coffey geotechnics

Excavation No. **ETP057**

Engineering Log - Excavation

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

Client: ***WYONG SHIRE COUNCIL*** Date started: ***21.9.2007***

Principal: Date completed: ***21.9.2007***

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: 356733 m | R.L. Surface: 41.8

excavation dimensions: 2m long 1m wide | Northing: 6321191 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E	41.5			SM	**TOPSOIL;** Silty SAND, fine to medium grained, brown.	M			TOPSOIL, DUP 42
				E		0.5		CL	**Sandy CLAY;** Medium plasticity, orange and grey, fine to medium grained sand.	M>Wp			RESIDUAL
					41.0	1.0			Test pit ETP057 terminated at 0.5m				
					40.5	1.5							
					40.0	2.0							
					39.5	2.5							

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_{50} undisturbed sample 50mm diameter
U_{63} 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

moisture
D dry
M moist
W wet
Wp plastic limit
W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

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Engineering Log - Excavation

Excavation No. **ETP058**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***21.9.2007***

Principal:

Date completed: ***21.9.2007***

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: 356705 m | R.L. Surface: 40

excavation dimensions: 2m long 1m wide | Northing: 6321209 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E				SM	**TOPSOIL;** Silty SAND, fine to medium grained, dark brown	M			TOPSOIL
								CL	**Sandy CLAY;** Medium plasticity, orange and grey, fine to medium grained sand.	M>Wp			RESIDUAL
				E	39.5	0.5							
									Test pit ETP058 terminated at 0.5m				
					39.0	1.0							
					38.5	1.5							
					38.0	2.0							
					37.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

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Engineering Log - Excavation

Excavation No. **ETP059**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***21.9.2007***

Principal:

Date completed: ***21.9.2007***

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: 356714 m | R.L. Surface: 46

excavation dimensions: 2m long 1m wide | Northing: 6321236 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E				SM	**TOPSOIL;** Silty SAND, fine to medium grained, brown.	M			TOPSOIL
								CL	**Sandy CLAY;** Medium plasticity, orange and brown, fine to medium grained sand.	M>Wp			RESIDUAL
				E	45.5	0.5							
									Test pit ETP059 terminated at 0.5m				
					45.0	1.0							
					44.5	1.5							
					44.0	2.0							
					43.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

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Engineering Log - Excavation

Excavation No. **ETP060**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***21.9.2007***

Principal:

Date completed: ***21.9.2007***

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: 356700 m | R.L. Surface: 45

excavation dimensions: 2m long 1m wide | Northing: 6321280 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E				SM	**TOPSOIL;** Silty SAND, fine to medium grained, dark brown.	M			TOPSOIL
								CL	**Sandy CLAY;** medium plasticity, orange and brown, fine to medium grained sand.	M>Wp			RESIDUAL
				E	44.5	0.5							
									Test pit ETP060 terminated at 0.5m				
					44.0	1.0							
					43.5	1.5							
					43.0	2.0							
					42.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

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Engineering Log - Excavation

Excavation No. **ETP061**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***21.9.2007***

Principal:

Date completed: ***21.9.2007***

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: 356692 m | R.L. Surface: 40

excavation dimensions: 2m long 1m wide | Northing: 6321252 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E				SM	**TOPSOIL;** Silty SAND, fine to medium grained, dark brown.	M			TOPSOIL
								CL	**Sandy CLAY;** Medium plasticity, orange and brown, fine to medium grained sand.	M>Wp			RESIDUAL
				E	39.5	0.5							DUP 43
									Test pit ETP061 terminated at 0.5m				
					39.0	1.0							
					38.5	1.5							
					38.0	2.0							
					37.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

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Engineering Log - Excavation

Excavation No. **ETP062**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***21.9.2007***

Principal:

Date completed: ***21.9.2007***

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: 356683 m | R.L. Surface: 38

excavation dimensions: 2m long 1m wide | Northing: 6321224 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E				SM	**TOPSOIL;** Silty SAND, fine to medium grained, dark brown.	M			TOPSOIL
								CL	**Sandy CLAY;** Medium plasticity, orange and brown, fine to medium grained sand.	M>Wp			RESIDUAL
				E	37.5	0.5							
									Test pit ETP062 terminated at 0.5m				
					37.0	1.0							
					36.5	1.5							
					36.0	2.0							
					35.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

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Engineering Log - Excavation

Excavation No. **ETP063**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***21.9.2007***

Principal:

Date completed: ***21.9.2007***

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: 356676 m | R.L. Surface: 42

excavation dimensions: 2m long 1m wide | Northing: 6321297 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E				SM	**TOPSOIL;** Silty SAND, fine to medium grained, dark brown.	M			TOPSOIL
								CL	**Sandy CLAY;** Medium plasticity, orange and brown, fine to medium grained sand.	M>Wp			RESIDUAL
				E	41.5	0.5							
									Test pit ETP063 terminated at 0.5m				
					41.0	1.0							
					40.5	1.5							
					40.0	2.0							
					39.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

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Engineering Log - Excavation

Excavation No. **ETP064**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***21.9.2007***

Principal:

Date completed: ***21.9.2007***

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: 356666 m | R.L. Surface: 38

excavation dimensions: 2m long 1m wide | Northing: 6321267 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E				SM	**TOPSOIL;** Silty SAND, fine to medium grained, gark brown.	M			TOPSOIL
								CL	**Sandy CLAY;** Medium plasticity, orange and brown, fine to medium grained sand.	M>Wp			RESIDUAL
				E	37.5	0.5							
									Test pit ETP064 terminated at 0.5m				
					37.0	1.0							
					36.5	1.5							
					36.0	2.0							
					35.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP065**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***21.9.2007***

Principal:

Date completed: ***21.9.2007***

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: 356657 m | R.L. Surface: 36

excavation dimensions: 2m long 1m wide | Northing: 6321239 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E				SM	**TOPSOIL;** Silty SAND, fine to medium grained, dark brown.	M			TOPSOIL
								CL	**Sandy CLAY;** Medium plasticity, orange and brown, fine to medium grained sand.	M>Wp			RESIDUAL
				E	35.5	0.5							
					35.0	1.0			Test pit ETP065 terminated at 0.5m				
					34.5	1.5							
					34.0	2.0							
					33.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP066**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***21.9.2007***

Principal:

Date completed: ***21.9.2007***

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: 356636 m | R.L. Surface: 40.5

excavation dimensions: 2m long 1m wide | Northing: 6321316 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E				SM	**TOPSOIL;** Silty SAND, fine to medium grained, dark brown.	M			TOPSOIL, DUP 44
								CL	**SANDY CLAY;** Medium plasticity, orange and brown, fine to medium grained sand.	M>Wp			RESIDUAL
				E	40.0	0.5							
									Test pit ETP066 terminated at 0.5m				
					39.5	1.0							
					39.0	1.5							
					38.5	2.0							
					38.0	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

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Engineering Log - Excavation

Excavation No. **ETP067**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***21.9.2007***

Principal:

Date completed: ***21.9.2007***

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: 356641 m | R.L. Surface: 37.3

excavation dimensions: 2m long 1m wide | Northing: 6321283 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E	37.0			SM	**TOPSOIL;** Silty SAND, fine to medium grained, dark brown.	M			TOPSOIL
				E		0.5		CL	**Sandy CLAY;** Medium plasticity, orange and brown, fine to medium grained sand.	M>Wp			RESIDUAL
					36.5	1.0			Test pit ETP067 terminated at 0.5m				
					36.0	1.5							
					35.5	2.0							
					35.0	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP068**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***21.9.2007***

Principal:

Date completed: ***21.9.2007***

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: 356631 m | R.L. Surface: 34.2

excavation dimensions: 2m long 1m wide | Northing: 6321255 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E	34.0			SM	**TOPSOIL;** Silty SAND, fine to medium grained, dark brown.	M			TOPSOIL
								CL	**Sandy CLAY;** Medium plasticity, orange and brown, fine to medium grained sand.	M>Wp			RESIDUAL
				E		0.5							
					33.5	1.0			Test pit ETP068 terminated at 0.5m				
					33.0	1.5							
					32.5	2.0							
					32.0	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP069**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***21.9.2007***

Principal:

Date completed: ***21.9.2007***

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: 356876 m | R.L. Surface: 36.7

excavation dimensions: 2m long 1m wide | Northing: 6321553 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E	36.5			SM	**TOPSOIL;** Silty SAND, fine to medium grained, dark brown.	M			TOPSOIL
				E		0.5		CL	**Sandy CLAY;** Medium plasticity, orange and brown, fine to medium grained sand.	M>Wp			RESIDUAL
					36.0				**SANDSTONE;** Orange and pale grey.	M			HIGHLY WEATHERED BEDROCK
				E		1.0							
					35.5				Test pit ETP069 terminated at 1m				
						1.5							
					35.0								
						2.0							
					34.5								
						2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

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Engineering Log - Excavation

Excavation No. **ETP070**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***21.9.2007***

Principal:

