TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 97.3 mAHD
EASTING: 294234
NORTHING: 6233377
DIP/AZIMUTH: 90°/--

PIT No: 44
PROJECT No: 76510.00
DATE: 18/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
97	0.3	FILLING - brown grey gravelly (shale) clayey silt. Northern end of test pit has brown clayey silt topsoil with rootlets		E	0.1				
				D	0.2				
		SILTY CLAY - orange mottled brown slightly silty clay		D	0.5				
				E	0.6				
	0.8	Pit discontinued at 0.8m - limit of investigation							
96	1								
95	2								
94	3								
93	4								

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Filling only in southern portion of test pit

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 99.2 mAHD
EASTING: 294219
NORTHING: 6233292
DIP/AZIMUTH: 90°/--

PIT No: 45
PROJECT No: 76510.00
DATE: 18/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
99	0.35	TOPSOIL - brown clayey silt with rootlets		D	0.2				
	0.55	CLAY - red mottled brown clay with trace fine grained ironstone gravel and rootlets		D	0.5				
		Pit discontinued at 0.55m - limit of investigation							
98	1								
97	2								
96	3								
95	4								

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 100.5 mAHD
EASTING: 294209
NORTHING: 6233219
DIP/AZIMUTH: 90°/--

PIT No: 46
PROJECT No: 76510.00
DATE: 18/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
100	0.0	TOPSOIL - brown clayey silt with rootlets		D	0.2				
	0.35	SILTY CLAY - brown mottled red slightly silty clay with some rootlets and trace fine grained ironstone gravel		D	0.5				
	0.6	- becoming red mottled grey clay below 0.55m							
		Pit discontinued at 0.6m - limit of investigation							
99	1								
98	2								
97	3								
96	4								

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 97.6 mAHD
EASTING: 294160
NORTHING: 6233320
DIP/AZIMUTH: 90°/--

PIT No: 47
PROJECT No: 76510.00
DATE: 18/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
97	0.25	TOPSOIL - brown clayey silt with rootlets							
		CLAY - red mottled brown-grey clay with trace ironstone gravel							
	0.7	- becoming red mottled grey clay below 0.55m							
		Pit discontinued at 0.7m - limit of investigation							
	1								1
96									
	2								2
95									
	3								3
94									
	4								4
93									

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Minor blue metal gravel at surface

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 98.6 mAHD
EASTING: 294155
NORTHING: 6233252
DIP/AZIMUTH: 90°/--

PIT No: 48
PROJECT No: 76510.00
DATE: 18/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0	TOPSOIL - brown clayey silt with rootlets		D	0.2				
	0.3	CLAY - orange to red slightly silty clay with trace fine grained ironstone gravel		D	0.5				
98	0.55	Pit discontinued at 0.55m - limit of investigation							
	1								1
97									
	2								2
96									
	3								3
95									
	4								4
94									

5 10 15 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 96.2 mAHD
EASTING: 294102
NORTHING: 6233353
DIP/AZIMUTH: 90°/--

PIT No: 49
PROJECT No: 76510.00
DATE: 18/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
96	0.2	TOPSOIL - brown silty clay with rootlets							
		CLAY - red mottled brown clay with trace fine grained ironstone gravel and rootlets							
		- becoming dark orange mottled light orange brown clay below 0.45m		D	0.5				
	0.65	Pit discontinued at 0.65m - limit of investigation							
95	1								1
94	2								2
93	3								3
92	4								4

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 96.3 mAHD
EASTING: 294092
NORTHING: 6233295
DIP/AZIMUTH: 90°/--

PIT No: 50
PROJECT No: 76510.00
DATE: 18/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
96	0.3	TOPSOIL - brown clayey silt with rootlets							
		CLAY - red mottled orange brown clay with some fine grained ironstone gravel		D	0.5				
	0.55	Pit discontinued at 0.55m - limit of investigation							
95	1								
94	2								
93	3								
92	4								

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 96.8 mAHD
EASTING: 294099
NORTHING: 6233246
DIP/AZIMUTH: 90°/--

PIT No: 51
PROJECT No: 76510.00
DATE: 18/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.0	TOPSOIL - brown clayey silt with rootlets							
	0.3	CLAY - yellow brown mottled brown clay		D	0.5				
	0.6	- becoming red mottled grey clay below 0.55m							
		Pit discontinued at 0.6m - limit of investigation							

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 96.5 mAHD
EASTING: 294111
NORTHING: 6233163
DIP/AZIMUTH: 90°/--

PIT No: 52
PROJECT No: 76510.00
DATE: 19/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
96	0.25	TOPSOIL - brown clayey silt							
		SILTY CLAY - orange mottled yellow brown silty clay with trace fine grained ironstone gravel		D	0.5				
	0.6	Pit discontinued at 0.6m - limit of investigation							
	1								1
95									
	2								2
94									
	3								3
93									
	4								4
92									

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 97.6 mAHD
EASTING: 294096
NORTHING: 6233067
DIP/AZIMUTH: 90°/--

PIT No: 53
PROJECT No: 76510.00
DATE: 19/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
97	0.35	TOPSOIL - brown clayey silt with some rootlets							
		CLAY - orange mottled grey brown clay		D	0.5				
	0.6	Pit discontinued at 0.6m - limit of investigation							
96	1								
95	2								
94	3								
93	4								

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772
Gregory Hills

SURFACE LEVEL: 98.6 mAHD
EASTING: 294076
NORTHING: 6232976
DIP/AZIMUTH: 90°/--

PIT No: 54
PROJECT No: 76510.00
DATE: 19/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
98	0.4	FILLING - brown, grey and orange gravelly silty clay with sandstone cobbles							
		FILLING - red grey clay with fine grained ironstone gravel (reworked natural)		D	0.5				
	1			E*	1.0				1
97		- brown clayey silt with rootlets at 1.9m							
	2								2
	2.1	CLAY - orange mottled grey brown clay with some rootlets			2.2				
	2.4	Pit discontinued at 2.4m - limit of investigation							
96									
	3								3
95									
	4								4
94									

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 94.7 mAHD
EASTING: 294001
NORTHING: 6233328
DIP/AZIMUTH: 90°/--

PIT No: 55
PROJECT No: 76510.00
DATE: 19/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
94	0.3	TOPSOIL - brown clayey silt with rootlets							
		SILTY GRAVELLY CLAY - dark orange mottled light orange brown slightly silty, slightly gravelly, (fine grained ironstone) clay		D	0.5				
	0.7	Pit discontinued at 0.7m - limit of investigation							
	1								1
93	2								2
92	3								3
91	4								4
90									

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772
Gregory Hills

SURFACE LEVEL: 95.3 mAHD
EASTING: 294038
NORTHING: 6233282
DIP/AZIMUTH: 90°/--

PIT No: 56
PROJECT No: 76510.00
DATE: 19/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
95	0.25	TOPSOIL - brown silty clay with rootlets		D	0.2				
		CLAY - dark orange mottled light orange clay		D	0.5				
	0.55	Pit discontinued at 0.55m - limit of investigation							
94	1								1
93	2								2
92	3								3
91	4								4

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 95.6 mAHD
EASTING: 294050
NORTHING: 6233230
DIP/AZIMUTH: 90°/--

PIT No: 57
PROJECT No: 76510.00
DATE: 18/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
95	0.2	TOPSOIL - brown grey clayey silt							
		SILTY CLAY - grey mottled orange silty clay		D	0.2				
		- damp to wet below 0.4m		D	0.5			▽	
	0.7	Pit discontinued at 0.7m - limit of investigation							
94	1								1
	2								2
93	3								3
92	4								4
91									

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: Sight infilling below 0.5m

REMARKS: In low area of site

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics I Environment I Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 96.9 mAHD
EASTING: 294053
NORTHING: 6233130
DIP/AZIMUTH: 90°/--

PIT No: 58
PROJECT No: 76510.00
DATE: 19/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
96	0.35	TOPSOIL - brown clayey silt							
		CLAY - dark orange/red mottled light orange clay with trace fine grained ironstone gravel		D	0.5				
	0.6	Pit discontinued at 0.6m - limit of investigation							
95	1								
94	2								
93	3								
92	4								

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 98.1 mAHD
EASTING: 294032
NORTHING: 6233050
DIP/AZIMUTH: 90°/--

PIT No: 59
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
98	0.35	TOPSOIL - brown clayey silt							
	0.55	SILTY CLAY - dark orange mottled brown to light orange silty clay		D	0.5				
		Pit discontinued at 0.55m - limit of investigation							
97	1								1
96	2								2
95	3								3
94	4								4

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 95.1 mAHD
EASTING: 293972
NORTHING: 6233238
DIP/AZIMUTH: 90°/--

PIT No: 60
PROJECT No: 76510.00
DATE: 19/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
95	0.3	TOPSOIL - brown clayey silt with rootlets							
		CLAY - dark orange mottled light orange clay		D	0.5				
	0.6	Pit discontinued at 0.6m - limit of investigation							
94	1								1
93	2								2
92	3								3
91	4								4

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 96.0 mAHD
EASTING: 293962
NORTHING: 6233178
DIP/AZIMUTH: 90°/--

PIT No: 61
PROJECT No: 76510.00
DATE: 19/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
96	0.0	TOPSOIL - brown clayey silt with rootlets							
	0.3	CLAY - dark orange mottled light orange clay		D	0.5				
	0.55	Pit discontinued at 0.55m - limit of investigation							
95	1								1
94	2								2
93	3								3
92	4								4

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 97.0 mAHD
EASTING: 293987
NORTHING: 6233131
DIP/AZIMUTH: 90°/--

PIT No: 62
PROJECT No: 76510.00
DATE: 19/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
97	0.0	TOPSOIL - brown clayey silt with rootlets							
	0.3	CLAY - yellow brown mottled orange clay		D	0.5				
	0.55	Pit discontinued at 0.55m - limit of investigation							
96	1								1
95	2								2
94	3								3
93	4								4

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 98.4 mAHD
EASTING: 293976
NORTHING: 6233045
DIP/AZIMUTH: 90°/--

PIT No: 63
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
98	0.0	FILLING - red, brown,orange and grey silty gravelly clay		D	0.5				
				E	0.6				
	0.7	FILLING - brown silty clay, damp		E	0.7				
	0.8	CLAY - orange mottled brown clay			0.8				
	1			E	0.9				
	1.1	Pit discontinued at 1.1m - limit of investigation			1.0				
97	2								
96	3								
95	4								
94									

RIG: JCB-4CX - 450mm bucket
LOGGED: BAH
SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 93.8 mAHD
EASTING: 293935
NORTHING: 6233316
DIP/AZIMUTH: 90°/--

PIT No: 64
PROJECT No: 76510.00
DATE: 19/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
		TOPSOIL - brown silty clay with rootlets							
	0.35	SILTY CLAY - dark orange mottled brown slightly silty clay		D	0.5				
93	0.8	Pit discontinued at 0.8m - limit of investigation							
	1								1
92									
	2								2
91									
	3								3
90									
	4								4
89									

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Relocated as test pit was in water

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 94.5 mAHD
EASTING: 293907
NORTHING: 6233269
DIP/AZIMUTH: 90°/--

PIT No: 65
PROJECT No: 76510.00
DATE: 19/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
94	0.0	TOPSOIL - brown clayey silt with rootlets							
	0.3	CLAY - yellow brown mottled orange clay		D	0.5				
	0.6	Pit discontinued at 0.6m - limit of investigation							
	1								1
93									
	2								2
92									
	3								3
91									
	4								4
90									

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772
Gregory Hills

SURFACE LEVEL: 95.5 mAHD
EASTING: 293880
NORTHING: 6233220
DIP/AZIMUTH: 90°/--

PIT No: 66
PROJECT No: 76510.00
DATE: 19/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
95	0.35	TOPSOIL - brown clayey silt with rootlets							
		CLAY - dark orange mottled yellow brown clay		D	0.5				
	1.0	Pit discontinued at 1.0m - limit of investigation							
94									
93									
92									
91									

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20; 1, 2, 3, 4

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 96.5 mAHD
EASTING: 293888
NORTHING: 6233171
DIP/AZIMUTH: 90°/--

PIT No: 67
PROJECT No: 76510.00
DATE: 19/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
96	0.0	TOPSOIL - brown clayey silt							
	0.4	CLAY - yellow brown clay		D	0.5				
	0.7	Pit discontinued at 0.7m - limit of investigation							
95	1								1
94	2								2
93	3								3
92	4								4

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 96.8 mAHD
EASTING: 293933
NORTHING: 6233137
DIP/AZIMUTH: 90°/--

PIT No: 68
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
96	0.0	FILLING - brown clayey silt with rootlets		D	0.5				
	1.0	FILLING - grey and black clay (swampy odour with roots and grass							
	1.6	Pit discontinued at 1.6m - limit of investigation							
95	2								
94	3								
93	4								
92									

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS: On stockpile

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 98.1 mAHD
EASTING: 293904
NORTHING: 6233081
DIP/AZIMUTH: 90°/--

PIT No: 69
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
98	0.45	FILLING - red brown grey clay and silty clay							
		CLAY - dark orange mottled brown and light orange clay		D	0.5				
	0.7	Pit discontinued at 0.7m - limit of investigation							
97	1								1
96	2								2
95	3								3
94	4								4

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 96.3 mAHD
EASTING: 293825
NORTHING: 6233145
DIP/AZIMUTH: 90°/--

PIT No: 70
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
96	0.4	FILLING - brown grey clay and silty clay (reworked natural)							
	0.6	CLAY - brown mottled orange clay		D	0.5				
		Pit discontinued at 0.6m - limit of investigation							
95	1								1
94	2								2
93	3								3
92	4								4

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS: On haul road

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 95.3 mAHD
EASTING: 293797
NORTHING: 6233200
DIP/AZIMUTH: 90°/--

PIT No: 71
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
95	0.25	TOPSOIL - brown clayey silt							
	0.4	CLAY - brown mottled orange clay							
	0.7	CLAY - red mottled grey clay		D	0.5				
		Pit discontinued at 0.7m - limit of investigation							
94	1								1
93	2								2
92	3								3
91	4								4

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 94.5 mAHD
EASTING: 293834
NORTHING: 6233260
DIP/AZIMUTH: 90°/--

PIT No: 72
PROJECT No: 76510.00
DATE: 19/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
94	0.2	TOPSOIL - brown clayey silt							
		CLAY - yellow brown mottled orange clay		D	0.5				
	0.55	Pit discontinued at 0.55m - limit of investigation							
	1								
93									
	2								
92									
	3								
91									
	4								
90									

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 93.6 mAHD
EASTING: 293809
NORTHING: 6233298
DIP/AZIMUTH: 90°/--

PIT No: 73
PROJECT No: 76510.00
DATE: 19/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
93	0.35	TOPSOIL - brown clayey silt with rootlets							
	0.6	SILTY CLAY - yellow brown mottled orange silty clay		D	0.5				
		Pit discontinued at 0.6m - limit of investigation							
92	1								
91	2								
90	3								
89	4								

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 94.5 mAHD
EASTING: 293752
NORTHING: 6233263
DIP/AZIMUTH: 90°/--

PIT No: 74
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
94	0.0	TOPSOIL - brown clayey silt with rootlets							
	0.3	CLAY - dark orange mottled brown clay with some fine grained ironstone gravel		D	0.5				
	0.6	Pit discontinued at 0.6m - limit of investigation							
	1								1
93									
	2								2
92									
	3								3
91									
	4								4
90									

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 95.2 mAHD
EASTING: 293751
NORTHING: 6233180
DIP/AZIMUTH: 90°/--

PIT No: 75
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
95	0.3	TOPSOIL - brown clayey silt with rootlets (slightly reworked as on possible old haul road)							
		CLAY - yellow orange mottled orange clay		D	0.5				
	0.55	Pit discontinued at 0.55m - limit of investigation							
94	1								1
93	2								2
92	3								3
91	4								4

5 10 15 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 92.8 mAHD
EASTING: 293691
NORTHING: 6233336
DIP/AZIMUTH: 90°/--

PIT No: 76
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
	0.25	TOPSOIL - brown clayey silt, damp to wet							
	0.55	SILTY CLAY - yellow brown silty clay		D	0.5				
		Pit discontinued at 0.55m - limit of investigation							

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Surface water adjacent to test pit

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 94.6 mAHD
EASTING: 293634
NORTHING: 6233237
DIP/AZIMUTH: 90°/--

PIT No: 77
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm) 5 10 15 20
94	0.0	FILLING - red brown grey gravelly (shale and sandstone) clay		D	0.5				1
	1.0	FILLING - brown clayey silt							
	1.2	CLAY - red mottled brown grey clay with ironstone gravel							
	1.4	Pit discontinued at 1.4m - limit of investigation							
93	2								2
92	3								3
91	4								4
90									

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 92.5 mAHD
EASTING: 293681
NORTHING: 6233375
DIP/AZIMUTH: 90°/--

PIT No: 78
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
92	0.0	TOPSOIL - brown slightly clayey silt with some rootlets							
	0.3	SILTY CLAY - yellow brown silty clay with some rootlets		D	0.5				
	0.55	Pit discontinued at 0.55m - limit of investigation							
	1								
91									
	2								
90									
	3								
89									
	4								
88									

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 93.5 mAHD
EASTING: 293614
NORTHING: 6233329
DIP/AZIMUTH: 90°/--

PIT No: 79
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
93	0.0	TOPSOIL - brown clayey silt with rootlets							
	0.3	CLAY - yellow brown/orange mottled dark orange clay		D	0.5				
	0.55	Pit discontinued at 0.55m - limit of investigation							
92	1								
91	2								
90	3								
89	4								

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 92.6 mAHD
EASTING: 293613
NORTHING: 6233396
DIP/AZIMUTH: 90°/--

PIT No: 80
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
92	0.45	TOPSOIL - brown clayey silt, wet							
	0.6	CLAY - yellow brown mottled orange clay		D	0.5				
		Pit discontinued at 0.6m - limit of investigation							
91	1								1
90	2								2
89	3								3
88	4								4

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 94.6 mAHD
EASTING: 293558
NORTHING: 6233300
DIP/AZIMUTH: 90°/--

PIT No: 81
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
94	0.2	FILLING - brown clayey silt with some rootlets							
	0.4	FILLING - dark grey mottled brown silty clay, mc<pl							
	0.7	CLAY - firm to stiff, brown clay, mc~pl		D	0.5				
		Pit discontinued at 0.7m - limit of investigation							
93	1								1
92	2								2
91	3								3
90	4								4

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: BAH

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 92.6 mAHD
EASTING: 293556
NORTHING: 6233391
DIP/AZIMUTH: 90°/--

PIT No: 82
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
92	0.2	TOPSOIL - light brown to brown clayey silt with some fine grained (ironstone) gravel and rootlets, mc~pl							
		SANDY SILTY CLAY - soft to firm, orange brown sandy silty clay with some fine to coarse grained (shale) gravel, mc>pl							
	0.5	- becoming mottled light grey		D	0.5				
		Pit discontinued at 0.5m - limit of investigation							
91	1								1
90	2								2
89	3								3
88	4								4

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: DJM

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 94.1 mAHD
EASTING: 293497
NORTHING: 6233352
DIP/AZIMUTH: 90°/--

PIT No: 83
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
94	0	FILLING - brown shaly clay with some light grey large fresh siltstone boulders to 1m (stockpile)							
	0.5	Pit discontinued at 0.5m - limit of investigation		D	0.5				
93	1								1
92	2								2
91	3								3
90	4								4

5 10 15 20

RIG: JCB-4CX - 450mm bucket

LOGGED: DJM

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS: Stockpile

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
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TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 94.8 mAHD
EASTING: 293509
NORTHING: 6233293
DIP/AZIMUTH: 90°/--

PIT No: 84
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
94	0.2	FILLING - light brown to brown clayey silt with some fine grained (ironstone) gravel and rootlets, mc~pl							
		FILLING - red brown mottled light grey silty clay with some fine to medium grained (ironstone) gravel, mc~pl							
	0.5			D	0.5				
		Pit discontinued at 0.5m - limit of investigation							
93	1								1
92	2								2
91	3								3
90	4								4

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: DJM

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 93.5 mAHD
EASTING: 293452
NORTHING: 6233397
DIP/AZIMUTH: 90°/--

PIT No: 85
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
93	0.3	TOPSOIL - dark brown clayey silt with some fine grained (ironstone) gravel, frequent rootlets and trace shale, mc<pl							
	0.5	CLAY - stiff, brown clay, mc~pl		D	0.5				
		Pit discontinued at 0.5m - limit of investigation							
92	1								
91	2								
90	3								
89	4								

5 10 15 20

RIG: JCB-4CX - 450mm bucket

LOGGED: DJM

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 94.8 mAHD
EASTING: 293432
NORTHING: 6233330
DIP/AZIMUTH: 90°/--

PIT No: 86
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
94	0.2	TOPSOIL - light brown to brown clayey silt with some fine grained (ironstone) gravel and rootlets, mc~pl							
		FILLING - red brown mottled light grey silty clay with some fine to medium grained (ironstone) gravel, mc~pl							
	0.5	Pit discontinued at 0.5m - limit of investigation		D	0.5				
93	1								
92	2								
91	3								
90	4								

Dynamic Penetrometer Test (blows per mm): 5, 10, 15, 20

RIG: JCB-4CX - 450mm bucket

LOGGED: DJM

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

Douglas Partners
Geotechnics / Environment / Groundwater

TEST PIT LOG

CLIENT: Gregory Hills Corporate Park
PROJECT: Salinity Investigation and Management Plan
LOCATION: Lot 701 in Deposited Plan 1154772 Gregory Hills

SURFACE LEVEL: 94.7 mAHD
EASTING: 293408
NORTHING: 6233371
DIP/AZIMUTH: 90°/--

PIT No: 87
PROJECT No: 76510.00
DATE: 20/1/2012
SHEET 1 OF 1

RL	Depth (m)	Description of Strata	Graphic Log	Sampling & In Situ Testing: Type	Depth	Sample	Results & Comments	Water	Dynamic Penetrometer Test (blows per mm)
94	0	TOPSOIL - light brown to brown clayey silt with some fine grained (ironstone) gravel and rootlets, mc~pl							5 10 15 20
	0.2	SILTY CLAY - soft to firm, red brown sitly clay with some fine grained (ironstone) gravel, mc~pl							
	0.5	Pit discontinued at 0.5m - limit of investigation		D	0.5				
93	1								1
92	2								2
91	3								3
90	4								4

RIG: JCB-4CX - 450mm bucket

LOGGED: DJM

SURVEY DATUM: MGA94 Zone 56

WATER OBSERVATIONS: No free groundwater observed

REMARKS:

☐ Sand Penetrometer AS1289.6.3.3
☐ Cone Penetrometer AS1289.6.3.2

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	G	Gas sample	PID	Photo ionisation detector (ppm)
B	Bulk sample	P	Piston sample	PL(A)	Point load axial test Is(50) (MPa)
BLK	Block sample	U_x	Tube sample (x mm dia.)	PL(D)	Point load diametral test Is(50) (MPa)
C	Core drilling	W	Water sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	▷	Water seep	S	Standard penetration test
E	Environmental sample	▼	Water level	V	Shear vane (kPa)

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Appendix D

Laboratory Summary Table

Summary Table: Laboratory Tests and Assessments
Lot 701 in Deposited Plan 1154772, Gledswood Hills

Test Bore or Pit	Test Location				Sample ID	Sample Depth	pH	Chloride Concentration	Sulphate Concentration	Resistivity	Soil Condition	Sample Aggressivity Class					Exchangeable Sodium (Na) Concentration
	East	North	Cut / Fill	Cut /Fill depth						By inversion of EC1:5		Aggr. to Concrete - from sample pH	Aggr. to Concrete - from Sulphate conc.	Aggr. to Steel - from sample pH	Aggr. to Steel - from Chloride conc.	Aggr. to Steel - from sample Resistivity	
	(m MGA56)	(m MGA56)		(m)		(m bgl)	(pH units)	(mg/kg)	(mg/kg)	Ω.cm	[AS2159-2009]	[AS2159-2009]					(meq/100g)
1	294458.0	6233381.5	Fill	4-4.5.0	1/0.5	0.5	6.2	100	64	8333	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2
					1/1.0	1.0	6			7692	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					1/1.5	1.5	6.7			2632	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					1/2.0	2.0	7.5			1563	B	Non-Aggressive		Non-Aggressive		Mild	
					1/2.5	2.5	7.2			2083	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					1/3.0	3.0	7.4			2222	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
2	294379.8	6233275.5	Fill	0.5-1.0	2/0.5	0.5	7.7	54	17	11628	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	1.8
					2/1.0	1.0	7.5			2632	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					2/1.5	1.5	9.4			6667	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					2/2.0	2.0	9.2			6667	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					2/2.5	2.5	8.9			7692	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
3	294325.3	6233188.3	Fill	0.5-1.0	3/0.5	0.5	5.8	230	57	5263	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2.1
					3/1.0	1.0	5.4			2000	B	Mild		Non-Aggressive		Non-Aggressive	
					3/1.5	1.5	5.6			2326	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					3/2.0	2.0	6.1			2439	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					3/2.5	2.5	6.9			3571	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					3/3.0	3.0	6.5			4762	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
4	294219.3	6233130.9	Fill	2-2.5	4/0.5	0.5	5.2	280	190	3333	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2.5
					4/1.0	1.0	5.1	390	160	2857	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
					4/1.5	1.5	5.2			3448	B	Mild		Non-Aggressive		Non-Aggressive	
					4/2.0	2.0	5			1852	B	Mild		Non-Aggressive		Mild	
					4/2.5	2.5	5.1			2041	B	Mild		Non-Aggressive		Non-Aggressive	
					4/3.0	3.0	6.3			2222	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
5	294174.7	6232985.3	Fill	0.5-1.0	5/0.5	0.5	5.6	350	22	4762	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	1.4
					5/1.0	1.0	5.8			1754	B	Non-Aggressive		Non-Aggressive		Mild	
					5/1.5	1.5	6.4			2564	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					5/2.0	2.0	6.2			1639	B	Non-Aggressive		Non-Aggressive		Mild	
					5/2.5	2.5	8.3			1235	B	Non-Aggressive		Non-Aggressive		Mild	
					5/3.0	3.0	7.7			2326	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
6	294310.4	6233340.9	Fill	0-0.5	6/0.5	0.5	6.4	110	26	7143	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2.1
					6/1.0	1.0	6	560	62	2564	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
					6/1.5	1.5	6.1			2632	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					6/2.0	2.0	6.2			1961	B	Non-Aggressive		Non-Aggressive		Mild	
					6/2.5	2.5	6.8			2000	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					6/3.0	3.0	7.1			2128	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
7	294250.0	6233253.7	Cut	-(0.5-1.0)	7/0.5	0.5	5.3	14	20	23256	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	0.43
					7/1.0	1.0	6.3			41667	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					7/1.5	1.5	8.5	9	7	9091	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
					7/2.0	2.0	7.8			5882	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					7/2.2	2.2	8.6			10000	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
8	294109.4	6233114.0	Cut	-(0.5-1.0)	8/0.5	0.5	5.3	940	95	1639	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	2.6
					8/1.0	1.0	5.1			1235	B	Mild		Non-Aggressive		Mild	
					8/1.5	1.5	5.3			1053	B	Mild		Non-Aggressive		Mild	
					8/2.0	2.0	5.3			1235	B	Mild		Non-Aggressive		Mild	
					8/2.5	2.5	5.3			1020	B	Mild		Non-Aggressive		Mild	
					8/3.0	3.0	5.7			1351	B	Non-Aggressive		Non-Aggressive		Mild	
9	294073.7	6233030.8	Fill	0.5-1.0	9/0.5	0.5	8.4	39	19	6667	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	0.49
					9/1.0	1.0	8.6	48	20	10417	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
					9/1.5	1.5	7.8			3846	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					9/2.0	2.0	7.2			1053	B	Non-Aggressive		Non-Aggressive		Mild	
					9/2.5	2.5	7.3			1389	B	Non-Aggressive		Non-Aggressive		Mild	
					9/3.0	3.0	8.6			1961	B	Non-Aggressive		Non-Aggressive		Mild	
10	294177.7	6233348.8	Fill	0.5-1.0	10/0.5	0.5	6	440	52	3226	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2.9
					10/1.0	1.0	6			1587	B	Non-Aggressive		Non-Aggressive		Mild	
					10/1.5	1.5	6.4			1538	B	Non-Aggressive		Non-Aggressive		Mild	
					10/2.0	2.0	6.9			3030	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					10/2.5	2.5	7.2			1370	B	Non-Aggressive		Non-Aggressive		Mild	
					10/3.0	3.0	7.6			2857	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
11	294110.3	6233211.1	Fill / cut	1.0-1.5 / -2	11/0.5	0.5	5.1	1200	80	1351	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	3.2
					11/1.0	1.0	5.9	610	65	2326	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
					11/1.5	1.5	7.3			3125	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					11/2.0	2.0	6.9			2439	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					11/2.2	2.2	7.6			5263	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
12	294024.2	6233184.4	Fill	3.5-4.0	12/0.5	0.5	6.4	34	62	13514	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2.1
					12/1.0	1.0	5.3			1852	A	Moderate		Non-Aggressive		Moderate	
					12/1.5	1.5	4.8			909	A	Moderate		Mild		Severe	
					12/2.0	2.0	7.3			909	A	Mild		Non-Aggressive		Severe	
					12/2.5	2.5	7.7			1000	A	Mild		Non-Aggressive		Moderate	
					12/3.0	3.0	8.5			1064	A	Mild		Non-Aggressive		Moderate	
13	293995.4	6233086.3	Fill	2.5-3.0	13/0.5	0.5	6.7	98	38	5882	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	0.31
					13/1.0	1.0	5.5			2326	B	Mild		Non-Aggressive		Non-Aggressive	
					13/1.5	1.5	5.2			1639	B	Mild		Non-Aggressive		Mild	
					13/2.0	2.0	5.2			1449	B	Mild		Non-Aggressive		Mild	
					13/2.5	2.5	5.5			1724	B	Mild		Non-Aggressive		Mild	
					13/3.0	3.0	5.5			1613	B	Mild		Non-Aggressive		Mild	
14	294054.9	6233331.0	Fill adjacent to Cut	1.5-2.0 / -2	14/0.5	0.5	6.2	280	63	4348	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2.5
					14/1.0	1.0	5.4	1200	230	1370	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	

Summary Table: Laboratory Tests and Assessments
Lot 701 in Deposited Plan 1154772, Gledswood Hills

