



Appendix C Exploratory Logs

RTI DL RELEASE - EHP

Project: Cronulla Park Site Investigation Client: Greyhounds QLD Ltd
Location: Cronulla Park Start - Finish Date: 11/05 - 13/05/09
Job No: QE09537 Bore dia: 150mm

Driller: Numac Drilling
Rig: Geoprobe
Surface Conditions: Grass

Northings: mN
Easting: mE
RL: 33.96m AHD
Logged: OK
Checked: OK

				SOIL DESCRIPTION		SOIL CONDITION		COMMENTS
depth (m)	Visual/Odour, PID (ppm)	sample type	field tests ground water	graphic log	soil type, unified classification, colour, structure, particle characteristics, minor components	consistency/density	moisture condition	drilling method, well construction, water and additional observations
1	A0, 0.0 A0, 0.0 A0, 0.0	○ ○ ○			FILL: Clayey SAND light brown, fine to coarse grained with trace quartz gravels no gravels	MD	D	
	A0, 0.0	○			Sandy CLAY (CL-CI) red to brown, low to moderate plasticity red to brown, coarse grained, angular	F	M	
2	A0				CLAY (CL) white, friable	VSt	D	
3	A0							
4	A0							
5	A0				CLAY red to brown, with coarse, angular sands Silty CLAY (CL) white, low plasticity, with increasing silt content with depth, highly weathered sandstone	VSt	M	
6	A0				Sandy CLAY (CH) red, with some angular gravel lenses, highly weathered sandstone white, with trace fine sands, moderate to high plasticity	St	M-W	
7					Sandy CLAY (CI) red, moderate plasticity, highly weathered rock	St	W	
8					Borehole terminated at 7.5m			
9								
10								

SKM ENV 1 QE09537 (REV.2).GRJ INTRO.GDT 17/3/10

VISUAL RANKING		FIELD DATA ABBREVIATIONS		FIELD DATA SYMBOLS		DENSITY (N-value)		CONSISTENCY (Su)	
0	No visible evidence of contamination	Suv	= Uncorrected vane shear (kPa)	×	= Geoprobe Sample	VL (very loose)	<10	VS	(very soft) < 12 kPa
1	Slight visible contamination	Sup	= Pocket penetrometer (kPa)	⊥	= Pocket Penetrometer test	L (loose)	10 - 20	S	(soft) 12 - 25
2	Visible contamination	N	= SPT blows per 300mm	▽	= Standard Penetration Test (SPT top = start of N blowcount)	MD (medium dense)	20 - 30	F	(firm) 25 - 50
3	Significant visible contamination	FPM	= Field permeability reading (ppm, V/V)	▽	= SPT Spoon Sample (Pushed)	D (dense)	30 - 50	St	(stiff) 50 - 100
ODOUR RANKING		PID	= Photoionisation detector reading (ppm, V/V)	■	= Undisturbed Tube Sample	VD (very dense)	>50	VSt	(very stiff) 100 - 200
A	No Non-Natural odours	GROUNDWATER SYMBOLS		●	= Disturbed Sample	CO (compact)	>50/150mm	H	(hard) > 200 kPa
B	Slight Non-Natural odours	▽	= Water level (static)	□	= Bulk Sample	MOISTURE CONDITION			
C	Moderate Non-Natural odours	▽	= Water level (during drilling)			D = Dry M = Moist W = Wet			
D	Strong Non-Natural odours	→	= Outflow / Inflow						

Project: Cronulla Park Site Investigation Client: Greyhounds QLD Ltd
Location: Cronulla Park Start - Finish Date: 11/05 - 13/05/09
Job No: QE09537 Bore dia: 150mm

Driller: Numac Drilling
Rig: Geoprobe
Surface Conditions: Grass

Northings: mN
Eastings: mE
RL: 31.75m AHD
Logged: OK
Checked: OK

				SOIL DESCRIPTION		SOIL CONDITION		COMMENTS
depth (m)	Visual/Odour, PID (ppm)	sample type	field tests ground water	graphic log	soil type, unified classification, colour, structure, particle characteristics, minor components	consistency/density	moisture condition	drilling method, well construction, water and additional observations
1	A0, 0.0 A0, 0.0 A0, 0.0	○ ○ ○			FILL: Sandy GRAVEL yellow-brown, with some low plasticity fines increased clay content with depth	MD	M	
2	A0, 0.0	○			FILL: SAND yellow-brown, grey, fine grained, well rounded with trace clay	MD	M	
3	A0		▼		FILL: CLAY (CH) yellow, with red and grey lenses Sandy CLAY (CI) white, with red, coarse grained angular sands, some weathered rock fragments	F St	M M	
4	A0				Sandy CLAY (CI) red, with coarse angular sands of weathered material in a red-brown clay matrix	St	W	
5	A0							
6	A0		▼					
7								
8					Borehole terminated at 7.5m			
9								
10								

VISUAL RANKING	
0	No visible evidence of contamination
1	Slight visible contamination
2	Visible contamination
3	Significant visible contamination
ODOUR RANKING	
A	No Non-Natural odours
B	Slight Non-Natural odours
C	Moderate Non-Natural odours
D	Strong Non-Natural odours

FIELD DATA ABBREVIATIONS	
S _{uv}	= Uncorrected vane shear (kPa)
S _p	= Pocket penetrometer (kPa)
N	= SPT blows per 300mm
FPM	= Field permeability
PID	= Photoionisation detector reading (ppm, V/V)
GROUNDWATER SYMBOLS	
▼	= Water level (static)
▽	= Water level (during drilling)
→	= Outflow / Inflow

FIELD DATA SYMBOLS	
×	= Geoprobe Sample
⊥	= Pocket Penetrometer test
▽	= Standard Penetration Test (SPT top = start of N blowcount)
▼	= SPT Spoon Sample (Pushed)
■	= Undisturbed Tube Sample
●	= Disturbed Sample
□	= Bulk Sample

DENSITY (N-value)	
VL (very loose)	<10
L (loose)	10 - 20
MD (medium dense)	20 - 30
D (dense)	30 - 50
VD (very dense)	>50
CO (compact)	>50/150mm
MOISTURE CONDITION	
D = Dry	M = Moist W = Wet

CONSISTENCY (S _u)	
VS (very soft)	< 12 kPa
S (soft)	12 - 25
F (firm)	25 - 50
St (stiff)	50 - 100
VSt (very stiff)	100 - 200
H (hard)	> 200 kPa

Project: Cronulla Park Site Investigation Client: Greyhounds QLD Ltd
Location: Cronulla Park Start - Finish Date: 11/05 - 13/05/09
Job No: QE09537 Bore dia: 150mm

Driller: Numac Drilling
Rig: Geoprobe
Surface Conditions: Grass

Northings: mN
Easting: mE
RL: 31.77m AHD
Logged: OK
Checked: OK

				SOIL DESCRIPTION		SOIL CONDITION		COMMENTS
depth (m)	Visual/Odour, PID (ppm)	sample type	field tests ground water	graphic log	soil type, unified classification, colour, structure, particle characteristics, minor components	consistency/density	moisture condition	drilling method, well construction, water and additional observations
1	A0				FILL: Sandy CLAY grey, low plasticity, friable		D	
	A0				grey-brown, low to moderate plasticity			
	A0				yellow to brown, low plasticity			
2	A0				FILL: CLAY Borehole terminated at 2.0m			
3								
4								
5								
6								
7								
8								
9								
10								

VISUAL RANKING		FIELD DATA ABBREVIATIONS		FIELD DATA SYMBOLS		DENSITY (N-value)		CONSISTENCY (Su)	
0	No visible evidence of contamination	Suv	= Uncorrected vane shear (kPa)	×	= Geoprobe Sample	VL	(very loose) <10	VS	(very soft) < 12 kPa
1	Slight visible contamination	Sup	= Pocket penetrometer (kPa)	⊥	= Pocket Penetrometer test	L	(loose) 10 - 20	S	(soft) 12 - 25
2	Visible contamination	N	= SPT blows per 300mm	▽	= Standard Penetration Test (SPT top = start of N blowcount)	MD	(medium dense) 20 - 30	F	(firm) 25 - 50
3	Significant visible contamination	FPM	= Field permeability reading (ppm, V/V)	▽	= SPT Spoon Sample (Pushed)	D	(dense) 30 - 50	St	(stiff) 50 - 100
ODOUR RANKING		PID	= Photoionisation detector reading (ppm, V/V)	■	= Undisturbed Tube Sample	VD	(very dense) >50	VSt	(very stiff) 100 - 200
A	No Non-Natural odours	GROUNDWATER SYMBOLS		●	= Disturbed Sample	CO	(compact) >50/150mm	H	(hard) > 200 kPa
B	Slight Non-Natural odours	▽	= Water level (static)	□	= Bulk Sample	MOISTURE CONDITION			
C	Moderate Non-Natural odours	▽	= Water level (during drilling)			D = Dry M = Moist W = Wet			
D	Strong Non-Natural odours	→	= Outflow / Inflow						

Project: Cronulla Park Site Investigation Client: Greyhounds QLD Ltd
Location: Cronulla Park Start - Finish Date: 11/05 - 13/05/09
Job No: QE09537 Bore dia: 150mm

Driller: Numac Drilling
Rig: Geoprobe
Surface Conditions: Grass

Northings: mN
Eastings: mE
RL: 29.73m AHD
Logged: OK
Checked: OK

				SOIL DESCRIPTION		SOIL CONDITION		COMMENTS
depth (m)	Visual/Odour, PID (ppm)	sample type	field tests ground water	graphic log	soil type, unified classification, colour, structure, particle characteristics, minor components	consistency/density	moisture condition	drilling method, well construction, water and additional observations
1	A0, 0.0 A0, 0.0 A0, 0.0	○ ○ ○			FILL: Sandy CLAY brown, with trace rocks, boulders, rubble angular coarse sands	F	D	
	A2				FILL: Clayey SAND dark brown with mottled grey, red, low to moderate plasticity, some domestic waste (plastic wrap, glass, etc)	MD	M	
2	B3		▽		FILL: Refuse domestic wastes, silt matrix	S		
3	B3							
4	B3		▽		grey	S	W	
5	B3				Borehole terminated at 5.0m			
6								
7								
8								
9								
10								

VISUAL RANKING		FIELD DATA ABBREVIATIONS		FIELD DATA SYMBOLS		DENSITY (N-value)		CONSISTENCY (Su)	
0	No visible evidence of contamination	Suv	= Uncorrected vane shear (kPa)	×	= Geoprobe Sample	VL (very loose)	<10	VS (very soft)	< 12 kPa
1	Slight visible contamination	Sup	= Pocket penetrometer (kPa)	⊥	= Pocket Penetrometer test	L (loose)	10 - 20	S (soft)	12 - 25
2	Visible contamination	N	= SPT blows per 300mm	▽	= Standard Penetration Test (SPT top = start of N blowcount)	MD (medium dense)	20 - 30	F (firm)	25 - 50
3	Significant visible contamination	FPM	= Field permeability reading (ppm, V/V)	▽	= SPT Spoon Sample (Pushed)	D (dense)	30 - 50	St (stiff)	50 - 100
ODOUR RANKING		PID	= Photoionisation detector reading (ppm, V/V)	■	= Undisturbed Tube Sample	VD (very dense)	>50	VSt (very stiff)	100 - 200
A	No Non-Natural odours	GROUNDWATER SYMBOLS		●	= Disturbed Sample	CO (compact)	>50/150mm	H (hard)	> 200 kPa
B	Slight Non-Natural odours	▽	= Water level (static)	□	= Bulk Sample	MOISTURE CONDITION			
C	Moderate Non-Natural odours	▽	= Water level (during drilling)			D = Dry M = Moist W = Wet			
D	Strong Non-Natural odours	→	= Outflow / Inflow						

Project: Cronulla Park Site Investigation Client: Greyhounds QLD Ltd
Location: Cronulla Park Start - Finish Date: 11/05 - 13/05/09
Job No: QE09537 Bore dia: 150mm

Driller: Numac Drilling
Rig: Geoprobe
Surface Conditions: Grass

Northings: mN
Eastings: mE
RL: 27.58m AHD
Logged: OK
Checked: OK

				SOIL DESCRIPTION		SOIL CONDITION		COMMENTS
depth (m)	Visual/Odour, PID (ppm)	sample type	field tests ground water	graphic log	soil type, unified classification, colour, structure, particle characteristics, minor components	consistency/density	moisture condition	drilling method, well construction, water and additional observations
1	A0 A2 A2	○ ○ ○			FILL: Sandy CLAY brown, very poor structure, trace rocks, rubble traces of domestic rubble, darker lenses of sandy soil	S S	D D	
2	A2				FILL: Refuse traces of red SANDSTONE through domestic refuse. Includes plastics, glass, metal objects, within grey SILT matrix	S	M-W	
3	B3							
4	B3							
5	B3		▼ ▼				W	
6	B3				Borehole terminated at 6.0m			
7								
8								
9								
10								

VISUAL RANKING		FIELD DATA ABBREVIATIONS		FIELD DATA SYMBOLS		DENSITY (N-value)		CONSISTENCY (Su)	
0	No visible evidence of contamination	Suv	= Uncorrected vane shear (kPa)	×	= Geoprobe Sample	VL (very loose)	<10	VS (very soft)	< 12 kPa
1	Slight visible contamination	Sup	= Pocket penetrometer (kPa)	⊥	= Pocket Penetrometer test	L (loose)	10 - 20	S (soft)	12 - 25
2	Visible contamination	N	= SPT blows per 300mm	▽	= Standard Penetration Test (SPT top = start of N blowcount)	MD (medium dense)	20 - 30	F (firm)	25 - 50
3	Significant visible contamination	FPM	= Field permeability reading (ppm, V/V)	▽	= SPT Spoon Sample (Pushed)	D (dense)	30 - 50	St (stiff)	50 - 100
ODOUR RANKING		PID	= Photoionisation detector	■	= Undisturbed Tube Sample	VD (very dense)	>50	VSt (very stiff)	100 - 200
A	No Non-Natural odours			●	= Disturbed Sample	CO (compact)	>50/150mm	H (hard)	> 200 kPa
B	Slight Non-Natural odours					MOISTURE CONDITION			
C	Moderate Non-Natural odours					D = Dry M = Moist W = Wet			
D	Strong Non-Natural odours								
		GROUNDWATER SYMBOLS							
		= Water level (static)							
		= Water level (during drilling)							
		= Outflow / Inflow							

Project: Cronulla Park Site Investigation Client: Greyhounds QLD Ltd
Location: Cronulla Park Start - Finish Date: 11/05 - 13/05/09
Job No: QE09537 Bore dia: 150mm

Driller: Numac Drilling
Rig: Geoprobe
Surface Conditions: Grass

Northings: mN
Eastings: mE
RL: 27.81m AHD
Logged: OK
Checked: OK

				SOIL DESCRIPTION		SOIL CONDITION		COMMENTS
depth (m)	Visual/Odour, PID (ppm)	sample type	field tests ground water	graphic log	soil type, unified classification, colour, structure, particle characteristics, minor components	consistency/density	moisture condition	drilling method, well construction, water and additional observations
0	A0, 0.0	○			FILL: Sandy CLAY brown to red, trace quartz gravels, loose materials	S	D	
0	A0, 0.0	○			FILL: Clayey SAND red, yellow, coarse grained angular sands, moderate structure	L	M	
0	A0, 0.0	○			FILL: Refuse some domestic waste, includes plastics, glass, metal cannisters, wire, etc	L	W	
1	B3							
2	B3							
3	B3							
4	B3							
5	B3							
6	B3		▼					
7	B3							
8	A0				FILL: Clay red-brown, very-stiff	VSt	D	
8	A0		▽		Sandy CLAY red to white, highly weathered sandstone	F	W	
9	A0							
10					Borehole terminated at 9.0m			

SKM ENV 1 QE09537 (REV.2).GRJ INTRO.GDT 17/3/10

VISUAL RANKING		FIELD DATA ABBREVIATIONS		FIELD DATA SYMBOLS		DENSITY (N-value)		CONSISTENCY (Su)	
0	No visible evidence of contamination	Suv	= Uncorrected vane shear (kPa)	×	= Geoprobe Sample	VL (very loose)	<10	VS (very soft)	< 12 kPa
1	Slight visible contamination	Sup	= Pocket penetrometer (kPa)	⊥	= Pocket Penetrometer test	L (loose)	10 - 20	S (soft)	12 - 25
2	Visible contamination	N	= SPT blows per 300mm	▽	= Standard Penetration Test	MD (medium dense)	20 - 30	F (firm)	25 - 50
3	Significant visible contamination	FPM	= Field permeability	(SPT top = start of N blowcount)		D (dense)	30 - 50	St (stiff)	50 - 100
		PID	= Photoionisation detector reading (ppm, V/V)	▼	= SPT Spoon Sample (Pushed)	VD (very dense)	>50	VSt (very stiff)	100 - 200
ODOUR RANKING				●	= Undisturbed Tube Sample	CO (compact)	>50/150mm	H (hard)	> 200 kPa
A	No Non-Natural odours	GROUNDWATER SYMBOLS			= Disturbed Sample	MOISTURE CONDITION			
B	Slight Non-Natural odours	▼	= Water level (static)	■	= Bulk Sample	D = Dry M = Moist W = Wet			
C	Moderate Non-Natural odours	▽	= Water level (during drilling)						
D	Strong Non-Natural odours	↗	= Outflow / Inflow						

Project: Cronulla Park Site Investigation Client: Greyhounds QLD Ltd
Location: Cronulla Park Start - Finish Date: 11/05 - 13/05/09
Job No: QE09537 Bore dia: 150mm

Driller: Numac Drilling
Rig: Geoprobe
Surface Conditions: Grass

Northings: mN
Eastings: mE
RL: 28.48m AHD
Logged: OK
Checked: OK

				SOIL DESCRIPTION		SOIL CONDITION		COMMENTS
depth (m)	Visual/Odour, PID (ppm)	sample type	field tests ground water	graphic log	soil type, unified classification, colour, structure, particle characteristics, minor components	consistency/density	moisture condition	drilling method, well construction, water and additional observations
1	A0 B3	○			FILL: Sandy CLAY brown to red, with coarse grained, angular sands, no structure FILL: Refuse domestic refuse including plastics, glass, metals, within grey, Silty CLAY matrix	F S	D M	
2	B3		▼					
3	B3		▽					
4	B3							
5	A0				FILL: CLAY (CH) brown, very stiff Borehole terminated at 5.0m	VSt	W	
6								
7								
8								
9								
10								