Date completed: ***21.9.2007***

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: 356857 m | R.L. Surface: 44.5

excavation dimensions: 2m long 1m wide | Northing: 6321482 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	pocket penetrometer kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E				SM	**SILTY SAND;** Fine to medium grained, light brown.	D			TOPSOIL.
													DUP 45
								CL	**Sandy CLAY;** Medium plasticity, orange and brown, fine to medium grained sand.	M<Wp			RESIDUAL
				E	44.0	0.5							
									SANDSTONE; Orange and pale grey.	D			HIGHLY WEATHERED BEDROCK
				E	43.5	1.0							
									Test pit ETP070 terminated at 1m				
					43.0	1.5							
					42.5	2.0							
					42.0	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

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Engineering Log - Excavation

Excavation No. **ETP071**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***21.9.2007***

Principal:

Date completed: ***21.9.2007***

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: 356704 m | R.L. Surface: 39.2

excavation dimensions: 2m long 1m wide | Northing: 6321477 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E	39.0	0.0		SM	**TOPSOIL;** Silty SAND, fine to medium grained, dark brown.	M			TOPSOIL
				E		0.5		CL	**Sandy CLAY;** Medium plasticity, orange and brown, fine to medium grained sand.				RESIDUAL
					38.5				**SANDSTONE;** Orange and pale grey.				HIGHLY WEATHERED BEDROCK
				E		1.0							
					38.0				Test pit ETP071 terminated at 1m				
						1.5							
					37.5								
						2.0							
					37.0								
						2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

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Engineering Log - Excavation

Excavation No. **ETP072**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***21.9.2007***

Principal:

Date completed: ***21.9.2007***

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: 356727 m | R.L. Surface: 37

excavation dimensions: 2m long 1m wide | Northing: 6321522 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	pocket penetrometer kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E				SM	**SILTY SAND;** Fine to medium grained, dark brown.	D			TOPSOIL
				E	36.5	0.5		CL	**Sandy CLAY;** Medium plasticity, orange and brown, fine to medium grained sand.	M<Wp			RESIDUAL
				E	36.0	1.0			**SANDSTONE;** Orange and pale grey	D			HIGHLY WEATHERED BEDROCK
									Test pit ETP072 terminated at 1m				
					35.5	1.5							
					35.0	2.0							
					34.5	2.5							

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_{50} undisturbed sample 50mm diameter
U_{63} 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

moisture
D dry
M moist
W wet
Wp plastic limit
W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

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Engineering Log - Excavation

Excavation No. **ETP073**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356885 m | R.L. Surface: 54

excavation dimensions: 2m long 1m wide | Northing: 6321158 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E					**FILL;** Gravelly silty SAND, fine to medium grained sand, dark brown	M			FILL. DUP 51. SOME WOOD, TIN, BITUMEN.
				E	53.5	0.5			**FILL;** Gravelly Sandy CLAY, low plasticity, grey and brown.	M<PL			
				E	53.0	1.0		CL	**SANDY CLAY;** Low to medium plasticity, orange and brown and orange mottled.	M=PL			RESIDUAL
					52.5	1.5			Test pit ETP073 terminated at 1.4m				
					52.0	2.0							
					51.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

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Engineering Log - Excavation

Excavation No. **ETP074**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356926 m | R.L. Surface: 54

excavation dimensions: 2m long 1m wide | Northing: 6321157 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E	53.5	0.5			**FILL;** Clayey SAND to sandy CLAY, low plasticity, grey, pale grey, orange and brown mottled, fine to medium grained sand.	M<PL			FILL. SOME TREE ROOTS
				E	53.0	1.0							
					52.5	1.5							
				E	52.0	2.0							
					51.5	2.5			**Clayey SAND;** Fine to medium grained sand, brown, traces of bitumen gravel.				
				E	51.0	3.0							LIMIT OF REACH
									Test pit ETP074 terminated at 3m				
					50.5	3.5							
					50.0	4.0							
					49.5	4.5							
					49.0	5.0							

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

water
- water level on date shown
- water inflow
- water outflow

notes, samples, tests
- U_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

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Engineering Log - Excavation

Excavation No. **ETP075**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356985 m | R.L. Surface: 35.3

excavation dimensions: 2m long 1m wide | Northing: 6320938 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N		E	35.0	0.5			**FILL;** Silty SAND, fine to medium grained sand, dark brown, organic.	M			FILL. TOPSOIL
				E					**FILL;** Gravelly Sandy CLAY, low to medium plasticity, pale brown to grey.	M<PL			FILL. STEEL PIPES. G.I SHEETS. CERAMIC ROOF TILES. BRICKS.
			▶		34.5			CL	**Silty CLAY;** Low to medium plasticity, pale brown to grey.	M>PL			EXTREMELY WEATHERED BEDROCK.
				E		1.0							
					34.0								
						1.5			Test pit ETP075 terminated at 1.4m				
					33.5	2.0							
					33.0	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

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coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP076**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 357011 m | R.L. Surface: 35.5

excavation dimensions: 2m long 1m wide | Northing: 6320933 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
EE		N	None Observed	E				SM	**Silty SAND;** Fine to medium grained sand, dark brown.	M			TOPSOIL
				E				CL	**Sandy CLAY;** Low to medium plasticity, orange and brown.	M=PL			RESIDUAL. DUP 52
				E	35.0	0.5		CL	**Silty CLAY;** Low to medium plasticity, pale grey.	M<PL			EXTREMELY WEATHERED BEDROCK
									Test pit ETP076 terminated at 0.5m				
					34.5	1.0							
					34.0	1.5							
					33.5	2.0							
					33.0	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP077**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 357011 m | R.L. Surface: 33.5

excavation dimensions: 2m long 1m wide | Northing: 6320887 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E				SM	**Silty SAND;** Fine to medium grained sand, dark brown, some organics.	M			TOPSOIL. SOME BLACK PLASTIC AND WOOD ON SURFACE. REFUSAL ON IRONSTONE.
					33.0	0.5			Test pit ETP077 terminated at 0.2m				
					32.5	1.0							
					32.0	1.5							
					31.5	2.0							
					31.0	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP078**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 357002 m | R.L. Surface: 31.5

excavation dimensions: 2m long 1m wide | Northing: 6320887 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E				SC	**Clayey SAND;** Fine to medium grained sand, brown, some organics.	M			TOPSOIL
								CL	**Sandy CLAY;** Medium plasticity, orange - brown, and grey - brown mottled.	M>PL			RESIDUAL
				E	31.0	0.5							
									Test pit ETP078 terminated at 0.5m				
					30.5	1.0							
					30.0	1.5							
					29.5	2.0							
					29.0	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP079**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356977 m | R.L. Surface: 31.7

excavation dimensions: 2m long 1m wide | Northing: 6320893 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E	31.5			SC	**Clayey SAND;** Fine to medium grained sand, brown, some organics.	M			TOPSOIL
								CL	**Sandy CLAY;** Medium plasticity, orange - brown, and grey - brown mottled.	M>PL			RESIDUAL
				E		0.5							
					31.0	1.0			Test pit ETP079 terminated at 0.5m				
					30.5	1.5							
					30.0	2.0							
					29.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP080**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356977 m | R.L. Surface: 30.1

excavation dimensions: 2m long 1m wide | Northing: 6320871 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E	30.0				**Sandy CLAY;** Medium plasticity, pale grey, pink and brown mottled.	D			LOCAL FILL. SOME IRRIGATION HOSES.
				E		0.5		CL	**Sandy CLAY;** Medium plasticity, pale grey and pink mottled.	M=PL			RESIDUAL
					29.5								
						1.0							
					29.0								
									Test pit ETP080 terminated at 1.2m				
						1.5							
					28.5								
						2.0							
					28.0								
						2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

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Engineering Log - Excavation

Excavation No. **ETP081**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356972 m | R.L. Surface: 29.2

excavation dimensions: 2m long 1m wide | Northing: 6320850 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E	29.0	0.5			**FILL;** Silty SAND and gravelly sand, fine to medium grained sand, brown, quartz gravel.	M			FILL
				E	28.5								
				E		1.0		CL	**Silty CLAY;** Medium plasticity, pale grey.	M=PL			RESIDUAL
					28.0								
					27.5	1.5			Test pit ETP081 terminated at 1.3m				
					27.0	2.0							
						2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP082**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356970 m | R.L. Surface: 27

excavation dimensions: 2m long 1m wide | Northing: 6320828 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	pocket penetrometer kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E				SM	**Silty SAND;** Silty SAND to Clayey SAND, fine to medium grained sand, brown.	M			FILL. SOME STEEL STRAPS AND TYRES.
				E	26.5	0.5		CL	**Silty CLAY;** Medium plasticity, pale grey and orange - brown.	M<PL			RESIDUAL
				E	26.0	1.0			Trace sandstone gravel.				EXTREMELY WEATHERED BEDROCK.
					25.5	1.5			Test pit ETP082 terminated at 1.3m				
					25.0	2.0							
					24.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

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Engineering Log - Excavation