Test Bore or Pit	Test Location				Sample ID	Sample Depth	Cation Exchange Capacity	Sodicity	Sodicity Class	Emerson Crumb Class Number	Dispersion?	Soil Texture Group	Textural Factor (M)	$EC_{1:5}$	EC_e	Sample Salinity Class
	East	North	Cut / Fill	Cut /Fill depth				[Na/CEC]			(from Emerson Class)	(for detailed soil logs see Report Appendix)		[Lab.]	[M x $EC_{1:5}$]	(Based on sample ECe)
	(m MGA56)	(m MGA56)		(m)		(m bgl)	(meq/100g)	(%)	[after DLWC]		[AS1289.3.8.1]	[after DLWC]	[after DLWC]	(microS/cm)	(deciS/m)	[Richards 1954]
1	294458.0	6233381.5	Fill	4-4.5.0	1/0.5	0.5	14	14	Sodic			Clay loam	9	120	1.1	Non-Saline
					1/1.0	1.0						Clay loam	9	130	1.2	Non-Saline
					1/1.5	1.5						Loam	10	380	3.8	Slightly Saline
					1/2.0	2.0						Light medium clay	8	640	5.1	Moderately Saline
					1/2.5	2.5						Light medium clay	8	480	3.8	Slightly Saline
					1/3.0	3.0						Clay loam	9	450	4.1	Moderately Saline
2	294379.8	6233275.5	Fill	0.5-1.0	2/0.5	0.5	21	9	Sodic	6	No	Clay loam	9	86	0.8	Non-Saline
					2/1.0	1.0						Light clay	8.5	380	3.2	Slightly Saline
					2/1.5	1.5						Light medium clay	8	150	1.2	Non-Saline
					2/2.0	2.0						Light medium clay	8	150	1.2	Non-Saline
					2/2.5	2.5						Light medium clay	8	130	1.0	Non-Saline
3	294325.3	6233188.3	Fill	0.5-1.0	3/0.5	0.5	14	15	Sodic			Light clay	8.5	190	1.6	Non-Saline
					3/1.0	1.0						Light medium clay	8	500	4.0	Slightly Saline
					3/1.5	1.5						Light medium clay	8	430	3.4	Slightly Saline
					3/2.0	2.0						Light medium clay	8	410	3.3	Slightly Saline
					3/2.5	2.5						Light medium clay	8	280	2.2	Slightly Saline
					3/3.0	3.0						Light medium clay	8	210	1.7	Non-Saline
4	294219.3	6233130.9	Fill	2-2.5	4/0.5	0.5	16	16	Highly Sodic			Clay loam	9	300	2.7	Slightly Saline
					4/1.0	1.0						Clay loam	9	350	3.2	Slightly Saline
					4/1.5	1.5						Clay loam	9	290	2.6	Slightly Saline
					4/2.0	2.0						Clay loam	9	540	4.9	Moderately Saline
					4/2.5	2.5						Light medium clay	8	490	3.9	Slightly Saline
					4/3.0	3.0						Light medium clay	8	450	3.6	Slightly Saline
5	294174.7	6232985.3	Fill	0.5-1.0	5/0.5	0.5	16	9	Sodic	6	No	Sandy loam	14	210	2.9	Slightly Saline
					5/1.0	1.0						Light medium clay	8	570	4.6	Moderately Saline
					5/1.5	1.5						Loam	10	390	3.9	Slightly Saline
					5/2.0	2.0						Clay loam	9	610	5.5	Moderately Saline
					5/2.5	2.5						Light clay	8.5	810	6.9	Moderately Saline
					5/3.0	3.0						Light medium clay	8	430	3.4	Slightly Saline
6	294310.4	6233340.9	Fill	0-0.5	6/0.5	0.5	20	11	Sodic			Light clay	8.5	140	1.2	Non-Saline
					6/1.0	1.0						Light medium clay	8	390	3.1	Slightly Saline
					6/1.5	1.5						Light medium clay	8	380	3.0	Slightly Saline
					6/2.0	2.0						Light medium clay	8	510	4.1	Moderately Saline
					6/2.5	2.5						Clay loam	9	500	4.5	Moderately Saline
					6/3.0	3.0						Loam	10	470	4.7	Moderately Saline
7	294250.0	6233253.7	Cut	-(0.5-1.0)	7/0.5	0.5	11	4	Non-Sodic			Light medium clay	8	43	0.3	Non-Saline
					7/1.0	1.0						Sandy loam	14	24	0.3	Non-Saline
					7/1.5	1.5						Sandy loam	14	110	1.5	Non-Saline
					7/2.0	2.0						Light medium clay	8	170	1.4	Non-Saline
					7/2.2	2.2						Light medium clay	8	100	0.8	Non-Saline
8	294109.4	6233114.0	Cut	-(0.5-1.0)	8/0.5	0.5	13	20	Highly Sodic	6	No	Loam	10	610	6.1	Moderately Saline
					8/1.0	1.0						Medium clay	7	810	5.7	Moderately Saline
					8/1.5	1.5						Light medium clay	8	950	7.6	Moderately Saline
					8/2.0	2.0						Clay loam	9	810	7.3	Moderately Saline
					8/2.5	2.5						Light medium clay	8	980	7.8	Moderately Saline
					8/3.0	3.0						Light clay	8.5	740	6.3	Moderately Saline
9	294073.7	6233030.8	Fill	0.5-1.0	9/0.5	0.5	19	3	Non-Sodic			Light medium clay	8	150	1.2	Non-Saline
					9/1.0	1.0						Light clay	8.5	96	0.8	Non-Saline
					9/1.5	1.5						Light medium clay	8	260	2.1	Slightly Saline
					9/2.0	2.0						Medium clay	7	950	6.7	Moderately Saline
					9/2.5	2.5						Light medium clay	8	720	5.8	Moderately Saline
					9/3.0	3.0						Light medium clay	8	510	4.1	Moderately Saline
10	294177.7	6233348.8	Fill	0.5-1.0	10/0.5	0.5	20	15	Sodic	3	Dispersive	Loam	10	310	3.1	Slightly Saline
					10/1.0	1.0						Light medium clay	8	630	5.0	Moderately Saline
					10/1.5	1.5						Light medium clay	8	650	5.2	Moderately Saline
					10/2.0	2.0						Light medium clay	8	330	2.6	Slightly Saline
					10/2.5	2.5						Light clay	8.5	730	6.2	Moderately Saline
					10/3.0	3.0						Light medium clay	8	350	2.8	Slightly Saline
11	294110.3	6233211.1	Fill / cut	1.0-1.5 / -2	11/0.5	0.5	21	15	Highly Sodic			Light medium clay	8	740	5.9	Moderately Saline
					11/1.0	1.0						Light medium clay	8	430	3.4	Slightly Saline
					11/1.5	1.5						Light medium clay	8	320	2.6	Slightly Saline
					11/2.0	2.0						Light medium clay	8	410	3.3	Slightly Saline
					11/2.2	2.2						Light medium clay	8	190	1.5	Non-Saline
12	294024.2	6233184.4	Fill	3.5-4.0	12/0.5	0.5	8.8	24	Highly Sodic			Heavy clay	6	74	0.4	Non-Saline
					12/1.0	1.0						Medium clay	7	540	3.8	Slightly Saline
					12/1.5	1.5						Medium clay	7	1100	7.7	Moderately Saline
					12/2.0	2.0						Light medium clay	8	1100	8.8	Very Saline
					12/2.5	2.5						Light medium clay	8	1000	8.0	Moderately Saline
					12/3.0	3.0						Light medium clay	8	940	7.5	Moderately Saline
13	293995.4	6233086.3	Fill	2.5-3.0	13/0.5	0.5	7.2	4	Non-Sodic			Sandy loam	14	170	2.4	Slightly Saline
					13/1.0	1.0						Light medium clay	8	430	3.4	Slightly Saline
					13/1.5	1.5						Light medium clay	8	610	4.9	Moderately Saline
					13/2.0	2.0						Clay loam	9	690	6.2	Moderately Saline
					13/2.5	2.5						Light clay	8.5	580	4.9	Moderately Saline
					13/3.0	3.0						Loam	10	620	6.2	Moderately Saline
14	294054.9	6233331.0	Fill adjacent to Cut	1.5-2.0 / -2	14/0.5	0.5	15	17	Highly Sodic			Light clay	8.5	230	2.0	Non-Saline
					14/1.0	1.0						Clay loam	9	730	6.6	Moderately Saline

Aggressivity Flags
- Very Severe
- Severe
- Moderate
- Mild
- Non-Aggressive

Sodicity Flags
- Highly Sodic
- Sodic
- Non-Sodic

Dispersion Flags
- Complete
- Some
- Dispersive
- No

Salinity Flags
- Highly Saline
- Very Saline
- Moderately Saline
- Slightly Saline
- Non-Saline

Summary Table: Laboratory Tests and Assessments
Lot 701 in Deposited Plan 1154772, Gledswood Hills

Test Bore or Pit	Test Location				Sample ID	Sample Depth	pH	Chloride Concentration	Sulphate Concentration	Resistivity	Soil Condition	Sample Aggressivity Class					Exchangeable Sodium (Na) Concentration
	East	North	Cut / Fill	Cut /Fill depth						By inversion of EC1:5		Aggr. to Concrete - from sample pH	Aggr. to Concrete - from Sulphate conc.	Aggr. to Steel - from sample pH	Aggr. to Steel - from Chloride conc.	Aggr. to Steel - from sample Resistivity	
	(m MGA56)	(m MGA56)		(m)		(m bgl)	(pH units)	(mg/kg)	(mg/kg)	Ω.cm	[AS2159-2009]	[AS2159-2009]					(meq/100g)
					14/1.5	1.5	6.2			1389	B	Non-Aggressive		Non-Aggressive		Mild	
					14/2.0	2.0	5.8			1010	B	Non-Aggressive		Non-Aggressive		Mild	
					14/2.5	2.5	5.6			1176	B	Non-Aggressive		Non-Aggressive		Mild	
					14/3.0	3.0	6.5			1408	B	Non-Aggressive		Non-Aggressive		Mild	
15	293980.6	6233280.4	Fill	4.5-8.0	15/0.5	0.5	5.4	2100	340	833	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Moderate	3.8
					15/1.0	1.0	7.7			1408	B	Non-Aggressive		Non-Aggressive		Mild	
					15/1.5	1.5	8.1			1111	B	Non-Aggressive		Non-Aggressive		Mild	
					15/2.0	2.0	8.2			1124	B	Non-Aggressive		Non-Aggressive		Mild	
					15/2.5	2.5	8.1			1099	A	Mild		Non-Aggressive		Moderate	
					15/3.0	3.0	8.1			1020	A	Mild		Non-Aggressive		Moderate	
16	293930.1	6233210.1	Fill	4-4.5	16/0.5	0.5	5.2	490	63	3226	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2.9
					16/1.0	1.0	5.9			1695	B	Non-Aggressive		Non-Aggressive		Mild	
					16/1.5	1.5	5.8	1300	160	1220	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	
					16/2.0	2.0	6.1			1190	B	Non-Aggressive		Non-Aggressive		Mild	
					16/2.5	2.5	6.6			1099	B	Non-Aggressive		Non-Aggressive		Mild	
					16/3.0	3.0	7.1			1000	B	Non-Aggressive		Non-Aggressive		Mild	
17	293874.6	6233126.9	Fill	2.5-3.0	17/0.5	0.5	5.4	510	200	2564	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	3.1
					17/1.0	1.0	5.1	1200	280	1429	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	
					17/1.5	1.5	5.4			1587	B	Mild		Non-Aggressive		Mild	
					17/2.0	2.0	5.8			2083	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					17/2.5	2.5	6.9			2500	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					17/3.0	3.0	6.9			2439	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
18	293853.8	6233283.4	Fill	1.5-2.0	18/0.5	0.5	6	460	150	2857	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	3.9
					18/1.0	1.0	5.5	890	130	1639	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	
					18/1.5	1.5	5.9			2041	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					18/2.5	2.5	6.6			1299	A	Mild		Non-Aggressive		Moderate	
					18/3.0	3.0	8.2			1190	A	Mild		Non-Aggressive		Moderate	
19	293817.1	6233227.0	Fill	0.5-1.0	19/0.5	0.5	5.4	370	25	3125	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	0.33
					19/1.0	1.0	5.5			2000	B	Mild		Non-Aggressive		Non-Aggressive	
					19/1.5	1.5	6.4			1370	B	Non-Aggressive		Non-Aggressive		Mild	
					19/2.0	2.0	6.1			2381	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					19/2.5	2.5	6.1			1351	B	Non-Aggressive		Non-Aggressive		Mild	
					19/3.0	3.0	7.1			1449	B	Non-Aggressive		Non-Aggressive		Mild	
20	293786.4	6233163.6	Fill	3.0-3.5	20/0.5	0.5	5.3	830	260	1754	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	4.9
					20/1.0	1.0	5			1351	B	Mild		Non-Aggressive		Mild	
					20/1.5	1.5	5.1			1299	B	Mild		Non-Aggressive		Mild	
					20/2.0	2.0	6.9			1538	B	Non-Aggressive		Non-Aggressive		Mild	
					20/2.5	2.5	7.5			3704	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					20/3.0	3.0	7.4			3125	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
21	293719.1	6233199.2	Fill	2.0-2.5	21/0.5	0.5	6.2	380	110	3030	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2.4
					21/1.0	1.0	6.6	810	150	1887	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	
					21/1.5	1.5	6.9			1316	B	Non-Aggressive		Non-Aggressive		Mild	
					21/2.0	2.0	7.4			1754	B	Non-Aggressive		Non-Aggressive		Mild	
					21/2.5	2.5	7.8			1923	B	Non-Aggressive		Non-Aggressive		Mild	
					21/3.0	3.0	8.1			2041	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
22	293768.6	6233298.3	Fill	1.0-1.5	22/0.5	0.5	6.3	410	140	3704	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	3.2
					22/1.0	1.0	5.4			1370	B	Mild		Non-Aggressive		Mild	
					22/1.5	1.5	5.6			1724	B	Non-Aggressive		Non-Aggressive		Mild	
					22/2.0	2.0	5.7			1613	B	Non-Aggressive		Non-Aggressive		Mild	
					22/2.5	2.5	6.3			1099	B	Non-Aggressive		Non-Aggressive		Mild	
					22/3.0	3.0	6.7			1190	B	Non-Aggressive		Non-Aggressive		Mild	
23	293684.4	6233298.3	Fill	3.0-3.5	23/0.5	0.5	5.9	1100	190	1429	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	3.2
					23/1.0	1.0	6.6			1163	B	Non-Aggressive		Non-Aggressive		Mild	
					23/1.5	1.5	7			1136	A	Mild		Non-Aggressive		Moderate	
					23/2.0	2.0	6.8			1111	A	Mild		Non-Aggressive		Moderate	
					23/2.5	2.5	6.9			1282	B	Non-Aggressive		Non-Aggressive		Mild	
					23/3.0	3.0	8			1235	B	Non-Aggressive		Non-Aggressive		Mild	
24	293592.3	6233273.5	Fill	2.5-3.0	24/0.5	0.5	6.7			4545	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	3.3
					24/1.0	1.0	5.9	430	200	2439	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
					24/1.5	1.5	5.6	1000	270	1190	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	
					24/2.0	2.0	5.5			909	B	Mild		Non-Aggressive		Moderate	
					24/2.5	2.5	5.8			1266	B	Non-Aggressive		Non-Aggressive		Mild	
					24/3.0	3.0	5.7			1099	B	Non-Aggressive		Non-Aggressive		Mild	
25	293644.8	6233374.6	Fill	3.0-3.5	25/0.5	0.5	5.4	900	120	1818	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	4.4
					25/1.0	1.0	5.6	1100	120	1471	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	
					25/1.5	1.5	6			1429	B	Non-Aggressive		Non-Aggressive		Mild	
					25/2.0	2.0	6.4			1408	B	Non-Aggressive		Non-Aggressive		Mild	
					25/2.5	2.5	7			1639	B	Non-Aggressive		Non-Aggressive		Mild	
					25/3.0	3.0	6			18868	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
26	293571.5	6233346.8	Fill	1.0-1.5	26/0.5	0.5	6.1	26	24	1316	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	0.31
					26/1.0	1.0	6.5			8333	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					26/1.5	1.5	5.7			2564	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					26/2.0	2.0	5.6			1887	B	Non-Aggressive		Non-Aggressive		Mild	
					26/2.5	2.5	5.5			1389	B	Mild		Non-Aggressive		Mild	
					26/3.0	3.0	6			1235	B	Non-Aggressive		Non-Aggressive		Mild	
27B	293506.1	6233381.5	Cut	-1-1.5	27B/0.5	0.5	5.1	810	160	1266	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	4.6
					27B/1.0	1.0	5.3			1282	B	Mild		Non-Aggressive		Mild	

Summary Table: Laboratory Tests and Assessments
Lot 701 in Deposited Plan 1154772, Gledswood Hills

Test Bore or Pit	Test Location				Sample ID	Sample Depth	Cation Exchange Capacity	Sodicity	Sodicity Class	Emerson Crumb Class Number	Dispersion?	Soil Texture Group	Textural Factor (M)	$EC_{1:5}$	EC_e	Sample Salinity Class
	East	North	Cut / Fill	Cut /Fill depth				[Na/CEC]			(from Emerson Class)	(for detailed soil logs see Report Appendix)		[Lab.]	[M x $EC_{1:5}$]	(Based on sample ECe)
	(m MGA56)	(m MGA56)		(m)		(m bgl)	(meq/100g)	(%)	[after DLWC]		[AS1289.3.8.1]	[after DLWC]	[after DLWC]	(microS/cm)	(deciS/m)	[Richards 1954]
					14/1.5	1.5						Light medium clay	8	720	5.8	Moderately Saline
					14/2.0	2.0						Clay loam	9	990	8.9	Very Saline
					14/2.5	2.5						Loam	10	850	8.5	Very Saline
					14/3.0	3.0						Loam	10	710	7.1	Moderately Saline
15	293980.6	6233280.4	Fill	4.5-8.0	15/0.5	0.5	14	27	Highly Sodic	5	No	Loam	10	1200	12.0	Very Saline
					15/1.0	1.0						Light medium clay	8	710	5.7	Moderately Saline
					15/1.5	1.5						Medium clay	7	900	6.3	Moderately Saline
					15/2.0	2.0						Heavy clay	6	890	5.3	Moderately Saline
					15/2.5	2.5						Light medium clay	8	910	7.3	Moderately Saline
					15/3.0	3.0						Light clay	8.5	980	8.3	Very Saline
16	293930.1	6233210.1	Fill	4-4.5	16/0.5	0.5	14	21	Highly Sodic			Light clay	8.5	310	2.6	Slightly Saline
					16/1.0	1.0						Light clay	8.5	590	5.0	Moderately Saline
					16/1.5	1.5						Light clay	8.5	820	7.0	Moderately Saline
					16/2.0	2.0						Clay loam	9	840	7.6	Moderately Saline
					16/2.5	2.5						Clay loam	9	910	8.2	Very Saline
					16/3.0	3.0						Light medium clay	8	1000	8.0	Moderately Saline
17	293874.6	6233126.9	Fill	2.5-3.0	17/0.5	0.5	19	16	Highly Sodic	5	No	Light medium clay	8	390	3.1	Slightly Saline
					17/1.0	1.0						Light medium clay	8	700	5.6	Moderately Saline
					17/1.5	1.5						Loam	10	630	6.3	Moderately Saline
					17/2.0	2.0						Light medium clay	8	480	3.8	Slightly Saline
					17/2.5	2.5						Light medium clay	8	400	3.2	Slightly Saline
					17/3.0	3.0						Light medium clay	8	410	3.3	Slightly Saline
18	293853.8	6233283.4	Fill	1.5-2.0	18/0.5	0.5	19	21	Highly Sodic			Clay loam	9	350	3.2	Slightly Saline
					18/1.0	1.0						Light clay	8.5	610	5.2	Moderately Saline
					18/1.5	1.5						Medium clay	7	490	3.4	Slightly Saline
					18/2.5	2.5						Light clay	8.5	770	6.5	Moderately Saline
					18/3.0	3.0						Light clay	8.5	840	7.1	Moderately Saline
19	293817.1	6233227.0	Fill	0.5-1.0	19/0.5	0.5	8.3	4	Non-Sodic			Sandy loam	14	320	4.5	Moderately Saline
					19/1.0	1.0						Clay loam	9	500	4.5	Moderately Saline
					19/1.5	1.5						Clay loam	9	730	6.6	Moderately Saline
					19/2.0	2.0						Light medium clay	8	420	3.4	Slightly Saline
					19/2.5	2.5						Light clay	8.5	740	6.3	Moderately Saline
					19/3.0	3.0						Light clay	8.5	690	5.9	Moderately Saline
20	293786.4	6233163.6	Fill	3.0-3.5	20/0.5	0.5	21	23	Highly Sodic			Light medium clay	8	570	4.6	Moderately Saline
					20/1.0	1.0						Light clay	8.5	740	6.3	Moderately Saline
					20/1.5	1.5						Light medium clay	8	770	6.2	Moderately Saline
					20/2.0	2.0						Clay loam	9	650	5.9	Moderately Saline
					20/2.5	2.5						Light medium clay	8	270	2.2	Slightly Saline
					20/3.0	3.0						Light medium clay	8	320	2.6	Slightly Saline
21	293719.1	6233199.2	Fill	2.0-2.5	21/0.5	0.5	11	22	Highly Sodic			Loam	10	330	3.3	Slightly Saline
					21/1.0	1.0						Medium clay	7	530	3.7	Slightly Saline
					21/1.5	1.5						Clay loam	9	760	6.8	Moderately Saline
					21/2.0	2.0						Sandy loam	14	570	8.0	Moderately Saline
					21/2.5	2.5						Sandy loam	14	520	7.3	Moderately Saline
					21/3.0	3.0						Loam	10	490	4.9	Moderately Saline
22	293768.6	6233298.3	Fill	1.0-1.5	22/0.5	0.5	16	20	Highly Sodic	5	No	Clay loam	9	270	2.4	Slightly Saline
					22/1.0	1.0						Medium clay	7	730	5.1	Moderately Saline
					22/1.5	1.5						Light clay	8.5	580	4.9	Moderately Saline
					22/2.0	2.0						Light medium clay	8	620	5.0	Moderately Saline
					22/2.5	2.5						Light medium clay	8	910	7.3	Moderately Saline
					22/3.0	3.0						Light medium clay	8	840	6.7	Moderately Saline
23	293684.4	6233298.3	Fill	3.0-3.5	23/0.5	0.5	14	23	Highly Sodic			Light medium clay	8	700	5.6	Moderately Saline
					23/1.0	1.0						Light clay	8.5	860	7.3	Moderately Saline
					23/1.5	1.5						Light medium clay	8	880	7.0	Moderately Saline
					23/2.0	2.0						Light medium clay	8	900	7.2	Moderately Saline
					23/2.5	2.5						Light clay	8.5	780	6.6	Moderately Saline
					23/3.0	3.0						Clay loam	9	810	7.3	Moderately Saline
24	293592.3	6233273.5	Fill	2.5-3.0	24/0.5	0.5	13	25	Highly Sodic	6	No	Loam	10	220	2.2	Slightly Saline
					24/1.0	1.0						Loam	10	410	4.1	Moderately Saline
					24/1.5	1.5						Light medium clay	8	840	6.7	Moderately Saline
					24/2.0	2.0						Clay loam	9	1100	9.9	Very Saline
					24/2.5	2.5						Light medium clay	8	790	6.3	Moderately Saline
					24/3.0	3.0						Medium clay	7	910	6.4	Moderately Saline
25	293644.8	6233374.6	Fill	3.0-3.5	25/0.5	0.5	18	24	Highly Sodic			Light medium clay	8	550	4.4	Moderately Saline
					25/1.0	1.0						Light medium clay	8	680	5.4	Moderately Saline
					25/1.5	1.5						Clay loam	9	700	6.3	Moderately Saline
					25/2.0	2.0						Medium clay	7	710	5.0	Moderately Saline
					25/2.5	2.5						Light clay	8.5	610	5.2	Moderately Saline
					25/3.0	3.0						Loam	10	53	0.5	Non-Saline
26	293571.5	6233346.8	Fill	1.0-1.5	26/0.5	0.5	7	4	Non-Sodic			Sandy loam	14	760	10.6	Very Saline
					26/1.0	1.0						Clay loam	9	120	1.1	Non-Saline
					26/1.5	1.5						Clay loam	9	390	3.5	Slightly Saline
					26/2.0	2.0						Clay loam	9	530	4.8	Moderately Saline
					26/2.5	2.5						Light medium clay	8	720	5.8	Moderately Saline
					26/3.0	3.0						Heavy clay	6	810	4.9	Moderately Saline
27B	293506.1	6233381.5	Cut	-1-1.5	27B/0.5	0.5	15	31	Highly Sodic			Light medium clay	8	790	6.3	Moderately Saline
					27B/1.0	1.0						Medium clay	7	780	5.5	Moderately Saline

Summary Table: Laboratory Tests and Assessments
Lot 701 in Deposited Plan 1154772, Gledswood Hills

Test Bore or Pit	Test Location				Sample ID	Sample Depth	pH	Chloride Concentration	Sulphate Concentration	Resistivity	Soil Condition	Sample Aggressivity Class					Exchangeable Sodium (Na) Concentration
	East	North	Cut / Fill	Cut /Fill depth						By inversion of EC1:5		Aggr. to Concrete - from sample pH	Aggr. to Concrete - from Sulphate conc.	Aggr. to Steel - from sample pH	Aggr. to Steel - from Chloride conc.	Aggr. to Steel - from sample Resistivity	
	(m MGA56)	(m MGA56)		(m)		(m bgl)	(pH units)	(mg/kg)	(mg/kg)	Ω.cm	[AS2159-2009]	[AS2159-2009]					(meq/100g)
					27B/1.5	1.5	7.5			1429	B	Non-Aggressive		Non-Aggressive		Mild	
					27B/2.0	2.0	7.1			1316	B	Non-Aggressive		Non-Aggressive		Mild	
27A	293506.1	6233381.5		0-0.5	27A/0.4	0.4	7.6			3571	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
28	293476.4	6233318.1	Cut	-(0-0.5)	28/0.5	0.5	8.5	160	89	2778	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2
					28/1.0	1.0	5.6			4000	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					28/1.5	1.5	7			8333	B	Non-Aggressive		Non-Aggressive		Non-Aggressive	
					28/2.0	2.0	5.1			3448	B	Mild		Non-Aggressive		Non-Aggressive	
					28/2.5	2.5	4.9			2222	B	Mild		Non-Aggressive		Non-Aggressive	
					28/3.0	3.0	5			1429	B	Mild		Non-Aggressive		Mild	
29	293410.0	6233411.2	Fill	0-0.5	29/0.5	0.5	7	230	45	4167	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2.4
					29/1.0	1.0	6.7	1100	200	1266	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	
					29/1.5	1.5	7.1			1190	B	Non-Aggressive		Non-Aggressive		Mild	
					29/2.0	2.0	6.7			1299	B	Non-Aggressive		Non-Aggressive		Mild	
29	294415.4	6233373.6	Fill	2.5-3.0	29/2.5	2.5	7.1			1124	B	Non-Aggressive		Non-Aggressive		Mild	
					29/3.0	3.0	7.2			1250	B	Non-Aggressive		Non-Aggressive		Mild	
30	294444.2	6233328.0	Fill	2.5-3.0	30/0.5	0.5	7.7	190	44	13158	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2
31	294364.9	6233340.9	Fill	0-0.5	31/0.5	0.5	5.8	170	43	5882	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
32	294337.2	6233296.3	Fill	1.5-2.0	32/0.5	0.5	5.7	59	65	9091	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
33	294361.9	6233236.9	Cut	-(0-0.5)	33/0.5	0.5	5.8	73	69	9091	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
34	294282.7	6233139.8	Fill	1.0-1.5	34/0.5	0.5	6.2	22	24	14085	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	1.9
35	294238.1	6233098.2	Fill	2.0-2.5	35/0.5	0.5	5.9	53	47	5000	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
36	294168.8	6233030.8	Fill	3.0-3.5	36/0.5	0.5	5.1	170	87	2041	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	3
37	294161.9	6232949.6	Fill	0.5-1.0	37/0.5	0.5	5.8	140	53	5000	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2
38	294177.7	6233117.0	Fill	1.5-2.0	38/0.5	0.5	6.8	110	54	4762	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2.2
39	294184.6	6233169.5	Fill	0.5-1.0	39/0.5	0.5	5.2	850	340	1613	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	
40	294262.9	6233191.3	Cut	-(0-0.5)	40/0.5	0.5	5.3	230	75	2857	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2.5
41	294305.5	6233231.9	Cut	-(0-0.5)	41/0.5	0.5	5.3	750	190	1923	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	3.7
42	294278.7	6233303.2	Fill	1.5-2.0	42/0.5	0.5	5.3	300	160	4000	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
43	294230.5	6233354.7	Cut	-(0-0.5)	43/0.5	0.5	6	180	56	7143	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2.8
44	294219.3	6233292.3	Cut	-(1-1.5)	44/0.5	0.5	6.1	180	11	7692	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	1.1
45	294209.4	6233219.0	Cut	-(0.5-1)	45/0.5	0.5	5.8	32	80	13699	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
46	294159.9	6233320.1	Fill	0-0.5	46/0.5	0.5	5.5	290	180	3846	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
47	294154.9	6233251.7	Cut	-(0-0.5)	47/0.5	0.5	5.3	510	210	2632	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2.7
48	294102.4	6233352.8	Cut	-(1.5-2.0)	48/0.5	0.5	6.1	300	110	3846	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	3.6
49	294091.5	6233295.3	Cut	-(1-1.5)	49/0.5	0.5	6.1	310	150	3846	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
50	294099.5	6233245.8	Cut	-(1.5-2.0)	50/0.5	0.5	6.3	25	49	23810	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
51	294111.3	6233162.6	Cut	-(1.0-1.5)	51/0.5	0.5	5.5	460	110	3030	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
52	294096.5	6233067.5	Cut	-(1-1.5)	52/0.5	0.5	6	310	170	3704	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
53	294075.7	6232976.4	Cut	-(1-1.5)	53/0.5	0.5	7.2	180	68	4167	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
54	294001.4	6233328.0	Fill	2.0-2.5	54/0.5	0.5	7.4	160	76	5000	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
55	294038.3	6233282.4	Fill	3.5-4.0	55/0.5	0.5	5.6	640	150	2326	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
56	294049.9	6233229.9	Fill	3.0-3.5	56/0.5	0.5	5.7	430	100	3125	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2.8
57	294052.9	6233129.9	Fill	2.5-3.0	57/0.5	0.5	4.8	2000	220	833	A	Moderate	Mild	Mild	Non-Aggressive	Severe	
58	294032.1	6233049.6	Fill	2.0-2.5	58/0.5	0.5	5.7	290	110	5882	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	1.4
59	293971.7	6233237.9	Fill	4.5-8.0	59/0.5	0.5	6.7	35	62	14286	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
60	293961.8	6233178.4	Fill	3.5-4.0	60/0.5	0.5	6	410	110	2703	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
61	293986.5	6233130.9	Fill	3.0-3.5	61/0.5	0.5	6.4	150	97	5882	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
62	293975.6	6233044.7	Fill	1.0-1.5	62/0.5	0.5	5.6	770	140	2128	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
63	293922.1	6233310.2	Fill	3.0-3.5	63/0.5	0.5	5.3	370	220	2941	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
64	293907.3	6233268.6	Fill	3.5-4.0	64/0.5	0.5	5.8	950	230	1587	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	2.8
65	293879.6	6233220.0	Fill	2.0-2.5	65/0.5	0.5	6.9	590	110	2041	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
66	293888.5	6233170.5	Fill	2.0-2.5	66/0.5	0.5	5.9	670	220	2381	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
67	293933.0	6233136.8	Fill	2.0-2.5	67/0.5	0.5	5.8	320	76	4348	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2.3
68	293904.3	6233081.4	Fill	1.0-1.5	68/0.5	0.5	6.5	34	35	9091	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
69	293825.1	6233144.7	Fill	2.5-3.0	69/0.5	0.5	5.5	460	150	2941	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2.9
70	293797.3	6233200.2	Fill	3.5-4.0	70/0.5	0.5	5.4	660	220	2439	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
71	293834.0	6233259.7	Fill	1.5-2.0	71/0.5	0.5	5	1300	300	1149	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	
72	293809.2	6233298.3	Fill	1.5-2.0	72/0.5	0.5	6.6	130	78	6250	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2.2
73	293759.7	6233247.8	Fill	0-0.5	73/0.5	0.5	6.7	380	150	3226	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
74	293750.8	6233180.4	Fill	3.0-3.5	74/0.5	0.5	6	490	70	3333	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
75	293691.3	6233335.9	Fill	2.5-3.0	75/0.5	0.5	6.4	1000	180	1563	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	2.9
76	293633.9	6233236.9	Fill	1.5-2.0	76/0.5	0.5	7.5	530	98	2500	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	3.5
77	293681.4	6233374.6	Fill	3.0-3.5	77/0.5	0.5	5.4	340	160	2857	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
78	293614.1	6233329.0	Cut	-(0-0.5)	78/0.5	0.5	5.5	900	130	1786	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	
79	293613.1	6233396.3	Fill	2.0-2.5	79/0.5	0.5	5.8	550	220	2326	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
80	293557.6	6233300.3	Fill	2.5-3.0	80/0.5	0.5	5	1400	190	1190	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	
81	293555.6	6233391.4	Fill	3.0-3.5	81/0.5	0.5	5.5	470	270	2381	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	3.5
82	293497.2	6233351.8	Fill	0-0.5	82/0.5	0.5	5.8	380	160	2857	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	3
83	293509.3	6233293.3	Cut	-(0-0.5)	83/0.5	0.5	9	74	28	6667	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
84	293451.6	6233397.3	Fill	0-0.5	84/0.5	0.5	5.3	210	130	2941	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	
85	293431.8	6233330.0	Cut	-(0.5-1.0)	85/0.5	0.5	7.1	510	170	1163	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Mild	6.1
86	293408.0	6233370.6	Fill	0.5-1.0	86/0.5	0.5	5.4	240	130	3226	B	Mild	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	2.2
87	293408.0	6233370.6	Fill	0.5-1.0	87/0.5	0.5	6.2	120	96	7143	B	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	Non-Aggressive	