VISUAL RANKING

0 No visible evidence of contamination

1 Slight visible contamination

2 Visible contamination

3 Significant visible contamination

ODOUR RANKING

A No Non-Natural odours

B Slight Non-Natural odours

C Moderate Non-Natural odours

D Strong Non-Natural odours

FIELD DATA ABBREVIATIONS

Suv = Uncorrected vane shear (kPa)

Sup = Pocket penetrometer (kPa)

N = SPT blows per 300mm

FPM = Field permeability

PID = Photoionisation detector reading (ppm, V/V)

GROUNDWATER SYMBOLS

▼ = Water level (static)

▽ = Water level (during drilling)

→ = Outflow / Inflow

FIELD DATA SYMBOLS

× = Geoprobe Sample

⊥ = Pocket Penetrometer test

▽ = Standard Penetration Test (SPT top = start of N blowcount)

▼ = SPT Spoon Sample (Pushed)

■ = Undisturbed Tube Sample

● = Disturbed Sample

□ = Bulk Sample

DENSITY (N-value)

VL (very loose) <10

L (loose) 10 - 20

MD (medium dense) 20 - 30

D (dense) 30 - 50

VD (very dense) >50

CO (compact) >50/150mm

MOISTURE CONDITION

D = Dry M = Moist W = Wet

CONSISTENCY (Su)

VS (very soft) < 12 kPa

S (soft) 12 - 25

F (firm) 25 - 50

St (stiff) 50 - 100

VSt (very stiff) 100 - 200

H (hard) > 200 kPa

Project: Cronulla Park Site Investigation Client: Greyhounds QLD Ltd
Location: Cronulla Park Start - Finish Date: 11/05 - 13/05/09
Job No: QE09537 Bore dia: 150mm

Driller: Numac Drilling
Rig: Geoprobe
Surface Conditions: Grass

Northings: mN
Eastings: mE
RL: 30.65m AHD
Logged: OK
Checked: OK

				SOIL DESCRIPTION		SOIL CONDITION		COMMENTS
depth (m)	Visual/Odour, PID (ppm)	sample type	field tests ground water	graphic log	soil type, unified classification, colour, structure, particle characteristics, minor components	consistency/density	moisture condition	drilling method, well construction, water and additional observations
1	A0 A0 A1	○ ○ ○			FILL: Sandy CLAY brown, coarse grained, angular sands	F	D	
	B3				FILL: Refuse domestic refuse including plastics, metals, within Silty CLAY matrix	S	M-W	
2	B3							
3	B3				FILL: Sandy CLAY yellow-brown, very stiff Borehole terminated at 3.0m	VSt	D	
4								
5								
6								
7								
8								
9								
10								

VISUAL RANKING		FIELD DATA ABBREVIATIONS		FIELD DATA SYMBOLS		DENSITY (N-value)		CONSISTENCY (Su)	
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3	Significant visible contamination	FPM	= Field permeability reading (ppm, V/V)	▽	= SPT Spoon Sample (Pushed)	D	(dense) 30 - 50	St	(stiff) 50 - 100
ODOUR RANKING		PID	= Photoionisation detector	■	= Undisturbed Tube Sample	VD	(very dense) >50	VSt	(very stiff) 100 - 200
A	No Non-Natural odours	GROUNDWATER SYMBOLS		●	= Disturbed Sample	CO	(compact) >50/150mm	H	(hard) > 200 kPa
B	Slight Non-Natural odours	▽	= Water level (static)	□	= Bulk Sample	MOISTURE CONDITION			
C	Moderate Non-Natural odours	▽	= Water level (during drilling)			D = Dry M = Moist W = Wet			
D	Strong Non-Natural odours	→	= Outflow / Inflow						

Project: Cronulla Park Site Investigation Client: Greyhounds QLD Ltd
Location: Cronulla Park Start - Finish Date: 11/05 - 13/05/09
Job No: QE09537 Bore dia: 150mm

Driller: Numac Drilling
Rig: Geoprobe
Surface Conditions: Grass

Northings: mN
Eastings: mE
RL: 28.99m AHD
Logged: OK
Checked: OK

				SOIL DESCRIPTION		SOIL CONDITION		COMMENTS
depth (m)	Visual/Odour, PID (ppm)	sample type	field tests ground water	graphic log	soil type, unified classification, colour, structure, particle characteristics, minor components	consistency/density	moisture condition	drilling method, well construction, water and additional observations
1	A0 A0 A3	○ ○			FILL: Clayey SAND red to orange, coarse grained angular sand			
					FILL: Sandy CLAY black, brown, loose			
					FILL: Refuse domestic refuse including plastics and metal, within grey silty clay matrix			
2	A3							
3	A3							
4	A3				FILL: CLAY (CH) red to brown, very stiff		W	
5	A3				Sandy CLAY (CI) white, red, with lenses of weathered rock			
6	A3				Clayey SAND white, coarse grained sand and fine gravels		M	
7	A3							
8	A3				Borehole terminated at 8.0m			
9								
10								

SKM ENV 1 QE09537 (REV.2).GRJ INTRO.GDT 17/3/10

VISUAL RANKING		FIELD DATA ABBREVIATIONS		FIELD DATA SYMBOLS		DENSITY (N-value)		CONSISTENCY (Su)	
0	No visible evidence of contamination	Suv	= Uncorrected vane shear (kPa)	×	= Geoprobe Sample	VL	(very loose) <10	VS	(very soft) < 12 kPa
1	Slight visible contamination	Sup	= Pocket penetrometer (kPa)	⊥	= Pocket Penetrometer test	L	(loose) 10 - 20	S	(soft) 12 - 25
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3	Significant visible contamination	FPM	= Field permeability reading (ppm, V/V)	▽	= SPT Spoon Sample (Pushed)	D	(dense) 30 - 50	St	(stiff) 50 - 100
ODOUR RANKING		PID	= Photoionisation detector reading (ppm, V/V)	▽	= Undisturbed Tube Sample	VD	(very dense) >50	VSt	(very stiff) 100 - 200
A	No Non-Natural odours	GROUNDWATER SYMBOLS		●	= Disturbed Sample	CO	(compact) >50/150mm	H	(hard) > 200 kPa
B	Slight Non-Natural odours	▽	= Water level (static)	□	= Bulk Sample	MOISTURE CONDITION			
C	Moderate Non-Natural odours	▽	= Water level (during drilling)			D	= Dry	M	= Moist
D	Strong Non-Natural odours	→	= Outflow / Inflow			W	= Wet		



REPORT OF TEST PIT: TP1

CLIENT: SKM
PROJECT: Compton Road Landfill
LOCATION: Compton Road
JOB NO: 097633033

POSITION: As per SKM supplied site plan.
SURFACE RL: m DATUM: AHD
PIT DEPTH: 1.30 m
BUCKET TYPE: Ripper

SHEET: 1 OF 1
MACHINE: 1.5 tonne excavator
CONTRACTOR: Andreas Butter
LOGGED: SDB DATE: 15/5/09
CHECKED: MJP DATE: 26/5/09

Excavation				Sampling		Field Material Description				
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE CONSISTENCY	STRUCTURE AND ADDITIONAL OBSERVATIONS
EX	IN		0.0				SM	Silty SAND Fine grained, pale grey to pale brown, some coarse to cobble sized, angular gravel present (approx. 20% volume), some burnt wood fragments and one plastic bag present, dry to moist, loose to medium dense.	D-M L-MD	Fill
			0.2							
			0.35							
			0.4				SP/ SW	SAND Medium to coarse grained, angular, yellow brown to orange brown, trace of clay present, moist, loose to medium dense.	M L-MD	Fill?
			0.6							
			0.8	0.80			CI/ CH/ SC	Sandy CLAY/Clayey SAND Medium to high plasticity, yellow brown, coarse grained sand, trace of medium sized gravel present (less than 10%), moist, soft to firm, clay content increasing with depth.	M-W S-F	Residual Possible weathered rock.
			1.0	1.00			CL	Sandy CLAY Medium plasticity, brown orange with some red brown and grey mottling, some coarse grained sand, some gravel present (less than 10%), moist to wet, soft to firm, firmness increasing with depth.	M-W S-F	Residual Possible weathered rock.
			1.2							
			1.30							
			1.4					TEST PIT DISCONTINUED @ 1.30 m SWL 0.8m below ground surface. Backfilled with bentonite grout. Superficial soil cover excavated by machine. Exporatory hole progressed by hand auger.		
			1.6							
			1.8							
			2.0							

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GAP gINT FN. F01e
RL2



REPORT OF TEST PIT: TP10

CLIENT: SKM
PROJECT: Compton Road Landfill
LOCATION: Compton Road
JOB NO: 097633033

POSITION: As per SKM supplied site plan.
SURFACE RL: m DATUM: AHD
PIT DEPTH: 0.70 m
BUCKET TYPE: Ripper

SHEET: 1 OF 1
MACHINE: 1.5 tonne excavator
CONTRACTOR: Andreas Butter
LOGGED: SDB DATE: 15/5/09
CHECKED: MJP DATE: 26/5/09

Excavation					Sampling		Field Material Description				
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION		MOISTURE CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
EX			0.0				SM	Silty SAND Fine grained, pale grey, dry, loose.	D L	Fill	
			0.10				CI-CH/SC	Sandy CLAY/Clayey SAND Medium to high plasticity, red brown to orange brown, dry to moist, very stiff to hard.	D-M VSt-H	Fill	
			0.70					TEST PIT DISCONTINUED @ 0.70 m Refusal to hand auger GROUNDWATER NOT ENCOUNTERED Backfilled with bentonite grout. Superficial soil cover excavated by machine. Exporatory hole progressed by hand auger.			
			0.8								
			1.0								
			1.2								
			1.4								
			1.6								
			1.8								
			2.0								

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GAP gINT FN. F01e
RL2



REPORT OF TEST PIT: TP1A

CLIENT: SKM
PROJECT: Compton Road Landfill
LOCATION: Compton Road
JOB NO: 097633033

POSITION: As per SKM supplied site plan.
SURFACE RL: m DATUM: AHD
PIT DEPTH: 0.60 m
BUCKET TYPE: Ripper

SHEET: 1 OF 1
MACHINE: 1.5 tonne excavator
CONTRACTOR: Andreas Butter
LOGGED: SDB DATE: 15/5/09
CHECKED: MJP DATE: 26/5/09

Excavation				Sampling		Field Material Description						
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION		MOISTURE	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
EX			0.0		TP1A 0.1-0.3 DS 0.10-0.30m		SM	Silty SAND Fine grained, pale grey, dry, loose.	D	L	Fill	
			0.10			CI-CH	Sandy CLAY Medium to high plasticity, dark grey and red brown, coarse grained sand present, trace wood fragments present, moist, firm to stiff.	M	F-St	Fill		
			0.2									
HA			0.4	0.40			SC	Clayey SAND Coarse grained, brown and orange brown, moist, loose to medium dense.	M	L-MD	Fill	
			0.6	0.60								
			0.6					TEST PIT DISCONTINUED @ 0.60 m GROUNDWATER NOT ENCOUNTERED Backfilled with bentonite grout. Superficial soil cover excavated by machine. Exporatory hole progressed by hand auger.				
			0.8									
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									
			2.0									

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GAP gINT FN. F01e
RL2



REPORT OF TEST PIT: TP2

CLIENT: SKM
PROJECT: Compton Road Landfill
LOCATION: Compton Road
JOB NO: 097633033

POSITION: As per SKM supplied site plan.
SURFACE RL: m DATUM: AHD
PIT DEPTH: 0.70 m
BUCKET TYPE: Ripper

SHEET: 1 OF 1
MACHINE: 1.5 tonne excavator
CONTRACTOR: Andreas Butter
LOGGED: SDB DATE: 15/5/09
CHECKED: MJP DATE: 26/5/09

Excavation				Sampling			Field Material Description				
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION			STRUCTURE AND ADDITIONAL OBSERVATIONS
EX			0.0				SM	Silty SAND Fine to medium grained, pale brown to pale grey, low plasticity fines (less than 20% volume), dry to moist, loose to medium dense.			Fill
			0.2	0.20	TP0.1-0.4 DS 0.20-0.40m		SC	Clayey SAND Coarse grained, orange brown to yellow brown, low to medium plasticity fines present (approx. 20% volume), loose to medium dense.			Fill
			0.6	0.60			SM	Silty SAND Medium grained, dark grey to black, trace angular coarse gravel, trace of wood fragments, moist, loose to medium dense, high organic content, organic odour.			Fill
HA			0.70					TEST PIT DISCONTINUED @ 0.70 m GROUNDWATER NOT ENCOUNTERED Backfilled with bentonite grout. Superficial soil cover excavated by machine. Exporatory hole progressed by hand auger.			
			0.8								
			1.0								
			1.2								
			1.4								
			1.6								
			1.8								
			2.0								

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GAP gINT FN. F01e
RL2



REPORT OF TEST PIT: TP3

CLIENT: SKM
PROJECT: Compton Road Landfill
LOCATION: Compton Road
JOB NO: 097633033

POSITION: As per SKM supplied site plan.
SURFACE RL: m DATUM: AHD
PIT DEPTH: 1.10 m
BUCKET TYPE: Batter

SHEET: 1 OF 1
MACHINE: 1.5 tonne excavator
CONTRACTOR: Andreas Butter
LOGGED: SDB DATE: 15/5/09
CHECKED: MJP DATE: 26/5/09

Excavation					Sampling		Field Material Description				
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS	
EX			0.0		TP3 0.1-0.3 DS 0.10-0.30m		SM	Silty SAND Fine grained, pale grey, dry, loose.	D L	Fill	
			0.10			SC	Clayey SAND Fine to coarse grained, brown orange, clay fines (35%) medium plasticity, moist, firm to stiff, clay fines 35%, moisture increasing with depth.	M F-St	Fill		
HA			0.2				CL-CI	Sandy CLAY Low to medium plasticity, dark brown and some red brown, some angular gravel present (less than 10%), moist, firm, trace of root hairs and vegetation present.	M L	Fill	
			0.90								
			1.0								
			1.10					TEST PIT DISCONTINUED @ 1.10 m GROUNDWATER NOT ENCOUNTERED Backfilled with bentonite grout. Superficial soil cover excavated by machine. Exporatory hole progressed by hand auger.			
			1.2								
			1.4								
			1.6								
			1.8								
			2.0								

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GAP gINT FN. F01e
RL2



REPORT OF TEST PIT: TP4

CLIENT: SKM
PROJECT: Compton Road Landfill
LOCATION: Compton Road
JOB NO: 097633033

POSITION: As per SKM supplied site plan.
SURFACE RL: m DATUM: AHD
PIT DEPTH: 0.70 m
BUCKET TYPE: Ripper

SHEET: 1 OF 1
MACHINE: 1.5 tonne excavator
CONTRACTOR: Andreas Butter
LOGGED: SDB DATE: 15/5/09
CHECKED: MJP DATE: 26/5/09

Excavation				Sampling		Field Material Description				
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
EX			0.0				SM	Silty SAND Fine grained, grey to pale brown, dry, loose.	D	L
			0.10				CI-CH	Sandy CLAY Medium to high plasticity, brown orange, sand coarse grained (approx. 40%), red brown gravel present (less than 10% volume), moist, firm to stiff.	M	F-St
HA			0.2							
			0.4							
			0.6	0.60			SM	Silty SAND Coarse grained, pale brown to pale grey, some medium sized, dark grey angular gravel present, moist, loose to medium dense.	M	L-MD
			0.70							
			0.8					TEST PIT DISCONTINUED @ 0.70 m GROUNDWATER NOT ENCOUNTERED Backfilled with bentonite grout. Superficial soil cover excavated by machine. Exporatory hole progressed by hand auger.		
			1.0							
			1.2							
			1.4							
			1.6							
			1.8							
			2.0							

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GAP gINT FN. F01e
RL2



REPORT OF TEST PIT: TP5

CLIENT: SKM
PROJECT: Compton Road Landfill
LOCATION: Compton Road
JOB NO: 097633033

POSITION: As per SKM supplied site plan.
SURFACE RL: m DATUM: AHD
PIT DEPTH: 0.70 m
BUCKET TYPE: Ripper

SHEET: 1 OF 1
MACHINE: 1.5 tonne excavator
CONTRACTOR: Andreas Butter
LOGGED: SDB DATE: 15/5/09
CHECKED: MJP DATE: 26/5/09

Excavation				Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION		MOISTURE CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
EX			0.0				SM	Silty SAND Fine grained, pale grey, dry, loose.		D L	Fill
			0.10		TP5 0.1-0.3 DS 0.10m		SC	Clayey SAND Fine to coarse grained, orange brown with medium to high plasticity clay fines (40%), moist, firm to stiff.		M F-St	Fill
			0.2								
			0.4								
HA			0.6	0.60			CL-CI	Sandy CLAY Low to medium plasticity, grey, moist, soft, root hairs present.		M L-MD	Fill
			0.70								
			0.8					TEST PIT DISCONTINUED @ 0.70 m GROUNDWATER NOT ENCOUNTERED Backfilled with bentonite grout. Superficial soil cover excavated by machine. Exporatory hole progressed by hand auger.			
			1.0								
			1.2								
			1.4								
			1.6								
			1.8								
			2.0								

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GAP gINT FN. F01e RL2



REPORT OF TEST PIT: TP6

CLIENT: SKM
PROJECT: Compton Road Landfill
LOCATION: Compton Road
JOB NO: 097633033

POSITION: As per SKM supplied site plan.
SURFACE RL: m DATUM: AHD
PIT DEPTH: 1.20 m
BUCKET TYPE: Ripper

SHEET: 1 OF 1
MACHINE: 1.5 tonne excavator
CONTRACTOR: Andreas Butter
LOGGED: SDB DATE: 15/5/09
CHECKED: MJP DATE: 26/5/09

Excavation				Sampling		Field Material Description				
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
EX			0.0				SM	Silty SAND Fine grained, pale grey, dry, loose.	L	Fill
			0.10		TP6 0.1-0.4 DS 0.10-0.40m		SC	Clayey SAND Fine to coarse grained, orange brown, high plasticity clay 32%, angular, pale brown gravel present, moist, firm to stiff, moisture increasing with depth.	F-St	Fill
			0.2							
HA			0.4	0.40			CL-CI	Sandy CLAY Low to medium plasticity, dark grey and orange brown, some coarse sized, angular gravel present (less than 10%), moist, soft to firm, slight organic odour.		Fill
			0.6							
			0.8							
			1.0							
			1.2	1.20				TEST PIT DISCONTINUED @ 1.20 m GROUNDWATER NOT ENCOUNTERED Backfilled with bentonite grout. Superficial soil cover excavated by machine. Exporatory hole progressed by hand auger.		
			1.4							
			1.6							
			1.8							
			2.0							