Excavation No. **ETP083**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356967 m | R.L. Surface: 25.6

excavation dimensions: 2m long 1m wide | Northing: 6320807 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E	25.5			SC	**Silty Clayey SAND;** Fine to medium grained sand, brown, organics.	M			TOPSOIL. DUP 53. TRACES OF CHARCOAL AT SURFACE.
								CL	**Silty CLAY;** Medium plasticity, pale grey.	M=PL			RESIDUAL
				E		0.5							
					25.0				Test pit ETP083 terminated at 0.5m				
						1.0							
					24.5								
						1.5							
					24.0								
						2.0							
					23.5								
						2.5							

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_{50}	undisturbed sample 50mm diameter
U_{63}	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

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	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

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP084**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356972 m | R.L. Surface: 24.5

excavation dimensions: 2m long 1m wide | Northing: 6320787 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E				SM	**Silty SAND;** Fine to medium grained, dark brown, organics.	M			TOPSOIL.
								SC	**Clayey SAND;** Fine to medium grained sand, dark grey.				STORMWATER TRENCH LOCATED IN SIDE WALL OF PIT AT 0.2 - 0.4M DEPTH. AGPIPE AND GRAVEL BASALT.
				E	24.0	0.5		CL	**Sandy CLAY;** Medium plasticity, orange and brown.	M>PL			COLLUVIUM. RESIDUAL.
					23.5	1.0			Test pit ETP084 terminated at 0.9m				
					23.0	1.5							
					22.5	2.0							
					22.0	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

Excavation No. **ETP085**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***12.9.2007***

Principal:

Date completed: ***12.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 20t Kobelco | Pit Orientation: | Easting: 356909 m | R.L. Surface: 53.5

excavation dimensions: 2m long 1m wide | Northing: 6321176 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		NIL			53.0	0.5			**FILL;** Sandy CLAY, black, low plasticity.	M<PL			FILL
				E	52.5	1.0			**FILL;** Sandy CLAY, low plasticity, grey, fine to medium grained sand, some demolition rubble and waste plastic, car parts, pipes.	M>PL			STRONG H.C ODOUR 1.0M - 2.5M
			▶		52.0	1.5							
				E	51.5	2.0							
					51.0	2.5							
					50.5	3.0							
					50.0	3.5							
				E	49.5	4.0			**FILL;** Sandy CLAY, low to medium plasticity, grey/red mottled, fine to medium grained sand, some gravel, brown, sandstone and shale gravel, some tree trunks.	M=PL			NO H.C ODOUR.
					49.0	4.5			Test pit ETP085 terminated at 4.2m				
					48.5	5.0							

Sketch

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

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_{50}	undisturbed sample 50mm diameter
U_{63}	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

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	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

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP086**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: **WYONG SHIRE COUNCIL**

Date started: **12.9.2007**

Principal:

Date completed: **12.9.2007**

Project: **WARNERVALE TOWN CENTRE**

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 20t Kobelco | Pit Orientation: | Easting: 356913 m | R.L. Surface: 53.0

excavation dimensions: 2m long 1m wide | Northing: 6321194 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
EI		Nil		E	52.5	0.5			**FILL;** Clayey SAND to sandy CLAY, fine to medium grained sand, brown, trace demolition rubble incl. pipes and concrete and bitumen.	M/W			FILL. NO H.C. ODOUR.
				E	52.0	1.0							
					51.5	1.5			**FILL;** Silty CLAY, low to medium plasticity, dark grey to grey, some demolition rubble incl. fibro and steel pipes.	M>PL			SLIGHT H.C. ODOUR
				E	51.0	2.0							FIBRO SAMPLE COLLECTED
					50.5	2.5							
					50.0	3.0							
					49.5	3.5							
				E									DUP 2
					49.0	4.0		CL	**Gravelly Sandy CLAY;** Low to medium plasticity, red-brown, grey, yellow - brown mottled, quartz gravel.	M>PL			RESIDUAL
					48.5	4.5							
					48.0	5.0			Test pit ETP086 terminated at 4.5m				

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

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Engineering Log - Excavation

Excavation No. **ETP087**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***12.9.2007***

Principal:

Date completed: ***12.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 20t Kobelco | Pit Orientation: | Easting: 356949 m | R.L. Surface: 53

excavation dimensions: 2m long 1m wide | Northing: 6321217 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		NIL		E					**FILL;** Sandy CLAY to Clayey SAND, low plasticity, brown, trace concrete slabs and bitumen pieces.	M=PL			FILL NO H.C. ODOUR
					52.5	0.5							
				E	52.0	1.0							
								CL	**Gravelly Sandy CLAY;** Low to medium plasticity, red-brown.	M<PL			RESIDUAL
				E	51.5	1.5							
									Test pit ETP087 terminated at 1.8m				
					51.0	2.0							
					50.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP088**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: **WYONG SHIRE COUNCIL**

Date started: **12.9.2007**

Principal:

Date completed: **12.9.2007**

Project: **WARNERVALE TOWN CENTRE**

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 20t Kobelco | Pit Orientation: | Easting: 356922 m | R.L. Surface: 49

excavation dimensions: 2m long 1m wide | Northing: 6321218 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	pocket penetrometer kPa 100 200 300 400	structure and additional observations
E		NIL		E	48.5	0.5			**FILL;** Gravelly Sandy CLAY to Clayey SAND, low plasticity, brown, trace of demolition rubble incl. wood, concrete and geotextile matting.	M			FILL. DUP 1.
					48.0	1.0							
				E	47.5	1.5							
			▶		47.0	2.0				M>PL			
				E	46.5	2.5							FIBRO SAMPLE COLLECTED
					46.0	3.0			**FILL;** Clayey SAND, fine to medium grained sand, grey, low plasticity fines.	M			
				E	45.5	3.5			**FILL;** Sandy CLAY, low plasticity, brown, trace of demolition rubble incl. wood, concrete and geotextile matting.	M>PL			RESIDUAL
				E	45.0	4.0			**Gravelly sandy CLAY;** Low to medium plasticity, red-brown and pale grey mottled, subrounded quartz gravel.	M=PL			
					44.5	4.5			Test pit ETP088 terminated at 4.3m				
					44.0	5.0							

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

water
- water level on date shown
- water inflow
- water outflow

notes, samples, tests
- U_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

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coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP089**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356989 m | R.L. Surface: 25.5

excavation dimensions: 2m long 1m wide | Northing: 6320779 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	pocket penetrometer kPa 100 200 300 400	structure and additional observations
E		NIL	None Observed	E				SM	**Silty SAND;** Fine to medium grained sand, dark brown, organics.	M			TOPSOIL. ASBESTOS SAMPLE COLLECTED. SURFACE RUBBISH OF BRICKS, CERAMIC TILES AND BLUESTONE GRAVEL.
				E	25.0	0.5		SC	**Clayey SAND;** Fine to medium grained sand, dark grey.				COLLUVIUM.
									Test pit ETP089 terminated at 0.5m				
					24.5	1.0							
					24.0	1.5							
					23.5	2.0							
					23.0	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

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Engineering Log - Excavation

Excavation No. **ETP090**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: **WYONG SHIRE COUNCIL**

Date started: **12.9.2007**

Principal:

Date completed: **12.9.2007**

Project: **WARNERVALE TOWN CENTRE**

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 20t Kobelco | Pit Orientation: | Easting: 356891 m | R.L. Surface: 53

excavation dimensions: 2m long 1m wide | Northing: 6321201 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N		E	52.5	0.5			**FILL;** Sandy CLAY to Clayey SAND, low plasticity, brown.	M<PL			FILL. DUP 3 NO H.C. ODOUR
				E	52.0	1.0			**FILL;** Sandy to Silty CLAY, medium to high plasticity, dark grey and grey, some demolition rubble and waste incl. plastic, fibro, pipes, reo, wood and bottles.	M>PL			STRONG H.C. ODOUR (OILY) 1.0M - 3.6M DEPTH
			▶	E	51.5	1.5							
					51.0	2.0							
				E	50.5	2.5							
					50.0	3.0							FIBRO SAMPLE COLLECTED
				E	49.5	3.5			**Sandy CLAY;** Low plasticity, brown to grey.	M=PL			
					49.0	4.0			Test pit ETP090 terminated at 4.2m				
					48.5	4.5							
					48.0	5.0							

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

water
- water level on date shown
- water inflow
- water outflow

notes, samples, tests
- U_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

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Engineering Log - Excavation

Excavation No. **ETP091**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: **WYONG SHIRE COUNCIL**

Date started: **12.9.2007**

Principal:

Date completed: **12.9.2007**

Project: **WARNERVALE TOWN CENTRE**

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 20t Kobelco | Pit Orientation: | Easting: 356898 m | R.L. Surface: 51

excavation dimensions: 2m long 1m wide | Northing: 6321218 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
EI		NIL		E	50.5	0.5			**FILL;** Sandy CLAY to clayey SAND, low plasticity, brown.	M<PL			FILL. NO H.C. ODOUR
					50.0	1.0							
				E	49.5	1.5							
					49.0	2.0			**FILL;** Silty CLAY, medium to high plasticity, grey and grey-brown, trace demolition rubble.	M=PL			MILD H.C. ODOUR
				E	48.5	2.5							DUP 47
					48.0	3.0							FIBRO SAMPLE COLLECTED.
					47.5	3.5							
			▶	E	47.0	4.0		CL	**Gravelly Sandy CLAY;** Low to medium plasticity, orange brown, quartz gravel.	M=PL			RESIDUAL
					46.5	4.5			Test pit ETP091 terminated at 4.4m				
					46.0	5.0							

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

water
- water level on date shown
- water inflow
- water outflow

notes, samples, tests
- U_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

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Engineering Log - Excavation

Excavation No. **ETP093**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: **WYONG SHIRE COUNCIL**

Date started: **25.9.2007**

Principal:

Date completed: **25.9.2007**

Project: **WARNERVALE TOWN CENTRE**

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356993 m | R.L. Surface: 26.5

excavation dimensions: 2m long 1m wide | Northing: 6320805 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E				SM	**Silty SAND;** Fine to medium grained sand, dark brown, organics.	M			TOPSOIL. CONTAINS SURFACE SCATTERING OF BRICKS, CONCRETE, TILES, WHITE PLASTIC PIPES.
				E	26.0	0.5		SC	**Clayey SAND;** Fine to medium grained, dark grey.				COLLUVIUM
									Test pit ETP093 terminated at 0.5m				
					25.5	1.0							
					25.0	1.5							
					24.5	2.0							
					24.0	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

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Engineering Log - Excavation

Excavation No. **ETP094**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356995 m | R.L. Surface: 27.5

excavation dimensions: 2m long 1m wide | Northing: 6320825 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E				SM	**Silty SAND;** Fine to medium grained sand, brown, organics.	M			TOPSOIL. DUP 54. SURFACE SCATTERING OF GLASS, CHARCOAL, CONCRETE, WOOD, BLACK PLASTIC.
				E	27.0	0.5		SC	**Clayey SAND;** Fine to medium grained sand, yellow brown.				RESIDUAL
								CL	**Sandy CLAY;** Low to medium plasticity, orange-brown.	M <PL			
					26.5	1.0			Test pit ETP094 terminated at 0.7m				
					26.0	1.5							
					25.5	2.0							
					25.0	2.5							

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_{50} undisturbed sample 50mm diameter
U_{63} 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

moisture
D dry
M moist
W wet
Wp plastic limit
W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP095**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356994 m | R.L. Surface: 29

excavation dimensions: 2m long 1m wide | Northing: 6320853 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		N	None Observed	E				SC	**FILL;** Clayey SAND, fine to medium grained sand, brown.	M			TOPSOIL, FILL. SOME WOOD, BASALT GRAVEL.
				E	28.5	0.5		CL	**Silty CLAY;** Medium plasticity, orange-brown.	M=PL			RESIDUAL
					28.0	1.0			Test pit ETP095 terminated at 0.9m				
					27.5	1.5							
					27.0	2.0							
					26.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP096**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 357000 m | R.L. Surface: 30

excavation dimensions: 2m long 1m wide | Northing: 6320867 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		NIL	None Observed	E				SC	**Clayey SAND;** Fine to medium grained sand, dark brown, organics.	M			TOPSOIL
								CL	**Silty CLAY;** Medium plasticity, red-brown.	M=PL			RESIDUAL
				E	29.5	0.5							
									Test pit ETP096 terminated at 0.5m				
					29.0	1.0							
					28.5	1.5							
					28.0	2.0							
					27.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP097**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356966 m | R.L. Surface: 33

excavation dimensions: 2m long 1m wide | Northing: 6320905 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		Nil	None Observed	E				SM	**Silty SAND;** Fine to medium grained sand, dark brown, organics.	M			TOPSOIL
								CL	**Sandy CLAY;** Low to medium plasticity, orange-brown.	M<PL			RESIDUAL
				E	32.5	0.5							REFUSAL ON SANDSTONE BEDROCK.
									Test pit ETP097 terminated at 0.5m				
					32.0	1.0							
					31.5	1.5							
					31.0	2.0							
					30.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

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Engineering Log - Excavation

Excavation No. **ETP098**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 357038 m | R.L. Surface: 29

excavation dimensions: 2m long 1m wide | Northing: 6320825 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		NIL	None Observed	E				SM	**Silty SAND;** Fine to medium grained sand, dark brown.	M			TOPSOIL
													RESIDUAL
								SC	**Clayey SAND;** Fine to medium grained sand, pale grey,				
				E	28.5	0.5		CL	**Sandy CLAY;** Low to medium plasticity, orange-brown.	M<PL			
									Test pit ETP098 terminated at 0.5m				
					28.0	1.0							
					27.5	1.5							
					27.0	2.0							
					26.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

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Engineering Log - Excavation

Excavation No. **ETP099**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 357062 m | R.L. Surface: 29.7

excavation dimensions: 2m long 1m wide | Northing: 6320822 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		Nil	None Observed	E	29.5			SM	**Silty SAND;** Fine to medium grained sand, dark brown.	M			TOPSOIL
								SC	**Clayey SAND;** Fine to medium grained sand, pale grey.				RESIDUAL.
				E									REFUSAL ON SANDSTONE AT 0.4M DEPTH.
					29.0	0.5			Test pit ETP099 terminated at 0.4m				
					28.5	1.0							
					28.0	1.5							
					27.5	2.0							
						2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP100**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 357059 m | R.L. Surface: 29.5

excavation dimensions: 2m long 1m wide | Northing: 6320802 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	pocket penetrometer kPa 100 200 300 400	structure and additional observations
E		NIL	None Observed	E				SM	**Silty SAND;** Fine to medium grained sand dark brown.	M			TOPSOIL
								SC	**Clayey SAND;** Fine to medium grained sand, pale brown.				RESIDUAL
								CL	**Sandy CLAY;** Low to medium plasticity, orange-brown.	M=PL			
				E	29.0	0.5							
									Test pit ETP100 terminated at 0.5m				
					28.5	1.0							
					28.0	1.5							
					27.5	2.0							
					27.0	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

Excavation No. **ETP101**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 357033 m | R.L. Surface: 28.5

excavation dimensions: 2m long 1m wide | Northing: 6320798 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		NIL	None Observed	E				SC	**Silty Clayey SAND;** Fine to medium grained sand, dark brown.	M			TOPSOIL
								CH	**Silty CLAY;** Medium to high plasticity, pale grey, pale orange-brown.	M>PL			RESIDUAL
				E	28.0	0.5							
									Test pit ETP101 terminated at 0.5m				
					27.5	1.0							
					27.0	1.5							
					26.5	2.0							
					26.0	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

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Engineering Log - Excavation

Excavation No. **ETP102**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: **WYONG SHIRE COUNCIL**

Date started: **25.9.2007**

Principal:

Date completed: **25.9.2007**

Project: **WARNERVALE TOWN CENTRE**

Logged by: **DH**

Test pit location: **See Figure -**

Checked by: **SD**

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 357016 m | R.L. Surface: 27.5

excavation dimensions: 2m long 1m wide | Northing: 6320810 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	pocket penetrometer kPa 100 200 300 400	structure and additional observations
E		NIL	None Observed	E				SM	**Silty SAND;** Fine to medium grained sand, dark brown.	M			DUP 55
								SC	**Clayey SAND;** Fine to medium grained sand, pale brown.				
				E	27.0	0.5		CL	**Sandy CLAY;** Low to medium plasticity, orange-brown.	M=PL			
									Test pit ETP102 terminated at 0.5m				
					26.5	1.0							
					26.0	1.5							
					25.5	2.0							
					25.0	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

Excavation No. **ETP103**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 357020 m | R.L. Surface: 27.7

excavation dimensions: 2m long 1m wide | Northing: 6320783 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	pocket penetrometer kPa 100 200 300 400	structure and additional observations
E		NIL	None Observed	E	27.5			SM	**Clayey Silty SAND;** Fine to medium grained sand, dark brown, organic.	M			TOPSOIL
								CH	**Silty CLAY;** Medium to high plasticity, red-brown.	M>PL			RESIDUAL
				E		0.5							
					27.0	1.0			Test pit ETP103 terminated at 0.5m				
					26.5	1.5							
					26.0	2.0							
					25.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

Excavation No. **ETP104**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 357055 m | R.L. Surface: 28.7

excavation dimensions: 2m long 1m wide | Northing: 6320776 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		NIL	None Observed	E	28.5			SC	**Silty Clayey SAND;** Fine to medium grained sand, dark brown.	M			TOPSOIL. TRACES OF BRICKS, TILES, WOOD FILL AT SURFACE.
								CL	**Silty CLAY;** Medium to high plasticity, pale grey.	M=PL			RESIDUAL
				E		0.5							
					28.0	1.0			Test pit ETP104 terminated at 0.5m				
					27.5	1.5							
					27.0	2.0							
					26.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP105**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356982 m | R.L. Surface: 24.5

excavation dimensions: 2m long 1m wide | Northing: 6320762 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		NIL	None Observed	E				SM	**Silty SAND;** Fine to medium grained sand, dark brown to pale brown.	M			TOPSOIL
				E	24.0	0.5		CL	**Sandy CLAY;** Medium plasticity, pale orange, brown and grey mottled.	M>PL			RESIDUAL
									Test pit ETP105 terminated at 0.5m				
					23.5	1.0							
					23.0	1.5							
					22.5	2.0							
					22.0	2.5							

