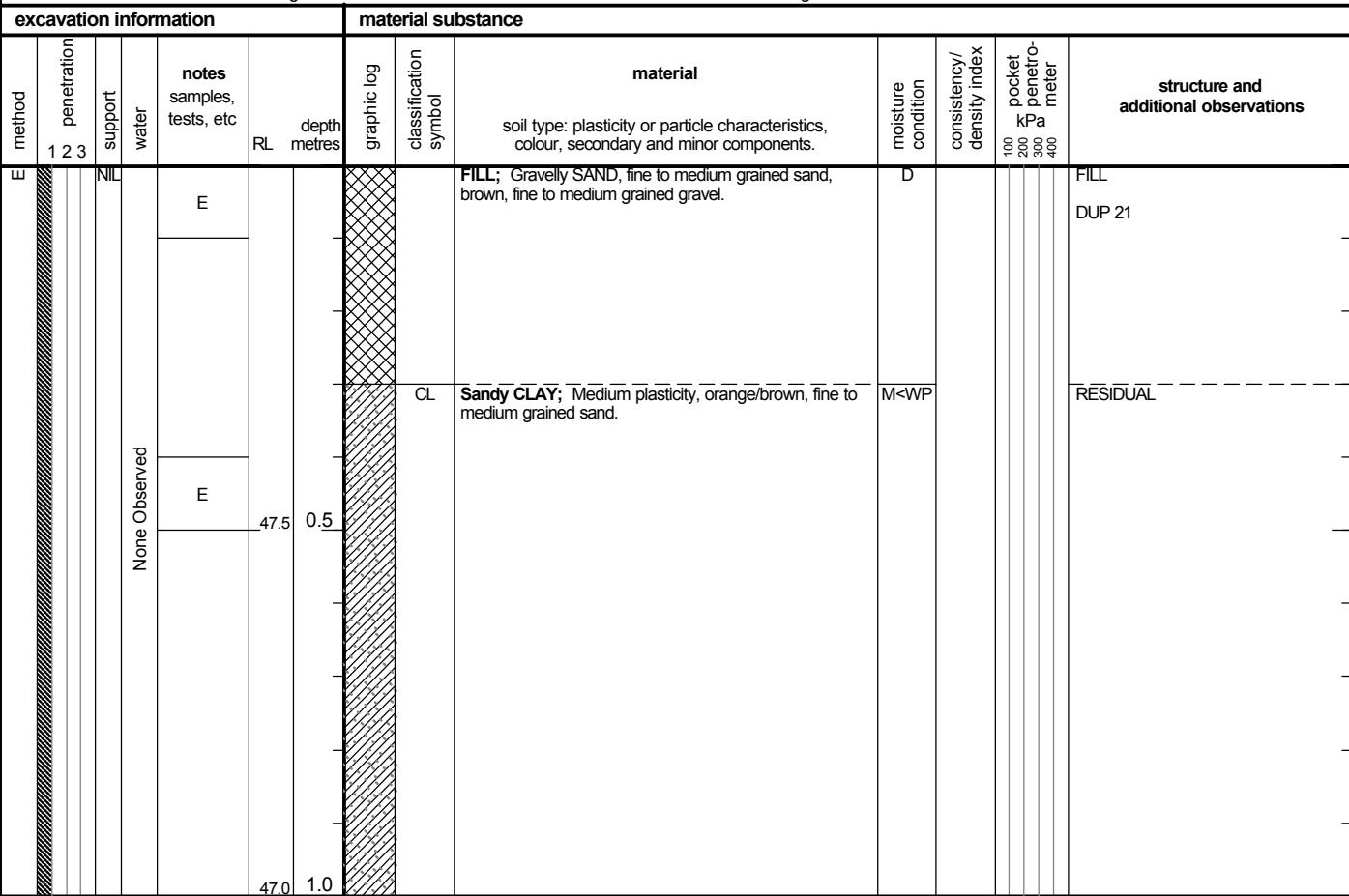
 Test pit location: **See Figure -**

 Date completed: **19.9.2007**

 Logged by: **DH**

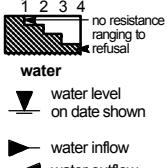
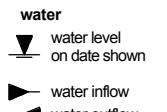
 Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	N-S	Easting:	356719 m	R.L. Surface:	48
excavation dimensions:	2m long 1m wide			Northing:	6321330 m	datum:	AHD



Test pit ETP024 terminated at 1m

Sketch

<b>method</b> N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper M excavator	<b>support</b> S shoring N nil  <b>penetration</b>  <b>water</b> 	<b>notes, samples, tests</b> U <sub>50</sub> undisturbed sample 50mm diameter U <sub>63</sub> undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	<b>classification symbols and soil description</b> based on unified classification system	<b>moisture</b> D dry M moist W wet Wp plastic limit WL liquid limit	<b>consistency/density index</b>			
					VS	very soft		
					S	soft		
					F	firm		
					St	stiff		
					VSt	very stiff		
					H	hard		
					Fb	friable		
					VL	very loose		
					L	loose		
					MD	medium dense		
					D	dense		
					VD	very dense		

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

 Sheet 1 of 1  
 Project No: **GEOTKARI02021AA**

Principal:

 Date started: **19.9.2007**

 Project: **WARNERVALE TOWN CENTRE**

 Date completed: **19.9.2007**

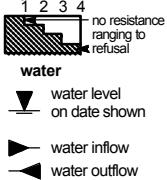
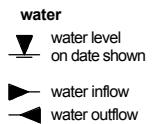
 Test pit location: **See Figure -**

 Logged by: **DH**  
 Checked by: **SD**

excavation information					material substance							
method	penetration 1 2 3	support water	notes samples, tests, etc	RL depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	100 200 300 400	pocket penetro- meter kPa	structure and additional observations
E	Nil	None Observed	E	50.0 0.5 50.5 0.5 1.0	X X X X ..... .....		FILL; Gravely SAND, fine to medium grained sand, brown, fine to medium grained gravel.  SANDSTONE; Orange/pale grey.	D				FILL  HIGHLY WEATHERED BEDROCK

Test pit ETP025 terminated at 1m

Sketch

<b>method</b> N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper M excavator	<b>support</b> S shoring N nil  <b>penetration</b>  <b>water</b> 	<b>notes, samples, tests</b> U <sub>50</sub> undisturbed sample 50mm diameter U <sub>63</sub> undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	<b>classification symbols and soil description</b> based on unified classification system  <b>moisture</b> D dry M moist W wet W <sub>p</sub> plastic limit W <sub>l</sub> liquid limit	<b>consistency/density index</b>			
				VS	very soft	S	soft
				F	firm	St	stiff
				VSt	very stiff	H	hard
				Fb	friable	VL	very loose
				L	loose	MD	medium dense
				D	dense	D	very dense
				VD			

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

 Sheet 1 of 1  
 Project No: **GEOTKARI02021AA**

Principal:

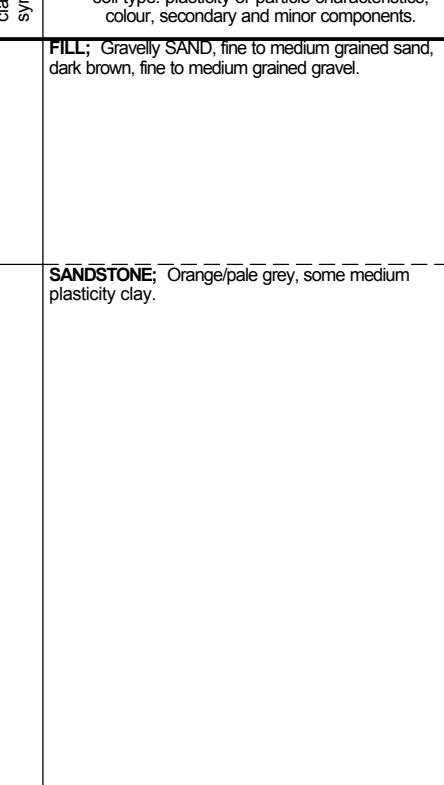
 Date started: **19.9.2007**

 Project: **WARNERVALE TOWN CENTRE**

 Date completed: **19.9.2007**

 Test pit location: **See Figure -**

 Logged by: **DH**  
 Checked by: **SD**

excavation information					material substance							
method	penetration 1 2 3	support water	notes samples, tests, etc	RL depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	100 200 300 400 pocket penetro- meter kPa	structure and additional observations	
E	Nil	None Observed	E	50.0			FILL; Gravelly SAND, fine to medium grained sand, dark brown, fine to medium grained gravel.	D				FILL
				49.5			SANDSTONE; Orange/pale grey, some medium plasticity clay.	D			HIGHLY WEATHERED BEDROCK	