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GAP gINT FN. F01e
RL2



REPORT OF TEST PIT: TP7

CLIENT: SKM
PROJECT: Compton Road Landfill
LOCATION: Compton Road
JOB NO: 097633033

POSITION: As per SKM supplied site plan.
SURFACE RL: m DATUM: AHD
PIT DEPTH: 0.80 m
BUCKET TYPE: Ripper

SHEET: 1 OF 1
MACHINE: 1.5 tonne excavator
CONTRACTOR: Andreas Butter
LOGGED: SDB DATE: 15/5/09
CHECKED: MJP DATE: 26/5/09

Excavation				Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION		MOISTURE CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
EX			0.0		TP7 0.2-0.4 DS 0.20-0.40m		SM	Silty SAND Fine grained, pale grey, dry, loose.		D L	Fill
			0.10				CH	Sandy CLAY High plasticity, orange brown and pale grey, sand 33% fine to coarse grained moist, firm to stiff.		M F-St	Fill
			0.2								
			0.4								
HA			0.6				CL-CI	Sandy CLAY Low to medium plasticity, dark grey to brown, sand coarse grained, trace fine gravel present (less than 10%), some wood fragments present, moist, soft to firm.		M S-F	Fill
			0.65								
			0.8								
			0.80								
			1.0					TEST PIT DISCONTINUED @ 0.80 m GROUNDWATER NOT ENCOUNTERED			
			1.2								
			1.4								
			1.6								
			1.8								
			2.0								

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GAP gINT FN. F01e
RL2



REPORT OF TEST PIT: TP8

CLIENT: SKM
PROJECT: Compton Road Landfill
LOCATION: Compton Road
JOB NO: 097633033

POSITION: As per SKM supplied site plan.
SURFACE RL: m DATUM: AHD
PIT DEPTH: 0.80 m
BUCKET TYPE: Ripper

SHEET: 1 OF 1
MACHINE: 1.5 tonne excavator
CONTRACTOR: Andreas Butter
LOGGED: SDB DATE: 15/5/09
CHECKED: MJP DATE: 26/5/09

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION		MOISTURE CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS	
EX			0.0		DS 0.10-0.30m		SM	Silty SAND Fine grained, pale grey, dry, loose.	D	L	Fill	
			0.10				CI-CH/SC	Sandy CLAY/Clayey SAND Medium to high plasticity, orange brown and white, sand coarse grained, moist, firm to stiff.			Fill	
			0.2									
			0.4									
HA			0.6									
			0.70		CL-CI/SC	Sandy CLAY/Clayey SAND Low to medium plasticity, brown orange to pale brown, moist, soft.	M	S	Fill			
			0.8									
			0.80									
			0.8					TEST PIT DISCONTINUED @ 0.80 m GROUNDWATER NOT ENCOUNTERED Backfilled with bentonite grout. Superficial soil cover excavated by machine. Exploratory hole progressed by hand auger.				
			1.0									
			1.2									
			1.4									
			1.6									
			1.8									
			2.0									

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GAP gINT FN. F01e
RL2



SHEET: 1 OF 1
MACHINE: 1.5 tonne excavator
CONTRACTOR: Andreas Butter
LOGGED: SDB DATE: 15/5/09
CHECKED: MJP DATE: 26/5/09

			Fine to coarse grained, pale brown and brown orange, high plasticity fines 38%, some angular, trace of fine to medium sized, gravel present (less than 10%), moist, firm to stiff.	M
	SM	x x x x x	Silty SAND Coarse grained, dark brown, low plasticity fines present, some organic matter consisting of root hairs and stems present, moist, loose.	M
			TEST PIT DISCONTINUED @ 0.50 m. GROUNDWATER NOT ENCOUNTERED. Backfilled with bentonite grout. Superficial soil cover excavated by machine. Exporatory hole progressed by hand auger.	

GAP gINT FN. F01e
RI 2

BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 100.4m
EASTING: 511529.114
NORTHING: 6944765.275
DIP/AZIMUTH: 90°/-

BORE No: 1
PROJECT No: 74122
DATE: 12/10/09
SHEET 1 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			
			EW	HW	NW	SW	FS		FR	Ex Low	Very Low	Low	Medium			High	Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break	Type
	0.5	FILLING CLAYEY SAND - medium dense pale brown clayey sand filling																			
	0.5	FILLING SAND - medium dense red brown coarse grained sand																			
	1.9	SILTY CLAY - very stiff pale grey high plasticity, moist																			
	2.7	SANDY CLAY - dense red brown medium to coarse grained, medium plasticity, moist																			
	3.4	CLAYEY SAND - very dense pale grey white fine to coarse grained																			
	4	- showing characteristics of being extremely low strength, extremely weathered sandstone																			

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: HW

TYPE OF BORING: 100mm Auger/Washbore/NMLC

WATER OBSERVATIONS: Groundwater encountered at 3m depth

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U _t	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	>	Water seep
		W	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 100.4m
EASTING: 511529.114
NORTHING: 6944765.275
DIP/AZIMUTH: 90°/--

BORE No: 1
PROJECT No: 74122
DATE: 12/10/09
SHEET 2 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering				Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing				
			EW	HW	MW	SW		FS	FR	Ex Low	Very Low	Low			Medium	High	Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break	Type
		CLAYEY SAND - very dense pale grey white fine to coarse grained (continued)																S			30/130mm
		- becoming pale red-brown																			
	6																	S			30/100mm
	7																				
	7.2	CORE LOSS														7.2m: CORE LOSS: 700mm					
	7.9																				
	8	SANDSTONE - medium strength, moderately weathered to slightly weathered fractured light grey and red-brown mottled medium to coarse sand bedding at 0 - 10° = 50mm clay seam = becoming extremely low strength to very low strength, highly weathered to moderately weathered red-brown and light grey - 150mm low strength to medium strength band														8.05m: B: 10°, pl, ro 8.2m: B: 10°, pl, sv, cf 30mm 8.25m: J: 45°, pl, ro 8.5m: J: 30°, pl, ro 8.65m: J: 20°, pl, ro, sv, un, ro, to 8.10m		C			PL(A) = 0.02MPa PL(D) = 0.34MPa
	9	9.0 CORE LOSS														9m: CORE LOSS: 450mm					
	9.45	- becoming high strength, slightly weathered slightly fractured light grey and red-brown mottled = becoming moderately weathered - 50mm fine to medium conglomerate interbed																C	100	100	PL(A) = 0.79MPa PL(D) = 1.96MPa

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: HW

TYPE OF BORING: 100mm Auger/Washbore/NMLC

WATER OBSERVATIONS: Groundwater encountered at 3m depth

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND	
A	Auger sample
D	Disturbed sample
B	Bulk sample
U	Tube sample (x mm dia.)
W	Water sample
C	Core drilling
pp	Pocket penetrometer (kPa)
PID	Photo ionisation detector
S	Standard penetration test
PL	Point load strength ls(50) MPa
V	Shear Vane (kPa)
▷	Water seep
≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 100.4m
EASTING: 511529.114
NORTHING: 6944765.275
DIP/AZIMUTH: 90°/--

BORE No: 1
PROJECT No: 74122
DATE: 12/10/09
SHEET 3 OF 4

[illegible]

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: HW

TYPE OF BORING: 100mm Auger/Washbore/NMLC

WATER OBSERVATIONS: Groundwater encountered at 3m depth

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND		
A	Auger sample	pp Pocket penetrometer (kPa)
D	Disturbed sample	PID Photo ionisation detector
B	Bulk sample	S Standard penetration test
U	Tube sample (x mm dia.)	PL Point load strength (50) MPa
W	Water sample	V Shear Vane (kPa)
C	Core drilling	▷ Water seep
		≡ Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 100.4m
EASTING: 511529.114
NORTHING: 6944765.275
DIP/AZIMUTH: 90°/-

BORE No: 1
PROJECT No: 74122
DATE: 12/10/09
SHEET 4 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium			High	Very High	Ex High	B - Bedding	J - Joint	Type
	15.5	SANDSTONE - extremely low strength, extremely weathered slightly fractured orange-brown fine to medium sandstone bedding at 0° (continued)																C	100	100	
		Bore discontinued at 15.5m																			
	16																				
	17																				
	18																				
	19																				

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: HW

TYPE OF BORING: 100mm Auger/Washbore/NMLC

WATER OBSERVATIONS: Groundwater encountered at 3m depth

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	Δ	Water seep
		≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 100.55m
EASTING: 511557.648
NORTHING: 6944723.559
DIP/AZIMUTH: 90°/-

BORE No: 2
PROJECT No: 74122
DATE: 15/10/09
SHEET 1 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)			Discontinuities		Sampling & In Situ Testing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium		High	Very High	Ex High	0.01	0.05	0.10	0.50	1.00	B - Bedding S - Shear	J - Joint D - Drill Break	Type	Core Rec. %	RQD %	Test Results & Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
		FILLING - loamy sand (Topsoil)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: HW

TYPE OF BORING: 100mm Auger/Washbore/NMLC

WATER OBSERVATIONS: No free groundwater was encountered

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
		≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 100.55m
EASTING: 511557.648
NORTHING: 6944723.559
DIP/AZIMUTH: 90°/-

BORE No: 2
PROJECT No: 74122
DATE: 15/10/09
SHEET 2 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium			High	Very High	Ex High	B - Bedding	J - Joint	Type
		SILTY CLAY - very stiff pale grey band of red and orange sand clay mottling (continued)																S			5,12,20 N = 32
	6																	S			6,7,14 N = 21
	7																	S			10/0mm (no sample)
	7.5	SAND - very dense red fine to medium grained sand resembles extremely low strength to very low strength sandstone																S			
	8.0	SANDSTONE - low strength to medium strength, highly weathered slightly fractured unbroken red brown medium to coarse sandstone bedding @ 10° - 50mm extremely low strength pale grey clay interbed																			
	9	- 20mm extremely low strength pale grey clay interbed - 50mm extremely low strength pale grey clay interbed - 20mm extremely low strength pale grey clay interbed - 50mm extremely low strength pale grey and brown clay interbed - 350mm extremely low strength extremely weathered grey siltstone - becoming extremely low strength to very low strength, highly weathered sandstone - 150mm extremely low strength, extremely weathered grey siltstone																C	100	100	PL(A) = 0.31MPa PL(D) = 0.35MPa PL(A) = 0.06MPa PL(D) = 0MPa

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: HW

TYPE OF BORING: 100mm Auger/Washbore/NMLC

WATER OBSERVATIONS: No free groundwater was encountered

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
		≡	Water level

CHECKED

Initials:

Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 100.55m
EASTING: 511557.648
NORTHING: 6944723.559
DIP/AZIMUTH: 90°/-

BORE No: 2
PROJECT No: 74122
DATE: 15/10/09
SHEET 3 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering				Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing				
			EW	HW	MW	SW		FS	FR	Ex Low	Very Low	Low			Medium	High	Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break	Type
		SANDSTONE - low strength to medium strength, highly weathered slightly fractured unbroken red brown medium to coarse sandstone bedding @ 10° (continued) - 20mm extremely low strength, extremely weathered grey siltstone																C	100	100	PL(A) = 0.05MPa PL(D) = 0MPa
	11.0	CORE LOSS														11m: CORE LOSS: 200mm					
	11.2	SILTSTONE - low strength, slightly weathered slightly fractured dark grey siltstone bedding 0° - 10°														11.2m: B: 10°, un, ro					PL(A) = 0.05MPa PL(D) = 0.09MPa
	12															12.1m: B: 0°, pl, ro 12.23m: B: 10°, pl, sm					PL(A) = 0.1MPa PL(D) = 0.09MPa
		- fractured														12.65m: J: 45°, pl, sm		C	97	97	
	13	- becoming fractured - fractured														13.1m: J: 45°, pl, ko 13.15m: B: 0°, un, sm					
		- fractured														13.45m: J: 45°, pl, sm					PL(A) = 0.68MPa PL(D) = 0.03MPa
	14.0	Bore discontinued at 14.0m														13.85m: J					

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: HW

TYPE OF BORING: 100mm Auger/Washbore/NMLC

WATER OBSERVATIONS: No free groundwater was encountered

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U _s	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
		≡	Water level

CHECKED

Initials:

Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 100.53m
EASTING: 511552.315
NORTHING: 6944649.729
DIP/AZIMUTH: 90°/-

BORE No: 3
PROJECT No: 74122
DATE: 16/10/09
SHEET 1 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing				
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium			High	Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break	Type	Core Rec. %
1	0.1	FILLING - pale brown sand filling																				
		FILLING SANDY CLAY - soft brown orange red and brown medium plasticity fine to medium grained																				
	1.2	FILLING CLAYEY SAND - loose orange brown fine grained																				
	1.4	FILLING SANDY CLAY - very soft dark grey organic material																				
	2	2.0	SANDY CLAY - very stiff red brown medium plasticity fine to medium grained with bands of pale grey clay																			
3	2.8	SANDY CLAY - very stiff pale grey orange and red mottling low plasticity fine grained																				
	3.5	CLAYEY SAND - dense pale grey white																				
4		- contains some extremely low strength, extremely weathered sandstone																				
	4.5	SAND - dense red medium grained sand																				
	4.7	CLAYEY SAND - dense pale grey orange red mottling																				

RTI DL RELEASE - EHP

1,1,1
N = 2

5,13,16
N = 29

16, 30/130mm

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: HW

TYPE OF BORING: 100mm Auger/Washbore

WATER OBSERVATIONS: Groundwater encountered at 2m depth

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	W	Water seep
		WL	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 100.53m
EASTING: 511552.315
NORTHING: 6944649.729
DIP/AZIMUTH: 90°/-

BORE No: 3
PROJECT No: 74122
DATE: 16/10/09
SHEET 2 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering				Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
			EW	HW	MW	SW		FS	FR	Ex Low	Very Low	Low			Medium	High	Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break	Type	Core Rec. %	RQD %	Test Results & Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
	5.2	CLAYEY SAND - dense pale grey orange red mottling (continued)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: HW

TYPE OF BORING: 100mm Auger/Washbore

WATER OBSERVATIONS: Groundwater encountered at 2m depth

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U ₁	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep ≠ Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 100.53m
EASTING: 511552.315
NORTHING: 6944649.729
DIP/AZIMUTH: 90°/--

BORE No: 3
PROJECT No: 74122
DATE: 16/10/09
SHEET 3 OF 3

RL	Depth (m)	Description of Strata	Degree of Weathering				Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing					
			EW	HW	MW	SW		FS	FR	Ex Low	Very Low	Low			Medium	High	Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break	Type	Core Rec. %
	10.0	SILTY CLAY - black																				

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: HW

TYPE OF BORING: 100mm Auger/Washbore

WATER OBSERVATIONS: Groundwater encountered at 2m depth

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
		≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 99.14m
EASTING: 511662.329
NORTHING: 6944602.941
DIP/AZIMUTH: 90°/-

BORE No: 4
PROJECT No: 74122
DATE: 15/10/09
SHEET 1 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering						Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			
			EW	HW	MW	SW	FS	FR		Ex Low	Very Low	Low	Medium	High			Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break	Type	Core Rec. %
	0.2	FILLING - pale grey clayey sand filling (Topsoil)																				
		FILLING SANDY CLAY - firm orange-brown sandy clay filling																				
	0.8	FILLING - refuse waste																				
		- containing fibrous organic material, pale and dark grey, firm, wet																S				3,4,2 N = 6
	4.3	SANDSTONE - extremely low strength, extremely weathered pale grey and orange-brown coarse grained sandstone																				

RIG: 13 tonne truck mounted

DRILLER: Geodrill

LOGGED: SP

CASING:

TYPE OF BORING: 100mm Auger/Washbore/NMLC

WATER OBSERVATIONS: No free groundwater was encountered

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
		≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 99.14m
EASTING: 511662.329
NORTHING: 6944602.941
DIP/AZIMUTH: 90°/-

BORE No: 4
PROJECT No: 74122
DATE: 15/10/09
SHEET 2 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing				Test Results & Comments	
			EW	HW	NW	SW	FS		FR	Ex Low	Very Low	Low	Medium		High	Very High	Ex High	Water	B - Bedding S - Shear	J - Joint D - Drill Break		Type
		SANDSTONE - extremely low strength, extremely weathered pale grey and orange-brown coarse grained sandstone (continued)																				
	6																	S				20, 30/60mm
	7																	S				30/90mm
	8																					
	9																	S				20, 28, 30/125mm

RIG: 13 tonne truck mounted

DRILLER: Geodrill

LOGGED: SP

CASING:

TYPE OF BORING: 100mm Auger/Washbore/NMLC

WATER OBSERVATIONS: No free groundwater was encountered

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
		≡	Water level

CHECKED

Initials:

Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 99.14m
EASTING: 511662.329
NORTHING: 6944602.941
DIP/AZIMUTH: 90°/--

BORE No: 4
PROJECT No: 74122
DATE: 15/10/09
SHEET 3 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium			High	Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break	Type
11	10.8	SANDSTONE - extremely low strength, extremely weathered pale grey and orange-brown coarse grained sandstone (continued)																S			22,12,16 N = 28
		SILTSTONE - extremely low strength to very low strength, dark grey siltstone																			
	11.5	SANDSTONE - very low strength, orange-brown sandstone																S			30/75mm
12	11.7	SANDSTONE - medium strength, moderately weathered to slightly weathered slightly fractured grey and orange-brown stained fine to medium sandstone bedding at 10°															11.75m: J: sv, un, ro, lim				PL(A) = 0.66MPa PL(D) = 0.39MPa
13		- 50mm extremely low strength, dark grey siltstone interbed															12.15m: B: 10°, pl, ro	C	100	100	
	12.58	- intermittent coal laminae to 3mm on bedding CORE LOSS															12.3m: B: 10°, pl, sm				
	12.8																12.5m: 10°, pl, sm 12.58m: CORE LOSS: 220mm				
14	12.84	SILTSTONE - very low strength to low strength, fresh stained fractured dark grey siltstone															12.85m: J: 65°, pl, sm				PL(A) = 0.12MPa PL(D) = 0.16MPa
																	13m: B: 10°, pl, sm				
	13.25	SANDSTONE - medium strength to high strength, slightly weathered slightly fractured green-grey medium to coarse sandstone bedding 0° - 10°															13.2m: B: 10°, pl, sm 13.25m: B: 10°, un, sm	C	83	78	
																	13.75m: B: 10°, pl, ro				
		- becoming fresh bedding at 10° - 20°															14.18m: 10°, un, sm				PL(A) = 1.65MPa PL(D) = 1.49MPa
		- intermittent coal laminae to 5mm on bedding															14.35m: B: 10°, pl, sm				
		- 50 - 150mm medium strength to high strength, conglomerate interbeds at 200 - 500mm intervals to 16.00m															14.6m: B: 20°, pl, ro	C	100	95	