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_{50} undisturbed sample 50mm diameter
U_{63} 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

moisture
D dry
M moist
W wet
Wp plastic limit
W_L 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

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP106**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356961 m | R.L. Surface: 23.5

excavation dimensions: 2m long 1m wide | Northing: 6320764 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		Nil	None Observed	E				SM	**Silty SAND;** Fine to medium grained sand, dark brown to pale brown.	M			TOPSOIL
				E	23.0	0.5		CL	**Sandy CLAY;** Medium plasticity, pale orange, brown and grey mottling.	M<PL			RESIDUAL
									Test pit ETP106 terminated at 0.5m				
					22.5	1.0							
					22.0	1.5							
					21.5	2.0							
					21.0	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

Excavation No. **ETP107**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356919 m | R.L. Surface: 54

excavation dimensions: 2m long 1m wide | Northing: 6321118 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	pocket penetrometer kPa 100 200 300 400	structure and additional observations
E		NIL		E	53.5	0.5			**FILL;** Clayey SAND, medium to coarse grained sand, orange - brown and brown.	M			FILL. SOME BITUMEN PIECES AND CONCRETE.
				E	53.0	1.0							
			▶		52.5	1.5			**FILL;** Gravelly SAND, medium to coarse grained sand, dark grey.	W			FILL (SLIGHT ROTTEN EGG ODOUR)
				E					**FILL;** Sandy Gravelly CLAY, low to medium plasticity, brown, quartz, basalt and bitumen gravel.	M=PL			
				E	52.0	2.0		CL	**Sandy CLAY:** Low to medium plasticity, orange-brown.	M<PL			RESIDUAL
					51.5	2.5			Test pit ETP107 terminated at 2.5m				
					51.0	3.0							
					50.5	3.5							
					50.0	4.0							
					49.5	4.5							
					49.0	5.0							

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

water
- water level on date shown
- water inflow
- water outflow

notes, samples, tests
- U_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

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coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP108**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356883 m | R.L. Surface: 53

excavation dimensions: 2m long 1m wide | Northing: 6321133 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		Nil	None Observed	E	52.5	0.5			**FILL;** Clayey SAND, fine to medium grained sand, dark brown.	M			FILL TOPSOIL. ASBESTOS SAMPLE COLLECTED.
									FILL; Gravelly Sandy CLAY, medium to high plasticity, grey, brown and orange brown mottled.	M>PL			FILL. TRACE PLASTIC,STEEL, GOETEXTILE AND WOOD.
				E	52.0	1.0							
					51.5	1.5							
					51.0	2.0							
				E				CL	**Sandy CLAY;** Low to medium plasticity, orange - brown.	M>PL			RESIDUAL. REFUSAL ON SANDSTONE.
					50.5	2.5			Test pit ETP108 terminated at 2.5m				
					50.0	3.0							
					49.5	3.5							
					49.0	4.0							
					48.5	4.5							
					48.0	5.0							

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

water
- water level on date shown
- water inflow
- water outflow

notes, samples, tests
- U_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP109**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356841 m | R.L. Surface: 53

excavation dimensions: 2m long 1m wide | Northing: 6321190 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		NIL	None Observed	E	52.5	0.5			**FILL;** Silty SAND, fine to medium grained sand, brown. some sandstone gravel.	M			FILL TOPSOIL. CONTAINS CONCRETE PIPES, G.I SHEETING, CONCRETE, BLACK PLASTIC, CARPET.
				E	52.0	1.0		CL	**Sandy CLAY:** Low to medium plasticity, orange - brown.	M<PL			RESIDUAL
					51.5	1.5			Test pit ETP109 terminated at 1.4m				
					51.0	2.0							
					50.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L liquid limit

consistency/density index

VS	very soft
S	soft
F	firm
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VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
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TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

coffey geotechnics

Engineering Log - Excavation

Excavation No. **ETP110**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356828 m | R.L. Surface: 53

excavation dimensions: 2m long 1m wide | Northing: 6321206 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
EE		NIL	None Observed	E				SM	**Gravelly Silty SAND;** Fine to medium grained sand, pale grey - brown.	D			TOPSOIL
								CL	**Sandy CLAY;** Low to medium plasticity, orange - brown.	M<PL			RESIDUAL
				E	52.5	0.5							
									Test pit ETP110 terminated at 0.5m				
					52.0	1.0							
					51.5	1.5							
					51.0	2.0							
					50.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L liquid limit

consistency/density index

VS	very soft
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F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

TESTPIT GEOTKARI02021AA.GPJ COFFEY.GDT 12.12.07

Form GEO 5.2 Issue 3 Rev.2

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Engineering Log - Excavation

Excavation No. **ETP111**

Sheet 1 of 1

Project No: **GEOTKARI02021AA**

Client: ***WYONG SHIRE COUNCIL***

Date started: ***25.9.2007***

Principal:

Date completed: ***25.9.2007***

Project: ***WARNERVALE TOWN CENTRE***

Logged by: ***DH***

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

Checked by: ***SD***

equipment type and model: 8t Kubota | Pit Orientation: | Easting: 356805 m | R.L. Surface: 49

excavation dimensions: 2m long 1m wide | Northing: 6321212 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	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
E		NIL	None Observed	E				CL	**Sandy CLAY;** Medium to high plasticity, pale grey and pale orange, brown mottled.	M<PL			RESIDUAL
								CL	**Sandy CLAY;** Medium to high plasticity, orange and brown.				
				E	48.5	0.5							
									Test pit ETP111 terminated at 0.5m				
					48.0	1.0							
					47.5	1.5							
					47.0	2.0							
					46.5	2.5							

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_{50} undisturbed sample 50mm diameter
- U_{63} 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

moisture
- D dry
- M moist
- W wet
- Wp plastic limit
- W_L 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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Form GEO 5.2 Issue 3 Rev.2

Appendix E

PID Sheets

ENVIROEQUIP RENTALS

Your Friend in the Field

Equipment Report - MINIRAE 2000 PID

This PID has been performance checked / calibrated* as follows:

Calibration	Actual Value	Reading	Pass?		
Zero – fresh air	0.0 ppm	0.0 ppm	☑		
Span – Isobutylene	104 ppm	103 ppm	☑		
Operations Check					
☑ Performance Check (pump, lamp / setting 10.6eV, sensor & battery voltage check)					
☑ Battery Charged	☑ Filters Check	☑ Spare battery Voltage (5.0v minimum) 6 V			

* Calibration gas traceability information is available upon request.

Date: 30/08/2007 Checked by: MILENKO

Signed: _____

Please check that the following items are received and that all items are cleaned and decontaminated before return. A minimum $20 cleaning / service / repair charge may be applied to any unclean or damaged items. Items not returned will be billed for at the full replacement cost.

Sent	Received	Returned	Item
☑	☐	☐	MiniRae 2000 PID / Operational Check, plus Battery Voltage @ 5.6 V
☑	☐	☐	Protective yellow rubber boot
☑	☐	☐	Inlet probe (attached to PID)
☑	☐	☐	Water trap filter.
☑	☐	☐	Spare water trap filter(s) Qty 1 @ $_____+GST / filter if opened.
☑	☐	☐	Charger 240V to 12V 500mA
☑	☐	☐	Instruction Manual behind foam on the lid of case "
☑	☐	☐	Quick Guide Sheet behind foam on the lid of case "
☑	☐	☐	Spare Alkaline Battery Compartment with/without batteries
☑	☐	☐	Carry Case
☐	☐	☐	Calibration regulator & tubing (optional)
☐	☐	☐	
☐	☐	☐	

Processors Signature/ Initials _____

EE Quote Reference	~~25654~~ 28/02	Condition on return
Customer Ref	250794	
Equipment ID	PIDMINS R	
Equipment serial no.	110007562	
Return Date	06 109/07	
Return Time		

Melbourne **Sydney** **Brisbane** **Perth** **Auckland** **Kuala Lumpur**

Sydney – Unit 1, 28 Barcoo St, Chatswood NSW 2067 Australia
Tel: +61-2-9417-1513 Fax: +61-2-9417-7669
Email: rentals.syd@enviroequip.com Internet: www.rentals.enviroequip.com

coffey geotechnics

photoionisation detector results

GEOTKARI02021AA

client:	*Wyong Shire Council*	office:	*Kariong*
principal:		date:	12/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD
PID serial number:	*PIDMINSR*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 11/09/07