Test pit ETP026 terminated at 1m

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	S shoring N nil  penetration 1 2 3 4 no resistance ranging to refusal  water water level on date shown  water inflow water outflow	undisturbed sample 50mm diameter U <sub>50</sub> undisturbed sample 63mm diameter U <sub>63</sub> disturbed sample D vane shear (kPa) V bulk sample Bs environmental sample E refusal R	based on unified classification system  moisture D dry M moist W wet W <sub>p</sub> plastic limit W <sub>l</sub> liquid limit	VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

 Sheet 1 of 1  
 Project No: **GEOTKARI02021AA**

Principal:

 Date started: **19.9.2007**

 Project: **WARNERVALE TOWN CENTRE**

 Date completed: **19.9.2007**

 Test pit location: **See Figure -**

 Logged by: **DH**  
 Checked by: **SD**

excavation information					material substance							
method	penetration 1 2 3	support water	notes samples, tests, etc	RL depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	100 200 300 400	pocket penetro- meter kPa	structure and additional observations
E	Nil	None Observed	E	47.0 1.0			<b>FILL</b> ; Gravelly SAND, fine to medium grained sand, black, fine to medium grained gravel.	D				FILL DUP 22
				47.5 0.5		CL	<b>Silty CLAY</b> ; Medium plasticity, pale grey, some fine to medium grained sand.	M<WP				RESIDUAL

Test pit ETP027 terminated at 1m

Sketch

<b>method</b> N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper M excavator	<b>support</b> S shoring N nil  <b>penetration</b>  1 2 3 4 no resistance ranging to refusal	<b>notes, samples, tests</b> U <sub>50</sub> undisturbed sample 50mm diameter U <sub>63</sub> undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	<b>classification symbols and soil description</b> based on unified classification system	<b>moisture</b> D dry M moist W wet Wp plastic limit WL liquid limit	<b>consistency/density index</b>	
					VS	very soft
					S	soft
					F	firm
					St	stiff
					VSt	very stiff
					H	hard
					Fb	friable
					VL	very loose
					L	loose
					MD	medium dense
					D	dense
					VD	very dense

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

 Sheet 1 of 1  
 Project No: **GEOTKARI02021AA**

Principal:

 Date started: **19.9.2007**

 Project: **WARNERVALE TOWN CENTRE**

 Date completed: **19.9.2007**

 Test pit location: **See Figure -**

 Logged by: **DH**  
 Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	N-S	Easting:	356759 m	R.L. Surface:	51.2
excavation dimensions:	2m long 1m wide			Northing:	6321275 m	datum:	AHD

excavation information				material substance						
method	penetration 1 2 3	support water	notes samples, tests, etc	RL depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	structure and additional observations
E		NIL	None Observed	E		CL	Sandy CLAY; Medium plasticity, orange/brown, fine to medium grained sand.	M>WP	100 200 300 400	RESIDUAL
				51.0				M		HIGHLY WEATHERED BEDROCK
				E			SANDSTONE; Orange/pale grey.			
				0.5			Test pit ETP028 terminated at 0.5m			
				50.5						
				1.0						

Sketch

# Engineering Log - Excavation

 Sheet 1 of 1  
 Project No: **GEOTKARI02021AA**

 Client: **WYONG SHIRE COUNCIL**

 Date started: **19.9.2007**

Principal:

 Date completed: **19.9.2007**

 Project: **WARNERVALE TOWN CENTRE**

 Logged by: **DH**

 Test pit location: **See Figure -**

 Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	N-S	Easting:	356783 m	R.L. Surface:	51.8
excavation dimensions:	2m long 1m wide			Northing:	6321261 m	datum:	AHD

excavation information				material substance								
method	penetration 1 2 3	support water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	100 200 300 400	structure and additional observations
E		NIL	None Observed	E	51.5			SANDSTONE; Orange/pale grey.	M			HIGHLY WEATHERED BEDROCK
				E	0.5			Test pit ETP029 terminated at 0.5m				
					51.0							
					1.0							

Sketch

method N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper E excavator	support S shoring N nil  penetration 1 2 3 4 no resistance ranging to refusal	notes, samples, tests U <sub>50</sub> undisturbed sample 50mm diameter U <sub>63</sub> undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	classification symbols and soil description based on unified classification system	consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense
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## Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1  
Project No: GEOTKARI02021AA

Principal:

Date completed: 19.9.2007

Project: **WARNERVALE TOWN CENTRE**

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 8t Kubota Pit Orientation: N-

Easting: 356965 m R.L. Surface: 52

excavation dimensions: 2m long 1m wide

Northing: 6321426 m datum: AHD

## Sketch

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

Principal:

 Project No: **GEOTKARI02021AA**

 Project: **WARNERVALE TOWN CENTRE**

 Date started: **19.9.2007**

 Test pit location: **See Figure -**

 Date completed: **19.9.2007**

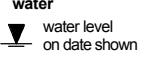
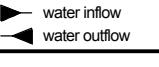
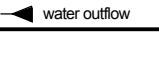
 Logged by: **DH**

 equipment type and model: 8t Kubota Pit Orientation: N-S Easting: 356923 m R.L. Surface: 52  
 excavation dimensions: 2m long 1m wide Northing: 6321474 m datum: AHD

 Checked by: **SD**

excavation information				material substance								
method	penetration 1 2 3	support water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	100 200 300 400	structure and additional observations
E		NIL	None Observed	E			SM	TOPSOIL; Silty SAND, fine to medium grained sand, brown, some sandstone gravel.	M		TOPSOIL DUP 25	
					51.5	0.5						
					51.0	1.0		Test pit ETP031 terminated at 0.5m				

Sketch

<b>method</b> N natural exposure X existing excavation BH backhoe bucket B bulldozer blade R ripper M excavator	<b>support</b> S shoring N nil  <b>penetration</b>  1 2 3 4 no resistance ranging to refusal	<b>water</b>  water level on date shown  water inflow  water outflow	<b>notes, samples, tests</b> U <sub>50</sub> undisturbed sample 50mm diameter U <sub>63</sub> undisturbed sample 63mm diameter D disturbed sample V vane shear (kPa) Bs bulk sample E environmental sample R refusal	<b>classification symbols and soil description</b> based on unified classification system	<b>moisture</b> D dry M moist W wet W <sub>p</sub> plastic limit W <sub>l</sub> liquid limit	<b>consistency/density index</b>			
						VS	very soft		
						S	soft		
						F	firm		
						St	stiff		
						VSt	very stiff		
						H	hard		
						Fb	friable		
						VL	very loose		
						L	loose		
						MD	medium dense		
						D	dense		
						VD	very dense		

## Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

Principal:

Date completed: **19.9.2007**

Project: **WARNERVALE TOWN CENTRE**

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 8t Kubota Pit Orientation:

R.L. Surface: 45

## Sketch



# Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

Principal:

Date completed: **19.9.2007**

Project: **WARNERVALE TOWN CENTRE**

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 8t Kubota Pit Orientation: N-

R.L. Surface:

excavation information				material substance				structure and additional observations			
method	penetration 1 2 3	support water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	100 200 300 400 kPa pocket penetro- meter
E		NIL	None Observed	E				SANDSTONE; Orange/pale grey.	M		HIGHLY WEATHERED BEDROCK.
				E	56.0	0.5					
								Test pit ETP034 terminated at 0.5m			
					55.5	1.0					

## Sketch

## Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1  
Project No: GEOTKARI02021AA

Principal:

Date completed: 19.9.2007

Project: **WARNERVALE TOWN CENTRE**

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 8t Kubota Pit Orientation: N-

Easting: 356908 m R.L. Surface: 55.5

excavation dimensions: 2m long 1m wide

Northing: 6321368 m datum: AHD

## Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure	S shoring	N nil	$U_{50}$ undisturbed sample 50mm diameter	VS very soft
X existing excavation			$U_{63}$ undisturbed sample 63mm diameter	S soft
BH backhoe bucket			D disturbed sample	F firm
B bulldozer blade			V vane shear (kPa)	St stiff
R ripper			Bs bulk sample	VSt very stiff
E excavator			E environmental sample	H hard
			R refusal	Fb friable
				VL very loose
				L loose
				MD medium dense
				D dense
				VD very dense

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

 Sheet 1 of 1  
 Project No: **GEOTKARI02021AA**

Principal:

 Date started: **19.9.2007**

 Project: **WARNERVALE TOWN CENTRE**

 Date completed: **19.9.2007**

 Test pit location: **See Figure -**

 Logged by: **DH**  
 Checked by: **SD**

excavation information				material substance								
method	penetration 1 2 3	support water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	100 200 300 400	structure and additional observations
E		NIL										
			E									
			E		52.5							
					0.5							
			E		52.0							
					1.0							
			E		51.5							
					1.5							
			E		51.0		CL	Sandy CLAY; Medium plasticity, orange/grey, fine to medium grained sand.	M>WP			RESIDUAL
					2.0							