RIG: 13 tonne truck mounted

DRILLER: Geodrill

LOGGED: SP

CASING:

TYPE OF BORING: 100mm Auger/Washbore/NMLC

WATER OBSERVATIONS: No free groundwater was encountered

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
		≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 99.14m
EASTING: 511662.329
NORTHING: 6944602.941
DIP/AZIMUTH: 90°/--

BORE No: 4
PROJECT No: 74122
DATE: 15/10/09
SHEET 4 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium			High	Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break	Type
		SANDSTONE - medium strength to high strength, slightly weathered slightly fractured green-grey medium to coarse sandstone bedding 0° - 10° (continued)																			
		- bedding of 20° - 30°																			
16		- bedding of 0° - 10°																			
		- 50mm clay seam																			
		- becoming low strength to medium strength, slightly weathered grey slightly fractured fine to medium sandstone bedding 0° - 10° intermittent siltstone laminae of 10mm at 10 - 100mm intervals																			
		- becoming medium strength																			
17		- intermittent 3mm coal laminae on bedding																			
		- 200mm medium strength, siltstone interbed																			
17.7		Bore discontinued at 17.7m																			
18																					
19																					

Page 35 of 121

BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 98.59m
EASTING: 511784.775
NORTHING: 6944726.4
DIP/AZIMUTH: 90°/-

BORE No: 5
PROJECT No: 74122
DATE: 14/10/09
SHEET 1 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)				Discontinuities		Sampling & In Situ Testing				
			EW	HW	NW	SW	FR		Ex Low	Very Low	Low	Medium	High		Very High	Ex High	0.01	0.05	0.10	0.50	1.00	B - Bedding S - Shear	J - Joint D - Drill Break	Type	Core Rec. %
1	0.05	LOAMY SAND - (Topsoil) black																							
		FILLING SANDY CLAY - stiff red brown sandy clay filling medium plasticity																							
	0.75	FILLING CLAYEY SAND - medium dense orange brown																							
	1.0	FILLING SANDY CLAY - dark grey landfill combined with sandy clay																							
	2																								
	3																								
	4																								

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: 6.4m (HW)

TYPE OF BORING: 100mm Auger/Washbore/NMLC

WATER OBSERVATIONS: Groundwater encountered at 5m depth

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
		≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 98.59m
EASTING: 511784.775
NORTHING: 6944726.4
DIP/AZIMUTH: 90°/-

BORE No: 5
PROJECT No: 74122
DATE: 14/10/09
SHEET 2 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			
			EW	HW	NW	SW	FS		FR	Ex Low	Low	Medium	High			Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break	Type	Core Rec. %
	5.0	FILLING SANDY CLAY - orange brown containing landfill																			
	6																				
	7	- encountered pieces of steel																			
	8																				
	9	- traces of landfill																			

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: 6.4m (HW)

TYPE OF BORING: 100mm Auger/Washbore/NMLC

WATER OBSERVATIONS: Groundwater encountered at 5m depth

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
		≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 98.59m
EASTING: 511784.775
NORTHING: 6944726.4
DIP/AZIMUTH: 90°/--

BORE No: 5
PROJECT No: 74122
DATE: 14/10/09
SHEET 3 OF 4

[illegible]

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: 6.4m (HW)

TYPE OF BORING: 100mm Auger/Washbore/NMLC

WATER OBSERVATIONS: Groundwater encountered at 5m depth

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND	
A	Auger sample
D	Disturbed sample
B	Bulk sample
U	Tube sample (x mm dia.)
W	Water sample
C	Core drilling
pp	Pocket penetrometer (kPa)
PID	Photo ionisation detector
S	Standard penetration test
PL	Point load strength (s/50) MPa
V	Shear Vane (kPa)
▷	Water seep
≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 98.59m
EASTING: 511784.775
NORTHING: 6944726.4
DIP/AZIMUTH: 90°/--

BORE No: 5
PROJECT No: 74122
DATE: 14/10/09
SHEET 4 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			Test Results & Comments
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium			High	Very High	Ex High	B - Bedding	J - Joint	
		sandstone SANDSTONE - high strength, slightly weathered slightly fractured unbroken light grey medium to coarse sandstone bedding at 10° (continued) = bedding at 0° - 10°																C	100	100	PL(A) = 1.21MPa PL(D) = 1.11MPa
	16																				
	</																				

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: 6.4m (HW)

TYPE OF BORING: 100mm Auger/Washbore/NMLC

WATER OBSERVATIONS: Groundwater encountered at 5m depth

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	Δ	Water seep
		W	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 99.24m
EASTING: 511719.906
NORTHING: 6944764.492
DIP/AZIMUTH: 90°/--

BORE No: 6
PROJECT No: 74122
DATE: 13/10/09
SHEET 1 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering						Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			
			EW	HW	MW	SW	FS	FR		Ex Low	Very Low	Low	Medium	High			Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break	Type	Core Rec. %
		FILLING - pale grey/brown clayey sand filling (Topsoil)																				
	0.3	FILLING SANDY CLAY - stiff to very stiff red brown medium plasticity																				
	0.9	FILLING CLAYEY SAND - medium dense dark grey fine to coarse grained																				
	1.3	FILLING CLAYEY SAND - medium dense dark grey containing refuse waste																				
	2.6	FILLING CLAY - dark grey medium plasticity contains traces of landfill refuse waste																				
	3.9	FILLING SANDY CLAY - very stiff orange brown medium plasticity fine to medium grained sand, traces of blue paint																				

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: HW = 6m

TYPE OF BORING: 100mm Auger/Washbore/NMLC coring

WATER OBSERVATIONS: No free groundwater was encountered

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength ls(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
			≡ Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 99.24m
EASTING: 511719.906
NORTHING: 6944764.492
DIP/AZIMUTH: 90°/-

BORE No: 6
PROJECT No: 74122
DATE: 13/10/09
SHEET 2 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing				
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium			High	Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break	Type	Core Rec. %
	5.5	FILLING SANDY CLAY - very stiff orange brown medium plasticity fine to medium grained sand, traces of blue paint (continued)																				
		SILTY CLAY - very stiff pale grey medium plasticity some red brown and yellow brown mottling																				
	6																	S				5,9,12 N = 21
	7																					
	7.2	SANDY CLAY - very stiff pale brown high plasticity medium grained																S				10,10,17 N = 27
	8																					
	8.2	SILTY CLAY - very stiff white pale grey streaks of coarse red sand																S				9,11,12 N = 23
	8.8	SAND - very dense pale red grey medium grained showing characteristics of being extremely low strength, extremely weathered sandstone																				
	9	- becoming coarse grained																S				30/70mm

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: HW = 6m

TYPE OF BORING: 100mm Auger/Washbore/NMLC coring

WATER OBSERVATIONS: No free groundwater was encountered

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength (50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	Δ	Water seep
		≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 99.24m
EASTING: 511719.906
NORTHING: 6944764.492
DIP/AZIMUTH: 90°/-

BORE No: 6
PROJECT No: 74122
DATE: 13/10/09
SHEET 3 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)				Discontinuities		Sampling & In Situ Testing			Test Results & Comments		
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium		High	Very High	Ex High	0.01	0.05	0.10	0.50	1.00	B - Bedding S - Shear		J - Joint D - Drill Break	Type
	10.3	SANDSTONE - high strength, slightly weathered fractured to slightly fractured purple grey and orange-brown stained medium to coarse sandstone bedding sub-horizontal																								10/0mm refusal
	10.8	CORE LOSS																				C	100	100		PL(A) = 2.59MPa PL(D) = 1.92MPa
11		SANDSTONE - extremely low strength, extremely weathered to highly weathered fractured grey and orange-brown stained fine sandstone bedding at 0 - 10% siltstone laminae to 20mm at 50 - 100mm intervals																								
	11.4	SILTSTONE - extremely low strength to very low strength, extremely weathered to highly weathered fractured grey siltstone bedding at 10° fine sandstone laminae to 10mm - becoming extremely low strength																				C	80	60		PL(A) = 0.01MPa PL(D) = 0.23MPa
12																										
	12.2	SANDSTONE - extremely low strength, extremely weathered to highly weathered fractured to slightly fractured dark grey and orange-brown mottled fine sandstone bedding at 0 - 10° siltstone laminae to 20 at 20 - 100mm intervals - becoming extremely low strength to very low strength - becoming very low strength to low strength, moderately weathered - becoming very low strength																								PL(A) = 0.05MPa PL(D) = 0MPa
13																						C	100	100		
	13.35	SILTSTONE - extremely low strength to very low strength, moderately weathered to slightly weathered fractured to slightly fractured grey siltstone bedding at 10°																								PL(A) = 0.14MPa PL(D) = 0.03MPa
14	13.85	SANDSTONE - low strength, fresh slightly fractured unbroken grey fine to medium sandstone bedding at 10° siltstone laminae to 10mm at 20 - 100 mm intervals until 14.70m - becoming low strength to medium strength																				C	100	90		PL(A) = 0.65MPa PL(D) = 0.16MPa
		- becoming medium strength light grey coarse sandstone																				C	100	90		

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: HW = 6mm

TYPE OF BORING: 100mm Auger/Washbore/NMLC coring

WATER OBSERVATIONS: No free groundwater was encountered

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
		≡	Water level

CHECKED	
Initials:	
Date:	



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 99.24m
EASTING: 511719.906
NORTHING: 6944764.492
DIP/AZIMUTH: 90°/-

BORE No: 6
PROJECT No: 74122
DATE: 13/10/09
SHEET 4 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering				Graphic Log	Rock Strength					Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			
			EW	HW	NW	SW		Ex Low	Very Low	Low	Medium	High	Ex High			Type	Core Rec. %	RQD %	Test Results & Comments
		SANDSTONE - low strength, fresh slightly fractured unbroken grey fine to medium sandstone bedding at 10° siltstone laminae to 10mm at 20 - 100 mm intervals until 14.70m (continued) becoming high strength, medium to coarse sandstone												15m: B: 10°, pl, sm 15.3m: B: 0°, pl, sm 15.45m: B: 10°, pl, sm 15.7m: J: 20°, un, sm 15.75m: B: 10°, pl, sm 15.8m: B: 10°, pl, sm 15.88m: B: 0°, pl, sm 16.25m: B: 10°, pl, sm		C	100	90	PL(A) = 0.85MPa PL(D) = 0.56MPa
	16																		
	16.6	Bore discontinued at 16.6m																	PL(A) = 1.24MPa PL(D) = 1.19MPa
	17																		
	18																		
	19																		

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: HW = 6m

TYPE OF BORING: 100mm Auger/Washbore/NMLC coring

WATER OBSERVATIONS: No free groundwater was encountered

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND

A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
		≡	Water level

CHECKED

Initials:

Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 99.35m
EASTING: 511653.554
NORTHING: 6944798.592
DIP/AZIMUTH: 90°/-

BORE No: 8
PROJECT No: 74122
DATE: 09/10/09
SHEET 1 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing				Test Results & Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
			EW	FW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium			High	Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break	Type		Core Rec. %	RQD %																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
1	0.05	LOAMY SAND (Topsoil)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									</

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: 9m

TYPE OF BORING: 100mm Auger

WATER OBSERVATIONS: Groundwater encountered at 3m depth

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength (50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
		≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 99.35m
EASTING: 511653.554
NORTHING: 6944798.592
DIP/AZIMUTH: 90°/-

BORE No: 8
PROJECT No: 74122
DATE: 09/10/09
SHEET 2 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
			EW	HW	MW	SW	FS		Ex Low	Very Low	Low	Medium	High		Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break	Type	Core Rec. %	RQD %	Test Results & Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
		SILTY SAND - dense to very dense bands of red and white sand getting denser with depth showing characteristics of being extremely low strength, extremely weathered sandstone (continued)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							</

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: 9m

TYPE OF BORING: 100mm Auger

WATER OBSERVATIONS: Groundwater encountered at 3m depth

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
		≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 99.35m
EASTING: 511653.554
NORTHING: 6944798.592
DIP/AZIMUTH: 90°/-

BORE No: 8
PROJECT No: 74122
DATE: 09/10/09
SHEET 3 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing				Test Results & Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium		High	Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break	Type		Core Rec. %	RQD %																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	10.2	CLAY - hard dark grey medium plasticity (continued)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													</

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: 9m

TYPE OF BORING: 100mm Auger

WATER OBSERVATIONS: Groundwater encountered at 3m depth

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U _s	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
		≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 99.35m
EASTING: 511653.554
NORTHING: 6944798.592
DIP/AZIMUTH: 90°/--

BORE No: 8
PROJECT No: 74122
DATE: 09/10/09
SHEET 4 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering				Graphic Log	Rock Strength				Water	Fracture Spacing (m)	Discontinuities	Sampling & In Situ Testing				
			EW	HW	MW	SW		FS	FR	Ex Low	Very Low				Low	Medium	High	Very High	Ex High
		SANDSTONE - medium strength, slightly weathered to fresh grey slightly fractured unbroken fine to medium sandstone bedding at 20° (continued)													14.95m: J: 60°, pl, sm 15m: J: 45°, pl, sm				PL(D) = 0MPa
		- becoming fine to medium sandstone																	
		- becoming low strength to medium strength																	
	16	- becoming medium to coarse sandstone													15.85m: J: 30°, pl, sm	C	97	94	PL(A) = 0.38MPa PL(D) = 0.28MPa
		- becoming moderately weathered to slightly weathered																	
	16.4	- 20mm extremely weathered siltstone laminae													16.11m: B: 10°, un, sm, cc				
	16.5	- becoming fresh													16.15m: B: 15°, pl, sm, cc				
		- 30mm low strength to medium strength siltstone interbed													16.25m: B: 10°, pl, sm, cf 20mm				
	16.7	- becoming medium strength to high strength													16.4m: CORE LOSS: 100mm				PL(A) = 1.08MPa PL(D) = 1.4MPa
	16.95	CORE LOSS													16.7m: CORE LOSS: 250mm				
	17	SANDSTONE - medium strength, slightly weathered to fresh grey slightly fractured unbroken fine to medium sandstone bedding at 20°													16.73m: B: 10°, pl, sm				
		CORE LOSS																	
		SILTSTONE - medium strength, fresh dark grey slightly fractured unbroken siltstone bedding sub-horizontal																	PL(A) = 1.08MPa PL(D) = 0.44MPa
		- becoming medium strength to high strength																	
	18	- becoming medium strength														C	91	90	
	19																		PL(A) = 0.77MPa PL(D) = 0.46MPa
	19.1	SANDSTONE - medium strength to high strength fresh grey slightly fractured unbroken fine to medium sandstone bedding at 10°													19m: B: sh, pl, sm				PL(A) = 0.74MPa PL(D) = 3.07MPa
	19.5	Bore discontinued at 19.5m													19.2m: B: sh, pl, sm				

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: 9m

TYPE OF BORING: 100mm Auger

WATER OBSERVATIONS: Groundwater encountered at 3m depth

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND		
A	Auger sample	pp Pocket penetrometer (kPa)
D	Disturbed sample	PID Photo ionisation detector
B	Bulk sample	S Standard penetration test
U	Tube sample (x mm dia.)	PL Point load strength (is50) MPa
W	Water sample	V Shear Vane (kPa)
C	Core drilling	▷ Water seep $\frac{1}{2}$ Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 99.995m
EASTING: 511634.031
NORTHING: 6944775.474
DIP/AZIMUTH: 90°/-

BORE No: 9
PROJECT No: 74122
DATE: 08/10/09
SHEET 1 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			
			EW	HW	NW	SW	FS		FR	Ex Low	Very Low	Low	Medium			High	Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break	Type
	0.2	FILLING SILTY SAND - silty sand filling with some fine gravel (Topsoil)																			
	0.8	FILLING SANDY CLAY - very stiff, pale brown, high plasticity, medium grained sandy clay filling, sand fraction medium grained, dry																			
	1	FILLING SANDY CLAY - firm to stiff, dark brown, high plasticity sandy clay filling, sand fraction medium grained, dry																			
	2																				
	3																				
	3.4	FILLING SANDY CLAY - stiff, dark grey, medium plasticity sandy clay, sand fraction fine to coarse grained, moist																			
	4																				

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: 9m

TYPE OF BORING: 100mm Auger

WATER OBSERVATIONS: Groundwater encountered at 3m depth

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
		≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 99.995m
EASTING: 511634.031
NORTHING: 6944775.474
DIP/AZIMUTH: 90°/-

BORE No: 9
PROJECT No: 74122
DATE: 08/10/09
SHEET 2 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing				
			EW	HW	NW	SW	FS		FR	Ex Low	Very Low	Low	Medium			High	Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break	Type	Core Rec. %
	5.2	FILLING SANDY CLAY - very stiff, pale red brown, medium plasticity sandy clay filling, sand fraction medium to coarse grained, wet																				
	6																					
	6.8	FILLING SILTY CLAY - hard, pale grey, high plasticity silty clay, wet																				
	7																					
	7.3	SANDY CLAY - stiff, pale red and brown, medium plasticity sandy clay																				
	8																					
	8.9	SILTY CLAY - very stiff, pale grey, medium plasticity silty clay																				
	9.1	CLAYEY SAND - dense, pale red yellow and brown, clayey sand																S				7,11,21 N = 32
	9.4	SANDY CLAY - hard, pale grey, medium to high plasticity sandy clay, sand fraction fine grained																				

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: 9m

TYPE OF BORING: 100mm Auger

WATER OBSERVATIONS: Groundwater encountered at 3m depth

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
		≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 99.995m
EASTING: 511634.031
NORTHING: 6944775.474
DIP/AZIMUTH: 90°/--

BORE No: 9
PROJECT No: 74122
DATE: 08/10/09
SHEET 3 OF 4

[illegible]

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: 9m

TYPE OF BORING: 100mm Auger

WATER OBSERVATIONS: Groundwater encountered at 3m depth

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength (x50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
		≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 99.995m
EASTING: 511634.031
NORTHING: 6944775.474
DIP/AZIMUTH: 90°/-