☑ Zero Calibration (0.0ppm) Actual Reading_____0.0_____ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (___100___ppm) Actual Reading___104__ ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
ETP85	0.5-1.0	3	0.0	10.5	10.5	
ETP85	1.8-2.0	2	0.0	2.4	1.5	
ETP85	3.5-3.8	2	0.0	2.0	1.8	
ETP86	0.0-0.3	2	0.0	2.1	0.9	
ETP86	1-1.3	2	0.0	2.4	1.0	
ETP86	2-2.3	1	0.0	0.9	0.5	
ETP86	3.5-3.8	2	0.0	1.9	0.6	
ETP87	0.0-0.3	1	0.0	1.5	1.2	
ETP87	1-1.3	1	0.0	2.0	0.9	
ETP87	1.3-1.8	1	0.0	1.2	0.6	
ETP88	0-0.3	1	0.0	0.7	0.4	
ETP88	1.5-1.8	1	0.0	0.2	0.0	
ETP88	2.5-2.8	1	0.0	0.1	0.0	
ETP88	3.5-3.8	1	0.0	0.1	0.0	
ETP88	4.0-4.3	1	0.0	0.4	0.1	
ETP90	0.0-0.3	1	0.0	0.8	0.5	
ETP90	1.0-1.3	1	0.0	0.7	0.0	
ETP90	2.5-2.8	1	0.0	1.1	0.9	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

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photoionisation detector results

GEOTKARI02021AA

sheet : 2 of 2

client:	*Wyong Shire Council*	office:	*Kariong*
principal:		date:	12/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD
PID serial number:	*PIDMINSR*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 11/09/07

☑ Zero Calibration (0.0ppm) Actual Reading_____0.0_____ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (___100___ppm) Actual Reading___104__ ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
ETP90	4.0-4.2	1	0.0	1.2	0.8	
ETP91	1.5-1.8	1	0.0	1.3	0.8	
ETP91	2.5-2.8	1	0.0	0.0	0.0	
ETP91	4.0-4.5	1	0.0	0.1	0.0	
ETP91	0.0-0.3	1	0.0	0.6	0.2	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

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photoionisation detector results

GEOTKARI02021AA

sheet : 1 of 2

client:	*Wyong Shire Council*	office:	*Kariong 02021AA*
principal:		date:	13/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD
PID serial number:	*MINIRAE 2000*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 13/09/07

☑ Zero Calibration (0.0ppm) Actual Reading_____0.0_____ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (___100___ppm) Actual Reading___98__ ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
EBH6	0.5-0.8	1	0.0	0.6	0.0	
EBH9	0.1-0.3	1	0.0	0.0	0.0	
EBH4	0.5-0.8	1	0.0	1.1	0.5	
EBH2	0.5-0.8	1	0.0	0.9	0.0	
EBH8	0.0-0.2	1	0.0	0.0	0.0	
EBH6	0.0-0.2	1	0.0	0.3	0.0	
EBH6	2.4-2.55	1	0.0	0.1	0.0	
EBH4	0.0-0.2	1	0.0	0.1	0.0	
EBH9	0.5-0.8	1	0.0	0.0	0.0	
EBH2	0.0-0.2	1	0.0	0.0	0.0	
EBH8	0.5-0.7	1	0.0	0.2	0.0	
EBH3	0.5-0.8	1	0.0	0.0	0.0	
EBH7	0.5-0.8	1	0.0	1.4	0.5	
EBH7	0.0-0.2	1	0.0	0.9	0.6	
EBH3	0.1-0.3	1	0.0	0.2	0.2	
EBH1	0.0-0.2	1	0.0	0.0	0.0	
EBH1	0.5-1.0	1	0.0	0.0	0.0	
EBH13	0.0-0.2	1	0.0	0.9	0.8	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

coffey geotechnics

photoionisation detector results

GEOTKARI02021AA

sheet : 2 of 2

client:	*Wyong Shire Council*	office:	*Kariong 02021AA*
principal:		date:	13/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD
PID serial number:	*MINIRAE 2000*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 13/09/07

☑ Zero Calibration (0.0ppm) Actual Reading_____0.0_____ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (___100___ppm) Actual Reading___98__ ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
EBH13	5.0-5.5	1	0.0	0.5	0.2	
EBH10	0.0-0.2	1	0.0	0.0	0.0	
EBH13	0.5-0.6	1	0.0	0.6	0.5	
EBH13	4.0-4.2	1	0.0	1.1	0.7	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

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photoionisation detector results

GEOTKARI02021AA

client:	*Wyong Shire Council*	office:	*Kariong*
principal:		date:	14/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD
PID serial number:	*PIDMINSR*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 11/09/07

☑ Zero Calibration (0.0ppm) Actual Reading 0.0 ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (100 ppm) Actual Reading 104 ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
EBH11	0.0-0.1	1	0.0	0.0	0.0	
EBH11	0.5-0.95	1	0.0	0.0	0.0	
EBH11	2.0-2.45	1	0.0	0.0	0.0	
EBH12	0.0-0.1	1	0.0	0.0	0.0	
EBH12	0.5-0.95	1	0.0	0.0	0.0	
EBH14	0.0-0.1	1	0.0	0.0	0.0	
EBH14	0.5-0.95	1	0.0	0.0	0.0	
EBH14	2.0-2.45	1	0.0	0.0	0.0	
EBH15	0.0-0.1	1	0.0	0.0	0.0	
EBH15	0.5-0.95	1	0.0	0.0	0.0	
EBH16	0.0-0.1	1	0.0	0.0	0.0	
EBH16	0.5-0.95	1	0.0	0.0	0.0	
EBH16	1.5-1.95	1	0.0	0.0	0.0	
EBH17	0.0-0.1	1	0.0	0.0	0.0	
EBH17	0.5-0.95	1	0.0	0.0	0.0	
EBH17	1.5-1.95	1	0.0	0.0	0.0	
EBH18	0.0-0.1	1	0.0	0.0	0.0	
EBH18	0.5-0.95	1	0.0	0.0	0.0	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

coffey geotechnics

photoionisation detector results

GEOTKARI02021AA

client:	*Wyong Shire Council*	office:	*Kariong*
principal:		date:	14/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD
PID serial number:	*PIDMINSR*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 11/09/07

☑ Zero Calibration (0.0ppm) Actual Reading_____0.0_____ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (___100___ppm) Actual Reading___104__ ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
EBH18	1.5-1.95	1	0.0	0.0	0.0	
EBH18	3.0-3.45	1	0.0	0.0	0.0	
EBH18	4.0-4.45	1	0.0	0.0	0.0	
EBH19	0.0-0.1	1	0.0	0.0	0.0	
EBH19	0.5-0.95	1	0.0	0.0	0.0	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

coffey geotechnics

photoionisation detector results

GEOTKARI02021AA

sheet : 1 of 1

client:	*Wyong Shire Council*	office:	*Kariong*
principal:		date:	17/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD
PID serial number:		lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 17/09/2007

☑ Zero Calibration (0.0ppm) Actual Reading_____0.0_____ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (___100___ppm) Actual Reading___97__ ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
EBH20	0.0-0.1	1	0.0	0.0	0.0	
EBH20	0.5-0.95	1	0.0	0.0	0.0	
EBH21	0.0-0.1	1	0.0	0.0	0.0	
EBH21	0.5-0.95	1	0.0	0.0	0.0	
EBH22	0.0-0.1	1	0.0	0.0	0.0	
EBH22	0.5-0.95	1	0.0	0.0	0.0	
EBH23	0.0-0.1	1	0.0	0.0	0.0	
EBH23	0.5-0.95	1	0.0	0.0	0.0	
EBH24	0.0-0.1	1	0.0	0.0	0.0	
EBH24	0.5-0.95	1	0.0	0.0	0.0	
EBH25	0.0-0.1	1	0.0	0.0	0.0	
EBH25	0.5-0.95	1	0.0	0.0	0.0	
EBH26	0.0-0.1	1	0.0	0.0	0.0	
EBH26	0.5-0.95	1	0.0	0.0	0.0	
EBH26	2.5-2.95	1	0.0	0.0	0.0	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

coffey geotechnics

photoionisation detector results

GEOTKARI02021AA

sheet : 1 of 3

client:	*Wyong Shire Council*	office:	*Kariong*
principal:		date:	18/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD
PID serial number:	*PIDMINSR*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 18/09/2007

☑ Zero Calibration (0.0ppm) Actual Reading_____0.0_____ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (___100___ppm) Actual Reading__95.3__ ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
ETP1	0.0-0.1	1	0.0	0.0	0.0	
ETP1	0.4-0.5	1	0.0	0.0	0.0	
ETP1	0.9-1.0	1	0.0	0.0	0.0	
ETP2	0.0-0.1	1	0.0	0.0	0.0	
ETP2	0.4-0.5	1	0.0	0.0	0.0	
ETP2	0.9-1.0	1	0.0	0.0	0.0	
ETP3	0.0-0.1	1	0.0	0.0	0.0	
ETP3	0.4-0.5	1	0.0	0.0	0.0	
ETP3	0.9-1.0	1	0.0	0.0	0.0	
ETP4	0.0-0.1	1	0.0	0.0	0.0	
ETP4	0.4-0.5	1	0.0	0.0	0.0	
ETP4	0.9-1.0	1	0.0	0.0	0.0	
ETP5	0.0-0.1	1	0.0	0.0	0.0	
ETP5	0.4-0.5	1	0.0	0.0	0.0	
ETP6	0.0-0.1	1	0.0	0.0	0.0	
ETP6	0.4-0.5	1	0.0	0.0	0.0	
ETP6	0.9-0.1	1	0.0	0.0	0.0	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

coffey geotechnics

photoionisation detector results

GEOTKARI02021AA

client:	*Wyong Shire Council*	office:	*Kariong*
principal:		date:	18/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD
PID serial number:	*PIDMINSR*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 18/09/2007