Test pit ETP036 terminated at 2m

Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N	natural exposure	$U_{50}$ undisturbed sample 50mm diameter	based on unified classification system	VS very soft
X	existing excavation	$U_{63}$ undisturbed sample 63mm diameter		S soft
BH	backhoe bucket	D disturbed sample		F firm
B	bulldozer blade	V vane shear (kPa)		St stiff
R	ripper	Bs bulk sample		VSt very stiff
E	excavator	E environmental sample		H hard
		R refusal		Fb friable
				VL very loose
				L loose
				MD medium dense
				D dense
				VD very dense

## Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

Principal:

Date completed: **19.9.2007**

**Project: *WARNERVALE TOWN CENTRE***

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 8t Kubota Pit Orientation:

R.L. Surface: 52.7

excavation information				material substance					structure and additional observations			
method	penetration 1 2 3	support water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	100 200 300 400	pocket penetro- meter kPa
E		NIL	None Observed	E	52.5			<b>FILL</b> ; Gravely SAND, fine to medium grained sand, brown, fine to medium grained gravel.	M			FILL
				E	52.0			<b>FILL</b> ; Gravely SAND, fine to medium grained sand, grey, fine to medium grained gravel.				
				E	0.5			<b>FILL</b> ; Gravely SAND, fine to medium grained sand, brown, fine to medium grained gravel.				NO HYDROCARBON ODOUR
				E	1.0			<b>Sandy CLAY</b> ; Medium plasticity, orange/brown, fine to medium grained sand,	M>WP			RESIDUAL
				E	1.5							DUP 30
					51.0			Test pit ETP037 terminated at 1.5m				
					2.0							

## Sketch

## Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

111-388

### Principal:

Date started: 2013-03-01

Project: **WARNERVALE TOWN CENTRE**

Date completed: **20.9.2007**

Test pit location: **See Figure -**

Logged by: *DH*

equipment type and model: 8t Kubota Pit Orientation: N-S Easting: 356882 m R.L. Surface: 51.5  
excavation dimensions: 2m long 1m wide Northing: 6321270 m datum: AHD

Test pit ETP038 terminated at 2m

## Sketch

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

 Project No: **GEOTKARI02021AA**

Principal:

 Date started: **20.9.2007**

 Project: **WARNERVALE TOWN CENTRE**

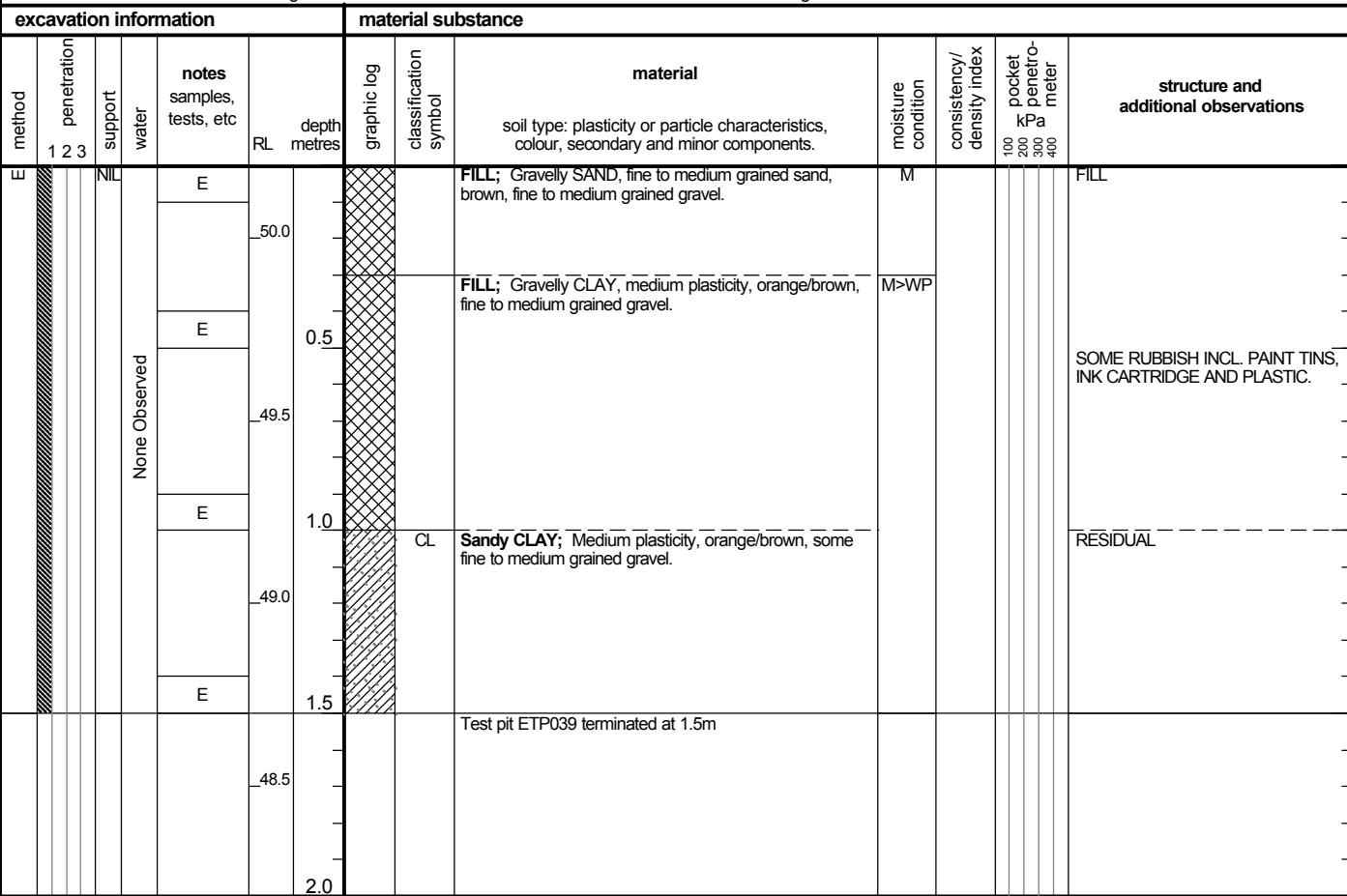
 Date completed: **20.9.2007**

 Test pit location: **See Figure -**

 Logged by: **DH**

 Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	N-S	Easting:	356905 m	R.L. Surface:	50.2
excavation dimensions:	2m long 1m wide			Northing:	6321267 m	datum:	AHD



Sketch

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

 Sheet 1 of 1  
 Project No: **GEOTKARI02021AA**

Principal:

 Date started: **20.9.2007**

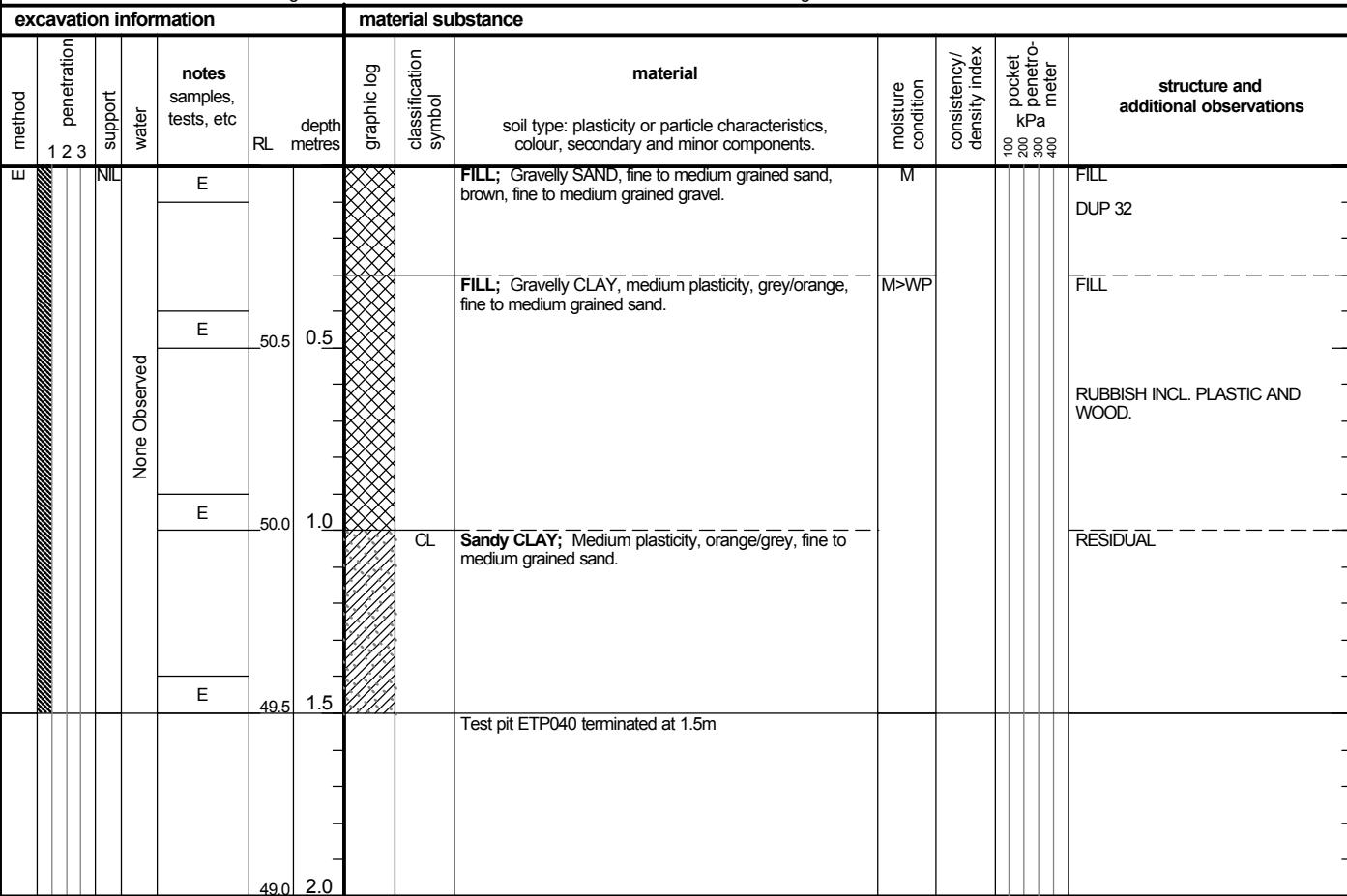
 Project: **WARNERVALE TOWN CENTRE**

 Date completed: **20.9.2007**

 Test pit location: **See Figure -**

 Logged by: **DH**  
 Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	E-W	Easting:	356878 m	R.L. Surface:	51.0
excavation dimensions:	2m long 1m wide			Northing:	6321246 m	datum:	AHD



Sketch

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

 Sheet 1 of 1  
 Project No: **GEOTKARI02021AA**

Principal:

 Date started: **20.9.2007**

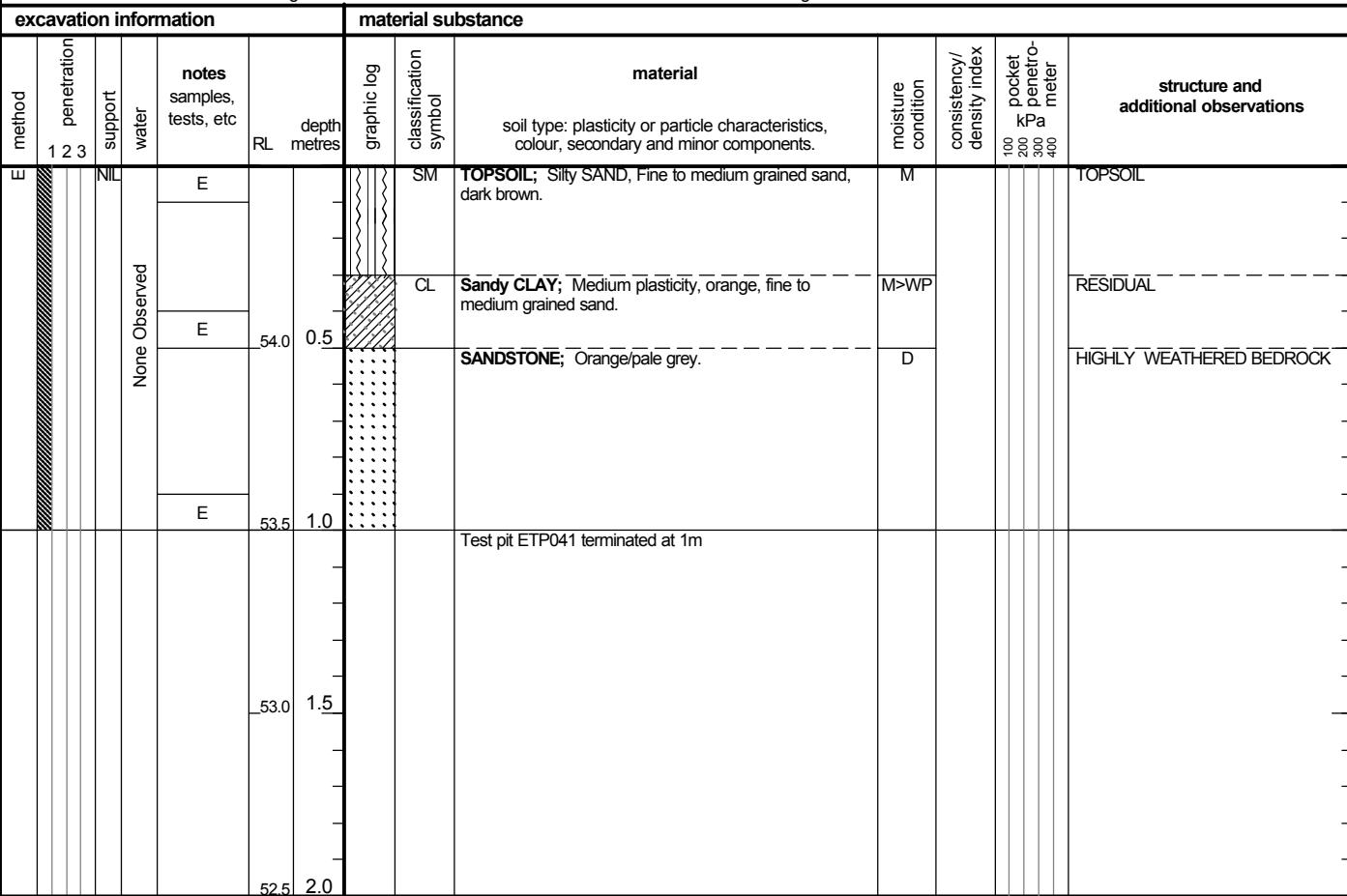
 Project: **WARNERVALE TOWN CENTRE**

 Date completed: **20.9.2007**

 Test pit location: **See Figure -**

 Logged by: **DH**  
 Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	N-S	Easting:	356832 m	R.L. Surface:	54.5
excavation dimensions:	2m long 1m wide			Northing:	6321237 m	datum:	AHD



Sketch

## Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

Principal:

Date completed: **20.9.2007**

Project: **WARNERVALE TOWN CENTRE**

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 8t Kubota Pit Orientation: N-

R.L. Surface: 53

## Sketch

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

 Sheet 1 of 1  
 Project No: **GEOTKARI02021AA**

Principal:

 Date started: **20.9.2007**

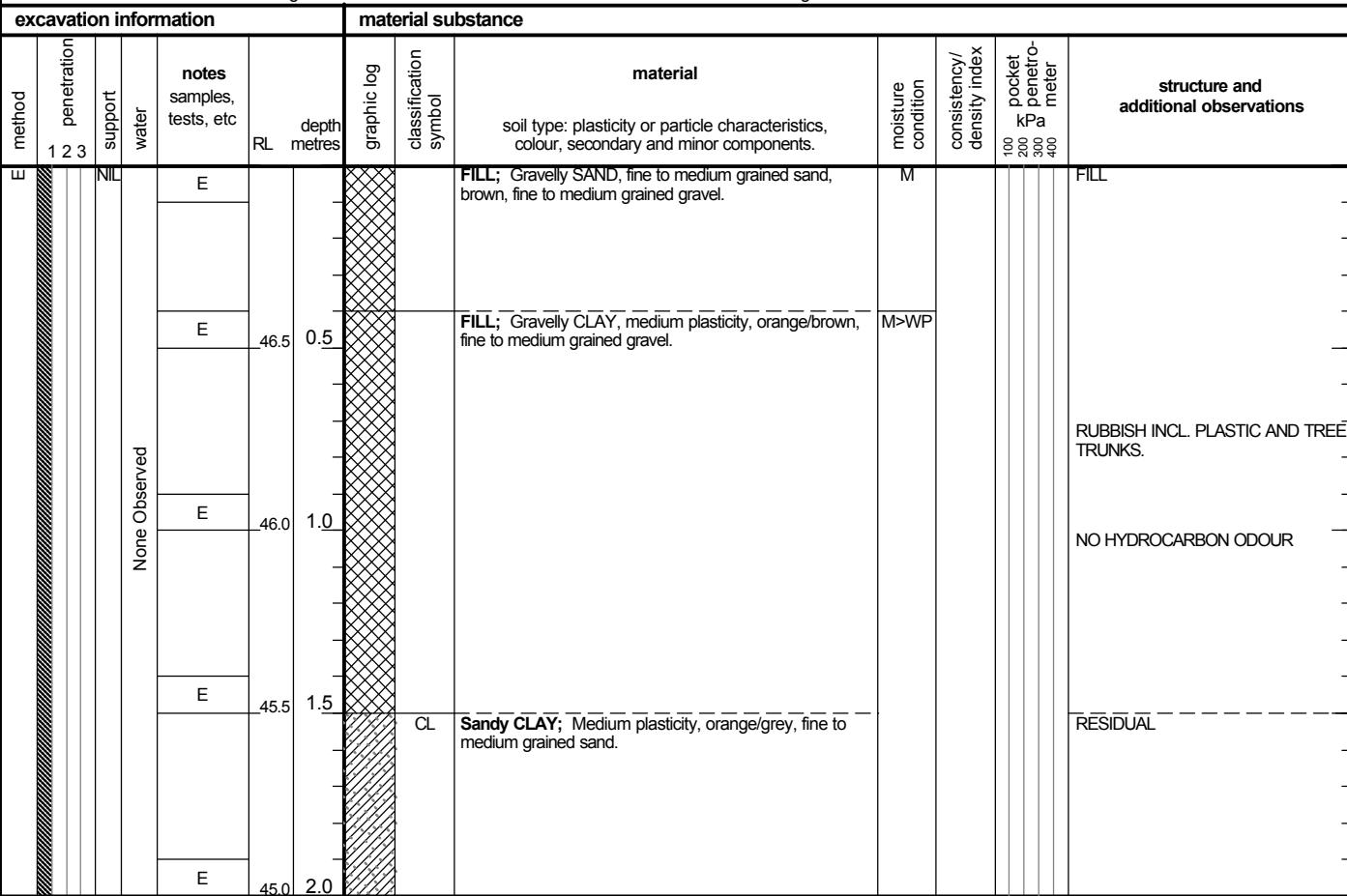
 Project: **WARNERVALE TOWN CENTRE**

 Date completed: **20.9.2007**

 Test pit location: **See Figure -**

 Logged by: **DH**  
 Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	E-W	Easting:	356923 m	R.L. Surface:	47.0
excavation dimensions:	2m long 1m wide			Northing:	6321238 m	datum:	AHD



Sketch

## Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

Principal:

Date completed: **20.9.2007**

Project: **WARNERVALE TOWN CENTRE**

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 8t Kubota Pit Orientation: E-W Easting: 356848 m R.L. Surface: 53.5  
excavation dimensions: 2m long 1m wide Northing: 6321208 m datum: AHD

## Sketch

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

 Project No: **GEOTKARI02021AA**

Principal:

 Date started: **20.9.2007**

 Project: **WARNERVALE TOWN CENTRE**

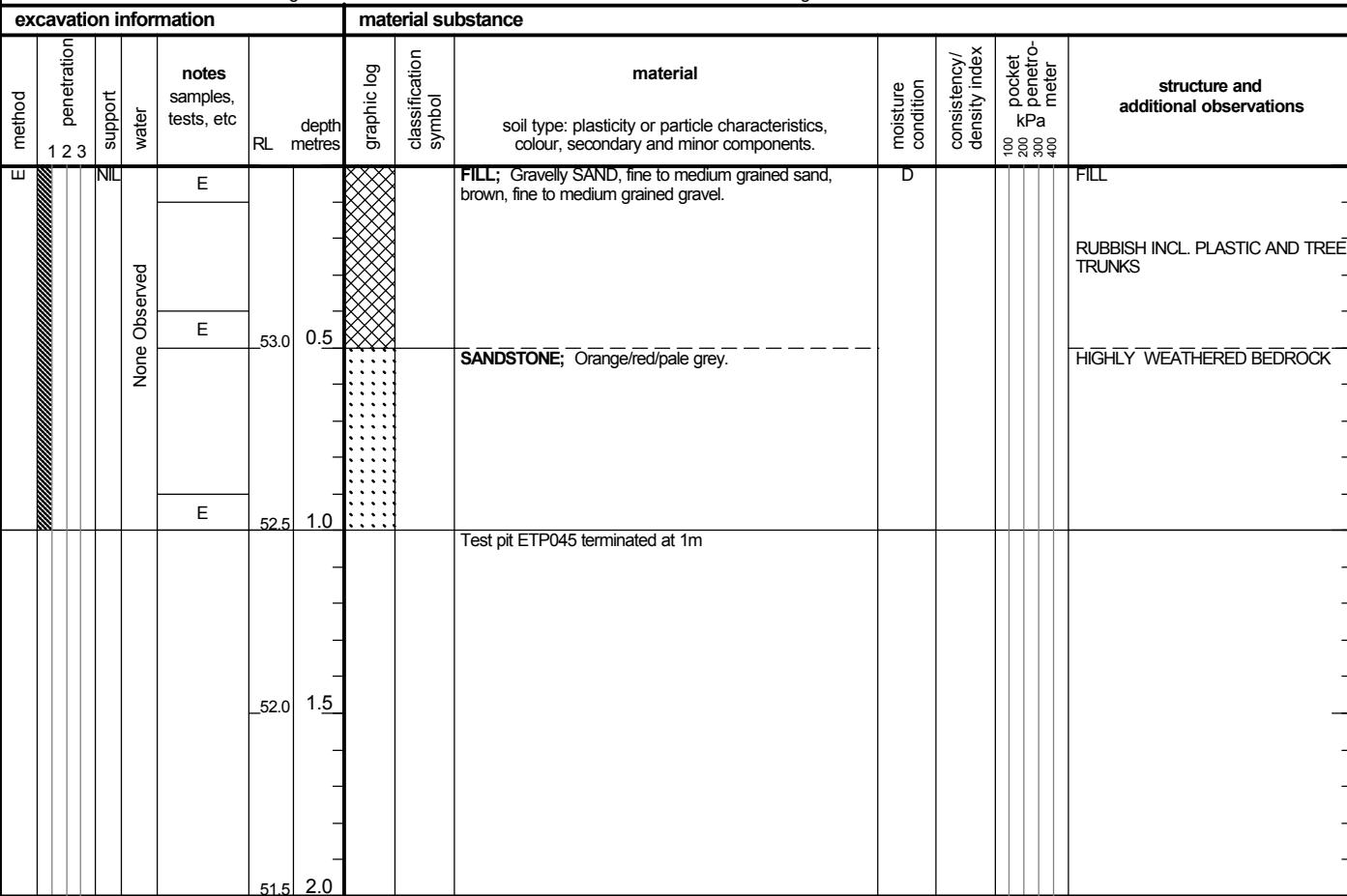
 Date completed: **20.9.2007**

 Test pit location: **See Figure -**

 Logged by: **DH**

 Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	E-W	Easting:	356882 m	R.L. Surface:	53.5
excavation dimensions:	2m long 1m wide			Northing:	6321180 m	datum:	AHD



Sketch

# Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

1 of 1

### Principal:

Date started: 10.10.2007

Project: **WARNERVALE TOWN CENTRE**

Date completed: **20.9.2007**

Test pit location: **See *Figure -***

Logged by: **DH**

environment type and model: St Kilda Bit Orientation: N-S Facility: 250000 m<sup>2</sup> DL: 0.5 m<sup>2</sup> 51.5

excavation dimensions: 2m long, 1m wide

Latitude: 62.21162 m

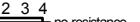
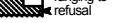
AUD

excavation dimensions.	2m long	1m wide
excavation information	none	none

NOTHING. 632116211

AHD

## Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N natural exposure	S shoring	N nil	$U_{50}$ undisturbed sample 50mm diameter	VS very soft
X existing excavation			$U_{63}$ undisturbed sample 63mm diameter	S soft
BH backhoe bucket			D disturbed sample	F firm
B bulldozer blade			V vane shear (kPa)	St stiff
R ripper			Bs bulk sample	VSt very stiff
E excavator			E environmental sample	H hard
	<b>penetration</b>  <b>water</b>   		$R$ refusal	$F_b$ friable
				VL very loose
				L loose
				MD medium dense
				D dense
				VD very dense

## Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

### Principal:

Date started: 10.10.2007

Project: **WARNERVALE TOWN CENTRE**

Date completed: **20.9.2007**

Test pit location: **See Figure -**

Logged by: *DH*

#### Equipment type and mod

Checked by: **SD**

equipment type and model: 8t Kubota Pit Orientation: E-W Easting: 356901 m R.L. Surface: 54.0

excavation dimensions: 2m long 1m wide

Northing: 6321133 m

atum: AHD

## excavation information

Vertr. 6327155 M.