BORE No: 9
PROJECT No: 74122
DATE: 08/10/09
SHEET 4 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering				Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			
			EW	HW	MW	SW		FS	Ex Low	Very Low	Low	Medium			High	Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break	Type
	15.0	SANDSTONE (as before) - becoming moderately to slightly weathered, grey and orange-brown mottled - becoming low strength - becoming slightly weathered to fresh stained, grey, with siltstone laminae to 10mm															C	100	100	PL(A) = 0.14MPa PL(D) = 0.22MPa
	16.0	SILTSTONE - medium to high strength, fresh, slightly fractured to unbroken, dark grey and grey banded subbase, bedding at 10°																		
	16.3																			
	16.75																			
	17.0																			
	17.4																			
	17.6																			
	18.0																			
	18.5																			
	18.55																			
	18.6																			
	18.5	- becoming low strength, fractured, coal laminae to 90mm and bedding planes																		
	19.0	Bore discontinued at 19.0m																		

RIG: Hydrapower Scout

DRILLER: Groundtest

LOGGED: MB

CASING: 9m

TYPE OF BORING: 100mm Auger

WATER OBSERVATIONS: Groundwater encountered at 3m depth

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength ls(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	Δ	Water seep
		≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 100.09m
EASTING: 511625.599
NORTHING: 6944745.908
DIP/AZIMUTH: 90°/--

BORE No: 10
PROJECT No: 74122
DATE: 14/10/09
SHEET 1 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing			
			EW	HW	NW	SW	FS		Ex Low	Very Low	Low	Medium	High			Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break	Type	Core Rec. %
	0.2	FILLING CLAYEY SAND - pale grey/yellow clayey sand filling (Topsoil)																			
		FILLING SANDY CLAY - stiff red-brown sandy clay filling																			
	0.9	FILLING SILTY CLAY - stiff grey sandy silty clay filling																S			5,6,6 N = 12
	1.5	FILLING CLAYEY SAND - loose pale grey clayey sand filling																			
	2.6	FILLING - refuse waste																S			3,2,3 N = 5
	3.2	SANDY CLAY - very stiff pale grey and orange mottled showing characteristics of being extremely low strength, extremely weathered sandstone																S			8,9,11 N = 20

RIG: 13t Truck mounted

DRILLER: Geodrill

LOGGED: SP

CASING:

TYPE OF BORING: 100mm Auger/Washbore/NMLC coring

WATER OBSERVATIONS: No free groundwater was encountered

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U _t	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core logging	▷	Water seep
		≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 100.09m
EASTING: 511625.599
NORTHING: 6944745.908
DIP/AZIMUTH: 90°/-

BORE No: 10
PROJECT No: 74122
DATE: 14/10/09
SHEET 2 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Fracture Spacing (m)	Discontinuities		Sampling & In Situ Testing				Test Results & Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
			EW	HW	MW	SW	FS		Ex Low	Very Low	Low	Medium	High		Very High	Ex High	Water	B - Bedding S - Shear	J - Joint D - Drill Break	Type		Core Rec. %	RQD %																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
		SANDY CLAY - very stiff pale grey and orange mottled showing characteristics of being extremely low strength, extremely weathered sandstone (continued)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

RIG: 13t Truck mounted

DRILLER: Geodrill

LOGGED: SP

CASING:

TYPE OF BORING: 100mm Auger/Washbore/NMLC coring

WATER OBSERVATIONS: No free groundwater was encountered

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength Is(50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	>	Water seep
		≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 100.09m
EASTING: 511625.599
NORTHING: 6944745.908
DIP/AZIMUTH: 90°/--

BORE No: 10
PROJECT No: 74122
DATE: 14/10/09
SHEET 3 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities	Sampling & In Situ Testing			
			EW	HW	MW	SW	FR		Ex Low	Very Low	Low	Medium	High				Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break
		SILTSTONE - extremely low strength, extremely weathered dark grey (continued)															S			30/110mm
11																				
11.5		SANDSTONE - medium strength to low strength, slightly weathered slightly fractured pink grey medium to coarse sandstone bedding at 10° becoming low strength to medium strength, coarse sandstone bedding at 10 - 20°														11.5m: J: 30°, un, ro				
12		- clay band becoming fresh fine to medium sandstone														12.05m: J: 45°, un, sm	C	100	80	PL(A) = 0.8MPa PL(D) = 0.46MPa
12.45																12.35m: J: 20°, un, sm 12.4m: J: 70°, pl, ro				
12.55		SILTSTONE - low strength, fresh fractured to slightly fractured dark grey siltstone bedding at 0 - 10° CORE LOSS														12.55m: CORE LOSS: 350mm				
12.9		- becoming very low strength														13m: B: 10°, pl, sm				PL(A) = 0.02MPa PL(D) = 0.07MPa
13																13.3m: B: 10°, pl, sm 13.35m: J: 30°, pl, sm	C	80	65	
		- becoming extremely low strength to very low strength, brown and grey														13.5m: J: 45°, pl, ti				
		- becoming very low strength to low strength, slightly weathered orange-brown and grey mottled														13.6m: B: 10°, un, sm 13.65m: J: 35°, un, sm 13.75m: B: 10°, un, sm 13.85m: J: 40°, pl, sm 13.95m: J: 45°, un, sm				
14		- becoming low strength, fresh stained														14.05m: J: 50°, un, sm 14.1m: J: 40°, un, sm 14.15m: J: 50°, un, sm 14.2m: J: 25°, pl, sm				
		- becoming medium strength, fresh bedding at 0° fine sandstone laminae to 0 mm at 10 - 100 mm intervals														14.4m: J: 45°, pl, ti	C	100	100	PL(A) = 0.75MPa PL(D) = 0.01MPa
																14.75m: J: 30°, sv, pl, lim to 15.10m				

RIG: 13t Truck mounted

DRILLER: Geodrill

LOGGED: SP

CASING:

TYPE OF BORING: 100mm Auger/Washbore/NMLC coring

WATER OBSERVATIONS: No free groundwater was encountered

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength (Is50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
		≡	Water level

CHECKED
Initials:
Date:



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BOREHOLE LOG

CLIENT: SKM Pty Ltd
PROJECT: Proposed Redevelopment
LOCATION: Cnr Compton & Kingston Roads, Slacks Creek

SURFACE LEVEL: 100.09m
EASTING: 511625.599
NORTHING: 6944745.908
DIP/AZIMUTH: 90°/-

BORE No: 10
PROJECT No: 74122
DATE: 14/10/09
SHEET 4 OF 4

RL	Depth (m)	Description of Strata	Degree of Weathering					Graphic Log	Rock Strength					Water	Fracture Spacing (m)	Discontinuities	Sampling & In Situ Testing				
			EW	HW	MW	SW	FS		FR	Ex Low	Very Low	Low	Medium				High	Very High	Ex High	B - Bedding S - Shear	J - Joint D - Drill Break
	15.6	- becoming very low strength (continued) - becoming extremely low strength to very low strength, highly weathered - becoming medium strength, fresh SANDSTONE - medium strength to high strength, fresh slightly fractured grey fine to medium sandstone bedding at 0 - 10° siltstone laminae to 10m at 10 - 100mm														15.15m: J: 45°, pl, sm 15.2m: B: 10°, pl, sm 15.35m: J: 35°, pl, sm 15.55m: B: 0°, pl, sm	C	100	100	PL(A) = 0.89MPa PL(D) = 0.53MPa	
																	C	100	50		
	16																C	100	100		PL(A) = 1.57MPa PL(D) = 0.57MPa
	16.7	Bore discontinued at 16.7m																			
	17																				
	18																				
	19																				

RIG: 13t Truck mounted

DRILLER: Geodril

LOGGED: SP

CASING:

TYPE OF BORING: 100mm Auger/Washbore/NMLC coring

WATER OBSERVATIONS: No free groundwater was encountered

REMARKS: TBM (RL100m) - Top of concrete pad at monitoring well (MW03)

SAMPLING & IN SITU TESTING LEGEND			
A	Auger sample	pp	Pocket penetrometer (kPa)
D	Disturbed sample	PID	Photo ionisation detector
B	Bulk sample	S	Standard penetration test
U	Tube sample (x mm dia.)	PL	Point load strength (50) MPa
W	Water sample	V	Shear Vane (kPa)
C	Core drilling	▷	Water seep
		≡	Water level

CHECKED	
Initials:	
Date:	



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Appendix D Analytical Data

D.1 Soil Data

RTI DL RELEASE - EHP

Cronulla Park: Soil Results

Analyte (mg/kg)	Human Health Assessment Criteria	MMW07 0.0-0.1m	MMW08 0.2-0.3m	MMW09 0.0-0.1m	MMW04 0.2-0.3m	MMW05 0.2-0.3m	MMW06 0.2-0.3m	MMW01 0.2-0.3m	MMW02 0.2-0.3m	TP10 0.2-0.3m	TP2 0.2-0.3m	TP3 0.2-0.3m	TP4 0.2-0.3m	TP5 0.2-0.3m	TP6 0.2-0.3m	TP7 0.2-0.3m	TP8 0.0.1m	TP9 0.2-0.3m
Metals																		
Arsenic	500	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Cadmium	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	500	13	11	12	16	21	14	9	28	3	5	5	8	6	8	4	3	2
Copper	5000	5	<5	<5	6	16	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Lead	1500	7	<5	<5	11	8	<5	8	18	6	<5	<5	<5	<5	<5	<5	<5	<5
Nickel	3000	4	<2	<2	4	10	3	<2	3	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc	35000	31	<5	<5	17	21	6	<5	18	5	<5	<5	<5	<5	<5	<5	<5	<5
Mercury	75	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Cronulla Park: Soil Results

Analyte (mg/kg)	Human Health Assessment Criteria	MMW07 0.0-0.1m	MMW08 0.2-0.3m	MMW09 0.0-0.1m	MMW04 0.2-0.3m	MMW05 0.2-0.3m	MMW06 0.2-0.3m	MMW01 0.2-0.3m	MMW02 0.2-0.3m	TP10 0.2-0.3m	TP2 0.2-0.3m	TP3 0.2-0.3m	TP4 0.2-0.3m	TP5 0.2-0.3m	TP6 0.2-0.3m	TP7 0.2-0.3m	TP8 0.0-1m	TP9 0.2-0.3m
OC Pesticides																		
alpha-BHC										<0.05			<0.05	<0.05		<0.05		<0.05
Hexachlorobenzene (HCB)										<0.05			<0.05	<0.05		<0.05		<0.05
beta-BHC										<0.05			<0.05	<0.05		<0.05		<0.05
gamma-BHC										<0.05			<0.05	<0.05		<0.05		<0.05
delta-BHC										<0.05			<0.05	<0.05		<0.05		<0.05
Heptachlor										<0.05			<0.05	<0.05		<0.05		<0.05
Aldrin										<0.05			<0.05	<0.05		<0.05		<0.05
Heptachlor epoxide										<0.05			<0.05	<0.05		<0.05		<0.05
trans-Chlordane										<0.05			<0.05	<0.05		<0.05		<0.05
alpha-Endosulfan										<0.05			<0.05	<0.05		<0.05		<0.05
cis-Chlordane										<0.05			<0.05	<0.05		<0.05		<0.05
Dieldrin										<0.05			<0.05	<0.05		<0.05		<0.05
4,4'-DDE										<0.05			<0.05	<0.05		<0.05		<0.05
Endrin										<0.05			<0.05	<0.05		<0.05		<0.05
beta-Endosulfan										<0.05			<0.05	<0.05		<0.05		<0.05
4,4'-DDD										<0.05			<0.05	<0.05		<0.05		<0.05
Endrin aldehyde										<0.05			<0.05	<0.05		<0.05		<0.05
Endosulfan sulphate										<0.05			<0.05	<0.05		<0.05		<0.05
4,4'-DDT										<0.2			<0.2	<0.2		<0.2		<0.2
Endrin ketone										<0.05			<0.05	<0.05		<0.05		<0.05
Methoxychlor										<0.2			<0.2	<0.2		<0.2		<0.2
Total OC Pesticides										<0.05			<0.05	<0.05		<0.05		<0.05
OP Pesticides																		
Dichlorvos										<0.05			<0.05	<0.05		<0.05		<0.05
Dementon-S-methyl										<0.05			<0.05	<0.05		<0.05		<0.05
Monocrotophos										<0.2			<0.2	<0.2		<0.2		<0.2
Dimethoate										<0.05			<0.05	<0.05		<0.05		<0.05
Diazinon										<0.05			<0.05	<0.05		<0.05		<0.05
Chlorpyrifos-methyl										<0.05			<0.05	<0.05		<0.05		<0.05
Parathion-methyl										<0.2			<0.2	<0.2		<0.2		<0.2
Malathion										<0.05			<0.05	<0.05		<0.05		<0.05
Fenthion										<0.05			<0.05	<0.05		<0.05		<0.05
Chlorpyrifos										<0.05			<0.05	<0.05		<0.05		<0.05
Parathion										<0.05			<0.05	<0.05		<0.05		<0.05
Pirimphos-ethyl										<0.2			<0.2	<0.2		<0.2		<0.2
Phosphamidon										<0.05			<0.05	<0.05		<0.05		<0.05
Chlorfenvinphos										<0.05			<0.05	<0.05		<0.05		<0.05
Bromophos-ethyl										<0.05			<0.05	<0.05		<0.05		<0.05
Fenamiphos										<0.05			<0.05	<0.05		<0.05		<0.05
Prothiofos										<0.05			<0.05	<0.05		<0.05		<0.05
Ethion										<0.05			<0.05	<0.05		<0.05		<0.05
Carbophenothion										<0.05			<0.05	<0.05		<0.05		<0.05
Azinphos Methyl										<0.05			<0.05	<0.05		<0.05		<0.05
Total OP Pesticides										<0.05			<0.05	<0.05		<0.05		<0.05

Cronulla Park: Soil Results

Analyte (mg/kg)	Human Health Assessment Criteria	MMW07 0.0-0.1m	MMW08 0.2-0.3m	MMW09 0.0-0.1m	MMW04 0.2-0.3m	MMW05 0.2-0.3m	MMW06 0.2-0.3m	MMW01 0.2-0.3m	MMW02 0.2-0.3m	TP10 0.2-0.3m	TP2 0.2-0.3m	TP3 0.2-0.3m	TP4 0.2-0.3m	TP5 0.2-0.3m	TP6 0.2-0.3m	TP7 0.2-0.3m	TP8 0.0-1m	TP9 0.2-0.3m
TPH																		
C6 - C9 Fraction		<10			<10	<10			<10	<10	<10	<10	<10	<10		<10		<10
C10 - C14 Fraction		<50			<50	<50			<50	<50	<50	<50	<50	<50		<50		<50
C15 - C28 Fraction		<100			<100	<100			<100	<100	<100	<100	<100	<100		<100		<100
C29 - C36 Fraction		<100			<100	<100			<100	<100	<100	<100	<100	<100		<100		<100
Total C10 - C36 Fraction		<250			<250	<250			<250	<250	<250	<250	<250	<250		<250		<250
BTEX																		
Benzene		<0.2			<0.2	<0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		<0.2		<0.2
Toluene		<0.5			<0.5	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Ethylbenzene		<0.5			<0.5	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
meta- & para-Xylene		<0.5			<0.5	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
ortho-Xylene		<0.5			<0.5	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Total BTEX		<0.5			<0.5	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
PAHs																		
Naphthalene										<0.5				<0.5		<0.5		<0.5
Acenaphthylene										<0.5				<0.5		<0.5		<0.5
Acenaphthene										<0.5				<0.5		<0.5		<0.5
Fluorene										<0.5				<0.5		<0.5		<0.5
Phenanthrene										<0.5				<0.5		<0.5		<0.5
Anthracene										<0.5				<0.5		<0.5		<0.5
Fluoranthene										<0.5				<0.5		<0.5		<0.5
Pyrene										<0.5				<0.5		<0.5		<0.5
Benz(a)anthracene										<0.5				<0.5		<0.5		<0.5
Chrysene										<0.5				<0.5		<0.5		<0.5
Benzo(b)fluoranthene										<0.5				<0.5		<0.5		<0.5
Benzo(k)fluoranthene										<0.5				<0.5		<0.5		<0.5
Benzo(a)pyrene										<0.5				<0.5		<0.5		<0.5
Indeno(1,2,3-cd)pyrene										<0.5				<0.5		<0.5		<0.5
Dibenz(a,h)anthracene										<0.5				<0.5		<0.5		<0.5
Benzo(g,h,i)perylene										<0.5				<0.5		<0.5		<0.5
Sum of PAHs										<0.5				<0.5		<0.5		<0.5
Phenols																		
Phenol										<0.5				<0.5		<0.5		<0.5
2-Chlorophenol										<0.5				<0.5		<0.5		<0.5
2-Methylphenol										<0.5				<0.5		<0.5		<0.5
3- & 4-Methylphenol										<1			<1	<1		<1		<1
2-Nitrophenol										<0.5				<0.5		<0.5		<0.5
2,4-Dimethylphenol										<0.5				<0.5		<0.5		<0.5
2,4-Dichlorophenol										<0.5				<0.5		<0.5		<0.5
2,6-Dichlorophenol										<0.5				<0.5		<0.5		<0.5
4-Chloro-3-methylphenol										<0.5				<0.5		<0.5		<0.5
2,4,6-Trichlorophenol										<0.5				<0.5		<0.5		<0.5
2,4,5-Trichlorophenol										<0.5				<0.5		<0.5		<0.5
Pentachlorophenol										<2			<2	<2		<2		<2
PCBs																		
Total Polychlorinated biphenyls										<0.10			<0.10	<0.10		<0.10		<0.10