Summary Table: Laboratory Tests and Assessments
Lot 701 in Deposited Plan 1154772, Gledswood Hills

Test Bore or Pit	Test Location				Sample ID	Sample Depth	Cation Exchange Capacity	Sodicity	Sodicity Class	Emerson Crumb Class Number	Dispersion?	Soil Texture Group	Textural Factor (M)	$EC_{1:5}$	EC_e	Sample Salinity Class
	East	North	Cut / Fill	Cut /Fill depth				[Na/CEC]			(from Emerson Class)	(for detailed soil logs see Report Appendix)		[Lab.]	[M x $EC_{1:5}$]	(Based on sample ECe)
	(m MGA56)	(m MGA56)		(m)		(m bgl)	(meq/100g)	(%)	[after DLWC]		[AS1289.3.8.1]	[after DLWC]	[after DLWC]	(microS/cm)	(deciS/m)	[Richards 1954]
					27B/1.5	1.5						Light clay	8.5	700	6.0	Moderately Saline
					27B/2.0	2.0						Clay loam	9	760	6.8	Moderately Saline
27A	293506.1	6233381.5		0-0.5	27A/0.4	0.4				6	No	Loam	10	280	2.8	Slightly Saline
28	293476.4	6233318.1	Cut	-(0-0.5)	28/0.5	0.5	23	9	Sodic			Light medium clay	8	360	2.9	Slightly Saline
					28/1.0	1.0						Loam	10	250	2.5	Slightly Saline
					28/1.5	1.5						Light clay	8.5	120	1.0	Non-Saline
					28/2.0	2.0						Clay loam	9	290	2.6	Slightly Saline
					28/2.5	2.5						Loam	10	450	4.5	Moderately Saline
					28/3.0	3.0						Loam	10	700	7.0	Moderately Saline
29	293410.0	6233411.2	Fill	0-0.5	29/0.5	0.5	12	20	Highly Sodic	6	No	Light medium clay	8	240	1.9	Non-Saline
					29/1.0	1.0						Light medium clay	8	790	6.3	Moderately Saline
					29/1.5	1.5						Light medium clay	8	840	6.7	Moderately Saline
					29/2.0	2.0						Medium clay	7	770	5.4	Moderately Saline
29	294415.4	6233373.6	Fill	2.5-3.0	29/2.5	2.5						Light medium clay	8	890	7.1	Moderately Saline
					29/3.0	3.0						Light medium clay	8	800	6.4	Moderately Saline
30	294444.2	6233328.0	Fill	2.5-3.0	30/0.5	0.5	17	12	Sodic			Light clay	8.5	76	0.6	Non-Saline
31	294364.9	6233340.9	Fill	0-0.5	31/0.5	0.5						Clay loam	9	170	1.5	Non-Saline
32	294337.2	6233296.3	Fill	1.5-2.0	32/0.5	0.5						Loam	10	110	1.1	Non-Saline
33	294361.9	6233236.9	Cut	-(0-0.5)	33/0.5	0.5						Light clay	8.5	110	0.9	Non-Saline
34	294282.7	6233139.8	Fill	1.0-1.5	34/0.5	0.5	15	13	Sodic			Loam	10	71	0.7	Non-Saline
35	294238.1	6233098.2	Fill	2.0-2.5	35/0.5	0.5						Clay loam	9	200	1.8	Non-Saline
36	294168.8	6233030.8	Fill	3.0-3.5	36/0.5	0.5	17	18	Highly Sodic			Light clay	8.5	490	4.2	Moderately Saline
37	294161.9	6232949.6	Fill	0.5-1.0	37/0.5	0.5	11	18	Highly Sodic			Clay loam	9	200	1.8	Non-Saline
38	294177.7	6233117.0	Fill	1.5-2.0	38/0.5	0.5	13	17	Highly Sodic			Sandy loam	14	210	2.9	Slightly Saline
39	294184.6	6233169.5	Fill	0.5-1.0	39/0.5	0.5						Clay loam	9	620	5.6	Moderately Saline
40	294262.9	6233191.3	Cut	-(0-0.5)	40/0.5	0.5	16	16	Highly Sodic			Light medium clay	8	350	2.8	Slightly Saline
41	294305.5	6233231.9	Cut	-(0-0.5)	41/0.5	0.5	16	23	Highly Sodic			Light medium clay	8	520	4.2	Moderately Saline
42	294278.7	6233303.2	Fill	1.5-2.0	42/0.5	0.5						Light medium clay	8	250	2.0	Slightly Saline
43	294230.5	6233354.7	Cut	-(0-0.5)	43/0.5	0.5	19	15	Sodic			Light medium clay	8	140	1.1	Non-Saline
44	294219.3	6233292.3	Cut	-(1-1.5)	44/0.5	0.5	12	9	Sodic			Light medium clay	8	130	1.0	Non-Saline
45	294209.4	6233219.0	Cut	-(0.5-1)	45/0.5	0.5						Light clay	8.5	73	0.6	Non-Saline
46	294159.9	6233320.1	Fill	0-0.5	46/0.5	0.5						Light medium clay	8	260	2.1	Slightly Saline
47	294154.9	6233251.7	Cut	-(0-0.5)	47/0.5	0.5	15	18	Highly Sodic			Clay loam	9	380	3.4	Slightly Saline
48	294102.4	6233352.8	Cut	-(1.5-2.0)	48/0.5	0.5	20	18	Highly Sodic			Loam	10	260	2.6	Slightly Saline
49	294091.5	6233295.3	Cut	-(1-1.5)	49/0.5	0.5						Loam	10	260	2.6	Slightly Saline
50	294099.5	6233245.8	Cut	-(1.5-2.0)	50/0.5	0.5						Medium clay	7	42	0.3	Non-Saline
51	294111.3	6233162.6	Cut	-(1.0-1.5)	51/0.5	0.5						Light medium clay	8	330	2.6	Slightly Saline
52	294096.5	6233067.5	Cut	-(1-1.5)	52/0.5	0.5						Light medium clay	8	270	2.2	Slightly Saline
53	294075.7	6232976.4	Cut	-(1-1.5)	53/0.5	0.5						Clay loam	9	240	2.2	Slightly Saline
54	294001.4	6233328.0	Fill	2.0-2.5	54/0.5	0.5						Light medium clay	8	200	1.6	Non-Saline
55	294038.3	6233282.4	Fill	3.5-4.0	55/0.5	0.5						Clay loam	9	430	3.9	Slightly Saline
56	294049.9	6233229.9	Fill	3.0-3.5	56/0.5	0.5	17	16	Highly Sodic			Light medium clay	8	320	2.6	Slightly Saline
57	294052.9	6233129.9	Fill	2.5-3.0	57/0.5	0.5						Medium clay	7	1200	8.4	Very Saline
58	294032.1	6233049.6	Fill	2.0-2.5	58/0.5	0.5	9.7	14	Sodic			Light medium clay	8	170	1.4	Non-Saline
59	293971.7	6233237.9	Fill	4.5-8.0	59/0.5	0.5						Clay loam	9	70	0.6	Non-Saline
60	293961.8	6233178.4	Fill	3.5-4.0	60/0.5	0.5						Light clay	8.5	370	3.1	Slightly Saline
61	293986.5	6233130.9	Fill	3.0-3.5	61/0.5	0.5						Clay loam	9	170	1.5	Non-Saline
62	293975.6	6233044.7	Fill	1.0-1.5	62/0.5	0.5						Clay loam	9	470	4.2	Moderately Saline
63	293922.1	6233310.2	Fill	3.0-3.5	63/0.5	0.5						Clay loam	9	340	3.1	Slightly Saline
64	293907.3	6233268.6	Fill	3.5-4.0	64/0.5	0.5	18	16	Highly Sodic			Loam	10	630	6.3	Moderately Saline
65	293879.6	6233220.0	Fill	2.0-2.5	65/0.5	0.5						Light clay	8.5	490	4.2	Moderately Saline
66	293888.5	6233170.5	Fill	2.0-2.5	66/0.5	0.5						Light clay	8.5	420	3.6	Slightly Saline
67	293933.0	6233136.8	Fill	2.0-2.5	67/0.5	0.5	17	14	Sodic			Clay loam	9	230	2.1	Slightly Saline
68	293904.3	6233081.4	Fill	1.0-1.5	68/0.5	0.5						Loam	10	110	1.1	Non-Saline
69	293825.1	6233144.7	Fill	2.5-3.0	69/0.5	0.5	17	17	Highly Sodic			Loam	10	340	3.4	Slightly Saline
70	293797.3	6233200.2	Fill	3.5-4.0	70/0.5	0.5						Clay loam	9	410	3.7	Slightly Saline
71	293834.0	6233259.7	Fill	1.5-2.0	71/0.5	0.5						Light medium clay	8	870	7.0	Moderately Saline
72	293809.2	6233298.3	Fill	1.5-2.0	72/0.5	0.5	15	15	Sodic			Light clay	8.5	160	1.4	Non-Saline
73	293759.7	6233247.8	Fill	0-0.5	73/0.5	0.5						Light clay	8.5	310	2.6	Slightly Saline
74	293750.8	6233180.4	Fill	3.0-3.5	74/0.5	0.5						Light clay	8.5	300	2.6	Slightly Saline
75	293691.3	6233335.9	Fill	2.5-3.0	75/0.5	0.5	14	21	Highly Sodic			Light medium clay	8	640	5.1	Moderately Saline
76	293633.9	6233236.9	Fill	1.5-2.0	76/0.5	0.5	18	19	Highly Sodic			Light medium clay	8	400	3.2	Slightly Saline
77	293681.4	6233374.6	Fill	3.0-3.5	77/0.5	0.5						Light medium clay	8	350	2.8	Slightly Saline
78	293614.1	6233329.0	Cut	-(0-0.5)	78/0.5	0.5						Clay loam	9	560	5.0	Moderately Saline
79	293613.1	6233396.3	Fill	2.0-2.5	79/0.5	0.5						Light medium clay	8	430	3.4	Slightly Saline
80	293557.6	6233300.3	Fill	2.5-3.0	80/0.5	0.5						Light medium clay	8	840	6.7	Moderately Saline
81	293555.6	6233391.4	Fill	3.0-3.5	81/0.5	0.5	16	22	Highly Sodic			Light clay	8.5	420	3.6	Slightly Saline
82	293497.2	6233351.8	Fill	0-0.5	82/0.5	0.5	11	27	Highly Sodic			Light medium clay	8	350	2.8	Slightly Saline
83	293509.3	6233293.3	Cut	-(0-0.5)	83/0.5	0.5						Light medium clay	8	150	1.2	Non-Saline
84	293451.6	6233397.3	Fill	0-0.5	84/0.5	0.5						Loam	10	340	3.4	Slightly Saline
85	293431.8	6233330.0	Cut	-(0.5-1.0)	85/0.5	0.5	24	25	Highly Sodic			Loam	10	860	8.6	Very Saline
86	293408.0	6233370.6	Fill	0.5-1.0	86/0.5	0.5	16	14	Sodic			Clay loam	9	310	2.8	Slightly Saline
87	293408.0	6233370.6	Fill	0.5-1.0	87/0.5	0.5						Light clay	8.5	140	1.2	Non-Saline

Appendix E

NATA Report and Chain Of Custody

Douglas Partners Pty Ltd
ABN 75 053 980 117
www.douglaspartners.com.au
5/50Topham Road
Smeaton Grange NSW 2567
Phone (02) 4647 0075
Fax (02) 46461886

DETERMINATION OF EMERSON CLASS NUMBER OF SOIL

Client:	**GREGORY HILLS CORPORATE PARK**	**Project No:**	76510.00
		Report No:	CT12-074
Project:	SALINITY INVESTIGATION & MANAGEMENT PLAN	**Report Date:**	13/02/2012
Location:	LOT 701 DP 1154772 GLEDWOOD HILLS	**Date of Test:**	13/02/2012
		Page:	1 of 1

SAMPLE NO	DEPTH (m)	DESCRIPTION	WATER TYPE	WATER TEMP	CLASS NO.
2	0.5	CLAY – Orange red mottled light orange brown clay	Distilled	20°C	6
5	0.5	CLAY – Red mottled brown clay	Distilled	20°C	6
8	0.5	CLAY – red mottled grey clay with a trace of gravel	Distilled	20°C	6
15	0.5	CLAY – Yellow brown mottled orange clay	Distilled	20°C	5
17	0.5	CLAY – Yellow brown mottled orange clay	Distilled	20°C	5
22	0.5	Clay – Brown mottled orange slightly silty clay	Distilled	20°C	5
24	0.5	CLAYEY SILT – Brown clayey silt	Distilled	20°C	6
27	0.5	GRAVELLY SILTY CLAY – Orange brown mottled light grey gravelly silty clay	Distilled	20°C	6
29	0.5	SILTY CLAY – Red brown mottled light brown silty clay	Distilled	20°C	6
10	0.5	CLAY – Red brown clay	Distilled	20°C	3

Test Method(s): AS 1289 3.8.1

Sampling Method(s): Sampled by DP Engineering

Remarks:

Approved Signatory:

Tested: DH
Checked: AJS

A J Sweetland
Laboratory Manager

NATA Accredited Laboratory Number: 828

This Document is issued in accordance with NATA's accreditation requirements.
Accredited for compliance with ISO/IEC 17025

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

CERTIFICATE OF ANALYSIS 68201

Client:

Douglas Partners Pty Ltd Smeaton Grange
Unit 5/50 Topham Rd
Smeaton Grange
NSW 2567

Attention: Bradley Harris

Sample log in details:

Your Reference:	**76510.00, Gregory Hills Corporate Park SMP**
No. of samples:	240 Soils
Date samples received / completed instructions received	27/01/12 / 27/01/12

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	6/02/12 / 6/02/12
Date of Preliminary Report:	Not Issued

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Accredited for compliance with ISO/IEC 17025. **Tests not covered by NATA are denoted with *.**

Results Approved By:

Jacinta Hurst
Laboratory Manager

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-1	68201-2	68201-3	68201-4	68201-5
Your Reference	----------	1/0.5	1/1.0	1/1.5	1/2.0	1/2.5
Date Sampled	----------	19/01/2012	19/01/2012	19/01/2012	19/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	6.2	6.0	6.7	7.5	7.2
Electrical Conductivity 1:5 soil:water	µS/cm	120	130	380	640	480

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-6	68201-7	68201-8	68201-9	68201-10
Your Reference	----------	1/3.0	2/0.5	2/1.0	2/1.5	2/2.0
Date Sampled	----------	19/01/2012	18/01/2012	18/01/2012	18/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	7.4	7.7	7.5	9.4	9.2
Electrical Conductivity 1:5 soil:water	µS/cm	450	86	380	150	150

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-11	68201-12	68201-13	68201-14	68201-15
Your Reference	----------	2/2.5	3/0.5	3/1.0	3/1.5	3/2.0
Date Sampled	----------	18/01/2012	18/01/2012	18/01/2012	18/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	8.9	5.8	5.4	5.6	6.1
Electrical Conductivity 1:5 soil:water	µS/cm	130	190	500	430	410

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-16	68201-17	68201-18	68201-19	68201-20
Your Reference	----------	3/2.5	3/3.0	4/0.5	4/1.0	4/1.5
Date Sampled	----------	18/01/2012	18/01/2012	19/01/2012	19/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	6.9	6.5	5.2	5.1	5.2
Electrical Conductivity 1:5 soil:water	µS/cm	280	210	300	350	290

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-21	68201-22	68201-23	68201-24	68201-25
Your Reference	----------	4/2.0	4/2.5	4/3.0	5/0.5	5/1.0
Date Sampled	----------	19/01/2012	19/01/2012	19/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.0	5.1	6.3	5.6	5.8
Electrical Conductivity 1:5 soil:water	µS/cm	540	490	450	210	570

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-26	68201-27	68201-28	68201-29	68201-30
Your Reference	----------	5/1.5	5/2.0	5/2.5	5/3.0	6/0.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	6.4	6.2	8.3	7.7	6.4
Electrical Conductivity 1:5 soil:water	µS/cm	390	610	810	430	140

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-31	68201-32	68201-33	68201-34	68201-35
Your Reference	----------	6/1.0	6/1.5	6/2.0	6/2.5	6/3.0
Date Sampled	----------	18/01/2012	18/01/2012	18/01/2012	18/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	6.0	6.1	6.2	6.8	7.1
Electrical Conductivity 1:5 soil:water	µS/cm	390	380	510	500	470

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-36	68201-37	68201-38	68201-39	68201-40
Your Reference	----------	7/0.5	7/1.0	7/1.5	7/2.0	7/2.2
Date Sampled	----------	18/01/2012	18/01/2012	18/01/2012	18/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.3	6.3	8.5	7.8	8.6
Electrical Conductivity 1:5 soil:water	µS/cm	43	24	110	170	100

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-41	68201-42	68201-43	68201-44	68201-45
Your Reference	----------	8/0.5	8/1.0	8/1.5	8/2.0	8/2.5
Date Sampled	----------	19/01/2012	19/01/2012	19/01/2012	19/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.3	5.1	5.3	5.3	5.3
Electrical Conductivity 1:5 soil:water	µS/cm	610	810	950	810	980

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-46	68201-47	68201-48	68201-49	68201-50
Your Reference	----------	8/3.0	9/0.5	9/1.0	9/1.5	9/2.0
Date Sampled	----------	19/01/2012	19/01/2012	19/01/2012	19/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.7	8.4	8.6	7.8	7.2
Electrical Conductivity 1:5 soil:water	µS/cm	740	150	96	260	950

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-51	68201-52	68201-53	68201-54	68201-55
Your Reference	----------	9/2.5	9.3.0	10/0.5	10/1.0	10/1.5
Date Sampled	----------	19/01/2012	19/01/2012	18/01/2012	19/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	7.3	8.6	6.0	6.0	6.4
Electrical Conductivity 1:5 soil:water	µS/cm	720	510	310	630	650

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-56	68201-57	68201-58	68201-59	68201-60
Your Reference	----------	10/2.0	10/2.5	10/3.0	11/0.5	11/1.0
Date Sampled	----------	19/01/2012	19/01/2012	19/01/2012	18/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	6.9	7.2	7.6	5.1	5.9
Electrical Conductivity 1:5 soil:water	µS/cm	330	730	350	740	430

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-61	68201-62	68201-63	68201-64	68201-65
Your Reference	----------	11/1.5	11/2.0	11/2.2	12/0.5	12/1.0
Date Sampled	----------	18/01/2012	18/01/2012	18/01/2012	19/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	7.3	6.9	7.6	6.4	5.3
Electrical Conductivity 1:5 soil:water	µS/cm	320	410	190	74	540

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-66	68201-67	68201-68	68201-69	68201-70
Your Reference	----------	12/1.5	12/2.0	12/2.5	12/3.0	13/0.5
Date Sampled	----------	19/01/2012	19/01/2012	19/01/2012	19/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	4.8	7.3	7.7	8.5	6.7
Electrical Conductivity 1:5 soil:water	µS/cm	1,100	1,100	1,000	940	170

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-71	68201-72	68201-73	68201-74	68201-75
Your Reference	----------	13/1.0	13/1.5	13/2.0	13/2.5	13/3.0
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.5	5.2	5.2	5.5	5.5
Electrical Conductivity 1:5 soil:water	µS/cm	430	610	690	580	620

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-76	68201-77	68201-78	68201-79	68201-80
Your Reference	----------	14/0.5	14/1.0	14/1.5	14/2.0	14/2.5
Date Sampled	----------	19/01/2012	19/01/2012	19/01/2012	19/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	6.2	5.4	6.2	5.8	5.6
Electrical Conductivity 1:5 soil:water	µS/cm	230	730	720	990	850

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-81	68201-82	68201-83	68201-84	68201-85
Your Reference	----------	14/3.0	15/0.5	15/1.0	15/1.5	15/2.0
Date Sampled	----------	19/01/2012	19/01/2012	19/01/2012	19/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	6.5	5.4	7.7	8.1	8.2
Electrical Conductivity 1:5 soil:water	µS/cm	710	1,200	710	900	890

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-86	68201-87	68201-88	68201-89	68201-90
Your Reference	----------	15/2.5	15/3.0	16/0.5	16/1.0	16/1.5
Date Sampled	----------	19/01/2012	19/01/2012	19/01/2012	19/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	8.1	8.1	5.2	5.9	5.8
Electrical Conductivity 1:5 soil:water	µS/cm	910	980	310	590	820

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-91	68201-92	68201-93	68201-94	68201-95
Your Reference	----------	16/2.0	16/2.5	16/3.0	17/0.5	17/1.0
Date Sampled	----------	19/01/2012	19/01/2012	19/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	6.1	6.6	7.1	5.4	5.1
Electrical Conductivity 1:5 soil:water	µS/cm	840	910	1,000	390	700

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-96	68201-97	68201-98	68201-99	68201-100
Your Reference	----------	17/1.5	17/2.0	17/2.5	17/3.0	18/0.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.4	5.8	6.9	6.9	6.0
Electrical Conductivity 1:5 soil:water	µS/cm	630	480	400	410	350

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-101	68201-102	68201-104	68201-105	68201-106
Your Reference	----------	18/1.0	18/1.5	18/2.5	18/3.0	19/0.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.5	5.9	6.6	8.2	5.4
Electrical Conductivity 1:5 soil:water	µS/cm	610	490	770	840	320

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-107	68201-108	68201-109	68201-110	68201-111
Your Reference	----------	19/1.0	19/1.5	19/2.0	19/2.5	19/3.0
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.5	6.4	6.1	6.1	7.1
Electrical Conductivity 1:5 soil:water	µS/cm	500	730	420	740	690

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-112	68201-113	68201-114	68201-115	68201-116
Your Reference	----------	20/0.5	20/1.0	20/1.5	20/2.0	20/2.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.3	5.0	5.1	6.9	7.5
Electrical Conductivity 1:5 soil:water	µS/cm	570	740	770	650	270

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-117	68201-118	68201-119	68201-120	68201-121
Your Reference	----------	20/3.0	21/0.5	21/1.0	21/1.5	21/2.0
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	7.4	6.2	6.6	6.9	7.4
Electrical Conductivity 1:5 soil:water	µS/cm	320	330	530	760	570

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-122	68201-123	68201-124	68201-125	68201-126
Your Reference	----------	21/2.5	21/3.0	22/0.5	22/1.0	22/1.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	7.8	8.1	6.3	5.4	5.6
Electrical Conductivity 1:5 soil:water	µS/cm	520	490	270	730	580

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-127	68201-128	68201-129	68201-130	68201-131
Your Reference	----------	22/2.0	22/2.5	22/3.0	23/0.5	23/1.0
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.7	6.3	6.7	5.9	6.6
Electrical Conductivity 1:5 soil:water	µS/cm	620	910	840	700	860

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-132	68201-133	68201-134	68201-135	68201-136
Your Reference	----------	23/1.5	23/2.0	23/2.5	23/3.0	24/0.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	7.0	6.8	6.9	8.0	6.7
Electrical Conductivity 1:5 soil:water	µS/cm	880	900	780	810	220

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-137	68201-138	68201-139	68201-140	68201-141
Your Reference	----------	24/1.0	24/1.5	24/2.0	24/2.5	24/3.0
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.9	5.6	5.5	5.8	5.7
Electrical Conductivity 1:5 soil:water	µS/cm	410	840	1,100	790	910

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-142	68201-143	68201-144	68201-145	68201-146
Your Reference	----------	25/0.5	25/1.0	25/1.5	25/2.0	25/2.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.4	5.6	6.0	6.4	7.0
Electrical Conductivity 1:5 soil:water	µS/cm	550	680	700	710	610

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-147	68201-148	68201-149	68201-150	68201-151
Your Reference	----------	25/3.0	26/0.5	26/1.0	26/1.5	26/2.0
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	6.0	6.1	6.5	5.7	5.6
Electrical Conductivity 1:5 soil:water	µS/cm	53	760	120	390	530

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-152	68201-153	68201-154	68201-155	68201-156
Your Reference	----------	26/2.5	26/3.0	27B/0.5	27B/1.0	27B/1.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.5	6.0	5.1	5.3	7.5
Electrical Conductivity 1:5 soil:water	µS/cm	720	810	790	780	700

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-157	68201-158	68201-159	68201-160	68201-161
Your Reference	----------	27B/2.0	27A/0.4	28/0.5	28/1.0	28/1.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	7.1	7.6	8.5	5.6	7.0
Electrical Conductivity 1:5 soil:water	µS/cm	760	280	360	250	120

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-162	68201-163	68201-164	68201-165	68201-166
Your Reference	----------	28/2.0	28/2.5	28/3.0	29/0.5	29/1.0
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.1	4.9	5.0	7.0	6.7
Electrical Conductivity 1:5 soil:water	µS/cm	290	450	700	240	790

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-167	68201-168	68201-169	68201-170	68201-171
Your Reference	----------	29/1.5	29/2.0	29/2.5	29/3.0	30/0.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	7.1	6.7	7.1	7.2	7.7
Electrical Conductivity 1:5 soil:water	µS/cm	840	770	890	800	76

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-172	68201-173	68201-174	68201-175	68201-176
Your Reference	----------	31/0.5	32/0.5	33/0.5	34/0.5	35/0.5
Date Sampled	----------	18/01/2012	18/01/2012	18/01/2012	18/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.8	5.7	5.8	6.2	5.9
Electrical Conductivity 1:5 soil:water	µS/cm	170	110	110	71	200

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-177	68201-178	68201-179	68201-180	68201-181
Your Reference	----------	36/0.5	37/0.5	38/0.5	39/0.5	40/0.5
Date Sampled	----------	18/01/2012	18/01/2012	18/01/2012	18/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.1	5.8	6.8	5.2	5.3
Electrical Conductivity 1:5 soil:water	µS/cm	490	200	210	620	350

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-182	68201-183	68201-184	68201-185	68201-186
Your Reference	----------	41/0.5	42/0.5	43/0.5	44/0.5	45/0.5
Date Sampled	----------	18/01/2012	18/01/2012	18/01/2012	18/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.3	5.3	6.0	6.1	5.8
Electrical Conductivity 1:5 soil:water	µS/cm	520	250	140	130	73

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-187	68201-188	68201-189	68201-190	68201-191
Your Reference	----------	46/0.5	47/0.5	48/0.5	49/0.5	50/0.5
Date Sampled	----------	18/01/2012	18/01/2012	18/01/2012	18/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.5	5.3	6.1	6.1	6.3
Electrical Conductivity 1:5 soil:water	µS/cm	260	380	260	260	42

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-192	68201-193	68201-194	68201-195	68201-196
Your Reference	----------	51/0.5	52/0.5	53/0.5	54/0.5	55/0.5
Date Sampled	----------	18/01/2012	19/01/2012	19/01/2012	19/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.5	6.0	7.2	7.4	5.6
Electrical Conductivity 1:5 soil:water	µS/cm	330	270	240	200	430

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-197	68201-198	68201-199	68201-200	68201-201
Your Reference	----------	56/0.5	57/0.5	58/0.5	59/0.5	60/0.5
Date Sampled	----------	19/01/2012	18/01/2012	19/01/2012	20/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.7	4.8	5.7	6.7	6.0
Electrical Conductivity 1:5 soil:water	µS/cm	320	1,200	170	70	370

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-202	68201-203	68201-204	68201-205	68201-206
Your Reference	----------	61/0.5	62/0.5	63/0.5	64/0.5	65/0.5
Date Sampled	----------	19/01/2012	19/01/2012	20/01/2012	19/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	6.4	5.6	5.3	5.8	6.9
Electrical Conductivity 1:5 soil:water	µS/cm	170	470	340	630	490

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-207	68201-208	68201-209	68201-210	68201-211
Your Reference	----------	66/0.5	67/0.5	68/0.5	69/0.5	70/0.5
Date Sampled	----------	19/01/2012	19/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.9	5.8	6.5	5.5	5.4
Electrical Conductivity 1:5 soil:water	µS/cm	420	230	110	340	410

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-212	68201-213	68201-214	68201-215	68201-216
Your Reference	----------	71/0.5	72/0.5	73/0.5	74/0.5	75/0.5
Date Sampled	----------	20/01/2012	19/01/2012	19/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.0	6.6	6.7	6.0	6.4
Electrical Conductivity 1:5 soil:water	µS/cm	870	160	310	300	640

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-217	68201-218	68201-219	68201-220	68201-221
Your Reference	----------	76/0.5	77/0.5	78/0.5	79/0.5	80/0.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	7.5	5.4	5.5	5.8	5.0
Electrical Conductivity 1:5 soil:water	µS/cm	400	350	560	430	840

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-222	68201-223	68201-224	68201-225	68201-226
Your Reference	----------	81/0.5	82/0.5	83/0.5	84/0.5	85/0.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012	02/02/2012	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012	06/02/2012	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.5	5.8	9.0	5.3	7.1
Electrical Conductivity 1:5 soil:water	µS/cm	420	350	150	340	860

Miscellaneous Inorg - soil			
Our Reference:	UNITS	68201-227	68201-228
Your Reference	----------	86/0.5	87/0.5
Date Sampled	----------	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL
Date prepared	-	02/02/2012	02/02/2012
Date analysed	-	06/02/2012	06/02/2012
pH 1:5 soil:water	pH Units	5.4	6.2
Electrical Conductivity 1:5 soil:water	µS/cm	310	140

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA 21st ED, 4500-H+.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell and dedicated meter, in accordance with APHA 21st ED 2510 and Rayment & Higginson.