Datum:

## Sketch

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
N	natural exposure	S	undisturbed sample 50mm diameter	VS very soft
X	existing excavation	shoring	undisturbed sample 63mm diameter	S soft
BH	backhoe bucket	N	disturbed sample	F firm
B	bulldozer blade	nil	V vane shear (kPa)	St stiff
R	ripper		Bs bulk sample	VSt very stiff
E	excavator		E environmental sample	H hard
			R refusal	Fb friable
				VL very loose
				L loose
				MD medium dense
				D dense
				VD very dense

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

 Sheet 1 of 1  
 Project No: **GEOTKARI02021AA**

Principal:

 Date started: **20.9.2007**

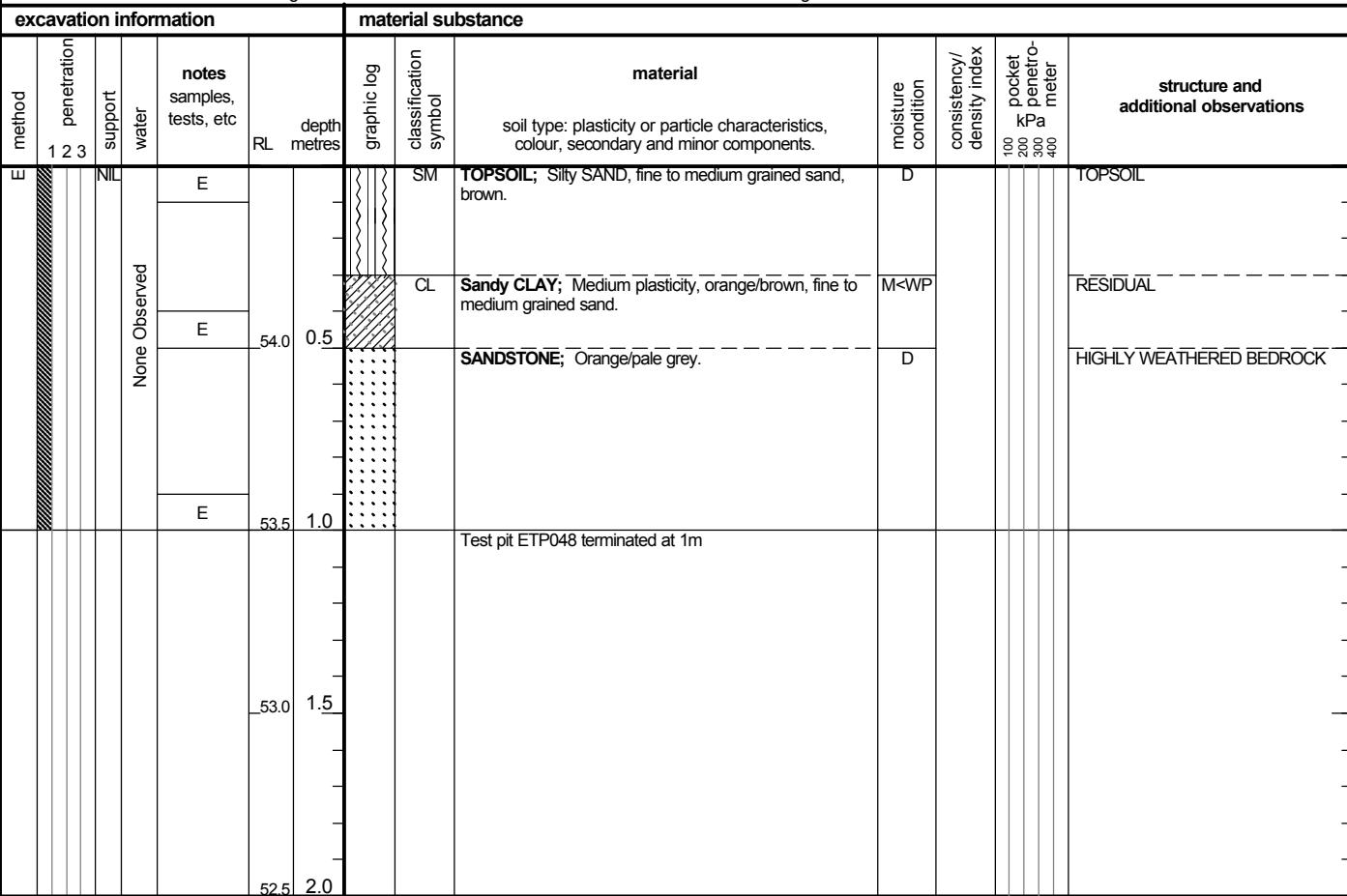
 Project: **WARNERVALE TOWN CENTRE**

 Date completed: **20.9.2007**

 Test pit location: **See Figure -**

 Logged by: **DH**  
 Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	E-W	Easting:	356923 m	R.L. Surface:	54.5
excavation dimensions:	2m long 1m wide			Northing:	6321129 m	datum:	AHD



Sketch

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

 Sheet 1 of 1  
 Project No: **GEOTKARI02021AA**

Principal:

 Date started: **20.9.2007**

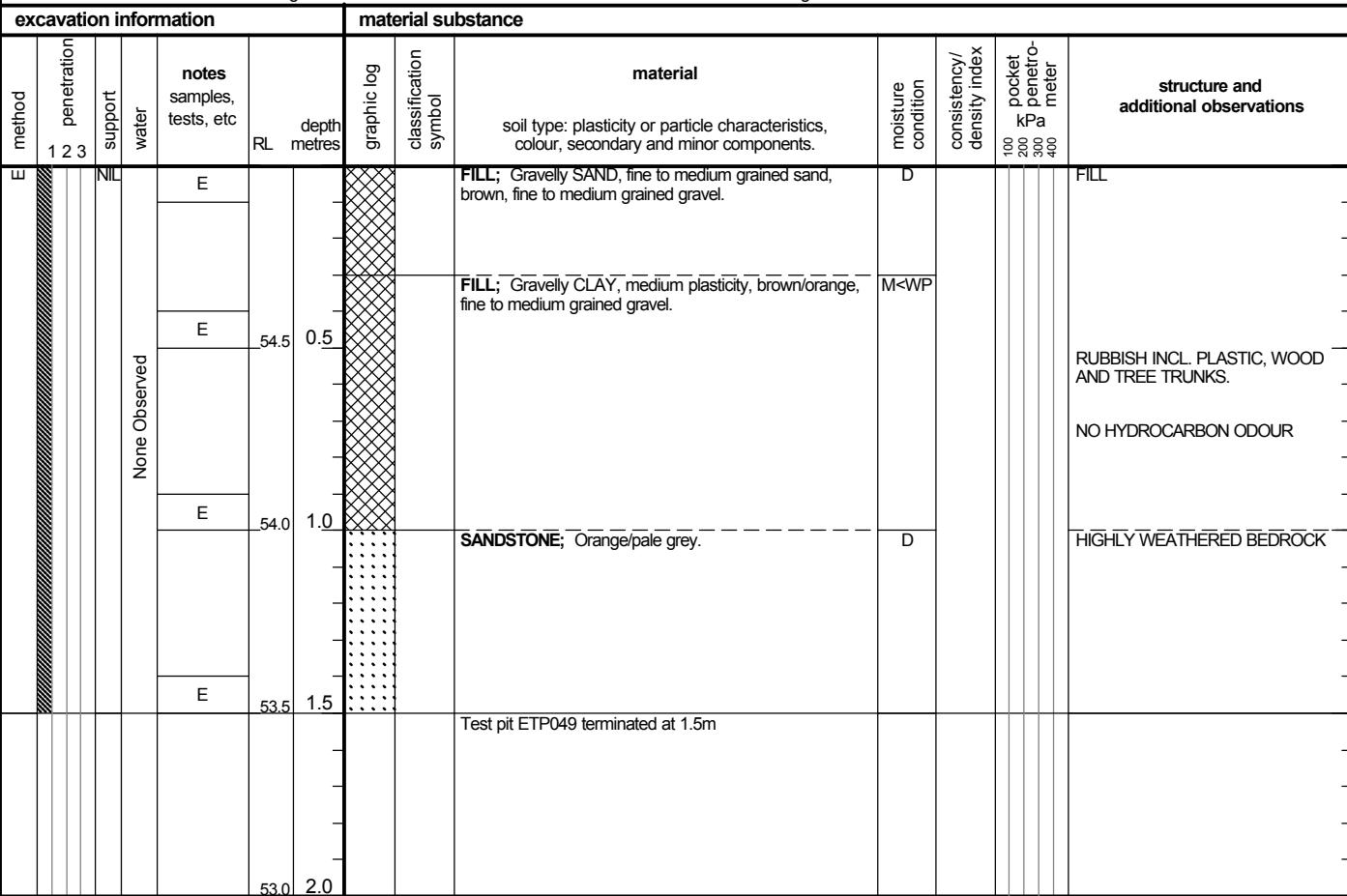
 Project: **WARNERVALE TOWN CENTRE**

 Date completed: **20.9.2007**

 Test pit location: **See Figure -**

 Logged by: **DH**  
 Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	E-W	Easting:	356952 m	R.L. Surface:	55
excavation dimensions:	2m long 1m wide			Northing:	6321122 m	datum:	AHD