D.2 Groundwater Data

D.2.1 Historical Data

RTI DL RELEASE - EHP

Analyte	Environmental Assessment Criteria	Human Health Assessment Criteria	26-Jul-00	27-Oct-00	22-Jan-01	06-Jul-01	17-Apr-02	22-Jan-02	18-Oct-02	24-Jan-03	16-Apr-03	29-Jul-03	24-Oct-03	23-Jan-04	16-Apr-04	29-Jul-04	03-Nov-04	04-Feb-05	28-Apr-05	28-Jul-05	27-Oct-05	03-Feb-06	03-May-06	26-Jul-06	24-Oct-06	30-Jan-07	24-Apr-07	24-Jul-07	23-Oct-07	11-Feb-08	01-May-08	01-Aug-08	
pH (pH units)	6.5-8.0		5.44	5.94	5.58	5.12	5.51	6.21	5.21	5.52	5.68	5.78	5.63	5.56	5.5	5.61	5.65	5.34	5.11	4.82	5.56	5.33	5.22	5.44	5.65	5.4	5.45	5.35	5.5	5.45	5.03	5.36	
EC (µS/cm)	2200								829	713	822	786	737	771	763	610	684	716	610	644	760	562	593	720	701	616	651	780	778	720	684	699	
Inorganic (mg/l)																																	
Calcium									2	2	2	2	1	2	1	2.2	1.8	7.4	3.2	4.3	3.1	4	3.1	2.4	3.6	3.8	4	1.3	0.9	1.2	1.4	6.1	
Sodium			102	125	106	106	95	94	77	53	91	80	84	90	85	68	61	90	82	84	105	90	73	82	85	93	72	84	88	75	80	80	
Potassium			10	19	13	10	9	10	7	7	7	8	7	6	7	7.6	7.3	5.5	4.6	5.7	5.8	5	3	4.7	3.9	4.5	4.2	5.1	6.6	5.6	6.3	6.5	
Magnesium																15	19	12	0.05	11	12	11	9.6	12	12	13	12	13	12	17	15	14	
Bicarbonate			119	200	122	99	76	97	70	50	66	76	47	56	61	54	42	26.3	35.3	44	54	44.3	28.7	50	55	41	39.4	47.6	49.2	48	22	44	
Sulphate			9	8	8	9	8	9	7	9	8	8	9	10	8	13	10	9	9	8	9	8	9	7	8	8	9	8	10	10	8	13	
Chloride			189	220	160	195	225	195	193	182	217	263	164	161	70	170	170	190	160	170	210	160	150	170	160	180	160	170	175	170	165	170	
Fluoride																<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.12	<0.1		
Aluminium																0.05																	
Iron			1.14	0.04	2.95	0.89	3.07	1.99	1.8	1.54	1.23	1.11	2.36	0.01	0.01	8.3	2.5	3.5	3	0.09	<0.02	0.2	1.3	<0.02	0.32	3.2	3	<0.02	3.3	3.9	4.5	0.03	
Copper	0.0025	1	0.012	0.001	<0.001	0.001	<0.01	<0.001																									
Manganese	3.6	0.5	0.056	0.048	0.051	0.044	0.058	0.043	0.05	0.053	0.042	0.03	0.035	0.042	0.041	0.05	0.051	0.04	0.05	0.03	0.04	0.04	0.04	0.039	0.041	0.047	0.045	0.04	0.047	0.051	0.054	0.08	
Nickel	0.017	0.1	0.006	0.006	0.004	0.003	0.005	0.003																									
Lead	0.0094	0.05	0.03	0.001	0.001	<0.001	0.002	<0.001																									
Zinc	0.031	5	0.069	0.03	0.025	0.008	0.016	0.009	0.012	0.01	0.05	0.005	0.01	0.007	0.007	<0.003	0.015	0.013	<0.003	0.01	<0.003	0.01	0.009	0.016	0.012	0.013	0.008	0.005	0.008	0.015	0.022	<0.01	
Ammonia	2.3	0.5	22.5	38.3	17.6	19.7	16.7	20.5	15.2	14.5	14.2	16.3	12.3	13.6	15.8	10	9	8.9	9.9	13	13	7.5	9.6	15	6.8	7	9.4	14	12	12	6.5	12	
Nitrate	17	10000	0.01	0.02	0.02	0.02	<0.01	0.11	<0.01	0.15	<0.01	<0.01	<0.01	0.01	0.01	<0.023	0.4	1.33	0.36	0.08	0.061	1.9	0.56	<0.02	<0.02	0.04	0.05	0.04	0.02	0.002	<0.02	<0.1	
Phosphate																<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Total Organic Carbon									16	11	13	7	71	12	12	13	19	14	9	19	19	11	17	16	11	11	10	11	17	9	9	11	
Total Phosphorus																																	
Chemical Oxygen Demand	0.05		101	44	96	26	58	70																									
Biological Oxygen Demand			11	23	10	12	5	4																									
Organics (µg/l)																																	
TPH (C6-C9)			<20	<20	<20	<20	<20	<20																									
TPH (C10-C14)			179	293	<50	<50	72	141																									
TPH (C15-C28)			608	1230	<100	<100	190	394																									
TPH (C29-C36)			66	265	<50	<50	<50	102																									
TPH (C10-C36)	600	600	853	1788	<220	<220	262	637																									

Analyte	Environmental Assessment Criteria	Human Health Assessment Criteria	26-Jul-00	27-Oct-00	22-Jan-01	06-Jul-01	17-Apr-02	22-Jan-02	18-Oct-02	24-Jan-03	16-Apr-03	29-Jul-03	24-Oct-03	23-Jan-04	16-Apr-04	29-Jul-04	03-Nov-04	04-Feb-05	27-Oct-05	03-Feb-06	03-May-06	26-Jul-06	24-Oct-06	30-Jan-07	24-Apr-07	24-Jul-07	23-Oct-07	11-Feb-08	01-May-08	01-Aug-08	
pH (pH units)	6.5-8.0		4.7	5.1	4.7	3.98	4.95	4.99	4.17	4.56	6.86	4.83	4.59	4.38	4.4	3.35	3.48	5.16	5.42	4.41	4.62	4.15	4.6	4.47	4.28	4.11	4.29	4.39	3.89	4.4	
EC (µS/cm)	2200								266	234	274	231	269	289	245	211	252	299	310	236	253	280	377	352	296	291	364	475	291	403	
Organic (mg/l)																															
Calcium									<1	<1	<1	<1	<1	1	1	1.2	0.64	2.4	2.4	0.8	1.6	0.7	0.8	1.9	1.3	0.4	0.3	1.2	0.3	0.6	
Sodium									38	40	42	42	45	49	40	30	29	43	56	42	41	41	52	60	39	43	45	87	45	64	
Potassium									<1	<1	<1	<1	1	1	1	1.2	4.2	0.9	1.9	0.6	6.8	0.7	0.8	1	1	0.6	1	1.7	0.8	2.1	
Magnesium																															
Bicarbonate									<1	2	<1	11	<1	1	1	1	<1	<0.9	16	<0.8	9.8	<1	0.82	1.64	0.08	<1	1	0.082	<1		
Sulphate									2	1	2	1	1	2	1	5	<2	81	2	<2	2	<2	<2	<2	<2	<2	2	4	<2	0.2	
Chloride									65	73	69	76	136	78	74	71	72	72	82	93	73	74	73	100	120	77	76	89	180	84	120
Fluoride																	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Aluminium																0.08															
Iron								0.14	0.13	0.04	<0.01	<0.01	0.04	0.63	0.01	41	0.64	<0.002	<0.02	0.07	0.16	<0.02	0.032	0.072	0.085	<0.02	0.12	0.072	0.12	0.05	
Copper	0.0025	1	0.089	0.006	0.009	0.004	0.017	0.003	0.022	0.019	0.019	0.021	0.022	0.024	0.02	0.02	0.035	<0.003	0.21	0.03	0.04	0.024	0.026	0.027	0.022	0.029	0.038	0.057	0.025	0.03	
Manganese	3.6	0.5	0.034	0.026	0.025	0.034	0.029	0.029	0.003	0.003	0.002	0.003																			
Nickel	0.017	0.1	0.004	0.003	0.003	0.002	0.027	0.003																							
Lead	0.0094	0.05	0.017	<0.001	<0.001	<0.001	<0.001	<0.001																							
Zinc	0.031	5	0.02	0.023	0.02	0.024	0.018	0.017	0.011	0.011	0.009	0.01	0.012	0.011	0.006	<0.003	0.011	<0.003	<0.003	0.009	0.01	0.031	0.026	0.014	0.007	0.011	0.011	0.026	0.0096	<0.01	
Ammonia	2.3	0.5	0.04	0.06	0.12	0.03	0.08	0.04	0.02	0.05	0.04	0.04	<0.01	0.02	0.01	<0.1	<0.1	<0.1	<0.023	<0.02	<0.023	<0.02	<0.02	<0.02	<0.02	0.004	0.02	0.029	<0.02	<0.1	
Nitrate	17	10000	0.02	0.04	0.05	0.02	0.06	0.01	<0.01	0.03	<0.01	0.01	<0.01	0.01	0.01	<0.1	<0.1	<0.1	<0.023	<0.02	<0.023	<0.02	<0.02	<0.02	<0.02	0.004	0.02	0.029	<0.02	<0.1	
Phosphate																															
Total Organic Carbon									7	<1	4	<1	6	16	12	6	4	<0.1	32	<1	17	4	<1	3	2	<1	<1	3	<1	<1	<1
Total Phosphorus	0.05		0.89	0.65	0.54	1.02	0.28	0.36																							
Chemical Oxygen Demand			58	4	36	84	144	39																							
Biological Oxygen Demand			6	8	4	11	<2	<2																							
Organics (µg/l)																															
TPH (C6-C9)			<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
TPH (C10-C14)			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TPH (C15-C28)			<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
TPH (C29-C36)			<20	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TPH (C10-C36)	600	600	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220	<220

Analyte	Environmental Assessment Criteria		Human Health Assessment Criteria		Monitoring Results																													
	6.5-8.0	2200			5.78	5.31	5.86	17-Apr-02	22-Jan-02	18-Oct-02	24-Jan-03	16-Apr-03	29-Jul-03	24-Oct-03	23-Jan-04	16-Apr-04	29-Jul-04	03-Nov-04	04-Feb-05	28-Apr-05	28-Jul-05	27-Oct-05	03-Feb-06	03-May-06	26-Jul-06	24-Oct-06	30-Jan-07	24-Apr-07	24-Jul-07	23-Oct-07	11-Feb-08	01-May-08	01-Aug-08	
pH (pH units)					5.83	6.11	6.77	6.43	6.57	6.07	333	343	276	337	342	5.82	5.48	5.45	6.03	5.82	5.78	5.75	6.15	6.49	5.96	6.11	5.87	6.08	5.37	6.12				
EC (µS/cm)					346	282	302	245	349	333	343	276	337	342	274	285	358	376	315	357	385	378	315	357	385	378	315	261	320					
Inorganic (mg/l)																																		
Calcium					4	4	4	5	6	5	5	5	5	2.9	2.6	3.5	2.9	5.4	2	3.5	2.9	4.5	5.1	5.1	4.4	6.3	4.1	4.6	2.6	4.2				
Sodium					34	29	34	32	38	36	35	35	26	24	34	32	51	43	37	41	50	39	45	39	38	36	37	35						
Potassium					<1	<1	<1	<1	<1	1	1	0.62	1.6	0.5	0.6	0.1	0.4	0.3	<0.1	0.8	0.7	0.3	1	0.2	0.8	0.5	0.3	1.1						
Magnesium													9.7	16	6.1	10	5.3	6.5	6.7	6.3	7.5	9.4	10	9	11	11	9.5	8.4	8.7					
Bicarbonate					74	48	46	34	61	65	53	48	29	16.4	56.6	21	51	40.2	37.7	52	90	65.6	82.03	66.4	53.3	50	40	27						
Sulphate					17	12	15	14	13	15	16	14	17	14	12	13	11	13	13	9	13	15	13	12	15	12	14	10	13					
Chloride					45	49	49	93	50	43	54	53	49	59	46	51	62	55	53	53	52	50	52	48	50	62	49	55						
Fluoride													<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
Aluminium													0.2																					
Iron			19.8	1.55	12	11.2	8.39	6.77	2.69	4.94	78	13	0.03	14	14	<0.02	8.6	0.91	<0.02	8.6	<0.02	8.6	18	12	17	15	10	0.08						
Copper	0.0025	1	0.001	<0.001	<0.001	<0.001	0.039	0.046	0.039	0.043	0.042	0.03	0.029	0.038	0.038	0.042	0.03	0.047	0.03	0.05	0.03	0.022	0.045	0.045	0.045	0.047	0.034	0.029	0.025	0.08				
Manganese	3.6	0.5	0.049	0.039	0.046	0.039	0.046	0.039	0.046	0.042	0.042	0.03	0.029	0.038	0.038	0.042	0.03	0.047	0.03	0.05	0.03	0.022	0.045	0.045	0.045	0.047	0.034	0.029	0.025	0.08				
Nickel	0.017	0.1	0.002	<0.001	0.009	0.001																												
Lead	0.0084	0.05	0.002	<0.001	<0.001	<0.001																												
Zinc	0.031	5	0.007	0.002	0.007	0.009	0.007	0.007	0.009	0.013	0.013	0.003	<0.001	0.004	0.003	0.004	<0.003	0.017	0.011	<0.003	0.004	0.009	0.013	0.025	0.003	0.004	0.008	0.006	<0.01					
Ammonia	2.3	0.5	0.48	0.06	0.72	0.57	0.59	0.61	0.53	0.53	0.63	0.62	0.56	0.7	0.5	0.5	0.8	0.6	0.8	0.6	0.4	0.5	0.7	0.8	0.8	0.7	0.6	0.6	0.4	0.3				
Nitrate	17	10000	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.001	0.01	0.01	0.03	0.16	0.09	<0.023	0.04	0.027	<0.02	0.05	<0.02	0.04	0.02	0.02	<0.02	<0.02	<0.01	<0.01	<0.01	
Phosphate																																		
Total Organic Carbon																																		
Total Phosphorus																																		
Chemical Oxygen Demand	0.05		0.18	0.7	0.07	<0.01																												
Biological Oxygen Demand			104	193	104	31																												
Organics (µg/l)			4	8	<2	<2																												
TPH (C6-C9)			<20	<20	<20	<20																												
TPH (C10-C14)			89	<50	<50	<50																												
TPH (C15-C28)			165	<100	<100	<100																												
TPH (C29-C36)			99	<50	<50	<50																												
TPH (C10-C36)	600	600	353	<220	<220	55																												



D.2.2 2009 Investigation Data

RTI DL RELEASE - EHP

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Groundwater Beneath Former Landfill													
			Cross-gradient MW02							Downgradient						
			18/5/09	2/6/09	17/9/09	7/10/09	18/5/09	18/5/09	18/5/09	2/6/09	17/9/09	7/10/09	19/5/09	2/6/09	17/9/09	7/10/09
R																
Groundwater Level (m AHD)																
IC																
Chemical Parameters (In situ)																
Dissolved Oxygen (mg/L)			5.5	3.96	1.13	5.79	1.27			3.52	1.09	2.34	4.97	4.11	1.42	3.79
Total Dissolved Solids (ppK)			4.87	4.04	2.92	4.34	2.22			1.86	1.36	1.83	0.581	0.332	2.42	0.492
pH			4.09	3.65	3.71	3.86	6.27			6	5.87	6.41	5.12	4.44	3.75	4.29
Reduction Potential (eH)			279	380	416	458	-44			-20	-9	-30	124	242	267	275
Temperature (°C)			23.7	22.4	23.2	22.4	19.5			20.9	24.1	22.7	20.2	20.7	20.4	22.1
Ammonia (mg/)																
Ammonia as N	2.3	0.5	0.12	0.02			18.8			50.4			0.58	0.5		
Dissolved Metals (mg/)																
Arsenic	0.36	0.05	<0.001	0.001	<0.001		0.008	0.009		0.025	0.013		<0.001	0.001	<0.001	
Cadmium	0.0008	0.005	0.0006	0.0006	0.0003		<0.0001	<0.0001		<0.0001	0.0002		<0.0001	0.0001	0.0002	
Chromium*	0.04	0.05	0.009	0.004	0.001		0.001	<0.001		<0.001	0.001		<0.001	<0.001	0.001	
Copper	0.0025	1	0.018	0.017	0.003		<0.001	<0.001		<0.001	0.003		0.001	0.001	0.006	
Lead	0.0094	0.05	0.032	0.043	0.001		<0.001	<0.001		<0.001	<0.001		0.001	0.001	0.003	
Nickel	0.017	0.1	0.1	0.098	0.002		0.016	0.019		0.013	0.008		0.003	0.002	<0.001	
Zinc	0.031	5	0.359	0.349	0.06		0.029	0.028		0.038	0.026		0.038	0.042	0.021	
Mercury	0.0054		<0.0001	<0.0001	<0.0001		<0.0001	<0.0001		<0.001	<0.0001		<0.0001	<0.0001	<0.0001	

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Groundwater Within Former Landfill																	
			Cross-gradient								Downgradient									
			MW03				MW04				MW08				MW05				MW07	
18/5/09	2/6/09	17/9/09	7/10/09	18/5/09	2/6/09	17/9/09	7/10/09	19/5/09	2/6/09	17/9/09	7/10/09	19/5/09	2/6/09	17/9/09	7/10/09	18/5/09	2/6/09	17/9/09	7/10/09	
R																				
Groundwater Level (m AHD)																				
IC																				
Physical & Chemical Parameters (In situ)																				
	7.06	6.27	3.16	5.8																
	0.46	0.444	0.385	0.385			0.84					3.82	1.21	0.13		1.25	0.81		0.06	1.89
							1.51					1.92	2.23	2.2		1.1	1.77		3.12	1.54
							7.12					6.99	6.73	7.73		6.8	6.85		7.38	7.16
pH																				
Reduction Potential (eH)																				
Temperature (°C)																				
Ammonia (mg /)																				
Ammonia as N	2.3	0.5	0.52	<0.01				228	37.9			27	92.6			120	87.2		43.4	119
Dissolved Metals (mg/)																				
Arsenic	0.36	0.05	<0.001	<0.001	0.001		0.003	0.005	0.007		<0.001	0.018	0.012		0.003	0.005	0.006	0.002	0.008	
Cadmium	0.0008	0.005	<0.0001	0.0001	0.0007		<0.0001	0.0001	0.0004		<0.0001	<0.0001	0.0003		<0.0001	0.0003	<0.0001	<0.0001	0.0006	
Chromium*	0.04	0.05	<0.001	<0.001	0.012		<0.001	<0.001	0.003		<0.001	0.004	0.009		0.003	0.006	0.019	0.006	<0.001	0.018
Copper	0.0025	1	<0.001	<0.001	0.02		<0.001	<0.001	0.004		<0.001	<0.001	0.011		<0.001	0.001	0.004	<0.001	<0.001	0.009
Lead	0.0094	0.05	<0.001	<0.001	0.048		<0.001	<0.001	<0.001		<0.001	<0.001	<0.001		<0.001	0.002	0.001	<0.001	<0.001	0.001
Nickel	0.017	0.1	0.004	0.004	0.124		0.013	0.003	0.009		0.003	0.017	0.023		0.013	0.122	0.012	0.039	0.019	0.046
Zinc	0.031	5	0.33	0.035	0.463		<0.005	0.009	0.013		<0.005	0.012	0.034		<0.005	0.043	0.018	<0.005	0.01	0.016
Mercury	0.0054		<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Offsite Wells																							
			Upgradient						Cross-gradient						Downgradient											
			MW01						CR14						CR15						CR13					
			18/5/09	2/6/09	17/9/09	7/10/09	26/2/09	19/5/09	2/6/09	17/9/09	7/10/09	26/2/09	19/5/09	2/6/09	17/9/09	7/10/09	26/2/09	19/5/09	2/6/09	17/9/09	7/10/09					
R																										
Groundwater Level (m AHD)																										
Iron																										
Pesticide Parameters (in situ)																										
Dissolved Oxygen (mg/L)																										
Total Dissolved Solids (ppb)																										
pH																										
Reduction Potential (eH)																										
Temperature (°C)																										
Ammonia (mg/L)																										
Ammonia as Nitrogen (mg/L)	2.3	0.5	0.06	0.03				0.14										9.79								
Asbestos	0.36	0.05	<0.001	0.002	<0.001			<0.001	0.002	<0.001																
Cadmium	0.0008	0.005	<0.0001	0.0003	0.0002			0.0001	0.0003	<0.0001								<0.0001	<0.0001	0.0004						
Chromium	0.04	0.05	0.01	0.018	0.021			<0.001	0.001	<0.001								<0.001	<0.001							
Copper	0.0025	1	0.021	0.028	0.014			0.005	0.006	0.002	0.006							<0.001	<0.001	0.007						
Lead	0.0094	0.05	0.026	0.064	0.115			0.001	0.006	<0.001	<0.001							<0.001	<0.001							
Nickel	0.017	0.1	0.032	0.038	0.028			0.004	0.006	0.002	0.002							0.001	0.001	0.001						
Zinc	0.031	5	0.1	0.154	0.072			0.105	0.079	0.015	0.015							0.042	0.025	0.025						
Mercury	0.0054		<0.0001	<0.0001	<0.0001			<0.0001	<0.0001	<0.0001	<0.0001							<0.0001	<0.0001	<0.0001						