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			03/02/2012	68201-1	02/02/2012 || 02/02/2012	LCS-1	03/02/2012
Date analysed	-			04/02/2012	68201-1	06/02/2012 || 06/02/2012	LCS-1	04/02/2012
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	68201-1	6.2 || 6.2 || RPD: 0	LCS-1	100%
Electrical Conductivity 1:5 soil:water	µS/cm	1	Inorg-002	<1	68201-1	120 || 110 || RPD: 9	LCS-1	105%

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	68201-12	02/02/2012 || 02/02/2012	LCS-2	03/02/2012
Date analysed	-	68201-12	06/02/2012 || 06/02/2012	LCS-2	04/02/2012
pH 1:5 soil:water	pH Units	68201-12	5.8 || 5.6 || RPD: 4	LCS-2	101%
Electrical Conductivity 1:5 soil:water	µS/cm	68201-12	190 || 200 || RPD: 5	LCS-2	105%

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	68201-22	02/02/2012 || 02/02/2012	LCS-3	03/02/2012
Date analysed	-	68201-22	06/02/2012 || 06/02/2012	LCS-3	04/02/2012
pH 1:5 soil:water	pH Units	68201-22	5.1 || 5.2 || RPD: 2	LCS-3	101%
Electrical Conductivity 1:5 soil:water	µS/cm	68201-22	490 || 570 || RPD: 15	LCS-3	105%

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	68201-32	02/02/2012 || 02/02/2012	LCS-3	03/02/2012
Date analysed	-	68201-32	06/02/2012 || 06/02/2012	LCS-3	04/02/2012
pH 1:5 soil:water	pH Units	68201-32	6.1 || 6.1 || RPD: 0	LCS-3	101%
Electrical Conductivity 1:5 soil:water	µS/cm	68201-32	380 || 450 || RPD: 17	LCS-3	106%

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	68201-42	02/02/2012 || 02/02/2012	LCS-4	03/02/2012
Date analysed	-	68201-42	06/02/2012 || 06/02/2012	LCS-4	03/02/2012
pH 1:5 soil:water	pH Units	68201-42	5.1 || 5.1 || RPD: 0	LCS-4	100%
Electrical Conductivity 1:5 soil:water	µS/cm	68201-42	810 || 800 || RPD: 1	LCS-4	105%

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	68201-52	02/02/2012 || 02/02/2012	LCS-5	03/02/2012
Date analysed	-	68201-52	06/02/2012 || 06/02/2012	LCS-5	04/02/2012
pH 1:5 soil:water	pH Units	68201-52	8.6 || 8.7 || RPD: 1	LCS-5	101%
Electrical Conductivity 1:5 soil:water	µS/cm	68201-52	510 || 570 || RPD: 11	LCS-5	105%

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	68201-62	02/02/2012 || 02/02/2012	LCS-6	03/02/2012
Date analysed	-	68201-62	06/02/2012 || 06/02/2012	LCS-6	04/02/2012
pH 1:5 soil:water	pH Units	68201-62	6.9 || 7.0 || RPD: 1	LCS-6	101%
Electrical Conductivity 1:5 soil:water	µS/cm	68201-62	410 || 370 || RPD: 10	LCS-6	106%
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	68201-72	02/02/2012 || 02/02/2012	LCS-7	03/02/2012
Date analysed	-	68201-72	06/02/2012 || 06/02/2012	LCS-7	04/02/2012
pH 1:5 soil:water	pH Units	68201-72	5.2 || 5.2 || RPD: 0	LCS-7	101%
Electrical Conductivity 1:5 soil:water	µS/cm	68201-72	610 || 650 || RPD: 6	LCS-7	107%
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	68201-82	02/02/2012 || 02/02/2012	LCS-8	03/02/2012
Date analysed	-	68201-82	06/02/2012 || 06/02/2012	LCS-8	04/02/2012
pH 1:5 soil:water	pH Units	68201-82	5.4 || 5.4 || RPD: 0	LCS-8	101%
Electrical Conductivity 1:5 soil:water	µS/cm	68201-82	1200 || 1200 || RPD: 0	LCS-8	106%
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	68201-92	02/02/2012 || 02/02/2012	LCS-9	03/02/2012
Date analysed	-	68201-92	06/02/2012 || 06/02/2012	LCS-9	04/02/2012
pH 1:5 soil:water	pH Units	68201-92	6.6 || 6.6 || RPD: 0	LCS-9	101%
Electrical Conductivity 1:5 soil:water	µS/cm	68201-92	910 || 850 || RPD: 7	LCS-9	107%
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	68201-113	02/02/2012 || 02/02/2012	LCS-10	03/02/2012
Date analysed	-	68201-113	06/02/2012 || 06/02/2012	LCS-10	04/02/2012
pH 1:5 soil:water	pH Units	68201-113	5.0 || 5.1 || RPD: 2	LCS-10	101%
Electrical Conductivity 1:5 soil:water	µS/cm	68201-113	740 || 740 || RPD: 0	LCS-10	107%
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	68201-123	02/02/2012 || 02/02/2012	LCS-11	03/02/2012
Date analysed	-	68201-123	06/02/2012 || 06/02/2012	LCS-11	04/02/2012
pH 1:5 soil:water	pH Units	68201-123	8.1 || 8.0 || RPD: 1	LCS-11	102%
Electrical Conductivity 1:5 soil:water	µS/cm	68201-123	490 || 490 || RPD: 0	LCS-11	106%

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	68201-133	02/02/2012 || 02/02/2012
Date analysed	-	68201-133	06/02/2012 || 06/02/2012
pH 1:5 soil:water	pH Units	68201-133	6.8 || 6.9 || RPD: 1
Electrical Conductivity 1:5 soil:water	µS/cm	68201-133	900 || 900 || RPD: 0
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	68201-143	02/02/2012 || 02/02/2012
Date analysed	-	68201-143	06/02/2012 || 06/02/2012
pH 1:5 soil:water	pH Units	68201-143	5.6 || 5.6 || RPD: 0
Electrical Conductivity 1:5 soil:water	µS/cm	68201-143	680 || 670 || RPD: 1
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	68201-153	02/02/2012 || 02/02/2012
Date analysed	-	68201-153	06/02/2012 || 06/02/2012
pH 1:5 soil:water	pH Units	68201-153	6.0 || 6.0 || RPD: 0
Electrical Conductivity 1:5 soil:water	µS/cm	68201-153	810 || 790 || RPD: 2
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	68201-163	02/02/2012 || 02/02/2012
Date analysed	-	68201-163	06/02/2012 || 06/02/2012
pH 1:5 soil:water	pH Units	68201-163	4.9 || 4.8 || RPD: 2
Electrical Conductivity 1:5 soil:water	µS/cm	68201-163	450 || 470 || RPD: 4
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	68201-173	02/02/2012 || 02/02/2012
Date analysed	-	68201-173	06/02/2012 || 06/02/2012
pH 1:5 soil:water	pH Units	68201-173	5.7 || 5.7 || RPD: 0
Electrical Conductivity 1:5 soil:water	µS/cm	68201-173	110 || 91 || RPD: 19
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	68201-183	02/02/2012 || 02/02/2012
Date analysed	-	68201-183	06/02/2012 || 06/02/2012
pH 1:5 soil:water	pH Units	68201-183	5.3 || 5.3 || RPD: 0
Electrical Conductivity 1:5 soil:water	µS/cm	68201-183	250 || 260 || RPD: 4

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	68201-193	02/02/2012 || 02/02/2012
Date analysed	-	68201-193	06/02/2012 || 06/02/2012
pH 1:5 soil:water	pH Units	68201-193	6.0 || 6.0 || RPD: 0
Electrical Conductivity 1:5 soil:water	µS/cm	68201-193	270 || 270 || RPD: 0
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	68201-203	02/02/2012 || 02/02/2012
Date analysed	-	68201-203	06/02/2012 || 06/02/2012
pH 1:5 soil:water	pH Units	68201-203	5.6 || 5.6 || RPD: 0
Electrical Conductivity 1:5 soil:water	µS/cm	68201-203	470 || 480 || RPD: 2
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	68201-213	02/02/2012 || 02/02/2012
Date analysed	-	68201-213	06/02/2012 || 06/02/2012
pH 1:5 soil:water	pH Units	68201-213	6.6 || 6.6 || RPD: 0
Electrical Conductivity 1:5 soil:water	µS/cm	68201-213	160 || 150 || RPD: 6
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Date prepared	-	68201-223	02/02/2012 || 02/02/2012
Date analysed	-	68201-223	06/02/2012 || 06/02/2012
pH 1:5 soil:water	pH Units	68201-223	5.8 || 5.8 || RPD: 0
Electrical Conductivity 1:5 soil:water	µS/cm	68201-223	350 || 340 || RPD: 3

Report Comments:

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NA: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batched of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes and LCS: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

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CHAIN OF CUSTODY

Project Name:	Gregory Hills Corporate Park SMP			**To:**	Envirolab Services
Project No:	76510.00	**Sampler:**	BAH		12 Ashley Street, Chatswood NSW 2067
Project Mgr:	CCK	**Mob. Phone:**	0412 754 162	**Attn:**	Tania Notaras
Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
1/0.5	1	19.01.12	S	G	x	x								
1/1.0	2	"	S	G	x	x								
1/1.5	3	"	S	G	x	x								
1/2.0	4	"	S	G	x	x								
1/2.5	5	"	S	G	x	x								
1/3.0	6	"	S	G	x	x								
2/0.5	7	18.01.12	S	G	x	x								
2/1.0	8	"	S	G	x	x								
2/1.5	9	"	S	G	x	x								
2/2.0	10	"	S	G	x	x								
2/2.5	11	"	S	G	x	x								
~~2/3.0~~		~~"~~	~~S~~	~~G~~	~~x~~	~~x~~								

ENVIROLAB
Envirolab Services
~~12 Ashley St~~
Chatswood NSW 2067
~~Ph: (02) 9910 6200~~
Job No: 68201
Date Received: 27/1/12
Time Received: 17:40
Received by: AW/FL
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Lab Report No:			
Send Results to:	Douglas Partners Pty Ltd	**Address:** Unit 5, 50 Topham Road, Smeaton Grange 2567	**Phone:** (02) 4647 0075 **Fax:** (02) 4646 1886
Relinquished by:	BAH	**Transported to laboratory by:**	
Signed:	**Date & Time:** 27.01.2012	**Received by:**	

Douglas Partners
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Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
3/0.5	12	18.01.12	S	G	x	x								
3/1.0	13	"	S	G	x	x								
3/1.5	14	"	S	G	x	x								
3/2.0	15	"	S	G	x	x								
3/2.5	16	"	S	G	x	x								
3/3.0	17	"	S	G	x	x								
4/0.5	18	19.01.12	S	G	x	x								
4/1.0	19	"	S	G	x	x								
4/1.5	20	"	S	G	x	x								
4/2.0	21	"	S	G	x	x								
4/2.5	22	"	S	G	x	x								
4/3.0	23	"	S	G	x	x								

Lab Report No:					
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Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
5/0.5	24	26.01.12	S	G	x	x								
5/1.0	25	"	S	G	x	x								
5/1.5	26	"	S	G	x	x								
5/2.0	27	"	S	G	x	x								
5/2.5	28	"	S	G	x	x								
5/3.0	29	"	S	G	x	x								
6/0.5	30	27.01.12	S	G	x	x								
6/1.0	31	"	S	G	x	x								
6/1.5	32	"	S	G	x	x								
6/2.0	33	"	S	G	x	x								
6/2.5	34	"	S	G	x	x								
6/3.0	35	"	S	G	x	x								

Lab Report No:					
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Relinquished by:			**Transported to laboratory by:**		
Signed:		**Date & Time:** 27.01.2012	**Received by:**		

Form COC

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Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
7/0.5	36	19.01.12	S	G	x	x								
7/1.0	37	"	S	G	x	x								
7/1.5	38	"	S	G	x	x								
7/2.0	39	"	S	G	x	x								
7/2.5	40	"	S	G	x	x								
~~7/3.0~~			~~S~~	~~G~~	~~x~~	~~x~~								
8/0.5	41	19.01.12	S	G	x	x								
8/1.0	42	"	S	G	x	x								
8/1.5	43	"	S	G	x	x								
8/2.0	44	"	S	G	x	x								
8/2.5	45	"	S	G	x	x								
8/3.0	46	"	S	G	x	x								

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Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
9/0.5	47	19.01.12	S	G	x	x								
9/1.0	48	"	S	G	x	x								
9/1.5	49	"	S	G	x	x								
9/2.0	50	"	S	G	x	x								
9/2.5	51	"	S	G	x	x								
9/3.0	52	"	S	G	x	x								
10/0.5	53	18.01.12	S	G	x	x								
10/1.0	54	"	S	G	x	x								
10/1.5	55	"	S	G	x	x								
10/2.0	56	"	S	G	x	x								
10/2.5	57	"	S	G	x	x								
10/3.0	58	"	S	G	x	x								

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Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
11/0.5	59	19.01.12	S	G	x	x								
11/1.0	60	"	S	G	x	x								
11/1.5	61	"	S	G	x	x								
11/2.0	62	"	S	G	x	x								
11/2.2	63	"	S	G	x	x								
~~11/3.0~~			~~S~~	~~G~~	~~x~~	~~x~~								
12/0.5	64	19.01.12	S	G	x	x								
12/1.0	65	"	S	G	x	x								
12/1.5	66	"	S	G	x	x								
12/2.0	67	"	S	G	x	x								
12/2.5	68	"	S	G	x	x								
12/3.0	69	"	S	G	x	x								

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Project Mgr:	CCK	**Mob. Phone:**	0412 754 162	**Attn:**	Tania Notaras
Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil W - water)	Container Type (G - glass P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
13/0.5	70	20.01.12	S	G	x	x								
13/1.0	71	"	S	G	x	x								
13/1.5	72		S	G	x	x								
13/2.0	73		S	G	x	x								
13/2.5	74		S	G	x	x								
13/3.0	75		S	G	x	x								
14/0.5	76	19.01.12	S	G	x	x								
14/1.0	77	"	S	G	x	x								
14/1.5	78		S	G	x	x								
14/2.0	79		S	G	x	x								
14/2.5	80		S	G	x	x								
14/3.0	81		S	G	x	x								

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Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes									Notes/preservation
					EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					
15/0.5	82	19.01.12	S	G	x	x								
15/1.0	83	"	S	G	x	x								
15/1.5	84	"	S	G	x	x								
15/2.0	85	"	S	G	x	x								
15/2.5	86	"	S	G	x	x								
15/3.0	87	"	S	G	x	x								
16/0.5	88	19.01.12	S	G	x	x								
16/1.0	89	"	S	G	x	x								
16/1.5	90	"	S	G	x	x								
16/2.0	91	"	S	G	x	x								
16/2.5	92	"	S	G	x	x								
16/3.0	93	"	S	G	x	x								

Lab Report No:					
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Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
17/0.5	94	20.01.12	S	G	x	x								
17/1.0	95	"	S	G	x	x								
17/1.5	96	"	S	G	x	x								
17/2.0	97	"	S	G	x	x								
17/2.5	98	"	S	G	x	x								
17/3.0	99	"	S	G	x	x								
18/0.5	100	20.01.12	S	G	x	x								
18/1.0	101	"	S	G	x	x								
18/1.5	102	"	S	G	x	x								
missing → 18/2.0	103	"	S	G	x	x								
18/2.5	104	"	S	G	x	x								
18/3.0	105	"	S	G	x	x								

Lab Report No:			
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Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
19/0.5	106	20.01.12	S	G	x	x								
19/1.0	107	"	S	G	x	x								
19/1.5	108	"	S	G	x	x								
19/2.0	109	"	S	G	x	x								
19/2.5	110	"	S	G	x	x								
19/3.0	111	"	S	G	x	x								
20/0.5	112	20.01.12	S	G	x	x								
20/1.0	113	"	S	G	x	x								
20/1.5	114	"	S	G	x	x								
20/2.0	115	"	S	G	x	x								
20/2.5	116	"	S	G	x	x								
20/3.0	117	"	S	G	x	x								

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Project Name:	Gregory Hills Corporate Park SMP			**To:**	Envirolab Services
Project No:	76510.00	**Sampler:**	BAH		12 Ashley Street, Chatswood NSW 2067
Project Mgr:	CCK	**Mob. Phone:**	0412 754 162	**Attn:**	Tania Notaras
Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes									Notes/preservation
					EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					
21/0.5	118	20.01.12	S	G	x	x								
21/1.0	119	"	S	G	x	x								
21/1.5	120	"	S	G	x	x								
21/2.0	121	"	S	G	x	x								
21/2.5	122	"	S	G	x	x								
21/3.0	123	"	S	G	x	x								
22/0.5	124	20.01.12	S	G	x	x								
22/1.0	125	"	S	G	x	x								
22/1.5	126	"	S	G	x	x								
22/2.0	127	"	S	G	x	x								
22/2.5	128	"	S	G	x	x								
22/3.0	129	"	S	G	x	x								

Lab Report No:					
Send Results to:	Douglas Partners Pty Ltd	**Address** Unit 5, 50 Topham Road, Smeaton Grange 2567		**Phone:** (02) 4647 0075	**Fax:** (02) 4646 1886
Relinquished by:	BAH		**Transported to laboratory by:**		
Signed:		**Date & Time:** 27.01.12	**Received by:**		

Douglas Partners
Geotechnics / Environment / Groundwater

CHAIN OF CUSTODY

Project Name:	Gregory Hills Corporate Park SMP			**To:**	Envirolab Services
Project No:	76510.00	**Sampler:**	BAH		12 Ashley Street, Chatswood NSW 2067
Project Mgr:	CCK	**Mob. Phone:**	0412 754 162	**Attn:**	Tania Notaras
Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
23/0.5	130	20.01.12	S	G	x	x								
23/1.0	131	"	S	G	x	x								
23/1.5	132		S	G	x	x								
23/2.0	133		S	G	x	x								
23/2.5	134		S	G	x	x								
23/3.0	135		S	G	x	x								
24/0.5	136	20.01.12	S	G	x	x								
24/1.0	137	"	S	G	x	x								
24/1.5	138		S	G	x	x								
24/2.0	139		S	G	x	x								
24/2.5	140		S	G	x	x								
24/3.0	141		S	G	x	x								

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Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
25/0.5	142	20.01.12	S	G	x	x								
25/1.0	143	"	S	G	x	x								
25/1.5	144	"	S	G	x	x								
25/2.0	145	"	S	G	x	x								
25/2.5	146	"	S	G	x	x								
25/3.0	147	"	S	G	x	x								
26/0.5	148	20.01.12	S	G	x	x								
26/1.0	149	"	S	G	x	x								
26/1.5	150	"	S	G	x	x								
26/2.0	151	"	S	G	x	x								
26/2.5	152	"	S	G	x	x								
26/3.0	153	"	S	G	x	x								

Lab Report No:					
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Relinquished by:	BAH		**Transported to laboratory by:**		
Signed:		**Date & Time:** 27.01.12	**Received by:**		

Douglas Partners
Geotechnics / Environment / Groundwater

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Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil W - water)	Container Type (G - glass P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
~~27B~~ 27/0.5	154	20.01.12	S	G	x	x								
27B ~~27~~/1.0	155	"	S	G	x	x								
27B ~~27~~/1.5	156	"	S	G	x	x								
27B ~~27~~/2.0	157	"	S	G	x	x								
27A/~~27B~~ 9.5	158	"	S	G	x	x								
~~27/3.0~~		"	~~S~~	~~G~~	~~x~~	~~x~~								
28/0.5	159	20.01.12	S	G	x	x								
28/1.0	160	"	S	G	x	x								
28/1.5	161	"	S	G	x	x								
28/2.0	162	"	S	G	x	x								
28/2.5	163	"	S	G	x	x								
28/3.0	164	"	S	G	x	x								

Lab Report No:					
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Relinquished by:	BAH		**Transported to laboratory by:**		
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Geotechnics / Environment / Groundwater

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Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
29/0.5	165	20.01.12	S	G	x	x								
29/1.0	166	~~19.01.12~~	S	G	x	x								
29/1.5	167	"	S	G	x	x								
29/2.0	168	"	S	G	x	x								
29/2.5	169	"	S	G	x	x								
29/3.0	170	"	S	G	x	x								
30/0.5	171	19.01.12	S	G	x	x								
31/0.5	172	18.01.12	S	G	x	x								
32/0.5	173	"	S	G	x	x								
33/0.5	174	"	S	G	x	x								
34/0.5	175	"	S	G	x	x								
35/0.5	176	"	S	G	x	x								
36/0.5	177	"	S	G	x	x								

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Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes									Notes/preservation
					EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					
37/0.5	178	18.01.12	S	G	x	x								
38/0.5	179		S	G	x	x								
39/0.5	180		S	G	x	x								
40/0.5	181		S	G	x	x								
41/0.5	182		S	G	x	x								
42/0.5	183		S	G	x	x								
43/0.5	184		S	G	x	x								
44/0.5	185		S	G	x	x								
45/0.5	186		S	G	x	x								
46/0.5	187		S	G	x	x								
47/0.5	188		S	G	x	x								
48/0.5	189		S	G	x	x								
49/0.5	190		S	G	x	x								

Lab Report No:		**Address:** Unit 5, 50 Topham Road, Smeaton Grange 2567		**Phone:** (02) 4647 0075	**Fax:** (02) 4646 1886
Send Results to:	Douglas Partners Pty Ltd			**Transported to laboratory by:**	
Relinquished by:	BAH			**Received by:**	
Signed:		**Date & Time:**	27.01.12		

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Geotechnics / Environment / Groundwater

CHAIN OF CUSTODY

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Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil W - water)	Container Type (G - glass P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
50/0.5	191	18.01.12	S	G	x	x								
51/0.5	192	18.01.12	S	G	x	x								
52/0.5	193	19.01.12	S	G	x	x								
53/0.5	194	19.01.12	S	G	x	x								
54/0.5	195	19.01.12	S	G	x	x								
55/0.5	196	19.01.12	S	G	x	x								
56/0.5	197	19.01.12	S	G	x	x								
57/0.5	198	18.01.12	S	G	x	x								
58/0.5	199	19.01.12	S	G	x	x								
59/0.5	200	20.01.12	S	G	x	x								
60/0.5	201	19.01.12	S	G	x	x								
61/0.5	202	19.01.12	S	G	x	x								
62/0.5	203	19.01.12	S	G	x	x								

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Geotechnics / Environment / Groundwater

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Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
63/0.5	204	20.01.12	S	G	x	x								
64/0.5	205	19.01.12	S	G	x	x								
65/0.5	206	19.01.12	S	G	x	x								
66/0.5	207	19.01.12	S	G	x	x								
67/0.5	208	19.01.12	S	G	x	x								
68/0.5	209	20.01.12	S	G	x	x								
69/0.5	210	20.01.12	S	G	x	x								
70/0.5	211	20.01.12	S	G	x	x								
71/0.5	212	20.01.12	S	G	x	x								
72/0.5	213	19.01.12	S	G	x	x								
73/0.5	214	19.01.12	S	G	x	x								
74/0.5	215	20.01.12	S	G	x	x								
75/0.5	216	20.01.12	S	G	x	x								

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Signed:		**Date & Time:** 27.01.12	**Received by:**		

Douglas Partners
Geotechnics / Environment / Groundweter

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Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil W - water)	Container Type (G - glass P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
76/0.5	217	20.01.12	S	G	x	x								
77/0.5	218	20.01.12	S	G	x	x								
78/0.5	219	20.01.12	S	G	x	x								
79/0.5	220	20.01.12	S	G	x	x								
80/0.5	221	20.01.12	S	G	x	x								
81/0.5	222	20.01.12	S	G	x	x								
82/0.5	223	20.01.12	S	G	x	x								
83/0.5	224	20.01.12	S	G	x	x								
84/0.5	225	20.01.12	S	G	x	x								
85/0.5	226	20.01.12	S	G	x	x								
86/0.5	227	20.01.12	S	G	x	x								
87/0.5	228	20.01.12	S	G	x	x								

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Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes									Notes/preservation
					EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					
44/0.2	229	18.01.12	S	G										
57/0.2	230	18.01.12	S	G										
56/0.2	231	19.01.12	S	G										
34/0.2	232	18.01.12	S	G										
43/0.2	233	18.01.12	S	G										
45/0.2	234	18.01.12	S	G										
46/0.2	235	18.01.12	S	G										
48/0.2	236	18.01.12	S	G										
A27/1.0	237		S	G										
29/1.0	238		S	G										
37/0.2	239		S	G										
39/0.2	240		S	G										

Lab Report No:					
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Relinquished by:	BAH		**Transported to laboratory by:**		
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Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
enquiries@envirolabservices.com.au
www.envirolabservices.com.au

CERTIFICATE OF ANALYSIS 68201-A

Client:

Douglas Partners Pty Ltd Smeaton Grange
Unit 5/50 Topham Rd
Smeaton Grange
NSW 2567

Attention: Bradley Harris

Sample log in details:

Your Reference:	**76510.00, Gregory Hills Corporate Park SMP**		
No. of samples:	240 Soils		
Date samples received / completed instructions received	27/01/12	/	07/02/2012

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	14/02/12	/	16/02/12
Date of Preliminary Report:	Not Issued		

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Accredited for compliance with ISO/IEC 17025. **Tests not covered by NATA are denoted with *.**

Results Approved By:

Rhian Morgan
Reporting Supervisor

Nick Sarlamis
Inorganics Supervisor

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-1	68201-A-7	68201-A-12	68201-A-18	68201-A-19
Your Reference	----------	1/0.5	2/0.5	3/0.5	4/0.5	4/1.0
Date Sampled	----------	19/01/2012	18/01/2012	18/01/2012	19/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	100	54	230	280	390
Sulphate, SO4 1:5 soil:water	mg/kg	64	17	57	190	160

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-24	68201-A-30	68201-A-31	68201-A-36	68201-A-38
Your Reference	----------	5/0.5	6/0.5	6/1.0	7/0.5	7/1.5
Date Sampled	----------	20/01/2012	18/01/2012	18/01/2012	18/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	350	110	560	14	9
Sulphate, SO4 1:5 soil:water	mg/kg	22	26	62	20	7

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-41	68201-A-47	68201-A-48	68201-A-53	68201-A-59
Your Reference	----------	8/0.5	9/0.5	9/1.0	10/0.5	11/0.5
Date Sampled	----------	19/01/2012	19/01/2012	19/01/2012	18/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	940	39	48	440	1,200
Sulphate, SO4 1:5 soil:water	mg/kg	95	19	20	52	80

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-60	68201-A-64	68201-A-70	68201-A-76	68201-A-77
Your Reference	----------	11/1.0	12/0.5	13/0.5	14/0.5	14/1.0
Date Sampled	----------	18/01/2012	19/01/2012	20/01/2012	19/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	610	34	98	280	1,200
Sulphate, SO4 1:5 soil:water	mg/kg	65	62	38	63	230

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-82	68201-A-88	68201-A-90	68201-A-94	68201-A-95
Your Reference	----------	15/0.5	16/0.5	16/1.5	17/0.5	17/1.0
Date Sampled	----------	19/01/2012	19/01/2012	19/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	2,100	490	1,300	510	1,200
Sulphate, SO4 1:5 soil:water	mg/kg	340	63	160	200	280

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-100	68201-A-101	68201-A-106	68201-A-112	68201-A-118
Your Reference	----------	18/0.5	18/1.0	19/0.5	20/0.5	21/0.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	460	890	370	830	380
Sulphate, SO4 1:5 soil:water	mg/kg	150	130	25	260	110

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-119	68201-A-124	68201-A-130	68201-A-137	68201-A-138
Your Reference	----------	21/1.0	22/0.5	23/0.5	24/1.0	24/1.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	810	410	1,100	430	1,000
Sulphate, SO4 1:5 soil:water	mg/kg	150	140	190	200	270