☑ Zero Calibration (0.0ppm) Actual Reading 0.0 ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (100 ppm) Actual Reading 95.3 ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
ETP7	0.9-1.0	1	0.0	0.0	0.0	
ETP8	0.0-0.1	1	0.0	0.0	0.0	
ETP8	0.4-0.5	1	0.0	0.0	0.0	
ETP8	0.9-1.0	1	0.0	0.0	0.0	
ETP9	0.0-0.1	1	0.0	0.0	0.0	
ETP9	0.4-0.5	1	0.0	0.0	0.0	
ETP9	0.9-1.0	1	0.0	0.0	0.0	
ETP10	0.0-0.1	1	0.0	0.0	0.0	
ETP10	0.4-0.5	1	0.0	0.0	0.0	
ETP10	0.9-1.0	1	0.0	0.0	0.0	
ETP11	0.0-0.1	1	0.0	0.0	0.0	
ETP11	0.4-0.5	1	0.0	0.0	0.0	
ETP11	0.9-1.0	1	0.0	0.0	0.0	
ETP12	0.0-0.1	1	0.0	0.0	0.0	
ETP12	0.4-0.5	1	0.0	0.0	0.0	
ETP13	0.0-0.1	1	0.0	0.0	0.0	
ETP13	0.4-0.5	1	0.0	0.0	0.0	
ETP13	0.9-1.0	1	0.0	0.0	0.0	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

coffey geotechnics

photoionisation detector results

GEOTKARI02021AA

sheet : 3 of 3

client:	*Wyong Shire Council*	office:	*Kariong*
principal:		date:	18/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD
PID serial number:	*PIDMINSR*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 18/09/2007

☑ Zero Calibration (0.0ppm) Actual Reading_____0.0_____ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (___100___ppm) Actual Reading__95.3__ ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
ETP14	0.0-0.1	1	0.0	0.0	0.0	
ETP14	0.4-0.5	1	0.0	0.0	0.0	
ETP15	0.0-0.1	1	0.0	0.0	0.0	
ETP15	0.4-0.5	1	0.0	0.0	0.0	
ETP15	0.9-1.0	1	0.0	0.0	0.0	
ETP16	0.0-0.1	1	0.0	0.0	0.0	
ETP16	0.4-0.5	1	0.0	0.0	0.0	
ETP16	0.9-1.0	1	0.0	0.0	0.0	
ETP17	0.0-0.1	1	0.0	0.0	0.0	
ETP17	0.4-0.5	1	0.0	0.0	0.0	
ETP17	0.9-1.0	1	0.0	0.0	0.0	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

coffey geotechnics

photoionisation detector results

GEOTKARI02021AA

client:	*Wyong Shire Council*	office:	*Kariong*
principal:		date:	19/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD
PID serial number:	*PIDMINSR*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 19/09/07

☑ Zero Calibration (0.0ppm) Actual Reading_____0.0_____ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (___100___ppm) Actual Reading___99.9__ ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
ETP18	0.0-0.1	1	0.0	0.0	0.0	
ETP18	0.4-0.5	1	0.0	0.0	0.0	
ETP18	0.9-1.0	1	0.0	0.0	0.0	
ETP19	0.0-0.1	1	0.0	0.0	0.0	
ETP19	0.4-0.5	1	0.0	0.0	0.0	
ETP19	0.9-1.0	1	0.0	0.0	0.0	
ETP20	0.0-0.1	1	0.0	0.0	0.0	
ETP20	0.4-0.5	1	0.0	0.0	0.0	
ETP20	0.9-1.0	1	0.0	0.0	0.0	
ETP21	0.0-0.1	1	0.0	0.0	0.0	
ETP21	0.4-0.5	1	0.0	0.0	0.0	
ETP21	0.9-1.0	1	0.0	0.0	0.0	
ETP22	0.0-0.1	1	0.0	0.0	0.0	
ETP22	0.4-0.5	1	0.0	0.0	0.0	
ETP22	0.9-1.0	1	0.0	0.0	0.0	
ETP23	0.0-0.1	1	0.0	0.0	0.0	
ETP23	0.4-0.5	1	0.0	0.0	0.0	
ETP23	0.9-1.0	1	0.0	0.0	0.0	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

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photoionisation detector results

GEOTKARI02021AA

client:	*Wyong Shire Council*	office:	*Kariong*
principal:		date:	19/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD
PID serial number:	*PIDMINSR*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 19/09/07

☑ Zero Calibration (0.0ppm) Actual Reading_____0.0_____ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (___100___ppm) Actual Reading___99.9__ ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
ETP24	0.0-0.1	1	0.0	0.0	0.0	
ETP24	0.4-0.5	1	0.0	0.0	0.0	
ETP24	0.9-1.0	1	0.0	0.0	0.0	
ETP25	0.0-0.1	1	0.0	0.0	0.0	
ETP25	0.4-0.5	1	0.0	0.0	0.0	
ETP25	0.9-1.0	1	0.0	0.0	0.0	
ETP26	0.0-0.1	1	0.0	0.0	0.0	
ETP26	0.4-0.5	1	0.0	0.0	0.0	
ETP26	0.9-1.0	1	0.0	0.0	0.0	
ETP27	0.0-0.1	1	0.0	0.0	0.0	
ETP27	0.4-0.5	1	0.0	0.0	0.0	
ETP27	0.9-1.0	1	0.0	0.0	0.0	
ETP28	0.0-0.1	1	0.0	0.0	0.0	
ETP28	0.4-0.5	1	0.0	0.0	0.0	
ETP29	0.0-0.1	1	0.0	0.0	0.0	
ETP29	0.4-0.5	1	0.0	0.0	0.0	
ETP30	0.0-0.1	1	0.0	0.0	0.0	
ETP30	0.4-0.5	1	0.0	0.0	0.0	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

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photoionisation detector results

GEOTKARI02021AA

sheet : 3 of 4

client:	*Wyong Shire Council*	office:	*Kariong*
principal:		date:	19/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD
PID serial number:	*PIDMINSR*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 19/09/07

☑ Zero Calibration (0.0ppm) Actual Reading_____0.0_____ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (___100___ppm) Actual Reading___99.9__ ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
ETP31	0.0-0.1	1	0.0	0.0	0.0	
ETP31	0.4-0.5	1	0.0	0.0	0.0	
ETP32	0.0-0.1	1	0.0	0.0	0.0	
ETP32	0.4-0.5	1	0.0	0.0	0.0	
ETP33	0.0-0.1	1	0.0	0.0	0.0	
ETP33	0.4-0.5	1	0.0	0.0	0.0	
ETP34	0.0-0.1	1	0.0	0.0	0.0	
ETP34	0.4-0.5	1	0.0	0.0	0.0	
ETP35	0.0-0.1	1	0.0	0.0	0.0	
ETP35	0.4-0.5	1	0.0	0.0	0.0	
ETP36	0.0-0.1	1	0.0	0.0	0.0	
ETP36	0.4-0.5	1	0.0	0.0	0.0	
ETP36	0.9-1.0	1	0.0	0.0	0.0	
ETP36	1.4-1.5	1	0.0	0.0	0.0	
ETP36	1.9-2.0	1	0.0	0.0	0.0	
ETP37	0.0-0.1	1	0.0	0.0	0.0	
ETP37	0.4-0.5	1	0.0	0.0	0.0	
ETP37	0.9-1.0	1	0.0	0.0	0.0	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

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photoionisation detector results

GEOTKARI02021AA

sheet : 4 of 4

client:	*Wyong Shire Council*	office:	*Kariong*
principal:		date:	19/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD

PID serial number: *PIDMINSR* lamp voltage: *10.6eV*

PID Calibration Record

Date / Time of Calibration: 19/09/07

☑ Zero Calibration (0.0ppm) Actual Reading_____0.0_____ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (___100___ppm) Actual Reading___99.9__ ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
ETP37	1.9-1.5	1	0.0	0.0	0.0	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

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photoionisation detector results

GEOTKARI02021AA

client:	*Wyong Shire Council*	office:	*Kariong*
principal:		date:	20/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD
PID serial number:	*PIDMINSR*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 20/09/07