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Drain			
			Downgradient			
			26/2/09	2/6/09	9/6/09	17/9/09 7/10/09
R						
Groundwater Level (m AHD)						
LIORIC						
Physicochemical Parameters (In situ)						
Dissolved Oxygen (mg/L)				6.11		3.95 6.58
Total Dissolved Solids (ppK)				0.21	0.306	0.208
pH				7.25	7.03	7.5
Reduction Potential (eH)				68	-16	54
Temperature (°C)				19.4	23.9	25.7
Ammonia (mg/)						
Ammonia as N	2.3	0.5		4.21		
Dissolved Metals (mg/)						
Arsenic	0.36	0.05	<0.001	0.001	0.001	<0.001
Cadmium	0.0008	0.005	<0.0001	<0.0001	0.0003	0.0011
Chromium*	0.04	0.05	<0.001	<0.001	0.007	0.002
Copper	0.0025	1	0.002	0.003	0.002	0.02
Lead	0.0094	0.05	<0.001	<0.001	0.001	0.013
Nickel	0.017	0.1	0.001	0.001	0.005	0.002
Zinc	0.031	5	0.098	0.173	0.097	0.09
Mercury	0.0054		<0.0001	<0.0001	<0.0001	<0.0001

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Groundwater Beneath Former Landfill													
			Cross-gradient							Downgradient						
			MW02							MW06						
			18/5/09	2/6/09	17/9/09	7/10/09	18/5/09	18/5/09	2/6/09	17/9/09	7/10/09	19/5/09	2/6/09	17/9/09	7/10/09	
OR IC																
P (µg/)																
C6 - C9 Fraction			<20	<20	<20	<20	50	40	40.0	30	30	<20	<20	<20	<20	
C10 - C14 Fraction			<50	<50	<50	<50	840	500		50	350	<50	<50	60	60	
C15 - C28 Fraction			<100	<100	<100	<100	2500	1200		180	960	100	<100	100	180	
C29 - C36 Fraction			<50	<50	<50	<50	710	210		<50	220	<50	<50	<50	60	
Total C10 - C36 Fraction			<50	<50	<50	<50	4050	1910		230	1530	100	<50	160	300	
P ilica el Clean (µg/)																
C10 - C14 Fraction						<50					<50				<50	
C15 - C28 Fraction						<100					<100				<100	
C29 - C36 Fraction						<50					<50				<50	
Total C10 - C36 Fraction (sum)	600	600				<50					<50				<50	
P li atic/ romatic (µg/)																
Aliphatic C10-C14										<50						
Aliphatic C15-C28										<100						
Aliphatic C29-C36										<50						
Total C10 - C36 Aliphatic										<50						
Aromatic C10-C14										<50						
Aromatic C15-C28										<100						
Aromatic C29-C36										<50						
Total C10 - C36 Aromatic										<50						
Total C10 - C36 Aliphatic/Aromatic	600	600								<50						
(µg/)																
Benzene	2000	10	<1	<1	<1	<1	2	2			10	<1		<1	<1	
Toluene	180	1000	<2	<2	<2	<2	10	8			30	<2		<2	<2	
Ethylbenzene	80	150	<2	<2	<2	<2	<2	<2			<2	<2		<2	<2	
meta- & para-Xylene	340	200	<2	<2	<2	<2	2	2			<2	<2		<2	<2	
ortho-Xylene	640	1400	<2	<2	<2	<2	<2	<2			<2	<2		<2	<2	

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Groundwater Within Former Landfill															
			Cross-gradient								Downgradient							
			MW03				MW04				MW08				MW05			
			18/5/09	2/6/09	17/9/09	7/10/09	18/5/09	2/6/09	17/9/09	7/10/09	19/5/09	2/6/09	17/9/09	7/10/09	18/5/09	2/6/09	17/9/09	7/10/09
OR IC																		
P (µg/l)																		
C6 - C9 Fraction			<20	<20	<20	<20	40	30	30	50	50	40	30	50	50	30	50	50
C10 - C14 Fraction			<50	<50	<50	70	280	90	400	410	230	310	580	370	590	140	800	590
C15 - C28 Fraction			<100	<100	<100	120	800	<100	850	880	700	700	1700	1190	1900	300	1480	1300
C29 - C36 Fraction			<50	<50	<50	60	370	<50	170	290	280	240	710	410	680	<50	170	270
Total C10 - C36 Fraction			<50	<50	<50	250	1450	90	1420	1580	1210	1250	2990	1970	3170	440	2450	2160
P ilica el Clean (µg/l)																		
C10 - C14 Fraction						<50				<50				<50				<50
C15 - C28 Fraction						<100				<100				<100				<100
C29 - C36 Fraction						<50				<50				<50				<50
Total C10 - C36 Fraction (sum)	600	600				<50				<50				<50				<50
P li atic/ romatic (µg/l)																		
Aliphatic C10-C14								<50	<50							<50	<50	
Aliphatic C15-C28								<100	<100							<100	<100	
Aliphatic C29-C36								<50	<50							<50	<50	
Total C10 - C36 Aliphatic								<50	<50							<50	<50	
Aromatic C10-C14								70	60							70	90	
Aromatic C15-C28								<100	<100							<100	<100	
Aromatic C29-C36								<50	<50							<50	<50	
Total C10 - C36 Aromatic								70	60							70	90	
Total C10 - C36 Aliphatic/Aromatic (µg/l)	600	600						70	60							70	90	
Benzene	2000	10	<1			<1	6			6	2			2	3			4
Toluene	180	1000	<2	<2	<2	<2	<2			<2	<2			<2	<2			<2
Ethylbenzene	80	150	<2			<2	<2			<2	11			8	4			3
meta- & para-Xylene	340	200	<2			<2	3			4	10			8	4			3
ortho-Xylene	640	1400	<2			<2	<2			<2	4			2	<2			<2

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Offsite Wells															
			Upgradient						Cross-gradient						Downgradient			
			MW01			CR14			CR15			CR13						
			18/5/09	2/6/09	17/9/09	7/10/09	26/2/09	19/5/09	2/6/09	17/9/09	7/10/09	26/2/09	19/5/09	2/6/09	17/9/09	7/10/09		
OR IC																		
P (µg/ l)																		
C6 - C9 Fraction			<20	<20	<20				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C10 - C14 Fraction			<50	<50	60	50			<50	<50	<50	<50	<50	60	<50	<50	70	110
C15 - C28 Fraction			<100	<100	130	400			200	<100	<100	<100	<100	300	200	400	500	330
C29 - C36 Fraction			<50	<50	60	240			120	<50	<50	<50	<50	60	<50	110	530	80
Total C10 - C36 Fraction			<50	<50	250	690			320	<50	<50	<50	<50	260	200	510	11	520
P ilica el Clean (µg/ l)																		
C10 - C14 Fraction					50							<50		<50				<50
C15 - C28 Fraction					<100						<100	<100		<100				<100
C29 - C36 Fraction					<50						<50	<50		<50				<50
Total C10 - C36 Fraction (sum)	600	600									<50	<50		<50				
P li atic/ romatic (µg/ l)																		
Aliphatic C10-C14																		
Aliphatic C15-C28																		
Aliphatic C29-C36																		
Total C10 - C36 Aliphatic																		
Aromatic C10-C14																		
Aromatic C15-C28																		
Aromatic C29-C36																		
Total C10 - C36 Aromatic																		
Total C10 - C36 Aliphatic/Aromatic	600	600																
(µg/ l)																		
Benzene	2000	10	<1	<1	<1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	180	1000	<2	<2	<2				<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Ethylbenzene	80	150	<2	<2	<2				<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
meta- & para-Xylene	340	200	<2	<2	<2				<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
ortho-Xylene	640	1400	<2	<2	<2				<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Drain				
			Downgradient				
			26/2/09	2/6/09	9/6/09	17/9/09	7/10/09
OR IC							
P (µg/)							
C6 - C9 Fraction			<20	<20	<20	<20	<20
C10 - C14 Fraction			<50	<50	<50	<50	80
C15 - C28 Fraction			<100	<100	200	200	350
C29 - C36 Fraction			<50	<50	100	80	130
Total C10 - C36 Fraction			<50	<50	300		
P ilica el Clean (µg/)							
C10 - C14 Fraction							<50
C15 - C28 Fraction							<100
C29 - C36 Fraction							<50
Total C10 - C36 Fraction (sum)	600	600					<50
P li atic/ romatic (µg/)							
Aliphatic C10-C14							
Aliphatic C15-C28							
Aliphatic C29-C36							
Total C10 - C36 Aliphatic							
Aromatic C10-C14							
Aromatic C15-C28							
Aromatic C29-C36							
Total C10 - C36 Aromatic							
Total C10 - C36 Aliphatic/Aromatic	600	600					
(µg/)							
Benzene	2000	10			<1		<1
Toluene	180	1000			<2		<2
Ethylbenzene	80	150			<2		<2
meta- & para-Xylene	340	200			<2		<2
ortho-Xylene	640	1400			<2		<2

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Groundwater Beneath Former Landfill													
			Cross-gradient MW02				Downgradient									
			18/5/09	2/6/09	17/9/09	7/10/09	18/5/09	2/6/09	18/5/09	2/6/09	17/9/09	7/10/09	19/5/09	2/6/09	17/9/09	7/10/09
OCs																
Monocyclic aromatic hydrocarbons (µg/l)																
Styrene																
Benzene	2000	10														
Toluene	180	1000														
Ethylbenzene	80	150														
meta- & para-Xylene	340	200														
ortho-Xylene	640	1400														
* Isopropylbenzene	30	150														
* n-Propylbenzene	128															
* 1,3,5-Trimethylbenzene																
* 1,2,4-Trimethylbenzene	33															
sec-Butylbenzene																
tert-butylbenzene																
n-Butylbenzene																
p-Isopropyltoluene	85															
Octanone																
Vinyl Acetate																
2-Butanone (MEK)																
4-Methyl-2-pentanone (MIBK)																
2-Hexanone																
Diethylhexylphthalate																
Carbon disulphide																
Chlorinated hydrocarbons (µg/l)																
2,2-Dichloropropane																
1,2-Dichloropropane																
cis-1,3-Dichloropropylene																
trans-1,3-Dichloropropylene																
1,2-Dibromoethane (EDB)																

Parameter			Environmental Assessment Criteria	Human Health Assessment Criteria	Groundwater Within Former Landfill																			
					Cross-gradient							Downgradient												
					MW03			MW04				MW08				MW05			MW07					
					18/5/09	2/6/09	17/9/09	7/10/09	18/5/09	2/6/09	17/9/09	7/10/09	19/5/09	2/6/09	17/9/09	7/10/09	19/5/09	2/6/09	17/9/09	7/10/09	18/5/09	2/6/09	17/9/09	7/10/09
OCs																								
Monocyclic aromatic hydrocarbons (µg/l)																								
Styrene					<5	<5	<5		<5	<5			<5	<5	<5					<5	<5			
Benzene					<5	<5	<2		5	<5	4		<5	<5	<2				2	<5	<5	5		
Toluene					<5	<5	<2		<5	<5	<2		<5	<5	<2				10	<5	<5	<2		
Ethylbenzene					<5	<5	<2		<5	<5	<2		10	8	3				<5	<5	<5	5		
meta- & para-Xylene					<5	<5	<2		<5	<5	<4		9	9	5				<5	<5	<5	6		
ortho-Xylene					<5	<5	<2		<5	<5	<2		<5	<5	<2				<5	<5	<5	3		
* Isopropylbenzene					<5	<5			<5	5	<5		<5	<5	<5				<5	<5	<5	<5		
* n-Propylbenzene					<5	<5	<5		6	8	7		<5	<5	<5				<5	<5	<5	<5		
* 1,3,5-Trimethylbenzene					<5	<5	<5		<5	<5	<5		<5	<5	<5				<5	<5	<5	<5		
* 1,2,4-Trimethylbenzene					<5	<5	<5		<5	<5	<5		24	17	7				<5	<5	<5	5		
sec-Butylbenzene					<5	<5	<5		<5	<5	<5		<5	<5	<5				<5	<5	<5	<5		
tert-butylbenzene					<5	<5	<5		<5	<5	<5		<5	<5	<5				<5	<5	<5	<5		
n-Butylbenzene					<5	<5	<5		<5	<5	<5		<5	<5	<5				<5	<5	<5	<5		
p-Isopropyltoluene					<5	<5	<5		<5	<5	<5		19	29	16				<5	<5	<5	<5		
Octanate Compounds (µg/l)																								
Vinyl Acetate					<50	<50	<50		<50	<50	<50		<50	<50	<50				<50	<50	<50	<50		
2-Butanone (MEK)					<50	<50	<50		<50	<50	<50		<50	<50	<50				<50	<50	<50	<50		
4-Methyl-2-pentanone (MIBK)					<50	<50	<50		<50	<50	<50		<50	<50	<50				<50	<50	<50	<50		
2-Hexanone					<50	<50	<50		<50	<50	<50		<50	<50	<50				<50	<50	<50	<50		
Polycyclic aromatic hydrocarbons (µg/l)																								
Carbon disulphide					<5	<5	<5		<5	<5	<5		<5	<5	<5				<5	<5	<5	<5		
Organic solvents (µg/l)																								
2,2-Dichloropropane					<5	<5	<5		<5	<5	<5		<5	<5	<5				<5	<5	<5	<5		
1,2-Dichloropropane					<5	<5	<5		<5	<5	<5		<5	<5	<5				<5	<5	<5	<5		
cis-1,3-Dichloropropylene					<5	<5	<5		<5	<5	<5		<5	<5	<5				<5	<5	<5	<5		
trans-1,3-Dichloropropylene					<5	<5	<5		<5	<5	<5		<5	<5	<5				<5	<5	<5	<5		
1,2-Dibromoethane (EDB)					<5	<5	<5		<5	<5	<5		<5	<5	<5				<5	<5	<5	<5		

Offsite Wells																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Upgradient															Cross-gradient					Downgradient																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
			MW01					CR14					CR15					CR13																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
			18/5/09	2/6/09	17/9/09	7/10/09	26/2/09	19/5/09	2/6/09	17/9/09	7/10/09	26/2/09	19/5/09	2/6/09	17/9/09	7/10/09	26/2/09	19/5/09	2/6/09	17/9/09	7/10/09																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
OCs																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	</

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Drain				
			Downgradient				
			26/2/09	2/6/09	9/6/09	17/9/09	7/10/09
OCs							
Monocyclic aromatic hydrocarbons ($\mu\text{g/l}$)							
Styrene			<5	<5	<5	<5	
Benzene	2000	10	<5	<5	<5	<5	<2
Toluene	180	1000	<5	<5	<5	<5	<2
Ethylbenzene	80	150	<5	<5	<5	<5	<2
meta- & para-Xylene	340	200	<5	<5	<5	<5	<4
ortho-Xylene	640	1400	<5	<5	<5	<5	<2
* Isopropylbenzene	30		<5	<5	<5	<5	<5
* n-Propylbenzene	128	150	<5	<5	<5	<5	<5
* 1,3,5-Trimethylbenzene			<5	<5	<5	<5	<5
* 1,2,4-Trimethylbenzene	33		<5	<5	<5	<5	<5
sec-Butylbenzene			<5	<5	<5	<5	<5
tert-butylbenzene			<5	<5	<5	<5	<5
n-Butylbenzene			<5	<5	<5	<5	<5
p-Isopropyltoluene	85		<5	<5	<5	<5	<5
Octanate Compounds ($\mu\text{g/l}$)							
Vinyl Acetate			<50	<50	<50	<50	<50
2-Butanone (MEK)			<50	<50	<50	<50	<50
4-Methyl-2-pentanone (MIBK)			<50	<50	<50	<50	<50
2-Hexanone			<50	<50	<50	<50	<50
Polycyclic aromatic hydrocarbons ($\mu\text{g/l}$)							
Carbon disulphide			<5	<5	<5	<5	<5
Chlorinated hydrocarbons ($\mu\text{g/l}$)							
2,2-Dichloropropane			<5	<5	<5	<5	<5
1,2-Dichloropropane			<5	<5	<5	<5	<5
cis-1,3-Dichloropropylene			<5	<5	<5	<5	<5
trans-1,3-Dichloropropylene			<5	<5	<5	<5	<5
1,2-Dibromomethane (EDB)			<5	<5	<5	<5	<5