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-142	68201-A-143	68201-A-148	68201-A-154	68201-A-159
Your Reference	----------	25/0.5	25/1.0	26/0.5	27B/0.5	28/0.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	900	1,100	26	810	160
Sulphate, SO4 1:5 soil:water	mg/kg	120	120	24	160	89

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-165	68201-A-166	68201-A-171	68201-A-172	68201-A-173
Your Reference	----------	29/0.5	29/1.0	30/0.5	31/0.5	32/0.5
Date Sampled	----------	20/01/2012	20/01/2012	19/01/2012	18/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	230	1,100	190	170	59
Sulphate, SO4 1:5 soil:water	mg/kg	45	200	44	43	65

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-174	68201-A-175	68201-A-176	68201-A-177	68201-A-178
Your Reference	----------	33/0.5	34/0.5	35/0.5	36/0.5	37/0.5
Date Sampled	----------	18/01/2012	18/01/2012	18/01/2012	18/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	73	22	53	170	140
Sulphate, SO4 1:5 soil:water	mg/kg	69	24	47	87	53

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-179	68201-A-180	68201-A-181	68201-A-182	68201-A-183
Your Reference	----------	38/0.5	39/0.5	40/0.5	41/0.5	42/0.5
Date Sampled	----------	18/01/2012	18/01/2012	18/01/2012	18/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	110	850	230	750	300
Sulphate, SO4 1:5 soil:water	mg/kg	54	340	75	190	160

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-184	68201-A-185	68201-A-186	68201-A-187	68201-A-188
Your Reference	----------	43/0.5	44/0.5	45/0.5	46/0.5	47/0.5
Date Sampled	----------	18/01/2012	18/01/2012	18/01/2012	18/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	180	180	32	290	510
Sulphate, SO4 1:5 soil:water	mg/kg	56	11	80	180	210

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-189	68201-A-190	68201-A-191	68201-A-192	68201-A-193
Your Reference	----------	48/0.5	49/0.5	50/0.5	51/0.5	52/0.5
Date Sampled	----------	18/01/2012	18/01/2012	18/01/2012	18/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	300	310	25	460	310
Sulphate, SO4 1:5 soil:water	mg/kg	110	150	49	110	170

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-194	68201-A-195	68201-A-196	68201-A-197	68201-A-198
Your Reference	----------	53/0.5	54/0.5	55/0.5	56/0.5	57/0.5
Date Sampled	----------	19/01/2012	19/01/2012	19/01/2012	19/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	180	160	640	430	2,000
Sulphate, SO4 1:5 soil:water	mg/kg	68	76	150	100	220

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-199	68201-A-200	68201-A-201	68201-A-202	68201-A-203
Your Reference	----------	58/0.5	59/0.5	60/0.5	61/0.5	62/0.5
Date Sampled	----------	19/01/2012	20/01/2012	19/01/2012	19/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	290	35	410	150	770
Sulphate, SO4 1:5 soil:water	mg/kg	110	62	110	97	140

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-204	68201-A-205	68201-A-206	68201-A-207	68201-A-208
Your Reference	----------	63/0.5	64/0.5	65/0.5	66/0.5	67/0.5
Date Sampled	----------	20/01/2012	19/01/2012	19/01/2012	19/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	370	950	590	670	320
Sulphate, SO4 1:5 soil:water	mg/kg	220	230	110	220	76

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-209	68201-A-210	68201-A-211	68201-A-212	68201-A-213
Your Reference	----------	68/0.5	69/0.5	70/0.5	71/0.5	72/0.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	34	460	660	1,300	130
Sulphate, SO4 1:5 soil:water	mg/kg	35	150	220	300	78

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-214	68201-A-215	68201-A-216	68201-A-217	68201-A-218
Your Reference	----------	73/0.5	74/0.5	75/0.5	76/0.5	77/0.5
Date Sampled	----------	19/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	380	490	1,000	530	340
Sulphate, SO4 1:5 soil:water	mg/kg	150	70	180	98	160

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-219	68201-A-220	68201-A-221	68201-A-222	68201-A-223
Your Reference	----------	78/0.5	79/0.5	80/0.5	81/0.5	82/0.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	900	550	1,400	470	380
Sulphate, SO4 1:5 soil:water	mg/kg	130	220	190	270	160

Miscellaneous Inorg - soil						
Our Reference:	UNITS	68201-A-224	68201-A-225	68201-A-226	68201-A-227	68201-A-228
Your Reference	----------	83/0.5	84/0.5	85/0.5	86/0.5	87/0.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Date prepared	-	10/02/2012	10/02/2012	10/02/2012	10/02/2012	10/02/2012
Date analysed	-	14/02/2012	14/02/2012	14/02/2012	14/02/2012	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	74	210	510	240	120
Sulphate, SO4 1:5 soil:water	mg/kg	28	130	170	130	96

ESP/CEC						
Our Reference:	UNITS	68201-A-1	68201-A-7	68201-A-12	68201-A-18	68201-A-24
Your Reference	----------	1/0.5	2/0.5	3/0.5	4/0.5	5/0.5
Date Sampled	----------	19/01/2012	18/01/2012	18/01/2012	19/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Exchangeable Ca	meq/100g	0.28	8.2	0.65	0.60	2.0
Exchangeable K	meq/100g	0.19	0.11	0.35	0.27	0.26
Exchangeable Mg	meq/100g	11	10	11	13	13
Exchangeable Na	meq/100g	2.0	1.8	2.1	2.5	1.4
Cation Exchange Capacity	meq/100g	14	21	14	16	16
ESP	%	14.3	8.8	14.9	15.7	8.7

ESP/CEC						
Our Reference:	UNITS	68201-A-30	68201-A-36	68201-A-41	68201-A-47	68201-A-53
Your Reference	----------	6/0.5	7/0.5	8/0.5	9/0.5	10/0.5
Date Sampled	----------	18/01/2012	18/01/2012	19/01/2012	19/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Exchangeable Ca	meq/100g	3.0	2.0	0.88	12	0.71
Exchangeable K	meq/100g	0.18	0.19	0.17	0.26	0.21
Exchangeable Mg	meq/100g	14	8.2	8.9	5.8	16
Exchangeable Na	meq/100g	2.1	0.43	2.6	0.49	2.9
Cation Exchange Capacity	meq/100g	20	11	13	19	20
ESP	%	10.9	4.0	20.5	2.6	14.7

ESP/CEC						
Our Reference:	UNITS	68201-A-59	68201-A-64	68201-A-70	68201-A-76	68201-A-82
Your Reference	----------	11/0.5	12/0.5	13/0.5	14/0.5	15/0.5
Date Sampled	----------	18/01/2012	19/01/2012	20/01/2012	19/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Exchangeable Ca	meq/100g	2.7	0.55	2.3	0.72	0.62
Exchangeable K	meq/100g	0.35	0.11	0.36	0.13	0.13
Exchangeable Mg	meq/100g	15	6.1	4.3	12	9.2
Exchangeable Na	meq/100g	3.2	2.1	0.31	2.5	3.8
Cation Exchange Capacity	meq/100g	21	8.8	7.2	15	14
ESP	%	14.8	23.5	4.3	16.3	27.7

ESP/CEC						
Our Reference:	UNITS	68201-A-88	68201-A-94	68201-A-100	68201-A-106	68201-A-112
Your Reference	----------	16/0.5	17/0.5	18/0.5	19/0.5	20/0.5
Date Sampled	----------	19/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Exchangeable Ca	meq/100g	0.15	0.94	0.64	3.2	0.41
Exchangeable K	meq/100g	0.16	0.25	0.14	0.50	0.28
Exchangeable Mg	meq/100g	11	15	14	4.3	16
Exchangeable Na	meq/100g	2.9	3.1	3.9	0.33	4.9
Cation Exchange Capacity	meq/100g	14	19	19	8.3	21
ESP	%	20.2	16.3	20.7	4.0	23.0

ESP/CEC						
Our Reference:	UNITS	68201-A-118	68201-A-124	68201-A-130	68201-A-137	68201-A-142
Your Reference	----------	21/0.5	22/0.5	23/0.5	24/1.0	25/0.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Exchangeable Ca	meq/100g	0.20	0.21	0.36	0.30	0.31
Exchangeable K	meq/100g	0.12	0.14	0.13	0.12	0.21
Exchangeable Mg	meq/100g	8.4	13	10	8.8	13
Exchangeable Na	meq/100g	2.4	3.2	3.2	3.3	4.4
Cation Exchange Capacity	meq/100g	11	16	14	13	18
ESP	%	21.5	19.8	22.9	26.3	24.5

ESP/CEC						
Our Reference:	UNITS	68201-A-148	68201-A-154	68201-A-159	68201-A-165	68201-A-171
Your Reference	----------	26/0.5	27B/0.5	28/0.5	29/0.5	30/0.5
Date Sampled	----------	20/01/2012	20/01/2012	20/01/2012	20/01/2012	19/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Exchangeable Ca	meq/100g	3.6	0.19	13	0.93	3.8
Exchangeable K	meq/100g	0.12	0.15	0.15	0.10	0.22
Exchangeable Mg	meq/100g	2.9	10	7.2	9.0	11
Exchangeable Na	meq/100g	0.31	4.6	2.0	2.4	2.0
Cation Exchange Capacity	meq/100g	7.0	15	23	12	17
ESP	%	4.5	30.3	8.6	19.1	11.9

ESP/CEC						
Our Reference:	UNITS	68201-A-175	68201-A-177	68201-A-178	68201-A-179	68201-A-181
Your Reference	----------	34/0.5	36/0.5	37/0.5	38/0.5	40/0.5
Date Sampled	----------	18/01/2012	18/01/2012	18/01/2012	18/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Exchangeable Ca	meq/100g	0.68	0.77	0.42	2.5	1.1
Exchangeable K	meq/100g	0.20	0.32	0.13	0.16	0.26
Exchangeable Mg	meq/100g	13	13	8.9	8.3	12
Exchangeable Na	meq/100g	1.9	3.0	2.0	2.2	2.5
Cation Exchange Capacity	meq/100g	15	17	11	13	16
ESP	%	12.1	17.6	17.9	16.8	15.4

ESP/CEC						
Our Reference:	UNITS	68201-A-182	68201-A-184	68201-A-185	68201-A-188	68201-A-189
Your Reference	----------	41/0.5	43/0.5	44/0.5	47/0.5	48/0.5
Date Sampled	----------	18/01/2012	18/01/2012	18/01/2012	18/01/2012	18/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Exchangeable Ca	meq/100g	0.28	2.1	0.76	0.47	0.42
Exchangeable K	meq/100g	0.23	0.29	0.15	0.21	0.19
Exchangeable Mg	meq/100g	12	14	9.6	11	16
Exchangeable Na	meq/100g	3.7	2.8	1.1	2.7	3.6
Cation Exchange Capacity	meq/100g	16	19	12	15	20
ESP	%	22.7	14.5	9.2	18.7	18.3

ESP/CEC						
Our Reference:	UNITS	68201-A-197	68201-A-199	68201-A-205	68201-A-208	68201-A-210
Your Reference	----------	56/0.5	58/0.5	64/0.5	67/0.5	69/0.5
Date Sampled	----------	19/01/2012	19/01/2012	19/01/2012	19/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Exchangeable Ca	meq/100g	0.83	1.3	2.2	1.1	0.61
Exchangeable K	meq/100g	0.20	0.14	0.14	0.19	0.24
Exchangeable Mg	meq/100g	13	6.9	12	13	13
Exchangeable Na	meq/100g	2.8	1.4	2.8	2.3	2.9
Cation Exchange Capacity	meq/100g	17	9.7	18	17	17
ESP	%	17.0	14.1	16.1	13.5	17.1

ESP/CEC						
Our Reference:	UNITS	68201-A-213	68201-A-216	68201-A-217	68201-A-222	68201-A-223
Your Reference	----------	72/0.5	75/0.5	76/0.5	81/0.5	82/0.5
Date Sampled	----------	19/01/2012	20/01/2012	20/01/2012	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL	SOIL	SOIL	SOIL
Exchangeable Ca	meq/100g	0.92	0.27	0.66	0.75	0.28
Exchangeable K	meq/100g	0.13	0.12	0.13	0.14	0.11
Exchangeable Mg	meq/100g	12	11	14	11	7.4
Exchangeable Na	meq/100g	2.2	2.9	3.5	3.5	3.0
Cation Exchange Capacity	meq/100g	15	14	18	16	11
ESP	%	14.8	20.4	19.5	22.3	27.9

ESP/CEC			
Our Reference:	UNITS	68201-A-226	68201-A-227
Your Reference	----------	85/0.5	86/0.5
Date Sampled	----------	20/01/2012	20/01/2012
Type of sample		SOIL	SOIL
Exchangeable Ca	meq/100g	2.0	2.3
Exchangeable K	meq/100g	0.13	0.37
Exchangeable Mg	meq/100g	16	11
Exchangeable Na	meq/100g	6.1	2.2
Cation Exchange Capacity	meq/100g	24	16
ESP	%	25.4	13.6

Method ID	Methodology Summary
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA 21st ED, 4110 -B.
Metals-009	Determination of exchangeable cations and cation exchange capacity in soil based on Rayment and Lyons 2011.

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			10/02/2012	68201-A-1	10/02/2012 || 10/02/2012	LCS-1	10/02/2012
Date analysed	-			14/02/2012	68201-A-1	14/02/2012 || 14/02/2012	LCS-1	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	2	Inorg-081	<2	68201-A-1	100 || 100 || RPD: 0	LCS-1	104%
Sulphate, SO4 1:5 soil:water	mg/kg	2	Inorg-081	<2	68201-A-1	64 || 65 || RPD: 2	LCS-1	108%

QUALITY CONTROL ESP/CEC	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Exchangeable Ca	meq/100g	0.01	Metals-009	<0.01	68201-A-1	0.28 || 0.24 || RPD: 15	LCS-1	90%
Exchangeable K	meq/100g	0.01	Metals-009	<0.01	68201-A-1	0.19 || 0.17 || RPD: 11	LCS-1	101%
Exchangeable Mg	meq/100g	0.01	Metals-009	<0.01	68201-A-1	11 || 10 || RPD: 10	LCS-1	99%
Exchangeable Na	meq/100g	0.01	Metals-009	<0.01	68201-A-1	2.0 || 1.8 || RPD: 11	LCS-1	96%
Cation Exchange Capacity	meq/100g	1	Metals-009	<1.0	68201-A-1	14 || 13 || RPD: 7	[NR]	[NR]
ESP	%	1	Metals-009	<1.0	68201-A-1	14.3 || 14.6 || RPD: 2	[NR]	[NR]

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	68201-A-41	10/02/2012 || 10/02/2012	LCS-2	10/02/2012
Date analysed	-	68201-A-41	14/02/2012 || 14/02/2012	LCS-2	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	68201-A-41	940 || 990 || RPD: 5	LCS-2	96%
Sulphate, SO4 1:5 soil:water	mg/kg	68201-A-41	95 || 95 || RPD: 0	LCS-2	102%

QUALITY CONTROL ESP/CEC	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Exchangeable Ca	meq/100g	68201-A-59	2.7 || 0.81 || RPD: 108	LCS-2	87%
Exchangeable K	meq/100g	68201-A-59	0.35 || 0.33 || RPD: 6	LCS-2	90%
Exchangeable Mg	meq/100g	68201-A-59	15 || 16 || RPD: 6	LCS-2	95%
Exchangeable Na	meq/100g	68201-A-59	3.2 || 3.4 || RPD: 6	LCS-2	92%
Cation Exchange Capacity	meq/100g	68201-A-59	21 || 20 || RPD: 5	[NR]	[NR]
ESP	%	68201-A-59	14.8 || 16.6 || RPD: 11	[NR]	[NR]

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	68201-A-82	10/02/2012 || 10/02/2012	LCS-3	10/02/2012
Date analysed	-	68201-A-82	14/02/2012 || 14/02/2012	LCS-3	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	68201-A-82	2100 || 2100 || RPD: 0	LCS-3	98%
Sulphate, SO4 1:5 soil:water	mg/kg	68201-A-82	340 || 320 || RPD: 6	LCS-3	104%
QUALITY CONTROL ESP/CEC	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Exchangeable Ca	meq/100 g	68201-A-118	0.20 || 0.20 || RPD: 0	LCS-3	93%
Exchangeable K	meq/100 g	68201-A-118	0.12 || 0.12 || RPD: 0	LCS-3	102%
Exchangeable Mg	meq/100 g	68201-A-118	8.4 || 8.4 || RPD: 0	LCS-3	102%
Exchangeable Na	meq/100 g	68201-A-118	2.4 || 2.2 || RPD: 9	LCS-3	103%
Cation Exchange Capacity	meq/100 g	68201-A-118	11 || 11 || RPD: 0	[NR]	[NR]
ESP	%	68201-A-118	21.5 || 20.5 || RPD: 5	[NR]	[NR]
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	68201-A-130	10/02/2012 || 10/02/2012	LCS-5	10/02/2012
Date analysed	-	68201-A-130	14/02/2012 || 14/02/2012	LCS-5	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	68201-A-130	1100 || 1000 || RPD: 10	LCS-5	98%
Sulphate, SO4 1:5 soil:water	mg/kg	68201-A-130	190 || 190 || RPD: 0	LCS-5	100%
QUALITY CONTROL ESP/CEC	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD		
Exchangeable Ca	meq/100 g	68201-A-165	0.93 || 0.91 || RPD: 2		
Exchangeable K	meq/100 g	68201-A-165	0.10 || 0.097 || RPD: 3		
Exchangeable Mg	meq/100 g	68201-A-165	9.0 || 8.8 || RPD: 2		
Exchangeable Na	meq/100 g	68201-A-165	2.4 || 2.2 || RPD: 9		
Cation Exchange Capacity	meq/100 g	68201-A-165	12 || 12 || RPD: 0		
ESP	%	68201-A-165	19.1 || 18.2 || RPD: 5		

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	68201-A-166	10/02/2012 || 10/02/2012	68201-A-7	10/02/2012
Date analysed	-	68201-A-166	14/02/2012 || 14/02/2012	68201-A-7	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	68201-A-166	1100 || 1100 || RPD: 0	68201-A-7	100%
Sulphate, SO4 1:5 soil:water	mg/kg	68201-A-166	200 || 190 || RPD: 5	68201-A-7	115%

QUALITY CONTROL ESP/CEC	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Exchangeable Ca	meq/100 g	68201-A-188	0.47 || 0.51 || RPD: 8
Exchangeable K	meq/100 g	68201-A-188	0.21 || 0.22 || RPD: 5
Exchangeable Mg	meq/100 g	68201-A-188	11 || 12 || RPD: 9
Exchangeable Na	meq/100 g	68201-A-188	2.7 || 2.8 || RPD: 4
Cation Exchange Capacity	meq/100 g	68201-A-188	15 || 15 || RPD: 0
ESP	%	68201-A-188	18.7 || 18.1 || RPD: 3

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	68201-A-180	10/02/2012 || 10/02/2012	68201-A-88	10/02/2012
Date analysed	-	68201-A-180	14/02/2012 || 14/02/2012	68201-A-88	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	68201-A-180	850 || 850 || RPD: 0	68201-A-88	#
Sulphate, SO4 1:5 soil:water	mg/kg	68201-A-180	340 || 340 || RPD: 0	68201-A-88	#

QUALITY CONTROL ESP/CEC	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD
Exchangeable Ca	meq/100 g	68201-A-222	0.75 || 0.69 || RPD: 8
Exchangeable K	meq/100 g	68201-A-222	0.14 || 0.13 || RPD: 7
Exchangeable Mg	meq/100 g	68201-A-222	11 || 11 || RPD: 0
Exchangeable Na	meq/100 g	68201-A-222	3.5 || 3.6 || RPD: 3
Cation Exchange Capacity	meq/100 g	68201-A-222	16 || 16 || RPD: 0
ESP	%	68201-A-222	22.3 || 22.6 || RPD: 1

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	68201-A-191	10/02/2012 || 10/02/2012	68201-A-181	10/02/2012
Date analysed	-	68201-A-191	14/02/2012 || 14/02/2012	68201-A-181	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	68201-A-191	25 || 22 || RPD: 13	68201-A-181	100%
Sulphate, SO4 1:5 soil:water	mg/kg	68201-A-191	49 || 40 || RPD: 20	68201-A-181	115%
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	68201-A-212	10/02/2012 || 10/02/2012	68201-A-203	10/02/2012
Date analysed	-	68201-A-212	14/02/2012 || 14/02/2012	68201-A-203	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	68201-A-212	1300 || 1300 || RPD: 0	68201-A-203	93%
Sulphate, SO4 1:5 soil:water	mg/kg	68201-A-212	300 || 300 || RPD: 0	68201-A-203	113%
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	68201-A-222	10/02/2012 || 10/02/2012	68201-A-223	10/02/2012
Date analysed	-	68201-A-222	14/02/2012 || 14/02/2012	68201-A-223	14/02/2012
Chloride, Cl 1:5 soil:water	mg/kg	68201-A-222	470 || 480 || RPD: 2	68201-A-223	94%
Sulphate, SO4 1:5 soil:water	mg/kg	68201-A-222	270 || 260 || RPD: 4	68201-A-223	106%

Report Comments:

CEC:The RPD for duplicate results is accepted due to the inhomogeneous nature of the sample for this element.

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NA: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batched of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes and LCS: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

Envirolab ref 68201-A.
Standard TAT.
due 14/2/12.

Douglas Partners
Geotechnics / Environment / Groundwater

CHAIN OF CUSTODY

Project Name:	Gregory Hills Corporate Park SMP			**To:**	Envirolab Services
Project No:	76510.00	**Sampler:**	BAH		12 Ashley Street, Chatswood NSW 2067
Project Mgr:	CCK	**Mob. Phone:**	0412 754 162	**Attn:**	Tania Notaras
Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
1/0.5	1		S	G			x	x						
1/1.0			S	G										
1/1.5			S	G										
1/2.0			S	G										
1/2.5			S	G										
1/3.0			S	G										
2/0.5	7		S	G			x	x						
2/1.0			S	G										
2/1.5			S	G										
2/2.0			S	G										
2/2.5			S	G										
2/3.0			S	G										

Lab Report No:					
Send Results to:	Douglas Partners Pty Ltd	**Address:** Unit 5, 50 Topham Road, Smeaton Grange 2567		**Phone:** (02) 4647 0075	**Fax:** (02) 4646 1886
Relinquished by:	BAH		**Transported to laboratory by:**		
Signed:		**Date & Time:** 27.01.2012	**Received by:**		

Douglas Partners
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Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
3/0.5	12		S	G			x	x						
3/1.0			S	G										
3/1.5			S	G										
3/2.0			S	G										
3/2.5			S	G										
3/3.0			S	G										
4/0.5	18		S	G			x	x						
4/1.0	19		S	G			x							
4/1.5			S	G										
4/2.0			S	G										
4/2.5			S	G										
4/3.0			S	G										

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Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes									Notes/preservation
					EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					
5/0.5	24		S	G			x	x						
5/1.0			S	G										
5/1.5			S	G										
5/2.0			S	G										
5/2.5			S	G										
5/3.0			S	G										
6/0.5	30		S	G			x	x						
6/1.0	31		S	G			x							
6/1.5			S	G										
6/2.0			S	G										
6/2.5			S	G										
6/3.0			S	G										

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Sample ID	Lab ID	Sampling Date	Sample Type (S - soil W - water)	Container Type (G - glass P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
7/0.5	36		S	G			x	x						
7/1.0			S	G										
7/1.5	38		S	G			x							
7/2.0			S	G										
7/2.5			S	G										
7/3.0			S	G										
8/0.5	41		S	G			x	x						
8/1.0			S	G										
8/1.5			S	G										
8/2.0			S	G										
8/2.5			S	G										
8/3.0			S	G										

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Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes									Notes/preservation
					EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					
9/0.5	47		S	G			x	x						
9/1.0	48		S	G			x							
9/1.5			S	G										
9/2.0			S	G										
9/2.5			S	G										
9/3.0			S	G										
10/0.5	53		S	G			x	x						
10/1.0			S	G										
10/1.5			S	G										
10/2.0			S	G										
10/2.5			S	G										
10/3.0			S	G										

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Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
11/0.5	59		S	G			x	x						
11/1.0	60		S	G			x							
11/1.5			S	G										
11/2.0			S	G										
11/2.5			S	G										
11/3.0			S	G										
12/0.5	64		S	G			x	x						
12/1.0			S	G										
12/1.5			S	G										
12/2.0			S	G										
12/2.5			S	G										
12/3.0			S	G										

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Project Mgr:	CCK	**Mob. Phone:**	0412 754 162	**Attn:**	Tania Notaras
Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes									Notes/preservation
					EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					
13/0.5	70		S	G			x	x						
13/1.0			S	G										
13/1.5			S	G										
13/2.0			S	G										
13/2.5			S	G										
13/3.0			S	G										
14/0.5	76		S	G			x	x						
14/1.0	77		S	G			x							
14/1.5			S	G										
14/2.0			S	G										
14/2.5			S	G										
14/3.0			S	G										

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Sample ID	Lab ID	Sampling Date	Sample Type (S - soil W - water)	Container Type (G - glass P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
15/0.5	82		S	G			x	x						
15/1.0			S	G										
15/1.5			S	G										
15/2.0			S	G										
15/2.5			S	G										
15/3.0			S	G										
16/0.5	88		S	G			x	x						
16/1.0			S	G										
16/1.5	90		S	G			x							
16/2.0			S	G										
16/2.5			S	G										
16/3.0			S	G										

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Geotechnics | Environment | Groundwater

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Project Mgr:	CCK	**Mob. Phone:**	0412 754 162	**Attn:**	Tania Notaras
Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes									Notes/preservation
					EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					
17/0.5	94		S	G			x	x						
17/1.0	95		S	G			x							
17/1.5			S	G										
17/2.0			S	G										
17/2.5			S	G										
17/3.0			S	G										
18/0.5	100		S	G			x	x						
18/1.0	101		S	G			x							
18/1.5			S	G										
18/2.0			S	G										
18/2.5			S	G										
18/3.0			S	G										

Lab Report No:					
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Relinquished by:			**Transported to laboratory by:**		
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Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes									Notes/preservation
					EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					
19/0.5	106		S	G			x	x						
19/1.0			S	G										
19/1.5			S	G										
19/2.0			S	G										
19/2.5			S	G										
19/3.0			S	G										
20/0.5	112		S	G			x	x						
20/1.0			S	G										
20/1.5			S	G										
20/2.0			S	G										
20/2.5			S	G										
20/3.0			S	G										

Lab Report No:					
Send Results to:	Douglas Partners Pty Ltd	**Address:** Unit 5, 50 Topham Road, Smeaton Grange 2567	**Phone:** (02) 4647 0075	**Fax:** (02) 4646 1886	
Relinquished by:		**Transported to laboratory by:**			
Signed:	**Date & Time:** 27.01.2012	**Received by:**			

Douglas Partners
Geotechnics / Environment / Groundwater

CHAIN OF CUSTODY

Project Name:	Gregory Hills Corporate Park SMP			**To:**	Envirolab Services
Project No:	76510.00	**Sampler:**	BAH		12 Ashley Street, Chatswood NSW 2067
Project Mgr:	CCK	**Mob. Phone:**	0412 754 162	**Attn:**	Tania Notaras
Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes									Notes/preservation
					EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					
21/0.5	118		S	G			x	x						
21/1.0	119		S	G			x							
21/1.5			S	G										
21/2.0			S	G										
21/2.5			S	G										
21/3.0			S	G										
22/0.5	124		S	G			x	x						
22/1.0			S	G										
22/1.5			S	G										
22/2.0			S	G										
22/2.5			S	G										
22/3.0			S	G										

Lab Report No:					
Send Results to:	Douglas Partners Pty Ltd	**Address:** Unit 5, 50 Topham Road, Smeaton Grange 2567		**Phone:** (02) 4647 0075	**Fax:** (02) 4646 1886
Relinquished by:	BAH		**Transported to laboratory by:**		
Signed:		**Date & Time:** 27.01.12	**Received by:**		

Douglas Partners
Geotechnics / Environment / Groundwater

CHAIN OF CUSTODY

Project Name:	Gregory Hills Corporate Park SMP			**To:**	Envirolab Services
Project No:	76510.00	**Sampler:**	BAH		12 Ashley Street, Chatswood NSW 2067
Project Mgr:	CCK	**Mob. Phone:**	0412 754 162	**Attn:**	Tania Notaras
Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes: EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					Notes/preservation
23/0.5	130		S	G			x	x						
23/1.0			S	G										
23/1.5			S	G										
23/2.0			S	G										
23/2.5			S	G										
23/3.0			S	G										
24/0.5			S	G										
24/1.0	137		S	G			x	x						
24/1.5	138		S	G			x							
24/2.0			S	G										
24/2.5			S	G										
24/3.0			S	G										

Lab Report No:					
Send Results to:	Douglas Partners Pty Ltd	**Address:** Unit 5, 50 Topham Road, Smeaton Grange 2567	**Phone:** (02) 4647 0075	**Fax:** (02) 4646 1886	
Relinquished by:	BAH		**Transported to laboratory by:**		
Signed:		**Date & Time:** 27.01.12	**Received by:**		

Douglas Partners
Geotechnics / Environment / Groundwater

CHAIN OF CUSTODY

Project Name:	Gregory Hills Corporate Park SMP			**To:**	Envirolab Services
Project No:	76510.00	**Sampler:**	BAH		12 Ashley Street, Chatswood NSW 2067
Project Mgr:	CCK	**Mob. Phone:**	0412 754 162	**Attn:**	Tania Notaras
Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes									Notes/preservation
					EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					
25/0.5	142		S	G			x	x						
25/1.0	143		S	G			x							
25/1.5			S	G										
25/2.0			S	G										
25/2.5			S	G										
25/3.0			S	G										
26/0.5	148		S	G			x	x						
26/1.0			S	G										
26/1.5			S	G										
26/2.0			S	G										
26/2.5			S	G										
26/3.0			S	G										

Lab Report No:					
Send Results to:	Douglas Partners Pty Ltd	**Address:** Unit 5, 50 Topham Road, Smeaton Grange 2567	**Phone:** (02) 4647 0075	**Fax:** (02) 4646 1886	
Relinquished by:	BAH		**Transported to laboratory by:**		
Signed:		**Date & Time:** 27.01.12	**Received by:**		

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Geotechnics / Environment / Groundwater