Sketch

## Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

### Principal:

Date completed: **20.9.2007**

Project: **WARNERVALE TOWN CENTRE**

Date completed: **20.9.2007**

Test pit location: **See Figure -**

Logged by: **DH**

equipment type and model: 8t Kubota Pit Orientation: N-

R.L. Surface:

excavation information				material substance					structure and additional observations			
method	penetration 1 2 3	support water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	100 200 300 400	pocket penetro- meter kPa
E		N	None Observed	E	53.0			<b>FILL</b> ; Gravely SAND, fine to medium grained sand, brown, fine to medium grained gravel.	D			
				E	0.5			<b>SANDSTONE</b> ; Orange/pale grey.	D			
				E	52.5							
				E	1.0							
								Test pit ETP050 terminated at 1m				
					52.0							
					1.5							
					51.5							
					2.0							

## Sketch

## Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

1 of 1

Principal:

Date started: 2013-03-01

Project: **WARNERVALE TOWN CENTRE**

Date completed: **20.9.2007**

Test pit location: **See Figure -**

Logged by: *DH*

equipment type and model: 8t Kubota Pit Orientation: N-

Checked by: **SD**

## Sketch

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

 Sheet 1 of 1  
 Project No: **GEOTKARI02021AA**

Principal:

 Date started: **20.9.2007**

 Project: **WARNERVALE TOWN CENTRE**

 Date completed: **20.9.2007**

 Test pit location: **See Figure -**

 Logged by: **DH**  
 Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	E-W	Easting:	356931 m	R.L. Surface:	53.5
excavation dimensions:	2m long 1m wide			Northing:	6321172 m	datum:	AHD

excavation information				material substance								
method	penetration 1 2 3	support water	notes samples, tests, etc	RL depth metres	graphic log	classification symbol	material	moisture condition	consistency/ density index	100 200 300 400	structure and additional observations	
E	NIL			E			FILL; Gravely SAND, fine to medium grained sand, brown, fine to medium grained gravel.	D				FILL
							FILL; Gravely CLAY, medium plasticity, orange/brown, fine to medium grained gravel.					
				53.0								RUBBISH INCL, PLASTIC BAGS, TREE TRUNKS AND WOOD ITEMS
				0.5								NO HYDROCARBON ODOUR
				52.5			CL Sandy CLAY; Medium plasticity, orange/grey, fine to medium grained sand.	M<wp				RESIDUAL
				52.0								DUP 37
				1.0								
				1.5								
				51.5								
				2.0								
Test pit ETP052 terminated at 1.5m												

Sketch

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

 Sheet 1 of 1  
 Project No: **GEOTKARI02021AA**

Principal:

 Date started: **20.9.2007**

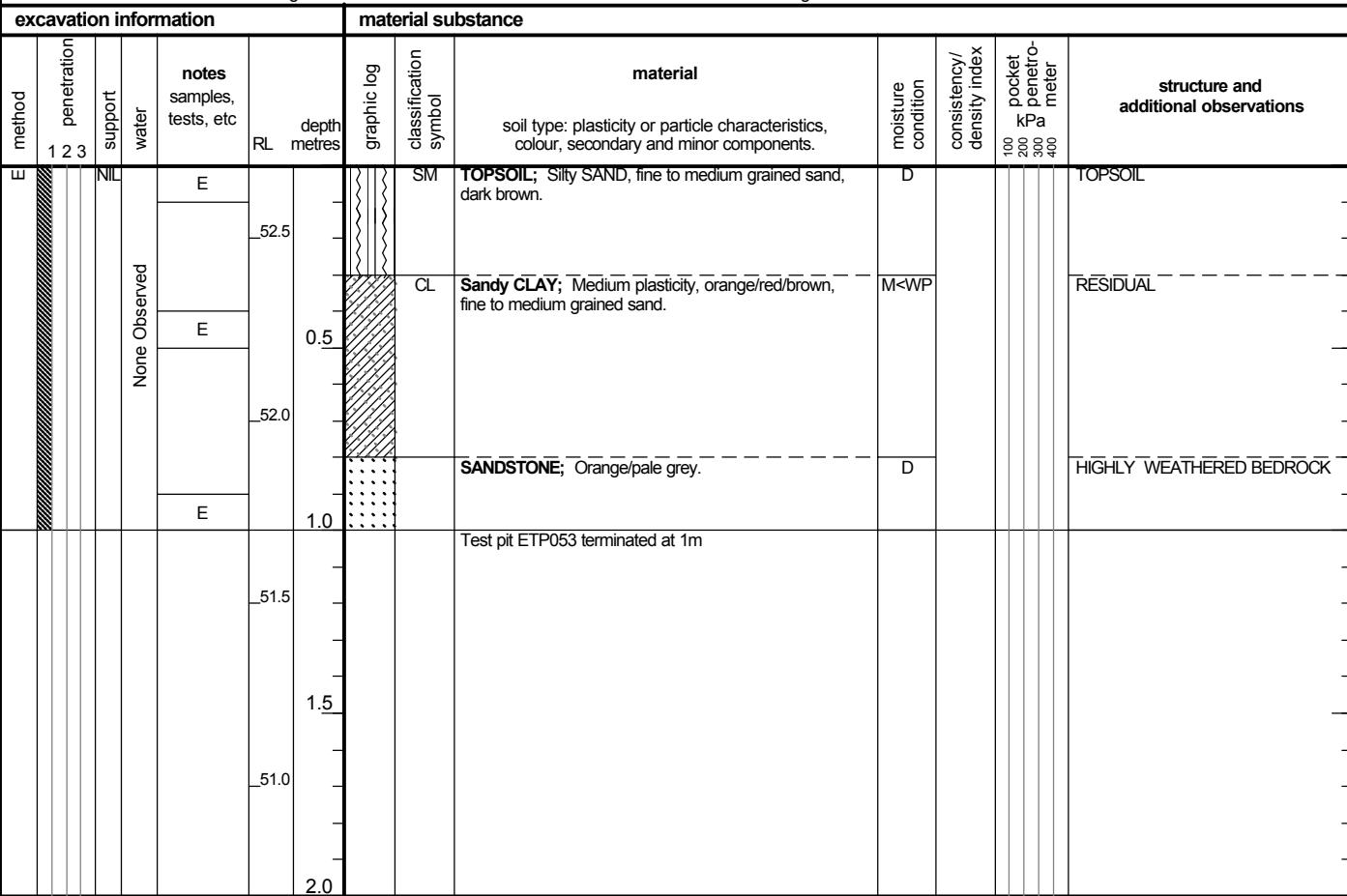
 Project: **WARNERVALE TOWN CENTRE**

 Date completed: **20.9.2007**

 Test pit location: **See Figure -**

 Logged by: **DH**  
 Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	N-S	Easting:	356961 m	R.L. Surface:	52.7
excavation dimensions:	2m long 1m wide			Northing:	6321177 m	datum:	AHD



Sketch

# Engineering Log - Excavation

 Client: **WYONG SHIRE COUNCIL**

 Sheet 1 of 1  
 Project No: **GEOTKARI02021AA**

Principal:

 Date started: **21.9.2007**

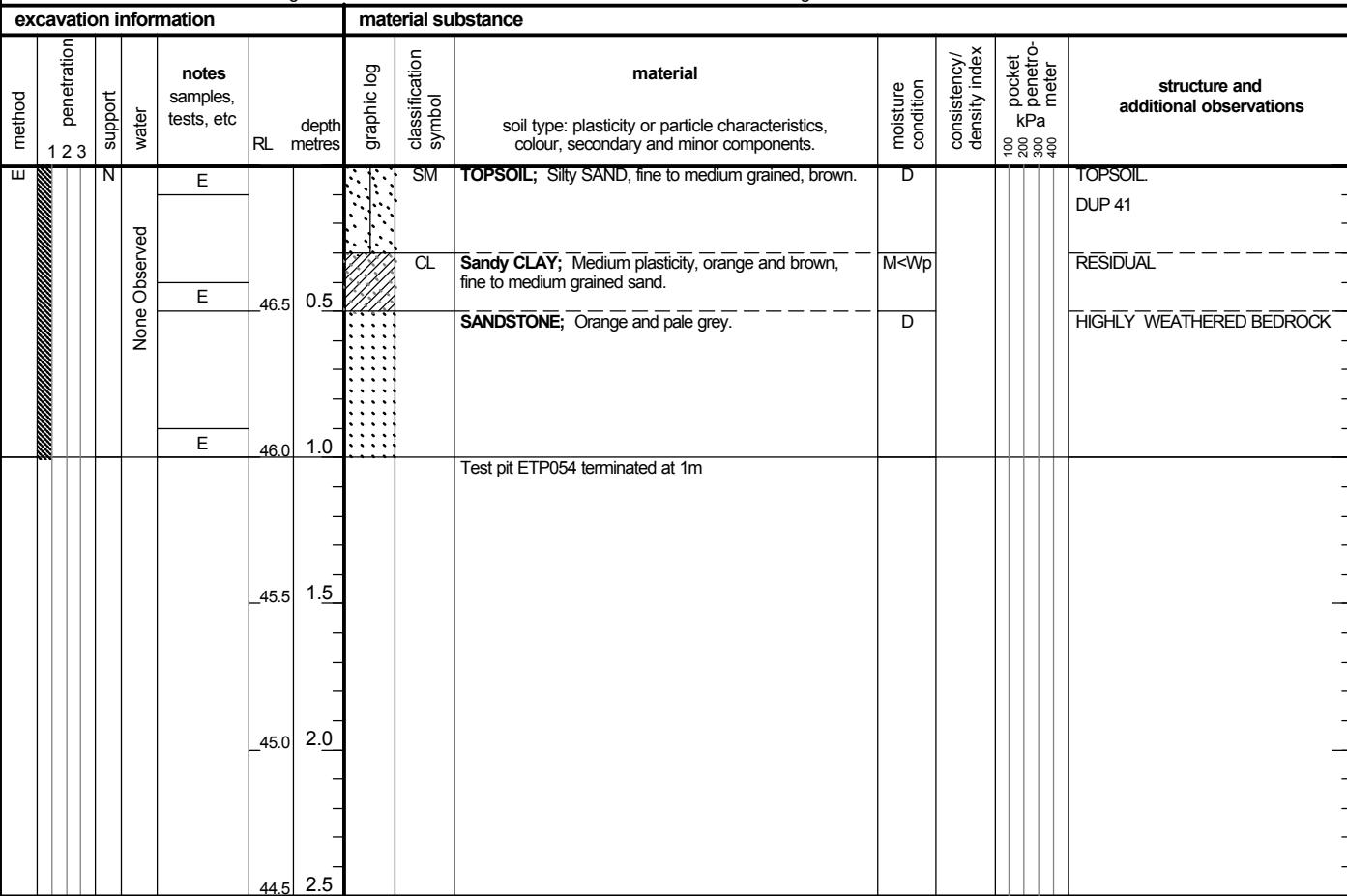
 Project: **WARNERVALE TOWN CENTRE**

 Date completed: **21.9.2007**

 Test pit location: **See Figure -**

 Logged by: **DH**  
 Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	E-W	Easting:	356750 m	R.L. Surface:	47
excavation dimensions:	2m long 1m wide			Northing:	6321248 m	datum:	AHD



Sketch

## Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1

Principal:

Date started: 2 NOV 1957

Project: **WARNERVALE TOWN CENTRE**

Date completed: 21.9.2007

Test pit location: **See Figure -**

Logged by: **DH**

equipment type and model: 8t Kubota Pit Orientation: N-S Easting: 356774 m R.L. Surface: 48  
excavation dimensions: 2m long 1m wide Northing: 6321231 m datum: AHD

excavation information				material substance																						
method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material		moisture condition	consistency/ density index	100 200 300 400	pocket penetro- meter kPa	structure and additional observations											
									soil type: plasticity or particle characteristics, colour, secondary and minor components.																	
E	N	None Observed		E	47.5	0.5		SM	TOPSOIL; Silty SAND, fine to medium grained, dark brown.		D	M<Wp	TOPSOIL	RESIDUAL	HIGHLY WEATHERED BEDROCK											
								CL	Sandy CLAY; Medium plasticity, orange and brown, fine to medium grained.																	
								E	SANDSTONE; Orange and pale grey.																	
				Test pit ETP055 terminated at 1m																						

## Sketch

# Engineering Log - Excavation

Client: **WYONG SHIRE COUNCIL**

Sheet 1 of 1  
Project No: **GEOTKARI02021AA**

Principal:

Date started: **21.9.2007**

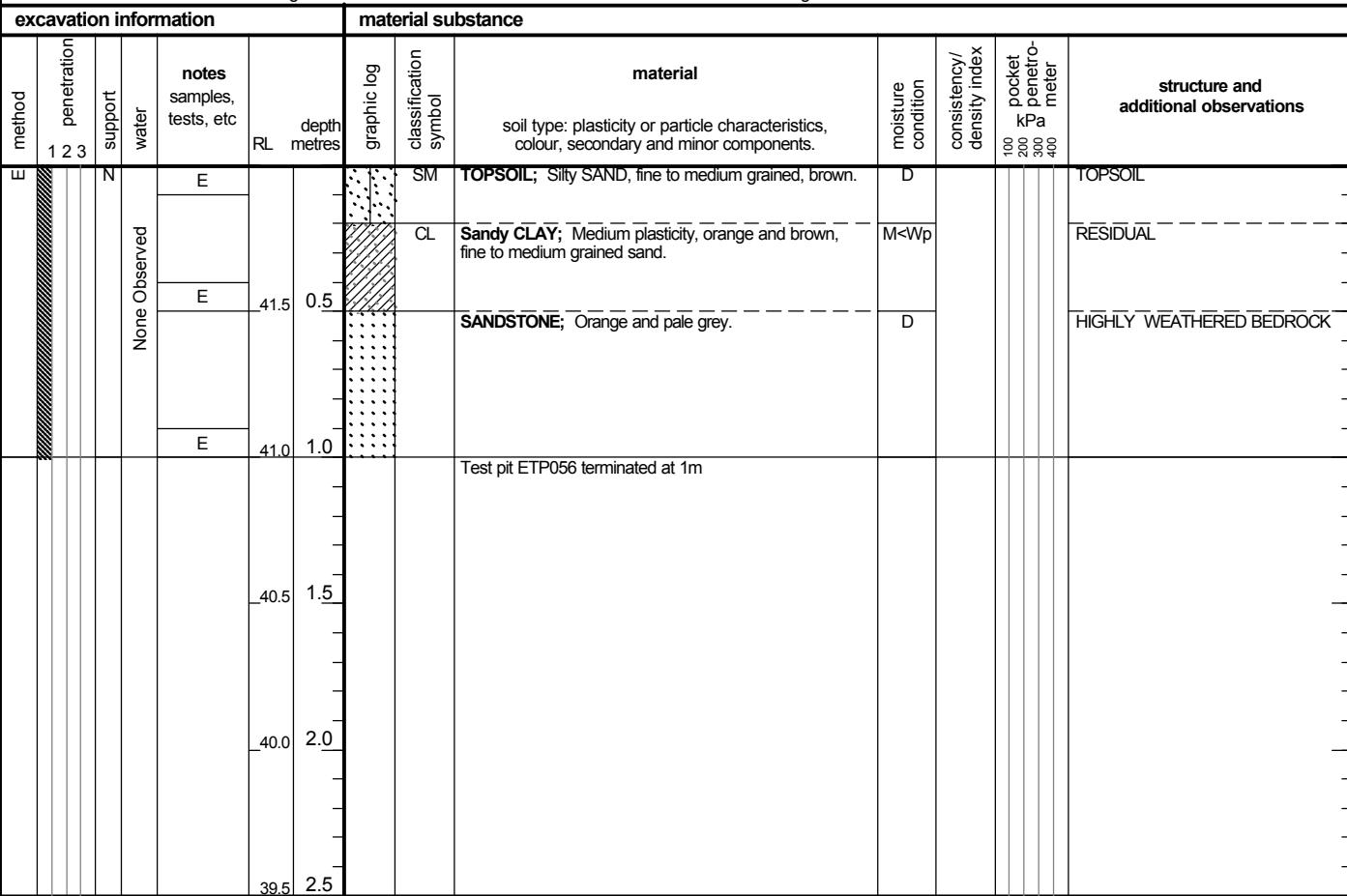
Project: **WARNERVALE TOWN CENTRE**

Date completed: **21.9.2007**

Test pit location: **See Figure -**

Logged by: **DH**  
Checked by: **SD**

equipment type and model:	8t Kubota	Pit Orientation:	E-W	Easting:	356757 m	R.L. Surface:	42
excavation dimensions:	2m long 1m wide			Northing:	6321176 m	datum:	AHD



Sketch