☑ Zero Calibration (0.0ppm) Actual Reading_____0.0_____ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (___100___ppm) Actual Reading___99.2__ ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
ETP38	0.0-0.1	1	0.0	0.0	0.0	
ETP38	0.4-0.5	1	0.0	0.0	0.0	
ETP38	0.9-1.0	1	0.0	0.0	0.0	
ETP38	1.4-1.5	1	0.0	0.0	0.0	
ETP38	1.9-2.0	1	0.0	0.0	0.0	
ETP39	0.0-0.1	1	0.0	0.0	0.0	
ETP39	0.4-0.5	1	0.0	0.0	0.0	
ETP39	0.9-1.0	1	0.0	0.0	0.0	
ETP39	1.4-1.5	1	0.0	0.0	0.0	
ETP40	0.0-0.1	1	0.0	0.0	0.0	
ETP40	0.4-0.5	1	0.0	0.0	0.0	
ETP40	0.9-1.0	1	0.0	0.0	0.0	
ETP40	1.4-1.5	1	0.0	0.0	0.0	
ETP41	0.0-0.1	1	0.0	0.0	0.0	
ETP41	0.4-0.5	1	0.0	0.0	0.0	
ETP41	0.9-1.0	1	0.0	0.0	0.0	
ETP42	0.0-0.1	1	0.0	0.0	0.0	
ETP42	0.4-0.5	1	0.0	0.0	0.0	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

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photoionisation detector results

GEOTKARI02021AA

client:	*Wyong Shire Council*	office:	*Kariong*
principal:		date:	20/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD
PID serial number:	*PIDMINSR*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 20/09/07

☑ Zero Calibration (0.0ppm) Actual Reading_____0.0_____ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (___100___ppm) Actual Reading___99.2__ ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
ETP42	0.9-1.0	1	0.0	0.0	0.0	
ETP42	1.4-1.5	1	0.0	0.0	0.0	
ETP43	0.0-0.1	1	0.0	0.0	0.0	
ETP43	0.4-0.5	1	0.0	0.0	0.0	
ETP43	0.9-1.0	1	0.0	0.0	0.0	
ETP43	1.4-1.5	1	0.0	0.0	0.0	
ETP43	1.9-2.0	1	0.0	0.0	0.0	
ETP44	0.0-0.1	1	0.0	0.0	0.0	
ETP44	0.4-0.5	1	0.0	0.0	0.0	
ETP44	0.9-1.0	1	0.0	0.0	0.0	
ETP44	1.4-1.5	1	0.0	0.0	0.0	
ETP45	0.0-0.1	1	0.0	0.0	0.0	
ETP45	0.4-0.5	1	0.0	0.0	0.0	
ETP45	0.9-1.0	1	0.0	0.0	0.0	
ETP46	0.0-0.1	1	0.0	0.0	0.0	
ETP46	0.4-0.5	1	0.0	0.0	0.0	
ETP46	0.9-1.0	1	0.0	0.0	0.0	
ETP47	0.0-0.1	1	0.0	0.0	0.0	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

coffey geotechnics

photoionisation detector results

GEOTKARI02021AA

client:	*Wyong Shire Council*	office:	*Kariong*
principal:		date:	20/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD
PID serial number:	*PIDMINSR*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 20/09/07

☑ Zero Calibration (0.0ppm) Actual Reading_____0.0_____ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (___100___ppm) Actual Reading___99.2__ ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
ETP47	0.4-0.5	1	0.0	0.0	0.0	
ETP47	0.9-1.0	1	0.0	0.0	0.0	
ETP48	0.0-0.1	1	0.0	0.0	0.0	
ETP48	0.4-0.5	1	0.0	0.0	0.0	
ETP48	0.9-1.0	1	0.0	0.0	0.0	
ETP49	0.0-0.1	1	0.0	0.0	0.0	
ETP49	0.4-0.5	1	0.0	0.0	0.0	
ETP49	0.9-1.0	1	0.0	0.0	0.0	
ETP49	1.4-1.5	1	0.0	0.0	0.0	
ETP50	0.0-0.1	1	0.0	0.0	0.0	
ETP50	0.4-0.5	1	0.0	0.0	0.0	
ETP50	0.9-1.0	1	0.0	0.0	0.0	
ETP51	0.0-0.1	1	0.0	0.0	0.0	
ETP51	0.4-0.5	1	0.0	0.0	0.0	
ETP51	0.9-1.0	1	0.0	0.0	0.0	
ETP52	0.0-0.1	1	0.0	0.0	0.0	
ETP52	0.4-0.5	1	0.0	0.0	0.0	
ETP52	0.9-1.0	1	0.0	0.0	0.0	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

coffey geotechnics

photoionisation detector results

GEOTKARI02021AA

client:	*Wyong Shire Council*	office:	*Kariong*
principal:		date:	20/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD
PID serial number:	*PIDMINSR*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 20/09/07

☑ Zero Calibration (0.0ppm) Actual Reading_____0.0_____ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (___100___ppm) Actual Reading___99.2__ ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
ETP52	1.4-1.5	1	0.0	0.0	0.0	
ETP53	0.0-0.1	1	0.0	0.0	0.0	
ETP53	0.4-0.5	1	0.0	0.0	0.0	
ETP53	0.9-1.0	1	0.0	0.0	0.0	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

coffey geotechnics

photoionisation detector results

GEOTKARI02021AA

sheet : 1 of 3

client:	*Wyong Shire Council*	office:	*Kariong 02021AA*
principal:		date:	21/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD
PID serial number:	*PIDMINSR*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 21/09/2007

☑ Zero Calibration (0.0ppm) Actual Reading_____0.0_____ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (___100___ppm) Actual Reading___97.2__ ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
ETP54	0.0-0.1	1	0.0	0.0	0.0	
ETP54	0.4-0.5	1	0.0	0.0	0.0	
ETP54	0.9-1.0	1	0.0	0.0	0.0	
ETP55	0.0-0.1	1	0.0	0.0	0.0	
ETP55	0.4-0.5	1	0.0	0.0	0.0	
ETP55	0.9-1.0	1	0.0	0.0	0.0	
ETP56	0.0-0.1	1	0.0	0.0	0.0	
ETP56	0.4-0.5	1	0.0	0.0	0.0	
ETP56	0.9-1.0	1	0.0	0.0	0.0	
ETP57	0.0-0.1	1	0.0	0.0	0.0	
ETP57	0.4-0.5	1	0.0	0.0	0.0	
ETP58	0.0-0.1	1	0.0	0.0	0.0	
ETP58	0.4-0.5	1	0.0	0.0	0.0	
ETP59	0.0-0.1	1	0.0	0.0	0.0	
ETP59	0.4-0.5	1	0.0	0.0	0.0	
ETP60	0.0-0.1	1	0.0	0.0	0.0	
ETP60	0.4-0.5	1	0.0	0.0	0.0	
ETP61	0.0-0.1	1	0.0	0.0	0.0	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)

coffey geotechnics

photoionisation detector results

GEOTKARI02021AA

client:	*Wyong Shire Council*	office:	*Kariong 02021AA*
principal:		date:	21/09/2007
project:	*Warnervale Town Centre*	by:	DH
location:	*Woongarrah*	checked by:	SD
PID serial number:	*PIDMINSR*	lamp voltage:	*10.6eV*

PID Calibration Record

Date / Time of Calibration: 21/09/2007

☑ Zero Calibration (0.0ppm) Actual Reading_____0.0_____ppm

Calibrated by: DH

Calibration gas: 100 ppm ISOBUTYLENE

☑ Span Calibration (___100___ppm) Actual Reading___97.2__ ppm

SAMPLE ID	DEPTH	DURATION (mins)	BACKGROUND READING (ppm)	MAXIMUM READING (ppm)	LAST READING (ppm)	NOTES
ETP61	0.4-0.5	1	0.0	0.0	0.0	
ETP62	0.0-0.1	1	0.0	0.0	0.0	
ETP62	0.4-0.5	1	0.0	0.0	0.0	
ETP63	0.0-0.1	1	0.0	0.0	0.0	
ETP63	0.4-0.5	1	0.0	0.0	0.0	
ETP64	0.0-0.1	1	0.0	0.0	0.0	
ETP64	0.4-0.5	1	0.0	0.0	0.0	
ETP65	0.0-0.1	1	0.0	0.0	0.0	
ETP65	0.4-0.5	1	0.0	0.0	0.0	
ETP66	0.0-0.1	1	0.0	0.0	0.0	
ETP66	0.4-0.5	1	0.0	0.0	0.0	
ETP67	0.0-0.1	1	0.0	0.0	0.0	
ETP67	0.4-0.5	1	0.0	0.0	0.0	
ETP68	0.0-0.1	1	0.0	0.0	0.0	
ETP68	0.4-0.5	1	0.0	0.0	0.0	
ETP69	0.0-0.1	1	0.0	0.0	0.0	
ETP69	0.4-0.5	1	0.0	0.0	0.0	
ETP69	0.9-1.0	1	0.0	0.0	0.0	

Fill in the test type as follows:-

BH ( ) = soil gas probe sample; (soil type - unified classification system in parentheses)

HS ( ) = headspace sample (with soil type-unified classification system in parentheses)