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Project Name:	Gregory Hills Corporate Park SMP			**To:**	Envirolab Services
Project No:	76510.00	**Sampler:**	BAH		12 Ashley Street, Chatswood NSW 2067
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Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes									Notes/preservation
					EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					
27/0.5	154		S	G			x	x						
27/1.0			S	G										
27/1.5			S	G										
27/2.0			S	G										
27/2.5			S	G										
27/3.0			S	G										
28/0.5	159		S	G			x	x						
28/1.0			S	G										
28/1.5			S	G										
28/2.0			S	G										
28/2.5			S	G										
28/3.0			S	G										

Lab Report No:					
Send Results to:	Douglas Partners Pty Ltd	**Address:** Unit 5, 50 Topham Road, Smeaton Grange 2567		**Phone:** (02) 4647 0075	**Fax:** (02) 4646 1886
Relinquished by:	BAH		**Transported to laboratory by:**		
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Project No:	76510.00	**Sampler:**	BAH		12 Ashley Street, Chatswood NSW 2067
Project Mgr:	CCK	**Mob. Phone:**	0412 754 162	**Attn:**	Tania Notaras
Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes									Notes/preservation
					EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					
29/0.5	165		S	G			x	x						
29/1.0	166		S	G			x							
29/1.5			S	G										
29/2.0			S	G										
29/2.5			S	G										
29/3.0			S	G										
30/0.5	171		S	G			x	x						
31/0.5	172		S	G			x							
32/0.5	173		S	G			x							
33/0.5	174		S	G			x							
34/0.5	175		S	G			x	x						
35/0.5	176		S	G			x							
36/0.5	177		S	G			x	x						

Lab Report No:					
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Relinquished by:	BAH		**Transported to laboratory by:**		
Signed:		**Date & Time:** 27.01.12	**Received by:**		

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Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes									Notes/preservation
					EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					
37/0.5	178		S	G			x	x						
38/0.5	179		S	G			x	x						
39/0.5	180		S	G			x							
40/0.5	181		S	G			x	x						
41/0.5	182		S	G			x	x						
42/0.5	183		S	G			x							
43/0.5	184		S	G			x	x						
44/0.5	185		S	G			x	x						
45/0.5	186		S	G			x							
46/0.5	187		S	G			x							
47/0.5	188		S	G			x	x						
48/0.5	189		S	G			x	x						
49/0.5	190		S	G			x							

Lab Report No:					
Send Results to:	Douglas Partners Pty Ltd	**Address:** Unit 5, 50 Topham Road, Smeaton Grange 2567		**Phone:** (02) 4647 0075	**Fax:** (02) 4646 1886
Relinquished by:	BAH		**Transported to laboratory by:**		
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Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes									Notes/preservation
					EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					
50/0.5	191		S	G			x							
51/0.5	192		S	G			x							
52/0.5	193		S	G			x							
53/0.5	194		S	G			x							
54/0.5	195		S	G			x							
55/0.5	196		S	G			x							
56/0.5	197		S	G			x	x						
57/0.5	198		S	G			x							
58/0.5	199		S	G			x	x						
59/0.5	200		S	G			x							
60/0.5	201		S	G			x							
61/0.5	202		S	G			x							
62/0.5	203		S	G			x							

Lab Report No:					
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Relinquished by:	BAH		**Transported to laboratory by:**		
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Project Mgr:	CCK	**Mob. Phone:**	0412 754 162	**Attn:**	Tania Notaras
Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes									Notes/preservation
					EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					
63/0.5	204		S	G			x							
64/0.5	205		S	G			x	x						
65/0.5	206		S	G			x							
66/0.5	207		S	G			x							
67/0.5	208		S	G			x	x						
68/0.5	209		S	G			x							
69/0.5	210		S	G			x	x						
70/0.5	211		S	G			x							
71/0.5	212		S	G			x							
72/0.5	213		S	G			x	x						
73/0.5	214		S	G			x							
74/0.5	215.		S	G			x							
75/0.5	216.		S	G			x	x						

Lab Report No:					
Send Results to:	Douglas Partners Pty Ltd	**Address:** Unit 5, 50 Topham Road, Smeaton Grange 2567		**Phone:** (02) 4647 0075	**Fax:** (02) 4646 1886
Relinquished by:	BAH		**Transported to laboratory by:**		
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Project Name:	Gregory Hills Corporate Park SMP			**To:**	Envirolab Services
Project No:	76510.00	**Sampler:**	BAH		12 Ashley Street, Chatswood NSW 2067
Project Mgr:	CCK	**Mob. Phone:**	0412 754 162	**Attn:**	Tania Notaras
Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes									Notes/preservation
					EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					
76/0.5	217		S	G			x	x						
77/0.5	218		S	G			x							
78/0.5	219		S	G			x							
79/0.5	220		S	G			x							
80/0.5	221		S	G			x							
81/0.5	222		S	G			x	x						
82/0.5	223		S	G			x	x						
83/0.5	224		S	G			x							
84/0.5	225		S	G			x							
85/0.5	226		S	G			x	x						
86/0.5	227		S	G			x	x						
87/0.5	228		S	G			x							

Lab Report No:					
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Relinquished by:	BAH		**Transported to laboratory by:**		
Signed:		**Date & Time:** 27.01.12	**Received by:**		

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Project Mgr:	CCK	**Mob. Phone:**	0412 754 162	**Attn:**	Tania Notaras
Email:	Bradley.Harris@douglaspartners.com.au			**Phone:**	(02) 9910 6200 **Fax:** (02) 9910 6201
Date Required:	Standard			**Email:**	tnotaras@envirolabservices.com.au

Sample ID	Lab ID	Sampling Date	Sample Type (S - soil, W - water)	Container Type (G - glass, P - plastic)	Analytes									Notes/preservation
					EC	pH	Chlorides Sulphates	Sodicity	Texture (only)					
44/0.2		18.01.12	S	G										
57/0.2		18.01.12	S	G										
56/0.2		19.01.12	S	G										
34/0.2		18.01.12	S	G										
43/0.2		18.01.12	S	G										
45/0.2		18.01.12	S	G										
46/0.2		18.01.12	S	G										
48/0.2		18.01.12	S	G										

Lab Report No:					
Send Results to:	Douglas Partners Pty Ltd	**Address:** Unit 5, 50 Topham Road, Smeaton Grange 2567	**Phone:** (02) 4647 0075	**Fax:** (02) 4646 1886	
Relinquished by:		**Transported to laboratory by:**			
Signed:	**Date & Time:** 27.01.12	**Received by:**			

Jacinta Hurst

From: Bradley Harris [Bradley.Harris@douglaspartners.com.au]
Sent: Tuesday, 7 February 2012 13:33
To: Jacinta Hurst
Subject: RE: Results for registration '68201 - 76510.00, Gregory Hills Corporate Park SMP'
Attachments: img-207120454-rfs.pdf; img-207120542-rfs.pdf

Hi Jacinta,

Can I please have the following additional test conducted on the samples as shown on the attached COC.

Regards

Bradley Harris | Environmental Engineer
Douglas Partners Pty Ltd | ABN 75 053 980 117 | www.douglaspartners.com.au Unit 5 50 Topham Road Smeaton Grange NSW 2567
P: 02 4647 0075 | F: 02 4646 1886 | M: 0412 754 162 | E: Bradley.Harris@douglaspartners.com.au

-----Original Message-----
From: Jacinta Hurst [mailto:JHurst@envirolab.com.au]
Sent: Monday, February 06, 2012 4:17 PM
To: Bradley Harris
Subject: Results for registration '68201 - 76510.00, Gregory Hills Corporate Park SMP'

Please refer to attached for:
a copy of the Certificate of Analysis
a copy of the COC
an excel file containing the results

Please note that a hard copy will not be posted.

Enquiries should be made directly to:
Jacinta Hurst on jhurst@envirolabservices.com.au or Rhian Morgan on rmorgan@envirolabservices.com.au or David Springer on dspringer@envirolabservices.com.au
or
Tania Notaras on tnotaras@envirolabservices.com.au

Regards

Envirolab Services
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
www.envirolabservices.com.au

Review of Imported Soil Materials & Gate Check Sampling

Stage 3, Gregory Hills Corporate Park, Gregory Hills Drive, Gledswood Hills NSW

Prepared for: Gregory Hills Corporate Park Pty Ltd

GRH-02-10383 / ENV1
v1. final
4th April 2016

ADE CONSULTING GROUP
SOLUTIONS THROUGH INNOVATION

Review of Imported Soil Materials and Gate Check Sampling

Stage 3, GHCP, Gregory Hills Drive, Gledswood Hills NSW

Prepared for:
Gregory Hills Corporate Park Pty Ltd

Version	Details	Date
v1 final	Approved by R. Nefodov	4th April 2016

Report No: GRH-02-10383 / INS1 / v1 final

Date: 1st April 2016

Reviewed and Approved By:

R. Nefodov

Ross Nefodov
B. Sc. (Environmental)
Principal Environmental Scientist

1 INTRODUCTION

1.1 General

A.D. Envirotech Australia Pty Ltd (ADE) was commissioned by Gregory Hills Corporate Park Pty Ltd (hereafter referred to as 'the client') to undertake validation (gate check) sampling and a desktop review of soil materials imported into the Stage 3 area of the Gregory Hills Corporate Park, Gregory Hills Drive, Gregory Hills NSW ('the site'). ADE onsite records indicate that all earthworks within the Stage 3 area were completed from between the period of October to December 2014 and June to December 2015. The results presented within this report are inclusive of all material entering the site within this period.

This document outlines the results for soil sampling and validation testing carried out within the proposed commercial subdivision and has been completed in accordance with ADE Report 'Fill Management Protocol, Ref: 6908.Lot 701, DP1154772, Gregory Hills Drove, Gledswood Hills NSW.FMP1 v1 final', dated 29th November 2013 (GHCP FMP).

No one section, or part of a section, of this report should be taken as giving an overall idea of this report. Each section must be read in conjunction with the whole of this report, including its appendices and attachments.

1.2 Objectives

The objective of the works was to ensure the materials imported into the site comply with relevant NSW environmental legislation (refer to Section 1.4 'Relevant Legislation and Guidelines') and to satisfy the minimum requirements outlined in the GHCP FMP with regards to contamination and salinity assessment.

1.3 Scope of Work

The scope of works as requested by the client involved the following:

- Review of analytical and waste classification reports (or equivalent) accompanying soil materials from a source site prior to approval for import into GHCP, with respect to contamination, salinity and aggressivity;
- Completion of a Safety, Health & Environment and Safe Work Method Statement (SMWS) prior to undertaking field works;
- Visual inspection of imported material during gate check sampling;
- Gate check sampling comprised of:
    - Collection of discrete soil samples for contamination assessment (heavy metals, polycyclic aromatic hydrocarbons (PAHs), total recoverable hydrocarbons (TRH), benzene, toluene, ethylbenzene and xylene (BTEX), phenols, polychlorinated biphenyls (PCBs), organochlorine pesticides (OCPs) and organophosphate pesticides (OPPs);

- Collection of discrete soil samples for salinity and aggressivity assessment (electrical conductivity (ECe), pH, chlorides and sulphates);
- Collection of discrete soil samples for analysis for the presence of asbestos containing materials (ACM); and

- Preparation of a report outlining the details and results for the works carried out within the aforementioned lots.

1.4 Relevant Legislation and Guidelines

Importation of materials into the GHCP must abide by the provisions of relevant NSW environmental legislation including, but not limited to, the *Contaminated Land Management Act* (1997) and *Protection of the Environment Operations Act* (1997).

The following environmental guidelines are considered to be relevant:

- DECCW Waste Classification Guidelines (2008),December2009Revision;
- NSWEPA Contaminated Sites *Guidelines for the NSW Site Auditor Scheme* (2006) [The Auditors Guidelines];
- NEPC (1999). National Environmental Protection (Assessment of Site Contamination) Measure 1999, 2013 Revision. Schedule B(1) Guideline on Investigation Levels for Soil and Groundwater;
- Australian and New Zealand Environment and Conservation Council/National Health and Medical Research Council (ANZECC/NHMRC): Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (1992), Environmental Soil Quality Guidelines Background A [ANZECC A];
- *Guidelines on Resource Recovery Exemption (Land Application of Waste Materials as Fill)* EPA Feb 2011;
- Protection of the Environment Operations (Waste) Regulation (2005)–General Exemption Under Part 6, Clause 51 and51A- The excavated natural material exemption 2012;
- Any specific exemption issued under the Protection of the Environment Operations (Waste) Regulation (2005) by the NSW EPA; and
- Camden Council "Imported Fill Condition".

2 REVIEW OF WASTE CLASSIFICATION REPORTS AND FILL SUITABLILITY

As per the scope of works issued to ADE by the client provided, a desktop review of waste classification reports (or equivalent) accompanying soil materials from a source site was undertaken to determine if contamination, salinity and aggressivity characteristics of the soils met the requirements of the GHCP FMP.

Prior to the 19th of January 2013, Douglas Partners Pty Ltd was engaged by the client to undertake the review and approval of soils prior to importation into GHCP. As of the 19th of January 2013, ADE was commissioned by the client to undertake the review and approval role. A register of the desktop reviews undertaken, and materials granted approval for import into GHCP by both DP and ADE. The register and all associated waste classifications certificates and any associated reviews are available on request.

3 SAMPLING PLAN AND METHODOLOGY

ADE was advised by the client that each truck and trailer carries a total of 11 m^3 of soil material (following placement, rolling and compaction). A summary of the number of truck and trailers at GHCP as per the source site from between October to December 2014 and June to December 2015 is provided in 'Appendix I – Summary of Imported Soil Materials'.

One (1) sample was collected per 90 truck and trailers (truck and dog) or per 1000 m^3 of soil materials imported from each source site, as per the sampling density stipulated in the GHCP FMP 'Table C4 – Sampling requirements for check samples at gate', outlined in **Table 1**.

Table 1 - Sampling requirements of Check Samples at Gate

Material	Minimum Sampling Frequency*	Analytical Requirement
Filling (Exemptions)	1per1000 m^3	**Contamination**- heavy metals, PAH, TRH, BTEX, phenol, PCB, OCP/OPPs, and asbestos **Salinity**– EC, pH, Chloride and sulphate
Natural (VENM)	1per5000 m^3	**Contamination**- heavy metals, PAH, TRH, BTEX, phenol, PCB, OCP/OPPs, and asbestos **Salinity**– EC, pH, Chloride and sulphate

Gate check samples were analysed for contamination assessment, salinity, aggressivity and asbestos to determine if the materials meet the minimum 'acceptance' requirements as per the GHCP FMP. Further information regarding the assessment criteria used to determine whether soils were provided approval for imported is detailed in 'Section 4 – Desktop Review and Gate Check Assessment Criteria'.

3.1 Equipment Decontamination

ADE's standard decontamination procedures were undertaken before collecting each of the samples to avoid the possibility of cross-contamination. The soil sampling equipment and items likely to come into contact with soil samples were thoroughly washed, followed by rinsing with phosphate-free detergent and de-ionised water before the collection of samples. Due care was taken with the disposal of any washings and residues from such cleaning operations.

3.2 Documentation

A field observation log was kept by sampling personnel. Details recorded in the log included:

- Sample number; soil profile notes; sampling method; sample identification; sample description; and sample point measurements.

A comprehensive master sample register was maintained. As samples were received, they were given a unique sequential number from the sample register into which details from the labels were entered. Before packing and dispatch of samples for analysis, a Chain of Custody form was completed. This form recorded details of the individual samples being dispatched and the type of analysis required for each sample.

3.3 Sampling

Soils were collected using a clean hand trowel. Field activities were conducted by an experienced environmental scientist. The samples were placed in sterile glass jars with Teflon lined lids.

Each sample jar was well protected by packaging material. Ice packs were inserted in the cooler box to maintain the samples at a temperature below approximately 4^0C. The original Chain of Custody form was enclosed in the cooler box that was then sealed and dispatched to a NATA accredited analytical laboratory.

4 DESKTOP REVIEW AND GATE CHECK ASSESSMENT CRITERIA

4.1 Desktop Review

As per the GHCP FMP, the following requirements detailed below must be satisfied for the materials to be deemed suitable for import:

- "All imported soil/rock material must be verified to be either Virgin Excavated Natural Material (VENM) i.e. imported natural materials, Excavated Natural Materials (ENM) as defined under NSW EPA Waste Classification Guidelines2009 or materials classified under a specific exemption granted by the EPA. All source sites are subject to approval by Gregory Hills Corporate Park on a case by case basis."

- "For specific purposes other certified materials such as quarry run materials and gravels will be acceptable provided that the materials are accompanied with supporting certification documentation to demonstrate their source and suitability."

- "Recycled products (such as recycled concrete) are not considered suitable from a contamination risk standpoint as the quality of the materials can be difficult to guarantee."

- "All VENM material must be accompanied by a VENM validation report from a suitably qualified environmental consultant. The validation assessment should include appropriate levels of sample analyses to be conducted at the sampling density as specified in Table C1, Appendix C. As The NSW Environment Protection Authority (EPA) has no specific VENM assessment criteria, VENM material should be reviewed on the basis of the source site history, "observation" and property of the material, and with reference to relevant guidelines/thresholds viz. the published Australian Background Soil Levels (NEPM Schedule B(1) and/or ANZECC 1992 (see extract in Table B3, Appendix B) and, with respect to organic analytes, their analytical practical quantitation limits."

- "All ENM material must be verified in accordance with the sampling methodology and density specified in the *Protection of the Environment Operations (Waste) Regulation* 2005 - General Exemption Under Part6, Clause51 and 51A for Excavated Natural Materials. The requirements are summarized in Table C1, Appendix C. In addition, the relevant "chemical and other attributes" in the ENM material must be verified to comply with the concentration threshold values specified in Table 2 of the General Exemption for Excavated Natural Material Exemption 2012. These concentrations are reproduced in Table B2, Appendix B, with the full ENM guidelines provided in Appendix F."

- "In addition to the above requirements, all materials must be validated to be suitable, from a site contamination standpoint, for use on commercial/industrial sites. In this regard, the material must meet the assessment criteria specified in the National Environmental Protection (Assessment of Site Contamination) Measure 1999, 2013 Revision, Schedule B(1) Guideline on Investigation Levels for Soil and Groundwater, for Commercial/ Industrial Sites (HIL-D). For the top 0.5m of site soils in landscape areas, the material used should comprise of ENM and VENM soils only. An extract of guideline values for common contaminants is provided in Table B1, Appendix B."

- "With regard to the assessment testing, all laboratory analysis must be conducted by a laboratory that holds NATA accreditation for the test methods performed."

A summary of soil materials deemed suitable for import into GHCP as per the above conditions is provided in 'Appendix I – Summary of Imported Soil Materials". A copy of the GHCP FMP with further information regarding the requirements for import and reference to appendix items A-F is provided in 'Appendix IV – Gregory Hills FMP' of this report.

4.2 Gate Check Contamination Assessment

In regards to the contamination assessment of gate check samples, ADE was directed by the client to determine if the samples collected were below site assessment criteria as outlined in the GHCP FMP, specifically 'Table B1 - Threshold Contaminant Values for Commercial / Industrial Land use'(refer to 'Appendix IV – Gregory Hills FMP').

A summary table outlining the results of the gate check samples collected for material used to fill the aforementioned lots is provided in 'Appendix II – Gate Check Sample Results' and 'Appendix III – Analytical Reports'.

4.3 Gate Check Salinity and Aggressivity Assessment

As per the GHCP FMP:

> "Materials of higher salinity and aggressivity may be accepted if they can be demonstrated to be consistent with the local background conditions at the Site or an area within the Site (Refer to DP *Report on Salinity Investigation and Management Plan, Proposed Subdivision, Lot701 in Deposited Plan 1154772, Gledswood Hills,* Project Number 76510.00 dated May 2012) or if appropriate salinity management procedures or appropriate engineering practices are in place to handle such materials. Such materials will only be accepted at the discretion of Gregory Hills Corporate Park and the environmental consultant."

As per the Douglas Partners report – 'Salinity Investigation and Management Plan, Proposed Subdivision, Lot 701 in Deposited Plan 1154772, Gregory Hills Drive, Gledswood Hills', dated May 2012 (DP 2012), the majority of the Stage 3 area of GHCP is considered to be mildly aggressive to concrete and steel piles, with some areas moderately aggressive and severely aggressive to concrete piles.

As all materials imported into GHCP are blended prior to compaction, and the DP report has shown the majority of the Stage 3 site is at least mildly aggressive, ADE has determined that gate check samples will not be considered to be an exceedance of the FMP unless they exceed the mildly aggressive threshold (i.e pH < 4.0).

5 NON-COMPLIANCES WITH GATE CHECK CRITERIA

December 2013

- Sample 6950-WAC8 – Source 'Railcorp'
- The gate check sample was taken which indicated a pH level (3.9) falling in the moderately aggressive to concrete range, outside the background ranges as per DP 2012;

June 2014

- Sample 7672-WAC4 – Source 'John Holland NSRU'
- The gate check sample was taken which indicated a ECe of 9.94 falling in the very saline bracket

November 2014

- Sample 8361-WAC6 – Source 'Epping ENM exempt'
- The gate check sample was taken which indicated a pH level (3.9) falling in the moderately aggressive to concrete range, outside the background ranges as per DP 2012;

February 2015

- Sample 8695-WAC1 – Source 'Mainland Civil'
- The gate check sample was taken which indicated a 19.00 falling in the very saline bracket;

August 2015

- Sample 9447-WAC2 – Source 'ACE Auburn'
- The gate check sample was taken which indicated a 9.34 falling in the very saline bracket;
- As textural analysis was not undertaken on this sample, a conservative approach adopting the most stringent EC to ECe conversion factor (i.e 17, for sand material) was used.

Considering the material was blended with material from various other sources during compaction works, the minor exceedances with regards to pH and salinity are not considered to be significant and will not affect the future development of the site.

6 CONCLUSIONS

Based on the data and evidence collected in the course of the sampling and validation process, it is the opinion of A.D. Envirotech Australia Pty Ltd that all samples have yielded results within the site assessment criteria as per the FMP, with the exception of the non-conformances which have been addressed in the section above.

As such, A. D. Envirotech Australia Pty Ltd believe that the importation of fill was compliant with the Gregory Hills Corporate Park Fill Management Plan.

7 LIMITATIONS

This report has been prepared for the exclusive use of the client. ADE has used a degree of care and skill ordinarily exercised in similar investigations by reputable members of the environmental industry in Australia. No other warranty, expressed or implied, is made or intended. No one section or part of a section, of this report should be taken as giving an overall idea of this report. Each section must be read in conjunction with the whole of this report, including its appendixes and attachments.

Any other party should satisfy themselves that the scope of work conducted and report herein meets their specific needs. ADE cannot be held liable for third party reliance on this document, as ADE is not aware of the specific needs of the third party.

The subsurface environment can present substantial uncertainty due to it complex heterogeneity. The conclusions presented in this report are based on limited investigation of conditions at specific sampling locations chosen to be as representative as possible under the given circumstances. However, it is possible that this investigation may not have encountered all areas of contamination at the site due to the limited sampling and testing program undertaken.

ADE's professional opinions are based upon its professional judgement, experience, training and results from analytical data. In some cases further testing and analysis may be required, thus producing different results and/or opinions. ADE has limited its investigation to the scope agreed upon with its client.

APPENDIX I – SUMMARY OF IMPORTED MATERIAL

ADE Incoming Loads Register for Gregory Hills Development Park

Excavation Contractor	Source Site	Soil Type	Date	Loads	Validation Report (s)	Gate Check Sample ID
Ace Demolition & Excavations Pty Ltd	Charles Street, Canterbury	ENM	08-Oct-14	10.0	8184 2a Charles St Canterbury NSW WAC1 v1 final (ENM)	8200-GC5
Ace Demolition & Excavations Pty Ltd	Charles Street, Canterbury	ENM	09-Oct-14	24.0	8184 2a Charles St Canterbury NSW WAC1 v1 final (ENM)	8200-GC5
Ace Demolition & Excavations Pty Ltd	Charles Street, Canterbury	ENM	10-Oct-14	30.0	8184 2a Charles St Canterbury NSW WAC1 v1 final (ENM)	8200-GC5
Ace Demolition & Excavations Pty Ltd	Charles Street, Canterbury	ENM	11-Nov-14	14.0	8184 2a Charles St Canterbury NSW WAC1 v1 final (ENM)	8200-GC5
Ace Demolition & Excavations Pty Ltd	Charles Street, Canterbury	ENM	12-Nov-14	1.0	8184 2a Charles St Canterbury NSW WAC1 v1 final (ENM)	8200-GC5
Ace Demolition & Excavations Pty Ltd	Charles Street, Canterbury	ENM	13-Nov-14	2.0	8184 2a Charles St Canterbury NSW WAC1 v1 final (ENM)	8200-GC5
Bouygues John Holland NSRU Procurement	North Strathfield	Exempt ENM Clay	10-Oct-14	19.0	8130 SP125 Rail corridor south of Gate 4 North Strathfield NSW WAC3 v1 final	8200-GC6
Bouygues John Holland NSRU Procurement	North Strathfield	Exempt ENM Clay	11-Oct-14	10.0	8130 SP125 Rail corridor south of Gate 4 North Strathfield NSW WAC3 v1 final	8200-GC6
Bouygues John Holland NSRU Procurement	North Strathfield	Exempt ENM Clay	13-Oct-14	15.0	8130 SP125 Rail corridor south of Gate 4 North Strathfield NSW WAC3 v1 final	8200-GC6
Bouygues John Holland NSRU Procurement	North Strathfield	Exempt ENM Clay	20-Oct-14	25.0	8130 SP125 Rail corridor south of Gate 4 North Strathfield NSW WAC3 v1 final	8200-GC6
Bouygues John Holland NSRU Procurement	North Strathfield	Exempt ENM Clay	21-Oct-14	4.0	8130 SP123 George's Lane compound North Strathfield NSW WAC1 v1 final	8200-GC6
Bouygues John Holland NSRU Procurement	North Strathfield	Exempt ENM Clay	23-Oct-14	23.0	8269 Stockpile 127 Harrison Avenue Compound NSW WAC1 v1 final	8200-GC11
Bouygues John Holland NSRU Procurement	North Strathfield	Exempt ENM Clay	24-Oct-14	20.0	8269 Stockpile 128 Harrison Avenue Compound NSW WAC2 v1final	8200-GC11
Bouygues John Holland NSRU Procurement	North Strathfield	Exempt ENM Clay	30-Oct-14	20.0	8269 Stockpile 128 Harrison Avenue Compound NSW WAC2 v1final	8200-GC11
Bouygues John Holland NSRU Procurement	North Strathfield	Exempt ENM Clay	07-Nov-14	3.0	8345 Stockpile within NSRU Compound off Railway Lane North Strathfield	8361-GC1
Bouygues John Holland NSRU Procurement	North Strathfield	Exempt ENM Clay	17-Nov-14	10.0	8345 Stockpile within NSRU Compound off Railway Lane North Strathfield	8361-GC1
Bouygues John Holland NSRU Procurement	North Strathfield	Exempt ENM Clay	18-Nov-14	17.0	8269 Stockpile 128 Harrison Avenue Compound NSW WAC2 v1final	8361-GC1
Bouygues John Holland NSRU Procurement	North Strathfield	Exempt ENM Clay	24-Nov-14	5.0	8269 Stockpile 128 Harrison Avenue Compound NSW WAC2 v1final	8361-GC1
Bouygues John Holland NSRU Procurement	North Strathfield	ENM	23-Oct-14	0.5	7159 Western side of rail corridor CH12+740-CH13+100 North Strathfield NSW WAC2 v1 final, 7224 NSRU Pipe Jacking works North Strathfield NSW WAC1 v1 final	8200-GC12
Bouygues John Holland NSRU Procurement	North Strathfield	ENM	24-Oct-14	1.5	7159 Western side of rail corridor CH12+740-CH13+100 North Strathfield NSW WAC2 v1 final, 7224 NSRU Pipe Jacking works North Strathfield NSW WAC1 v1 final	8200-GC12
Bouygues John Holland NSRU Procurement	North Strathfield	ENM	27-Oct-14	1.5	7159 Western side of rail corridor CH12+740-CH13+100 North Strathfield NSW WAC2 v1 final, 7224 NSRU Pipe Jacking works North Strathfield NSW WAC1 v1 final	8200-GC12
Bouygues John Holland NSRU Procurement	North Strathfield	ENM	29-Oct-14	0.5	7159 Western side of rail corridor CH12+740-CH13+100 North Strathfield NSW WAC2 v1 final, 7224 NSRU Pipe Jacking works North Strathfield NSW WAC1 v1 final	8200-GC12
Bouygues John Holland NSRU Procurement	North Strathfield	ENM	30-Oct-14	1.5	7159 Western side of rail corridor CH12+740-CH13+100 North Strathfield NSW WAC2 v1 final, 7224 NSRU Pipe Jacking works North Strathfield NSW WAC1 v1 final	8200-GC12
Bouygues John Holland NSRU Procurement	North Strathfield	ENM	13-Nov-14	0.5	7159 Western side of rail corridor CH12+740-CH13+100 North Strathfield NSW WAC2 v1 final, 7224 NSRU Pipe Jacking works North Strathfield NSW WAC1 v1 final	8361-GC5
Charlton Excavation & Demolition Pty Ltd	Paraweena Road, Miranda	ENM	01-Oct-14	7.0	7991 Paraweena Road Miranda WAC1 v1 final (ENM)	8200-GC2
Dial A Dump	Eastern Creek	Exempt ENM	01-Oct-14	7.0	7829 Stockpile 3973-2 (Olympic Park) DADI GRF WAC2 v1final, 7829 Stockpile 4988-3 (Holsworthy) DADI GRF WAC3 v1 final, 7829 Stockpile 5016-1 (Westmead) DADI GRF WAC1 v1 final	8200-GC1
Dial A Dump	Eastern Creek	Exempt ENM	02-Oct-14	3.0	7829 Stockpile 3973-2 (Olympic Park) DADI GRF WAC2 v1final, 7829 Stockpile 4988-3 (Holsworthy) DADI GRF WAC3 v1 final, 7829 Stockpile 5016-1 (Westmead) DADI GRF WAC1 v1 final	8200-GC1
Dial A Dump	Eastern Creek	Exempt ENM	09-Oct-14	15.0	7829 Stockpile 3973-2 (Olympic Park) DADI GRF WAC2 v1final, 7829 Stockpile 4988-3 (Holsworthy) DADI GRF WAC3 v1 final, 7829 Stockpile 5016-1 (Westmead) DADI GRF WAC1 v1 final	8200-GC1
Dial A Dump	Eastern Creek	Exempt ENM	10-Oct-14	3.0	7829 Stockpile 3973-2 (Olympic Park) DADI GRF WAC2 v1final, 7829 Stockpile 4988-3 (Holsworthy) DADI GRF WAC3 v1 final, 7829 Stockpile 5016-1 (Westmead) DADI GRF WAC1 v1 final	8200-GC1
Mulgoa Excavations Pty Ltd	Epping	ENM	13-Oct-14	12.0	8190 Cheltenham Station Cheltenham NSW WAC2 v1 final	8200-GC4
Mulgoa Excavations Pty Ltd	Epping	ENM	20-Oct-14	27.0	8190 Cheltenham Station Cheltenham NSW WAC2 v1 final	8200-GC4
Mulgoa Excavations Pty Ltd	Epping	ENM	22-Oct-14	3.5	8190 Cheltenham Station Cheltenham NSW WAC2 v1 final	8200-GC4
Mulgoa Excavations Pty Ltd	Epping	ENM	17-Nov-14	1.0	8190 Cheltenham Station Cheltenham NSW WAC2 v1 final	8361-GC4
Mulgoa Excavations Pty Ltd	Epping	ENM	18-Nov-14	4.0	8190 Cheltenham Station Cheltenham NSW WAC2 v1 final	8361-GC4
Mulgoa Excavations Pty Ltd	Epping	ENM	19-Nov-14	5.0	8190 Cheltenham Station Cheltenham NSW WAC2 v1 final	8361-GC4
Mulgoa Excavations Pty Ltd	Epping	ENM	24-Nov-14	15.0	8190 Cheltenham Station Cheltenham NSW WAC2 v1 final	8361-GC4
Mulgoa Excavations Pty Ltd	Epping	ENM	26-Nov-14	11.0	8190 Cheltenham Station Cheltenham NSW WAC2 v1 final	8361-GC4
Mulgoa Excavations Pty Ltd	Epping	ENM	03-Dec-14	13.0	8190 Cheltenham Station Cheltenham NSW WAC2 v1 final	8513-GC3
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	01-Oct-14	12.0	7523 Wicks Rd Area 2 stockpile North Ryde NSW WAC1 v2 final	8200-GC7
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	09-Oct-14	23.0	8171 'Pennant Hills Stockpile' (SP-3)Wicks Road compound North Ryde NSW WAC3 v1 final	8200-GC7
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	10-Oct-14	29.0	7363 Area 1 Beecroft Rd Epping NSW WAC6 v1 final	8200-GC7
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	13-Oct-14	9.0	8171 'Beecroft Stockpile' (SP-4)Wicks Road compound North Ryde NSW WAC4 v1 final	8200-GC7
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	17-Oct-14	5.0	7537 Rail Corridor off Old Beecroft Rd Cheltenham NSW WAC1 v1 final	8200-GC7
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	17-Oct-14	18.5	7814 Beecroft Stockpile Wicks Road Compound North Ryde NSW WAC1 v1 final	8200-GC7
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	20-Oct-14	28.0	7523 Wicks Rd Area 2 stockpile North Ryde NSW WAC1 v2 final	8200-GC7
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	21-Oct-14	31.0	7410 Rail Corridor downside Ch24+500-575 Cheltenham NSW WAC1 v1 final, 7498 Rail Corridor downside CH24+500-575 Cheltenham NSW VAL1 v1 final	8200-GC7
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	22-Oct-14	20.0	7363 Beecroft Stockpile Wicks Rd North Ryde NSW WAC2 v1 final	8200-GC10
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	23-Oct-14	17.0	7814 Beecroft Stockpile Wicks Road Compound North Ryde NSW WAC1 v1 final	8200-GC10
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	23-Oct-14	22.0	8107 RW9 - Soil Materials The Cresent Cheltenham NSW WAC1 v1 final	8200-GC10

Excavation Contractor	Source Site	Soil Type	Date	Loads	Validation Report (s)	Gate Check Sample ID
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	24-Oct-14	23.0	7537 Rail Corridor off Old Beecroft Rd Cheltenham NSW WAC1 v1 final	8200-GC10
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	27-Oct-14	20.0	8107 RW9 - Soil Materials The Cresent Cheltenham NSW WAC1 v1 final	8200-GC10
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	28-Oct-14	4.0	8171 'Beecroft Stockpile' (SP-4)Wicks Road compound North Ryde NSW WAC4 v1 final	8200-GC10
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	17-Nov-14	10.0	8107 RW9 - Soil Materials The Cresent Cheltenham NSW WAC1 v1 final	8361-GC6
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	18-Nov-14	17.0	8336 Beecroft Station Beecroft NSW WAC1 v1 final	8361-GC6
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	19-Nov-14	7.0	8336 Beecroft Station Beecroft NSW WAC1 v1 final	8361-GC6
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	24-Nov-14	4.0	7363 Area 1 Beecroft Rd Epping NSW WAC6 v1 final	8361-GC6
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	26-Nov-14	1.0	7363 Area 1 Beecroft Rd Epping NSW WAC6 v1 final	8361-GC6
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	03-Dec-14	5.0	7363 Area 1 Beecroft Rd Epping NSW WAC6 v1 final	8361-GC3
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	15-Dec-14	43.0	7410 Rail Corridor downside Ch24+500-575 Cheltenham NSW WAC1 v1 final, 7498 Rail Corridor downside CH24+500-575 Cheltenham NSW VAL1 v1 final	8361-GC3
Rahme Civil Pty Ltd	Campbelltown	VENM	01-Oct-14	26.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8200-GC3
Rahme Civil Pty Ltd	Campbelltown	VENM	03-Oct-14	32.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8200-GC3
Rahme Civil Pty Ltd	Campbelltown	VENM	08-Oct-14	29.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8200-GC3
Rahme Civil Pty Ltd	Campbelltown	VENM	09-Oct-14	29.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8200-GC3
Rahme Civil Pty Ltd	Campbelltown	VENM	10-Oct-14	43.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8200-GC3
Rahme Civil Pty Ltd	Campbelltown	VENM	20-Oct-14	29.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8200-GC3
Rahme Civil Pty Ltd	Campbelltown	VENM	21-Oct-14	39.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8200-GC3
Rahme Civil Pty Ltd	Campbelltown	VENM	22-Oct-14	30.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8200-GC3
Rahme Civil Pty Ltd	Campbelltown	VENM	24-Oct-14	14.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8200-GC3
Rahme Civil Pty Ltd	Campbelltown	VENM	27-Oct-14	5.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8200-GC3
Rahme Civil Pty Ltd	Campbelltown	VENM	29-Oct-14	18.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8200-GC3
Rahme Civil Pty Ltd	Campbelltown	VENM	30-Oct-14	33.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8200-GC3
Rahme Civil Pty Ltd	Campbelltown	VENM	07-Nov-14	3.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8361-GC2
Rahme Civil Pty Ltd	Campbelltown	VENM	10-Nov-14	40.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8361-GC2
Rahme Civil Pty Ltd	Campbelltown	VENM	11-Nov-14	33.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8361-GC2
Rahme Civil Pty Ltd	Campbelltown	VENM	12-Nov-14	25.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8361-GC2
Rahme Civil Pty Ltd	Campbelltown	VENM	13-Nov-14	28.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8361-GC2
Rahme Civil Pty Ltd	Campbelltown	VENM	17-Nov-14	4.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8361-GC2
Rahme Civil Pty Ltd	Campbelltown	VENM	18-Nov-14	7.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8361-GC2
Rahme Civil Pty Ltd	Campbelltown	VENM	19-Nov-14	2.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8361-GC2
Rahme Civil Pty Ltd	Campbelltown	VENM	03-Dec-14	10.0	7887 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v1 final, 8147 Cnr of Regents St Santana Road Campbelltown NSW WAC1 v2 final	8361-GC2
Remedial Civil Solutions P/L trading as Chalouhi	Potts Hill	ENM	13-Oct-14	3.0	6906 'Lot A' Corner of Brunker Rd and Rowe Dr Potts Hill WAC1 v1 final, 7015 Lot B Rowe Dr Potts Hill WAC1 v1 final, 7015 Lot C Rowe Dr Potts Hill WAC2 v1 final, 7105 Lot E Rowe Dr Potts Hill WAC1 v1 final, 7136 Lot D Rowe Dr Potts Hill WAC1 v1 final	8200-GC8
Remedial Civil Solutions P/L trading as Chalouhi	Potts Hill	ENM	20-Oct-14	15.0	6906 'Lot A' Corner of Brunker Rd and Rowe Dr Potts Hill WAC1 v1 final, 7015 Lot B Rowe Dr Potts Hill WAC1 v1 final, 7015 Lot C Rowe Dr Potts Hill WAC2 v1 final, 7105 Lot E Rowe Dr Potts Hill WAC1 v1 final, 7136 Lot D Rowe Dr Potts Hill WAC1 v1 final	8200-GC8
Remedial Civil Solutions P/L trading as Chalouhi	Potts Hill	ENM	21-Oct-14	18.0	6906 'Lot A' Corner of Brunker Rd and Rowe Dr Potts Hill WAC1 v1 final, 7015 Lot B Rowe Dr Potts Hill WAC1 v1 final, 7015 Lot C Rowe Dr Potts Hill WAC2 v1 final, 7105 Lot E Rowe Dr Potts Hill WAC1 v1 final, 7136 Lot D Rowe Dr Potts Hill WAC1 v1 final	8200-GC8
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	03-Jul-15	9.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	06-Jul-15	32.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	07-Jul-15	28.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	08-Jul-15	25.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9324-GC2

Excavation Contractor	Source Site	Soil Type	Date	Loads	Validation Report (s)	Gate Check Sample ID
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	10-Jul-15	22.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	15-Jul-15	23.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	16-Jul-15	10.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	21-Jul-15	24.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	22-Jul-15	20.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	24-Jul-15	63.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	25-Jul-15	49.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	27-Jul-15	56.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	28-Jul-15	45.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	30-Jul-15	12.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	03-Aug-15	45.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9447-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	05-Aug-15	53.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9447-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	06-Aug-15	35.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9447-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	07-Aug-15	1.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9447-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	08-Aug-15	56.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9447-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	10-Aug-15	53.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9447-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	11-Aug-15	69.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9447-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	12-Aug-15	30.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9447-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	14-Aug-15	37.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9447-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	17-Aug-15	4.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9447-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	18-Aug-15	32.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9447-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	17-Sep-15	7.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9447-GC2
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	09-Oct-15	22.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9732-GC1
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	10-Oct-15	29.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9732-GC1
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	12-Oct-15	40.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9732-GC1
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	13-Oct-15	25.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9732-GC1
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	15-Oct-15	22.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9732-GC1
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	16-Oct-15	1.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9732-GC1
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	19-Oct-15	23.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9732-GC1
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	20-Oct-15	22.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9732-GC1
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	21-Oct-15	29.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9732-GC1
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	23-Oct-15	52.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9732-GC1
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	24-Oct-15	29.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9732-GC1
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	19-Nov-15	25.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9826-GC1
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	20-Nov-15	15.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9826-GC1
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	21-Nov-15	32.5	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9826-GC1
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	23-Nov-15	50.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9826-GC1
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	24-Nov-15	13.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9826-GC1
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	25-Nov-15	26.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9826-GC1
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	26-Nov-15	23.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9826-GC1
Ace Demolition & Excavations Pty Ltd	18 Harrow Road, Auburn	VENM	03-Dec-15	10.0	9221 18 Harrow Rd Auburn NSW WAC1 v1 final	9826-GC1
Ace Demolition & Excavations Pty Ltd	34 Kerr Parade, Auburn	VENM	04-Aug-15	44.0	9452 34 Kerr Parade Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	34 Kerr Parade, Auburn	VENM	05-Aug-15	25.0	9452 34 Kerr Parade Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	34 Kerr Parade, Auburn	VENM	10-Aug-15	33.0	9452 34 Kerr Parade Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	34 Kerr Parade, Auburn	VENM	11-Aug-15	54.0	9452 34 Kerr Parade Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	34 Kerr Parade, Auburn	VENM	12-Aug-15	24.0	9452 34 Kerr Parade Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	34 Kerr Parade, Auburn	VENM	13-Aug-15	24.0	9452 34 Kerr Parade Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	34 Kerr Parade, Auburn	VENM	14-Aug-15	12.0	9452 34 Kerr Parade Auburn NSW WAC1 v1 final	9324-GC2
Ace Demolition & Excavations Pty Ltd	Delhi Road, North Ryde	ENM	14-Dec-15	19.0	9593 27 - 37 Delhi Road North Ryde NSW WAC1 v1 final	9923-GC12
Ace Demolition & Excavations Pty Ltd	Mascot	ENM	03-Jul-15	3.0	9203 Ace Demolition SP4 7-9 Kent St Mascot NSW MOR3 v1 final, 9203 Ace Demolition SP5 7-9 Kent St Mascot NSW MOR4 v1 final	9324-GC3
Ace Demolition & Excavations Pty Ltd	Mascot	ENM	06-Jul-15	3.0	9203 Ace Demolition SP4 7-9 Kent St Mascot NSW MOR3 v1 final, 9203 Ace Demolition SP5 7-9 Kent St Mascot NSW MOR4 v1 final	9324-GC3
Ace Demolition & Excavations Pty Ltd	Mascot	ENM	07-Jul-15	43.0	9203 Ace Demolition SP4 7-9 Kent St Mascot NSW MOR3 v1 final, 9203 Ace Demolition SP5 7-9 Kent St Mascot NSW MOR4 v1 final	9324-GC3
Ace Demolition & Excavations Pty Ltd	Mascot	ENM	08-Jul-15	3.0	9203 Ace Demolition SP4 7-9 Kent St Mascot NSW MOR3 v1 final, 9203 Ace Demolition SP5 7-9 Kent St Mascot NSW MOR4 v1 final	9324-GC3
Ace Demolition & Excavations Pty Ltd	Mascot	ENM	09-Jul-15	14.0	9203 Ace Demolition SP4 7-9 Kent St Mascot NSW MOR3 v1 final, 9203 Ace Demolition SP5 7-9 Kent St Mascot NSW MOR4 v1 final	9324-GC3
Ace Demolition & Excavations Pty Ltd	Mascot	ENM	10-Jul-15	15.0	9203 Ace Demolition SP4 7-9 Kent St Mascot NSW MOR3 v1 final, 9203 Ace Demolition SP5 7-9 Kent St Mascot NSW MOR4 v1 final	9324-GC3
Ace Demolition & Excavations Pty Ltd	Mascot	ENM	15-Jul-15	9.0	9203 Ace Demolition SP4 7-9 Kent St Mascot NSW MOR3 v1 final, 9203 Ace Demolition SP5 7-9 Kent St Mascot NSW MOR4 v1 final	9324-GC3
Ace Demolition & Excavations Pty Ltd	Mascot	ENM	16-Jul-15	6.0	9203 Ace Demolition SP4 7-9 Kent St Mascot NSW MOR3 v1 final, 9203 Ace Demolition SP5 7-9 Kent St Mascot NSW MOR4 v1 final	9324-GC3
Downer EDI Works Pty Ltd	Wyong	Exempt ENM	09-Dec-15	10.0	8734 CSR Project Stage 1, Narara - Wyong NSW.WAC2.v1 final	9923-GC8
Downer EDI Works Pty Ltd	Wyong	Exempt ENM	10-Dec-15	9.0	8734 CSR Project Stage 1, Narara - Wyong NSW.WAC2.v1 final	9923-GC8
Downer EDI Works Pty Ltd	Wyong	Exempt ENM	11-Dec-15	8.0	8734 CSR Project Stage 1, Narara - Wyong NSW.WAC2.v1 final	9923-GC8
Downer EDI Works Pty Ltd	Wyong	Exempt ENM	14-Dec-15	12.0	8734 CSR Project Stage 1, Narara - Wyong NSW.WAC2.v1 final	9923-GC8
Downer EDI Works Pty Ltd	Wyong	Exempt ENM	15-Dec-15	1.0	8734 CSR Project Stage 1, Narara - Wyong NSW.WAC2.v1 final	9923-GC8
Downer EDI Works Pty Ltd	Wyong	Exempt ENM	16-Dec-15	1.0	8734 CSR Project Stage 1, Narara - Wyong NSW.WAC2.v1 final	9923-GC8

Excavation Contractor	Source Site	Soil Type	Date	Loads	Validation Report (s)	Gate Check Sample ID
Downer EDI Works Pty Ltd	Wyong	Exempt ENM	08-Dec-15	13.0	9308 CSR Project Stage 1, Narara to Wyong NSW.WAC5.v2 final	9923-GC8
Downer EDI Works Pty Ltd	Wyong	Exempt ENM	11-Dec-15	3.0	9308 CSR Project Stage 1, Narara to Wyong NSW.WAC8.v1 final	9923-GC8
Downer EDI Works Pty Ltd	Wyong	Exempt ENM	15-Dec-15	8.0	8734 CSR Project Stage 1, Narara - Wyong NSW.WAC2.v1 final	9923-GC8
Hargraves Urban Pty Ltd	Carnes Hill	ENM	02-Dec-15	14.0	SM029 ENM report	9923-GC2
Hargraves Urban Pty Ltd	Carnes Hill	ENM	03-Dec-15	59.0	SM029 ENM report	9923-GC2
Hargraves Urban Pty Ltd	Carnes Hill	ENM	04-Dec-15	50.0	SM029 ENM report	9923-GC2
Hargraves Urban Pty Ltd	Carnes Hill	ENM	08-Dec-15	65.0	SM029 ENM report	9923-GC2
Kane Constructions	Carnes Hill	ENM	27-Nov-15	45.0	SM029 ENM report	9826-GC4
Mulgoa Excavations Pty Ltd	Beverly Hills	VENM	03-Dec-15	35.0	GT2423-ENV24	9923-GC3
Mulgoa Excavations Pty Ltd	Beverly Hills	VENM	09-Dec-15	16.0	GT2423-ENV24	9923-GC3
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	21-Jul-15	4.0	8341 Batter between CH24+138 CH24+296 Gate N1 Beecroft Road Epping WAC1 v3 draft	9324-GC6
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	17-Aug-15	8.0	8341 Batter between CH24+138 CH24+296 Gate N1 Beecroft Road Epping WAC1 v3 draft	9324-GC6
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	15-Oct-15	6.0	8341 Batter between CH24+138 CH24+296 Gate N1 Beecroft Road Epping WAC1 v3 draft	9732-GC2
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	16-Oct-15	4.0	8341 Batter between CH24+138 CH24+296 Gate N1 Beecroft Road Epping WAC1 v3 draft	9732-GC2
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	20-Oct-15	1.0	8341 Batter between CH24+138 CH24+296 Gate N1 Beecroft Road Epping WAC1 v3 draft	9732-GC2
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	10-Nov-15	7.5	8341 Batter between CH24+138 CH24+296 Gate N1 Beecroft Road Epping WAC1 v3 draft	9732-GC2
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	11-Nov-15	8.5	8341 Batter between CH24+138 CH24+296 Gate N1 Beecroft Road Epping WAC1 v3 draft	9732-GC2
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	12-Nov-15	4.0	8341 Batter between CH24+138 CH24+296 Gate N1 Beecroft Road Epping WAC1 v3 draft	9732-GC2
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	13-Nov-15	7.5	8341 Batter between CH24+138 CH24+296 Gate N1 Beecroft Road Epping WAC1 v3 draft	9732-GC2
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	16-Nov-15	10.0	8341 Batter between CH24+138 CH24+296 Gate N1 Beecroft Road Epping WAC1 v3 draft	9732-GC2
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	17-Nov-15	8.0	8341 Batter between CH24+138 CH24+296 Gate N1 Beecroft Road Epping WAC1 v3 draft	9732-GC2
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	19-Nov-15	6.0	8341 Batter between CH24+138 CH24+296 Gate N1 Beecroft Road Epping WAC1 v3 draft	9732-GC2
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	04-Dec-15	14.0	8341 Batter between CH24+138 CH24+296 Gate N1 Beecroft Road Epping WAC1 v3 draft	9732-GC2
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	09-Dec-15	15.0	9868 Wicks Road Compound Wicks Road North Ryde NSW WAC1 v1 final	9732-GC2
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	10-Dec-15	16.5	9868 Wicks Road Compound Wicks Road North Ryde NSW WAC1 v1 final	9732-GC2
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	11-Dec-15	18.5	9868 Wicks Road Compound Wicks Road North Ryde NSW WAC1 v1 final	9732-GC2
Mulgoa Excavations Pty Ltd	Epping	Exempt ENM	14-Dec-15	20.5	9868 Wicks Road Compound Wicks Road North Ryde NSW WAC1 v1 final	9732-GC2
NCX LLBJV - Lend Lease Bouygues Joint Venture	Southern Compound, Layer 3	ENM	17-Sep-15	44.0	033-20150910 - 9555 Southern Embankment Southern Interchange Compound Pennant Hills NSW WAC3A v1 final	9639-GC2
NCX LLBJV - Lend Lease Bouygues Joint Venture	Southern Compound, Layer 4	ENM	21-Sep-15	40.0	9555 Southern Embankment Southern Interchange Compound Pennant Hills NSW WAC4 v1 final	9639-GC2
NCX LLBJV - Lend Lease Bouygues Joint Venture	Southern Compound, Layer 4	ENM	22-Sep-15	21.0	9555 Southern Embankment Southern Interchange Compound Pennant Hills NSW WAC4 v1 final	9639-GC3
Remedial Civil Solutions P/L trading as Chalouhi	Hannah Street, Potts Hill	ENM	03-Jul-15	50.0	9067 Building A 7 Hannah Street Potts Hill NSW WAC1 v1 final (also report for Building B, C, D & E)	9324-GC8
Remedial Civil Solutions P/L trading as Chalouhi	Hannah Street, Potts Hill	ENM	07-Jul-15	49.0	9067 Building A 7 Hannah Street Potts Hill NSW WAC1 v1 final (also report for Building B, C, D & E)	9324-GC8
Remedial Civil Solutions P/L trading as Chalouhi	Hannah Street, Potts Hill	ENM	27-Jul-15	48.0	9067 Building A 7 Hannah Street Potts Hill NSW WAC1 v1 final (also report for Building B, C, D & E)	9324-GC8
Remedial Civil Solutions P/L trading as Chalouhi	Hannah Street, Potts Hill	ENM	28-Jul-15	12.0	9067 Building A 7 Hannah Street Potts Hill NSW WAC1 v1 final (also report for Building B, C, D & E)	9324-GC8
Remedial Civil Solutions P/L trading as Chalouhi	Hannah Street, Potts Hill	ENM	29-Jul-15	20.0	9067 Building A 7 Hannah Street Potts Hill NSW WAC1 v1 final (also report for Building B, C, D & E)	9324-GC8
Remedial Civil Solutions P/L trading as Chalouhi	Hannah Street, Potts Hill	ENM	30-Jul-15	19.0	9067 Building A 7 Hannah Street Potts Hill NSW WAC1 v1 final (also report for Building B, C, D & E)	9324-GC8
Remedial Civil Solutions P/L trading as Chalouhi	Hannah Street, Potts Hill	ENM	31-Jul-15	14.0	9067 Building A 7 Hannah Street Potts Hill NSW WAC1 v1 final (also report for Building B, C, D & E)	9324-GC8
Remedial Civil Solutions P/L trading as Chalouhi	Hannah Street, Potts Hill	ENM	03-Aug-15	18.0	9067 Building A 7 Hannah Street Potts Hill NSW WAC1 v1 final (also report for Building B, C, D & E)	9447-GC1
Remedial Civil Solutions P/L trading as Chalouhi	Hannah Street, Potts Hill	ENM	04-Aug-15	18.0	9067 Building A 7 Hannah Street Potts Hill NSW WAC1 v1 final (also report for Building B, C, D & E)	9447-GC1
Remedial Civil Solutions P/L trading as Chalouhi	Hannah Street, Potts Hill	ENM	05-Aug-15	12.0	9067 Building A 7 Hannah Street Potts Hill NSW WAC1 v1 final (also report for Building B, C, D & E)	9447-GC1
Remedial Civil Solutions P/L trading as Chalouhi	Hannah Street, Potts Hill	ENM	06-Aug-15	25.0	9067 Building A 7 Hannah Street Potts Hill NSW WAC1 v1 final (also report for Building B, C, D & E)	9447-GC1
Remedial Civil Solutions P/L trading as Chalouhi	Hannah Street, Potts Hill	ENM	10-Aug-15	9.0	9067 Building A 7 Hannah Street Potts Hill NSW WAC1 v1 final (also report for Building B, C, D & E)	9447-GC1
Sydney Excavation Group Pty Ltd	Kirrang Street, Beverly Hills	VENM	17-Nov-15	60.0	9842 Kirrang Street Beverly Hills NSW WAC1 v2 final	9826-GC2
Sydney Excavation Group Pty Ltd	Kirrang Street, Beverly Hills	VENM	18-Nov-15	1.0	9842 Kirrang Street Beverly Hills NSW WAC1 v2 final	9826-GC2
Sydney Excavation Group Pty Ltd	Kirrang Street, Beverly Hills	VENM	24-Nov-15	57.0	9842 Kirrang Street Beverly Hills NSW WAC1 v2 final	9826-GC2
Sydney Excavation Group Pty Ltd	Kirrang Street, Beverly Hills	VENM	01-Dec-15	46.0	9842 Kirrang Street Beverly Hills NSW WAC1 v2 final	9923-GC6
Sydney Excavation Group Pty Ltd	Kirrang Street, Beverly Hills	VENM	02-Dec-15	48.0	9842 Kirrang Street Beverly Hills NSW WAC1 v2 final	9923-GC6
Sydney Excavation Group Pty Ltd	Kirrang Street, Beverly Hills	VENM	03-Dec-15	15.0	9842 Kirrang Street Beverly Hills NSW WAC1 v2 final	9923-GC6
Sydney Excavation Group Pty Ltd	Kirrang Street, Beverly Hills	VENM	09-Dec-15	26.0	9842 Kirrang Street Beverly Hills NSW WAC1 v2 final	9923-GC6
Sydney Excavation Group Pty Ltd	Kirrang Street, Beverly Hills	VENM	10-Dec-15	41.0	9842 Kirrang Street Beverly Hills NSW WAC1 v2 final	9923-GC6
Sydney Excavation Group Pty Ltd	Kirrang Street, Beverly Hills	VENM	11-Dec-15	37.0	9842 Kirrang Street Beverly Hills NSW WAC1 v2 final	9923-GC6
Sydney Excavation Group Pty Ltd	Kirrang Street, Beverly Hills	VENM	14-Dec-15	21.0	9842 Kirrang Street Beverly Hills NSW WAC1 v2 final	9923-GC6

APPENDIX II – GATE CHECK SAMPLE RESULTS

Results from Gate Check Samples collected by ADE, Gregory Hills Drive, Gledswood Hills NSW

				TRH (without silica gel clean-up)				BTEX				Metals								PAHs															
				C6-C10 (F1)	C10-C16 (F2)	C16-C34 (F3)	C34-C40 (F4)	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Arsenic	Cadmium	Chromium (IV)	Copper	Lead	Mercury	Nickel	Zinc	Acenaphthene	Acenaphthylene	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Chrysene	Dibenzo[a,h]anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Carcinogenic PAHs (BaP TEQ)[2]	Total PAHs
Commercial/Industrial Land-use (HIL-D) (mg/kg)[1a]				-	-	-	-	-	-	-	-	3,000	900	3,600	240,000	1,500	730	6,000	400,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	4,000
Vapour Intrusion - 0 m to <1 m (HSL-D) (mg/kg)[1b,3]				310	-	-	-	4	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vapour Intrusion - 1 m to <2 m (HSL-D) (mg/kg)[1b,3]				480	-	-	-	6	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vapour Intrusion - 2 m to <4 m (HSL-D) (mg/kg)[1b,3]				-	-	-	-	9	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vapour Intrusion - 4m+ (HSL-D) (mg/kg)[1b,3]				-	-	-	-	20	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Management Limits -Commercial/Industrial (mg/kg)[4, 5]				800	1,000	5,000	10,000	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Direct Contact (HSL-D) (mg/kg)[1b]				26,000	20,000	27,000	38,000	430	99,000	27,000	81,000	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	11,000	-	-	-	-
Month	**Source**	**Sample I.D**	**Date**																																	
Jul-15	Chalouhi - Potts Hill	9324-WAC1	3rd Jul 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	8	<0.3	11	50	41	<0.2	32	89	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Ace Demolition - Auburn	9324-WAC2	9th Jul 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	5	<0.3	12	43	46	<0.2	33	87	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Ace Demolition - Mascot	9324-WAC3	9th Jul 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	<2	<0.3	<5	23	43	<0.2	<10	48	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Ace Demolition - Auburn	9324-WAC4	26th Jul 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	5	<0.3	7	44	22	<0.2	27	74	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Ace Demolition - Auburn	9324-WAC5	28th Jul 2015	<35	<50	130	<100	<0.5	<0.5	<1	<3	13	<0.3	<5	24	11	<0.2	<10	39	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Mulgoa - Epping ETTT	9324-WAC6	28th Jul 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	16	<0.3	<5	18	17	<0.2	<10	27	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Chalouhi - Potts Hill	9324-WAC8	28th Jul 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	8	<0.3	<5	11	10	<0.2	<10	10	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Ace Demolition - Mascot	9324-WAC9	28th Jul 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	6	<0.3	<5	65	180	<0.2	<10	130	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Ace Demolition - Auburn	9324-WAC10	28th Jul 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	9	<0.3	5	36	28	<0.2	28	96	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
Aug-15	Civil Plus - Potts Hill	9447-WAC1	3rd Aug 2015	<35	<50	<100	370	<0.5	<0.5	<1	<3	14	<0.3	10	33	20	<0.2	12	44	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Ace Demolition - Auburn	9447-WAC2	3rd Aug 2015	<35	<50	<100	220	<0.5	<0.5	<1	<3	14	<0.3	14	14	<10	<0.2	<10	<5	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Ace Demolition - Mascot	9447-WAC3	7th Aug 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	9	<0.3	15	29	130	0	<10	200	<0.3	<0.3	0.6	1.4	1.2	1.4	0.9	0.5	1.1	0.3	3.1	<0.3	0.7	<0.3	2.1	2.8	1.9	16.3
Sep-15	NCX - Southern Compound	9639-WAC02	17th Sep 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	7	<0.3	12	42	47	<0.2	16	90	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	NCX - Southern Compound	9639-WAC03	22nd Sep 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	9	<0.3	7	41	61	<0.2	13	89	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
Oct-15	Ace Demolition - Auburn	9732-WAC01	12th Oct 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	26	<0.3	<5	40	100	<0.2	<10	110	<0.3	<0.3	<0.3	1.0	1.3	0.7	0.3	0.7	0.8	0.3	1.3	<0.3	1.2	<0.3	<0.3	1.3	2.0	8.8
	Mulgoa - Epping ETTT	9732-WAC02	15th Oct 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	30	<0.3	7	140	170	<0.2	14	160	<0.3	<0.3	<0.3	<0.3	<0.3	0.4	0.8	0.4	<0.3	<0.3	0.5	<0.3	<0.3	<0.3	<0.3	0.5	0.7	2.5
	Ace Demolition - Auburn	9732-WAC03	15th Oct 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	7	<0.3	7	28	84	<0.2	20	70	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.4	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.7	0.4
Nov-15	Ace Demolition - Auburn	9826-WAC01	20th Nov 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	<2	<0.3	<5	14	10	<0.2	<10	16	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Sydney Excavation - Beverly Hills	9826-WAC02	24th Nov 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	<2	<0.3	<5	18	11	<0.2	<10	28	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Ace Demolition - Auburn	9826-WAC03	25th Nov 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	7	<0.3	23	52	680	<0.2	<10	150	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Kane Constructions - Carnes Hill	9826-WAC04	27th Nov 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	10	<0.3	27	13	21	<0.2	<10	25	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.4	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
Dec-15	Sydney Excavation - Beverly Hills	9923-WAC01	1st Dec 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	8	<0.3	<5	17	13	<0.2	<10	22	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Mulgoa - Beverley Hills	9923-WAC03	3rd Dec 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	5	<0.3	24	24	28	<0.2	30	45	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Mulgoa - Midleton	9923-WAC04	3rd Dec 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	4	<0.3	<5	16	20	<0.2	<10	23	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Ace Demolition - Auburn	9923-WAC05	3rd Dec 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	8	<0.3	<5	21	24	<0.2	<10	46	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Sydney Excavation - Beverly Hills	9923-WAC06	3rd Dec 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	5	<0.3	<5	18	26	<0.2	<10	99	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Downer - Wyong	9923-WAC08	7th Dec 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	16	<0.3	7	35	77	<0.2	10	240	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.3	<0.3	<0.3	<0.3	<0.3	<0.7	4.8
	Mulgoa - Epping ETTT	9923-WAC10	9th Dec 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	11	<0.3	12	29	35	<0.2	<10	34	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Ace Demolition - North Ryde	9923-WAC11	14th Dec 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	5	<0.3	<5	33	23	<0.2	17	110	<0.3	<0.3	0.9	0.4	<0.3	<0.3	<0.3	<0.3	0.3	<0.3	1.0	<0.3	<0.3	<0.3	0.9	<0.3	0.7	8.3
	Ace Demolition - Auburn	9923-WAC13	14th Dec 2015	<35	<50	<100	<100	<0.5	<0.5	<1	<3	4	<0.3	10	26	49	<0.2	29	100	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8

Notes to table

ADE - A.D. Envirotech Australia Pty Ltd.

BR - Blind replicate

SP - Split Replicate

m BGL - metres below ground level

1 - Site assessment criteria adopted from the 'National Environmental Protection (Assessment of Site Contamination) Measure 1999, 2013 Amendment.

2 - Carcinogenic PAHs: HIL is based on the 8 carcinogenic PAHs and their Toxic Equivalency Factor (TEFs) (potency relative to B(a)P). The B(a)P TEQ (ToxicEquivalency Quantity) is calculated by multiplying the concentration of each carcinogenic PAH in the sample by its B(a)P TEF.

3 - Most conservative criteria adopted outlined for via vapour and direct contact exposure pathways. Values adopted for 'Clay' where applicable for screening purposes.

4 - Management Limits for TPH fractions F1-F4 in soil, as per Table 1 B(7) of NEPM 2013.

5 - Most conservative criteria adopted for screening purposes i.e. Fine soil texture.

Results from Gate Check Samples collected by ADE, Gregory Hills Drive, Gledswood Hills NSW

				OCPs																		OPPs																				Other						
				Aldrin + Dieldrin	Chlordane	Endosulfan	DDT+DDE+DDD	Heptachlor	a-BHC	b-BHC	d-BHC	g-BHC (lindane)	trans-chlordane	endosulfan sulfate	endrin	endrin aldehyde	endrin ketone	heptachlor epoxide	hexachlorobenzene	methoxychlor	toxaphene	chlorpyrifos	chlorpyrifos methyl	demeton-o	diazinon	dichlorvos	disulfoton	ethroprop	fenitrothion	fensulfothion	fenthion	methyl azinphos	methyl parathion	mevinphos	phorate	prophos	ronnel	trichlorinate	tributylphosphorotrithioite	PCBs (Total)	Phenols	Chlorides	Sulphates	Ece	pH	Asbestos
Commercial/Industrial Land-use (HIL-D) (mg/kg)[1a]				45	530	2,000	3,600	50	-	-	-	-	-	-	-	-	-	-	-	-	20	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-		-	-
Vapour Intrusion - 0 m to <1 m (HSL-D) (mg/kg)[1b,3]				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vapour Intrusion - 1 m to <2 m (HSL-D) (mg/kg)[1b,3]				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vapour Intrusion - 2 m to <4 m (HSL-D) (mg/kg)[1b,3]				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vapour Intrusion - 4m+ (HSL-D) (mg/kg)[1b,3]				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Management Limits -Commercial/Industrial (mg/kg)[4, 5]				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Direct Contact (HSL-D) (mg/kg)[1b]				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gregory Hills Fill Management Protocol				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,000	5,000	8	5.5	NAD
Month	**Source**	**Sample I.D**	**Date**																																										
Jul-15	Chalouhi - Potts Hill	9324-WAC1	3rd Jul 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	190	110	2.21*	8.0	NAD
	Ace Demolition - Auburn	9324-WAC2	9th Jul 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	140	130	0.85*	5.4	NAD
	Ace Demolition - Mascot	9324-WAC3	9th Jul 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	18	160	2.21*	9.3	NAD
	Ace Demolition - Auburn	9324-WAC4	26th Jul 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	270	130	6.46*	8.9	NAD
	Ace Demolition - Auburn	9324-WAC5	28th Jul 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	540	170	NT	NT	NAD
	Mulgoa - Epping ETTT	9324-WAC6	28th Jul 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	110	60	NT	NT	NAD
	Chalouhi - Potts Hill	9324-WAC8	28th Jul 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	67	<30	NT	NT	NAD
	Ace Demolition - Mascot	9324-WAC9	28th Jul 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	27	110	NT	NT	NAD
	Ace Demolition - Auburn	9324-WAC10	28th Jul 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	450	170	NT	NT	NAD
Aug-15	Civil Plus - Potts Hill	9447-WAC1	3rd Aug 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	NT	NT	NT	5.44*	5.2	NAD
	Ace Demolition - Auburn	9447-WAC2	3rd Aug 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	NT	NT	NT	9.35*	7.1	NAD
	Ace Demolition - Mascot	9447-WAC3	7th Aug 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	NT	NT	NT	NT	NT	NAD
Sep-15	NCX - Southern Compound	9639-WAC02	17th Sep 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	NT	35	240	1.02*	7.2	NAD
	NCX - Southern Compound	9639-WAC03	22nd Sep 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	NT	NT	NT	1.7*	6.6	NAD
Oct-15	Ace Demolition - Auburn	9732-WAC01	12th Oct 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	70	310	1.7*	7.1	NAD
	Mulgoa - Epping ETTT	9732-WAC02	15th Oct 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	<5	<30	2.38*	7.8	NAD
Nov-15	Ace Demolition - Auburn	9826-WAC01	20th Nov 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	14	73	NT	NT	NAD
	Sydney Excavation - Beverly Hills	9826-WAC02	24th Nov 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	76	120	NT	NT	NAD
	Ace Demolition - Auburn	9826-WAC03	25th Nov 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	52	160	NT	NT	NAD
	Kane Constructions - Carnes Hill	9826-WAC04	27th Nov 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	500	140	NT	NT	NAD
Dec-15	Sydney Excavation - Beverly Hills	9923-WAC01	1st Dec 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	NT	NT	NT	0.70	5.8	NAD
	Mulgoa - Beverley Hills	9923-WAC03	3rd Dec 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	110	110	1.47	8.6	NAD
	Mulgoa - Midleton	9923-WAC04	3rd Dec 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	31	120	0.81	8.5	NAD
	Ace Demolition - Auburn	9923-WAC05	3rd Dec 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	77	280	1.32	6.7	NAD
	Sydney Excavation - Beverly Hills	9923-WAC06	3rd Dec 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	220	300	1.55	6.6	NAD
	Downer - Wyong	9923-WAC08	7th Dec 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	14	79	0.48	6.8	NAD
	Mulgoa - Epping ETTT	9923-WAC10	9th Dec 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	11	150	0.87	8.7	NAD
	Ace Demolition - North Ryde	9923-WAC11	14th Dec 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	140	16	1.77	8.6	NAD
	Ace Demolition - Auburn	9923-WAC13	14th Dec 2015	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.6	<0.1	110	8.9	1.67	9.1	NAD

Notes to table

ADE - A.D. Envirotech Australia Pty Ltd.

BR - Blind replicate

SP - Split Replicate

m BGL - metres below ground level

1 - Site assessment criteria adopted from the 'National Environmental Protection (Assessment of Site Contamination) Measure 1999, 2013 Amendment.

2 - Carcinogenic PAHs: HIL is based on the 8 carcinogenic PAHs and their Toxic Equivalency Factor (TEFs) (potency relative to B(a)P). The B(a)P TEQ (ToxicEquivalency Quantity) is calculated by multiplying the concentration of each carcinogenic PAH in the sample by its B(a)P TEF.

3 - Most conservative criteria adopted outlined for via vapour and direct contact exposure pathways. Values adopted for 'Clay' where applicable for screening purposes.

4 - Management Limits for TPH fractions F1-F4 in soil, as per Table 1 B(7) of NEPM 2013.

5 - Most conservative criteria adopted for screening purposes i.e. Fine soil texture.

Results from Gate Check Samples collected by ADE, Gregory Hills Drive, Gledswood Hills NSW

				TRH (without silica gel clean-up)				BTEX				Metals								PAHs																
				C6-C10 (F1)	C10-C16 (F2)	C16-C34 (F3)	C34-C40 (F4)	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Arsenic	Cadmium	Chromium (IV)	Copper	Lead	Mercury	Nickel	Zinc	Acenaphthene	Acenaphthylene	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Chrysene	Dibenzo[a,h]anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Carcinogenic PAHs (BaP TEQ)[2]	Total PAHs
Commercial/Industrial Land-use (HIL-D) (mg/kg)[1a]				-	-	-	-	-	-	-	-	3,000	900	3,600	240,000	1,500	730	6,000	400,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	4,000
Vapour Intrusion - 0 m to <1 m (HSL-D) (mg/kg)[1b,3]				310	-	-	-	4	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vapour Intrusion - 1 m to <2 m (HSL-D) (mg/kg)[1b,3]				480	-	-	-	6	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vapour Intrusion - 2 m to <4 m (HSL-D) (mg/kg)[1b,3]				-	-	-	-	9	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vapour Intrusion - 4m+ (HSL-D) (mg/kg)[1b,3]				-	-	-	-	20	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Management Limits -Commercial/Industrial (mg/kg)[4, 5]				800	1,000	5,000	10,000	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Direct Contact (HSL-D) (mg/kg)[1b]				26,000	20,000	27,000	38,000	430	99,000	27,000	81,000	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	11,000	-	-	-	-
Month	**Source**	**Sample I.D**	**Date**																																	
Oct-14	Dial-a-Dump - Eastern Creek	8200-WAC1	1st Oct 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	2	<0.5	10	42	41	<0.2	19	59	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Charlton - Paraweena Rd, Miranda	8200-WAC2	1st Oct 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	<2	<0.5	<5	<5	<10	<0.2	<10	ND	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Rahme - Campbeltown	8200-WAC3	1st Oct 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	8	<0.5	<5	39	<10	<0.2	11	67	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Mulgoa - Epping ETTT	8200-WAC4	1st Oct 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	21	<0.5	6	73	120	<0.2	10	110	<0.3	<0.3	4.1	1.4	1.6	2	1.4	0.7	1.4	0.3	5.1	0.4	1.2	4.1	4.1	4.8	2.5	32.6
	Ace Demolition - Canterbury	8200-WAC5	8th Oct 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	28	<0.5	28	<5	<10	<0.2	<10	<5	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	John Holland NSRU	8200-WAC6	10th Oct 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	29	<0.5	<5	27	38	<0.2	11	37	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Mulgoa - Epping ETTT	8200-WAC7	20th Oct 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	14	<0.5	6	35	56	<0.2	<10	43	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Civil Plus - Potts Hill	8200-WAC8	20th Oct 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	7	<0.5	<5	33	29	<0.2	20	85	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Mulgoa - Epping ETTT	8200-WAC9	21st Oct 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	18	<0.5	6	53	35	<0.2	<10	27	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Mulgoa - Epping ETTT	8200-WAC10	22nd Oct 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	<2	<0.5	<5	66	25	<0.2	23	73	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	John Holland NSRU	8200-WAC11	24th Oct 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	18	<0.5	19	62	120	<0.2	<10	410	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	John Holland NSRU	8200-WAC12	24th Oct 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	9	<0.5	9	30	17	<0.2	<10	30	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Mulgoa - Epping ETTT	8200-WAC13	27th Oct 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	10.8	<0.5	5	23	40	<0.2	<10	34	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
Nov-14	John Holland NSRU	8361-WAC1	7th Nov 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	16	<0.5	12	36	24	<0.2	ND	30	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Rahme - Campbeltown	8361-WAC2	7th Nov 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	19	<0.5	5	77	35	<0.2	27	77	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Ace Demolition - Canterbury	8361-WAC3	11th Nov 2014	<35	<50	130	<100	<0.5	<0.5	<1	<3	3	<0.5	<5	47	46	<0.2	ND	56	<0.3	0.5	2.6	3.1	4.5	5.1	3.5	1.7	3.2	0.6	5.1	<0.3	2.5	<0.3	2.6	5.1	6.4	40.1
	Mulgoa - Epping ETTT	8361-WAC4	17th Nov 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	4	<0.5	11	15	23	<0.2	ND	24	<0.3	<0.3	0.7	0.4	0.5	0.6	0.4	<0.3	0.5	<0.3	0.9	<0.3	<0.3	<0.3	0.7	0.9	1.0	5.6
	John Holland NSRU	8361-WAC5	18th Nov 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	12	<0.5	13	39	47	<0.2	26	67	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Mulgoa - Epping ETTT	8361-WAC6	18th Nov 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	11	<0.5	24	5	19	<0.2	ND	44	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
Dec-14	Rahme - Campbeltown	8513-WAC2	3rd Dec 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	5	<0.3	<5	21	17	<0.2	<10	34	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8
	Mulgoa - Epping ETTT	8513-WAC3	3rd Dec 2014	<35	<50	<100	<100	<0.5	<0.5	<1	<3	8	<0.3	69	49	33	<0.2	35	51	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.7	<4.8

Notes to table

ADE - A.D. Envirotech Australia Pty Ltd.

BR - Blind replicate

SP - Split Replicate

m BGL - metres below ground level

1 - Site assessment criteria adopted from the 'National Environmental Protection (Assessment of Site Contamination) Measure 1999, 2013 Amendment.

2 - Carcinogenic PAHs: HIL is based on the 8 carcinogenic PAHs and their Toxic Equivalency Factor (TEFs) (potency relative to B(a)P). The B(a)P TEQ (ToxicEquivalency Quantity) is calculated by multiplying the concentration of each carcinogenic PAH in the sample by its B(a)P TEF.

3 - Most conservative criteria adopted outlined for via vapour and direct contact exposure pathways. Values adopted for 'Clay' where applicable for screening purposes.

4 - Management Limits for TPH fractions F1-F4 in soil, as per Table 1 B(7) of NEPM 2013.

5 - Most conservative criteria adopted for screening purposes i.e. Fine soil texture.

Results from Gate Check Samples collected by ADE, Gregory Hills Drive, Gledswood Hills NSW

				OCPs																		OPPs																		Other						
				Aldrin + Dieldrin	Chlordane	Endosulfan	DDT+DDE+DDD	Heptachlor	a-BHC	b-BHC	d-BHC	g-BHC (lindane)	trans-chlordane	endosulfan sulfate	endrin	endrin aldehyde	endrin ketone	heptachlor epoxide	hexachlorobenzene	methoxychlor	toxaphene	chlorpyrifos	chlorpyrifos methyl	demeton-o	diazinon	dichlorvos	disulfoton	ethoprop	fenitrothion	fensulfothion	fenthion	methyl azinphos	methyl parathion	mevinphos	phorate	prophos	ronnel	trichlorinate	tributylphosphorotrithioite	PCBs (Total)	Phenols	Chlorides	Sulphates	Ece	pH	Asbestos
Commercial/Industrial Land-use (HIL-D) (mg/kg)[1a]				45	530	2,000	3,600	50	-	-	-	-	-	-	-	-	-	-	-	-	20	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-		-	-
Vapour Intrusion - 0 m to <1 m (HSL-D) (mg/kg)[1b,3]				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vapour Intrusion - 1 m to <2 m (HSL-D) (mg/kg)[1b,3]				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vapour Intrusion - 2 m to <4 m (HSL-D) (mg/kg)[1b,3]				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vapour Intrusion - 4m+ (HSL-D) (mg/kg)[1b,3]				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Management Limits -Commercial/Industrial (mg/kg)[4, 5]				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Direct Contact (HSL-D) (mg/kg)[1b]				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gregory Hills Fill Management Protocol				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,000	5,000	8	5.5	NAD
Month	**Source**	**Sample I.D**	**Date**																																										
Oct-14	Dial-a-Dump - Eastern Creek	8200-WAC1	1st Oct 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	0.2	42	130	3.91	8.2	NAD
	Charlton - Paraweena Rd, Miranda	8200-WAC2	1st Oct 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	0.1	19	28	0.23	5.3	NAD
	Rahme - Campbeltown	8200-WAC3	1st Oct 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	0.1	100	38	0.98	5.2	NAD
	Mulgoa - Epping ETTT	8200-WAC4	1st Oct 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	0.8	34	13	0.99	6.4	NAD
	Ace Demolition - Canterbury	8200-WAC5	8th Oct 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	0.2	<10	46	0.48	7.5	NAD
	John Holland NSRU	8200-WAC6	10th Oct 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	0.1	110	78	3.01	10.9	NAD
	Mulgoa - Epping ETTT	8200-WAC7	20th Oct 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	0.2	25	32	0.37	5.8	NAD
	Civil Plus - Potts Hill	8200-WAC8	20th Oct 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	0.2	41	44	1.68	7.9	NAD
	Mulgoa - Epping ETTT	8200-WAC9	21st Oct 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	0.4	24	40	0.85	5.6	NAD
	Mulgoa - Epping ETTT	8200-WAC10	22nd Oct 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	<0.1	140	12	3.86	9.5	NAD
	John Holland NSRU	8200-WAC11	24th Oct 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	0.1	61	110	1.70	6.5	NAD
	John Holland NSRU	8200-WAC12	24th Oct 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	0.4	<10	23	0.24	4.9	NAD
	Mulgoa - Epping ETTT	8200-WAC13	27th Oct 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	0.3	20	19	0.43	6.1	NAD
Nov-14	John Holland NSRU	8361-WAC1	7th Nov 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	<0.1	11	23	0.62	6.2	NAD
	Rahme - Campbeltown	8361-WAC2	7th Nov 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	<0.1	92	<10	3.68	9.6	NAD
	Ace Demolition - Canterbury	8361-WAC3	11th Nov 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	0.2	61	78	1.91	7.7	NAD
	Mulgoa - Epping ETTT	8361-WAC4	17th Nov 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	0.3	12	47	2.13	10.0	NAD
	John Holland NSRU	8361-WAC5	18th Nov 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	<0.1	11	15	1.24	8.0	NAD
	Mulgoa - Epping ETTT	8361-WAC6	18th Nov 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	<0.1	32	55	0.41	3.9	NAD
Dec-14	Rahme - Campbeltown	8513-WAC2	3rd Dec 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	<0.1	24	17	0.63	6.2	NAD
	Mulgoa - Epping ETTT	8513-WAC3	3rd Dec 2014	<0.2	<0.1	<0.5	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	-	-	-	-	-	-	<0.1	-	-	<0.1	-	-	<0.1	<0.5	<0.1	35	37	1.85	8.7	NAD

Notes to table

ADE - A.D. Envirotech Australia Pty Ltd.

BR - Blind replicate

SP - Split Replicate

m BGL - metres below ground level

1 - Site assessment criteria adopted from the 'National Environmental Protection (Assessment of Site Contamination) Measure 1999, 2013 Amendment.

2 - Carcinogenic PAHs: HIL is based on the 8 carcinogenic PAHs and their Toxic Equivalency Factor (TEFs) (potency relative to B(a)P). The B(a)P TEQ (ToxicEquivalency Quantity) is calculated by multiplying the concentration of each carcinogenic PAH in the sample by its B(a)P TEF.

3 - Most conservative criteria adopted outlined for via vapour and direct contact exposure pathways. Values adopted for 'Clay' where applicable for screening purposes.

4 - Management Limits for TPH fractions F1-F4 in soil, as per Table 1 B(7) of NEPM 2013.

5 - Most conservative criteria adopted for screening purposes i.e. Fine soil texture.

APPENDIX III – ANALYTICAL RESULTS

Environmental and OH&S Laboratory

A division of A. D. Envirotech Australia Pty Ltd A.C.N. 093 452 950
Unit 4/10-11 Millennium Court,
Silverwater 2128

Analysis report: 9447 ASB 2

Date Received: 03.08.2015
Date Analysed: 14.08.2015
Report Date: 17.08.2015
Client: Gregory Hills Development Park
Job Location: Gregory Hills Development Park
Analytical method: Polarised Light Microscopy with dispersion staining (ADE method ABI)

Analysis performed by:

Dr Dominika Wojtalewicz (MRACI CCHEM)
Laboratory Manager/Principal Chemist
NATA approved asbestos identifier

Results Authorised By:

Dr Dominika Wojtalewicz (MRACI CCHEM)
Laboratory Manager/Principal Chemist
NATA signatory

Accreditation No.14664.
Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Tests not covered by NATA are denoted with *.

Laboratory Sample No.	Sample Description/Matrix	Sample Dimensions (cm) unless stated otherwise	Result	Comments
9447-Asb1	Soil / ASB01	89 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
			No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
			No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
			No Synthetic Mineral Fibres found	Nil
			Organic fibres found	Nil
9447-Asb2	Soil / ASB02	80 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
			No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
			No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
			No Synthetic Mineral Fibres found	Nil
			Organic fibres found	Nil

General Comments:

All samples are analysed as received.
Sampling performed by AD Envirotech is not covered by NATA scope.
Samples are stored for period of 3 months.
Due to the difficulty of estimating the load on the swab the test is carried out for presence or absence of asbestos only.
[1] Independent confirming technique such as infrared spectroscopy, X-ray diffraction, scanning or transmission electron microscopy is advised.

ADE CONSULTING GROUP
SOLUTIONS THROUGH INNOVATION

Environmental and OH&S Laboratory

A division of A. D. Envirotech Australia Pty Ltd
Unit 4/10-11 Millennium Court,
Silverwater 2128

A.C.N. 093 452 950

Analysis report: 9447 ASB 2

Date Received: 10.08.2015
Date Analysed: 13.08.2015
Report Date: 17.08.2015
Client: Gregory Hills Development Park
Job Location: Gregory Hills Development Park, NSW
Analytical method: Polarised Light Microscopy with dispersion staining (ADE method ABI)

Analysis performed by:

Dr Dominika Wojtalewicz (MRACI CCHEM)
Laboratory Manager/Principal Chemist
NATA approved asbestos identifier

Results Authorised By:

Dr Dominika Wojtalewicz (MRACI CCHEM)
Laboratory Manager/Principal Chemist
NATA signatory

NATA
WORLD RECOGNISED ACCREDITATION

Accreditation No.14664.
Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Tests not covered by NATA are denoted with *.

Laboratory Sample No.	Sample Description/Matrix	Sample Dimensions (cm) unless stated otherwise	Result	Comments
9447-Asb3	Soil / ASB03	169 grams	No Chrysotile asbestos found at reporting limit of 0.1 g/kg.	Nil
			No Amosite asbestos found at reporting limit of 0.1 g/kg.	Nil
			No Crocidolite asbestos found at reporting limit of 0.1 g/kg.	Nil
			No Synthetic Mineral Fibres found	Nil
			Organic fibres found	Nil

General Comments:

All samples are analysed as received.
Sampling performed by AD Envirotech is not covered by NATA scope.
Samples are stored for period of 3 months.
Due to the difficulty of estimating the load on the swab the test is carried out for presence or absence of asbestos only.
[1] Independent confirming technique such as infrared spectroscopy, X-ray diffraction, scanning or transmission electron microscopy is advised.

eurofins | mgt

Certificate of Analysis

AD Envirotech Aust Pty Ltd
Unit 4/ 10-11 Millenium Court
Silverwater
NSW 2128

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **K.Finnerty**

Report **467538-S**
Project name 9324
Received Date Aug 04, 2015

Client Sample ID			**9324-SAL1**	**9324-SAL2**	**9324-SAL3**	**9324-SAL4**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S15-Au02226**	**S15-Au02227**	**S15-Au02228**	**S15-Au02229**
Date Sampled			**Jul 06, 2015**	**Jul 06, 2015**	**Jul 07, 2015**	**Jul 24, 2015**
Test/Reference	LOR	Unit				
Chloride	5	mg/kg	190	140	18	270
Phenolics (total)	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Sulphate (as SO4)	30	mg/kg	110	130	160	130
% Moisture	0.1	%	8.9	16	15	9.2

Client Sample ID			**9324-SAL5**	**9324-SAL6**	**9324-SAL7**	**9324-SAL8**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S15-Au02230**	**S15-Au02231**	**S15-Au02232**	**S15-Au02233**
Date Sampled			**Jul 24, 2015**	**Jul 28, 2015**	**Jul 28, 2015**	**Jul 28, 2015**
Test/Reference	LOR	Unit				
Chloride	5	mg/kg	540	110	9.8	67
Phenolics (total)	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Sulphate (as SO4)	30	mg/kg	170	60	< 30	< 30
% Moisture	0.1	%	11	13	12	20

Client Sample ID			**9324-SAL9**	**9324-SAL10**	**9324-SAL11**
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**S15-Au02234**	**S15-Au02235**	**S15-Au02236**
Date Sampled			**Jul 28, 2015**	**Jul 28, 2015**	**Jul 30, 2015**
Test/Reference	LOR	Unit			
Chloride	5	mg/kg	27	450	350
Phenolics (total)	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Sulphate (as SO4)	30	mg/kg	110	170	230
% Moisture	0.1	%	23	9.1	16

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Chloride	Melbourne	Aug 06, 2015	28 Day
- Method: MGT 1100A			
Phenolics (total)	Melbourne	Aug 10, 2015	14 Day
- Method: APHA 5530B & D Phenols			
Sulphate (as SO4)	Melbourne	Aug 06, 2015	28 Day
- Method: APHA 4500-SO4 Sulfate by FIA			
% Moisture	Melbourne	Aug 05, 2015	14 Day
- Method: LTM-GEN-7080 Moisture			

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NATA # 1261 Site # 20794

Company Name: AD Envirotech Aust Pty Ltd
Address: Unit 4/ 10-11 Millenium Court
Silverwater
NSW 2128

Project Name: 9324

Order No.:
Report #: 467538
Phone: 02 9400 7711
Fax: 02 9401 0097

Received: Aug 4, 2015 6:27 PM
Due: Aug 12, 2015
Priority: 5 Day
Contact Name: K.Finnerty

Eurofins | mgt Client Manager: Mary Makarios

Sample Detail					Chloride	Phenolics (total)	Sulphate (as SO4)	Moisture Set
Laboratory where analysis is conducted								
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
External Laboratory								
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
9324-SAL1	Jul 06, 2015		Soil	S15-Au02226	X	X	X	X
9324-SAL2	Jul 06, 2015		Soil	S15-Au02227	X	X	X	X
9324-SAL3	Jul 07, 2015		Soil	S15-Au02228	X	X	X	X
9324-SAL4	Jul 24, 2015		Soil	S15-Au02229	X	X	X	X
9324-SAL5	Jul 24, 2015		Soil	S15-Au02230	X	X	X	X
9324-SAL6	Jul 28, 2015		Soil	S15-Au02231	X	X	X	X
9324-SAL7	Jul 28, 2015		Soil	S15-Au02232	X	X	X	X
9324-SAL8	Jul 28, 2015		Soil	S15-Au02233	X	X	X	X
9324-SAL9	Jul 28, 2015		Soil	S15-Au02234	X	X	X	X
9324-SAL10	Jul 28, 2015		Soil	S15-Au02235	X	X	X	X

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		Fax:	02 9401 0097	**Contact Name:**	K.Finnerty
Project Name:	9324				

Eurofins | mgt Client Manager: Mary Makarios

Sample Detail					Chloride	Phenolics (total)	Sulphate (as SO4)	Moisture Set
Laboratory where analysis is conducted								
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
External Laboratory								
9324-SAL11	Jul 30, 2015		Soil	S15-Au02236	X	X	X	X

Eurofins | mgt Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Chloride	mg/kg	< 5			5	Pass	
Phenolics (total)	mg/kg	< 0.1			0.1	Pass	
Sulphate (as SO4)	mg/kg	< 30			30	Pass	
LCS - % Recovery							
Chloride	%	93			70-130	Pass	
Phenolics (total)	%	105			70-130	Pass	
Sulphate (as SO4)	%	109			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
				Result 1					
Chloride	S15-Au02227	CP	%	124			70-130	Pass	
Sulphate (as SO4)	S15-Au02227	CP	%	101			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Chloride	S15-Au02226	CP	mg/kg	190	210	9.4	30%	Pass	
Phenolics (total)	S15-Au02226	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Sulphate (as SO4)	S15-Au02226	CP	mg/kg	110	100	6.8	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S15-Au02232	CP	%	12	13	6.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Chloride	S15-Au02236	CP	mg/kg	350	330	8.5	30%	Pass	
Sulphate (as SO4)	S15-Au02236	CP	mg/kg	230	210	8.9	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised By

Mary Makarios	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Huong Le	Senior Analyst-Inorganic (VIC)

Glenn Jackson
National Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request