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Groundwater Beneath Former Landfill													
			Cross-gradient MW02							Downgradient						
			18/5/09	2/6/09	17/9/09	7/10/09	18/5/09	18/5/09	2/6/09	17/9/09	7/10/09	19/5/09	2/6/09	17/9/09	7/10/09	
alogenate li atic Com ou n s (ug /)	390	390					<50	<50	<50	<50	<50	<50	<50	<50	<50	
Dichlorodifluoromethane							<50	<50	<50	<50	<50	<50	<50	<50	<50	
Chloromethane							<50	<50	<50	<50	<50	<50	<50	<50	<50	
Vinyl chloride							<50	<50	<50	<50	<50	<50	<50	<50	<50	
Bromomethane							<50	<50	<50	<50	<50	<50	<50	<50	<50	
Chloroethane							<50	<50	<50	<50	<50	<50	<50	<50	<50	
Trichlorofluoromethane							<50	<50	<50	<50	<50	<50	<50	<50	<50	
1,1-Dichloroethene							<5	<5	<5	<5	<5	<5	<5	<5	<5	
Iodomethane							<5	<5	<5	<5	<5	<5	<5	<5	<5	
trans-1,2-Dichloroethene							<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,1-Dichloroethane							<5	<5	<5	<5	<5	<5	<5	<5	<5	
cis-1,2-Dichloroethene							<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,1,1-Trichloroethane							<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,1-Dichloropropylene							<5	<5	<5	<5	<5	<5	<5	<5	<5	
Carbon Tetrachloride							<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,2-Dichloroethane							<5	<5	<5	<5	<5	<5	<5	<5	<5	
Trichloroethene							<5	<5	<5	<5	<5	<5	<5	<5	<5	
Dibromomethane							<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,1,2-Trichloroethane							<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,3-Dichloropropane							<5	<5	<5	<5	<5	<5	<5	<5	<5	
Tetrachloroethene							<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,1,1,2-Tetrachloroethane							<5	<5	<5	<5	<5	<5	<5	<5	<5	
trans-1,4-Dichloro-2-butene							<5	<5	<5	<5	<5	<5	<5	<5	<5	
cis-1,4-Dichloro-2-butene							<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,1,2,2 Tetrachloroethane							<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,2,3-Trichloropropane							<5	<5	<5	<5	<5	<5	<5	<5	<5	
Pentachloroethane							<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,2-Dibromo-3-chloropropane							<5	<5	<5	<5	<5	<5	<5	<5	<5	
Hexachlorobutadiene							<5	<5	<5	<5	<5	<5	<5	<5	<5	

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Groundwater Within Former Landfill																	
			Cross-gradient						Downgradient											
			MW03			MW04			MW08			MW05			MW07					
18/5/09	2/6/09	17/9/09	7/10/09	18/5/09	2/6/09	17/9/09	7/10/09	19/5/09	2/6/09	17/9/09	7/10/09	19/5/09	2/6/09	17/9/09	7/10/09	18/5/09	2/6/09	17/9/09	7/10/09	
alogenate li atic Com ou n s (µg/)	390	390	<50	<50	<50	60	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Dichlorodifluoromethane			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Chloromethane			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Vinyl chloride			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Bromomethane			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Chloroethane			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Trichlorofluoromethane			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	
1,1-Dichloroethene			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Iodomethane			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
trans-1,2-Dichloroethene			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,1-Dichloroethane			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
cis-1,2-Dichloroethene			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,1,1-Trichloroethane			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,1-Dichloropropylene			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Carbon Tetrachloride			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,2-Dichloroethane			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Trichloroethene			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Dibromomethane			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,1,2-Trichloroethane			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,3-Dichloropropane			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Tetrachloroethene			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,1,1,2-Tetrachloroethane			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
trans-1,4-Dichloro-2-butene			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
cis-1,4-Dichloro-2-butene			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,1,2,2 Tetrachloroethane			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,2,3-Trichloropropane			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Pentachloroethane			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,2-Dibromo-3-chloropropane			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Hexachlorobutadiene			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Offsite Wells																			
			Upgradient					Cross-gradient					Downgradient									
			MW01					CR14					CR15					CR13				
			18/5/09	2/6/09	17/9/09	7/10/09	26/2/09	19/5/09	2/6/09	17/9/09	7/10/09	26/2/09	19/5/09	2/6/09	17/9/09	7/10/09	26/2/09	19/5/09	2/6/09	17/9/09	7/10/09	
alogenate li atic Com oun s (µg/)	390																					
Dichlorodifluoromethane		390																				
Chloromethane																						
Vinyl chloride																						
Bromomethane																						
Chloroethane																						
Trichlorofluoromethane																						
1,1-Dichloroethene																						
Iodomethane																						
trans-1,2-Dichloroethene																						
1,1,1-Dichloroethane																						
cis-1,2-Dichloroethene																						
1,1,1-Trichloroethane																						
1,1-Dichloropropylene																						
Carbon Tetrachloride																						
1,2-Dichloroethane																						
Trichloroethene																						
Dibromomethane																						
1,1,2-Trichloroethane																						
1,3-Dichloropropane																						
Tetrachloroethene																						
1,1,1,2-Tetrachloroethane																						
trans-1,4-Dichloro-2-butene																						
cis-1,4-Dichloro-2-butene																						
1,1,2,2 Tetrachloroethane																						
1,2,3-Trichloropropane																						
Pentachloroethane																						
1,2-Dibromo-3-chloropropane																						
Hexachlorobutadiene																						

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Drain			
			Downgradient			
			26/2/09	2/6/09	9/6/09	17/9/09
alogenate li atic Com ou n s (ug/)						
Dichlorodifluoromethane	390	390	<50	<50	<50	<50
Chloromethane			<50	<50	<50	<50
Vinyl chloride			<50	<50	<50	<50
Bromomethane			<50	<50	<50	<50
Chloroethane			<50	<50	<50	<50
Trichlorofluoromethane			<50	<50	<50	<50
1,1-Dichloroethene			<5	<5	<5	<5
Iodomethane			<5	<5	<5	<5
trans-1,2-Dichloroethene			<5	<5	<5	<5
1,1-Dichloroethane			<5	<5	<5	<5
cis-1,2-Dichloroethene			<5	<5	<5	<5
1,1,1-Trichloroethane			<5	<5	<5	<5
1,1-Dichloropropylene			<5	<5	<5	<5
Carbon Tetrachloride			<5	<5	<5	<5
1,2-Dichloroethane			<5	<5	<5	<5
Trichloroethene			<5	<5	<5	<5
Dibromomethane			<5	<5	<5	<5
1,1,2-Trichloroethane			<5	<5	<5	<5
1,3-Dichloropropane			<5	<5	<5	<5
Tetrachloroethene			<5	<5	<5	<5
1,1,1,2-Tetrachloroethane			<5	<5	<5	<5
trans-1,4-Dichloro-2-butene			<5	<5	<5	<5
cis-1,4-Dichloro-2-butene			<5	<5	<5	<5
1,1,2,2 Tetrachloroethane			<5	<5	<5	<5
1,2,3-Trichloropropane			<5	<5	<5	<5
Pentachloroethane			<5	<5	<5	<5
1,2-Dibromo-3-chloropropane			<5	<5	<5	<5
Hexachlorobutadiene			<5	<5	<5	<5

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Groundwater Beneath Former Landfill													
			Cross-gradient							Downgradient						
			MW02							MW06						
			18/5/09	2/6/09	17/9/09	7/10/09	18/5/09	18/5/09	2/6/09	17/9/09	7/10/09	19/5/09	2/6/09	17/9/09	7/10/09	
Chlorobenzene	55	300					7		<5	<5		<5	<5			
Bromobenzene							<5		<5	<5		<5	<5			
2-Chlorotoluene							<5		<5	<5		<5	<5			
4-Chlorotoluene							<5		<5	<5		<5	<5			
1,3-Dichlorobenzene	520						<5		<5	<5		<5	<5			
1,4-Dichlorobenzene	60	40					11		9	<5		<5	<5			
1,2-Dichlorobenzene	160	1500					<5		<5	<5		<5	<5			
1,2,4-Trichlorobenzene	300						<5		<5	<5		<5	<5			
1,2,3-Trichlorobenzene	30						<5		<5	<5		<5	<5			
Tri-chloroethanes (µg/)																
Chloroform							<5		<5	<5		<5	<5			
Bromodichloromethane							<5		<5	<5		<5	<5			
Dibromochloromethane							<5		<5	<5		<5	<5			
Bromoform							<5		<5	<5		<5	<5			
o-chlorophenol (µg/)																
Naphthalene	85	70					12		20			<7	<7			

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Groundwater Within Former Landfill															
			Cross-gradient								Downgradient							
			MW03				MW04				MW08				MW05			
			18/5/09	2/6/09	17/9/09	7/10/09	18/5/09	2/6/09	17/9/09	7/10/09	19/5/09	2/6/09	17/9/09	7/10/09	19/5/09	2/6/09	17/9/09	7/10/09
Chlorobenzene	55	300	<5	<5	<5		8	6	6		<5	<5	<5		26	14	24	
Bromobenzene			<5	<5	<5		<5	<5	<5		<5	<5	<5		<5	<5	<5	
2-Chlorotoluene			<5	<5	<5		<5	<5	<5		<5	<5	<5		<5	<5	<5	
4-Chlorotoluene			<5	<5	<5		<5	<5	<5		<5	<5	<5		<5	<5	<5	
1,3-Dichlorobenzene	520		<5	<5	<5		<5	<5	<5		<5	<5	<5		<5	<5	<5	
1,4-Dichlorobenzene	60	40	<5	<5	<5		6	<5	<5		<5	<5	<5		28	47	<5	
1,2-Dichlorobenzene	160	1500	<5	<5	<5		<5	<5	<5		<5	<5	<5		5	8	<5	
1,2,4-Trichlorobenzene	300		<5	<5	<5		<5	<5	<5		<5	<5	<5		<5	<5	<5	
1,2,3-Trichlorobenzene	30		<5	<5	<5		<5	<5	<5		<5	<5	<5		<5	<5	<5	
Trihalomethanes (µg/l)																		
Chloroform			<5	<5	<5		<5	<5	<5		<5	<5	<5		<5	<5	<5	
Bromodichloromethane			<5	<5	<5		<5	<5	<5		<5	<5	<5		<5	<5	<5	
Dibromochloromethane			<5	<5	<5		<5	<5	<5		<5	<5	<5		<5	<5	<5	
Bromoform			<5	<5	<5		<5	<5	<5		<5	<5	<5		<5	<5	<5	
o-chlorophenol (µg/l)																		
Naphthalene	85	70	<7	<7			20	17			<7	<7			14	20		

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Offsite Wells													
			Upgradient						Cross-gradient						Downgradient	
			MW01			CR14			CR15							
			18/5/09	2/6/09	17/9/09	7/10/09	26/2/09	19/5/09	2/6/09	17/9/09	7/10/09	26/2/09	19/5/09	2/6/09	17/9/09	7/10/09
alogenate romatic Com oun s (µg/)																
Chlorobenzene	55	300					<5	<5					<5		<5	<5
Bromobenzene							<5	<5					<5		<5	<5
2-Chlorotoluene							<5	<5					<5		<5	<5
4-Chlorotoluene							<5	<5					<5		<5	<5
1,3-Dichlorobenzene	520						<5	<5					<5		<5	<5
1,4-Dichlorobenzene	60	40					<5	<5					<5		<5	<5
1,2-Dichlorobenzene	160	1500					<5	<5					<5		<5	<5
1,2,4-Trichlorobenzene	300						<5	<5					<5		<5	<5
1,2,3-Trichlorobenzene	30						<5	<5					<5		<5	<5
ri alomet anes (µg/)																
Chloroform							<5	<5					<5		<5	<5
Bromodichloromethane							<5	<5					<5		<5	<5
Dibromochloromethane							<5	<5					<5		<5	<5
Bromoform							<5	<5					<5		<5	<5
a t alene (µg/)																
Naphthalene	85	70					<7	<7					<7		<7	

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Drain			
			Downgradient			
			26/2/09	2/6/09	9/6/09	17/9/09 7/10/09
Chlorobenzene	55	300	<5	<5	<5	<5
Bromobenzene			<5	<5	<5	<5
2-Chlorotoluene			<5	<5	<5	<5
4-Chlorotoluene			<5	<5	<5	<5
1,3-Dichlorobenzene	520		<5	<5	<5	<5
1,4-Dichlorobenzene	60	40	<5	<5	<5	<5
1,2-Dichlorobenzene	160	1500	<5	<5	<5	<5
1,2,4-Trichlorobenzene	300		<5	<5	<5	<5
1,2,3-Trichlorobenzene	30		<5	<5	<5	<5
Tri-chloroethanes (µg/l)						
Chloroform			<5	<5	<5	<5
Bromodichloromethane			<5	<5	<5	<5
Dibromochloromethane			<5	<5	<5	<5
Bromoform			<5	<5	<5	<5
o-chlorophenol (µg/l)						
Naphthalene	85	70	<7	<7	<7	

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Groundwater Beneath Former Landfill											
			Cross-gradient						Downgradient					
			MW02						MW06					
18/5/09	2/6/09	17/9/09	7/10/09	18/5/09	2/6/09	17/9/09	7/10/09	19/5/09	2/6/09	17/9/09	7/10/09	17/9/09	7/10/09	
OCs														
P s (µg/)														
Naphthalene	85	70					7.5		8.1	2.6			<1	<1.0
2-Methylnaphthalene										<1.0				
Acenaphthylene							<1		<1.0	<1.0			<1	<1.0
Acenaphthene							<1		<1.0	<1.0			<1	<1.0
Fluorene							<1		<1.0	<1.0			<1	<1.0
Phenanthrene	2						1.8		1.3	<1.0			<1	<1.0
Anthracene							<1		<1.0	<1.0			<1	<1.0
Fluoranthene							<1		<1.0	<1.0			<1	<1.0
Pyrene							<1		<1.0	<1.0			<1	<1.0
Benzt(a)anthracene							<1		<1.0	<1.0			<1	<1.0
Chrysene							<1		<1.0	<1.0			<1	<1.0
Benzo(b)fluoranthene							<1		<1.0	<1.0			<1	<1.0
Benzo(k)fluoranthene							<1		<1.0	<1.0			<1	<1.0
Benzo(a)pyrene							<0.5		<0.5	<0.5			<0.5	<0.5
Indeno(1,2,3-cd)pyrene							<1		<1.0	<1.0			<1	<1.0
Dibenz(a,h)anthracene							<1		<1.0	<1.0			<1	<1.0
Benzo(g,h,i)perylene							<1		<1.0	<1.0			<1	<1.0
Sum of PAHs							9.3		9.4	2.6			<1	<1
P enols (µg/)														
Phenol	1200						<1		<1.0	<1.0			<1	<1.0
2-Chlorophenol	870						<1		<1.0	<1.0			<1	<1.0
2-Methylphenol	13						1.8		2	<1.0			<1	<1.0
3- & 4-Methylphenol	543						<2		<2.0	<2.0			<2	<2.0
Cresols (sum of methylphenols)		200					1.8		2	<1.0			<1	<1.0
2-Nitrophenol							<1		<1.0	<1.0			<1	<1.0
2,4-Dimethylphenol	2	730					<1		1.2	<1.0			<1	<1.0
2,4-Dichlorophenol	120	200					<1		<1.0	<1.0			<1	<1.0
2,6-Dichlorophenol							<1		<1.0	<1.0			<1	<1.0
4-Chloro-3-methylphenol	350	350					<1		<1.0	<1.0			<1	<1.0
2,4,6-Trichlorophenol							<1		<1.0	<1.0			<1	<1.0
2,4,5-Trichlorophenol	0.5	1					<1		<1.0	<1.0			<1	<1.0
Pentachlorophenol							<2		<2.0	<2.0			<2	<2.0
2,3,4,6-Tetrachlorophenol										<1.0				
PC s (µg/)														
Total Polychlorinated biphenyls							<1							

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Groundwater Within Former Landfill																	
			Cross-gradient						Downgradient											
			MW03			MW04			MW08			MW05			MW07					
			18/5/09	2/6/09	17/9/09	7/10/09	18/5/09	2/6/09	17/9/09	7/10/09	19/5/09	2/6/09	17/9/09	7/10/09	18/5/09	2/6/09	17/9/09	7/10/09		
OCs																				
P s (µg/)																				
Naphthalene	85	70	<1	<1	<1.0		7.1	19.5	12.3		2.4	1.8	<3.8		11.2	24	5.9	3.4	5.8	6.7
2-Methylnaphthalene									<1.0				<3.8				<1.0		<1.0	
Acenaphthylene			<1	<1	<1.0		<1	<1.0	<1.0		<1	<1.0	<3.8		<1	<1.0	<1.0	<1	<1.0	<1.0
Acenaphthene			<1	<1	<1.0		<1	<1.0	<1.0		<1	<1.0	<3.8		<1	<1.0	<1.0	<1	<1.0	<1.0
Fluorene			<1	<1	<1.0		<1	<1.0	<1.0		<1	<1.0	<3.8		<1	<1.0	<1.0	<1	<1.0	<1.0
Phenanthrene	2		<1	<1	<1.0		<1	<1.0	<1.0		1.1	<1.0	<3.8		<1	<1.0	<1.0	<1	<1.0	<1.0
Anthracene			<1	<1	<1.0		<1	<1.0	<1.0		<1	<1.0	<3.8		<1	<1.0	<1.0	<1	<1.0	<1.0
Fluoranthene			<1	<1	<1.0		<1	<1.0	<1.0		<1	<1.0	<3.8		<1	<1.0	<1.0	<1	<1.0	<1.0
Pyrene			<1	<1	<1.0		<1	<1.0	<1.0		<1	<1.0	<3.8		<1	<1.0	<1.0	<1	<1.0	<1.0
Benz(a)anthracene			<1	<1	<1.0		<1	<1.0	<1.0		<1	<1.0	<3.8		<1	<1.0	<1.0	<1	<1.0	<1.0
Chrysene			<1	<1	<1.0		<1	<1.0	<1.0		<1	<1.0	<3.8		<1	<1.0	<1.0	<1	<1.0	<1.0
Benzo(b)fluoranthene			<1	<1	<1.0		<1	<1.0	<1.0		<1	<1.0	<3.8		<1	<1.0	<1.0	<1	<1.0	<1.0
Benzo(k)fluoranthene			<1	<1	<1.0		<1	<1.0	<1.0		<1	<1.0	<3.8		<1	<1.0	<1.0	<1	<1.0	<1.0
Benzo(a)pyrene			<0.5	<0.5	<0.5		<0.5	<0.5	<0.5		<0.6	<0.5	<3.8		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-cd)pyrene			<1	<1	<1.0		<1	<1.0	<1.0		<1	<1.0	<3.8		<1	<1.0	<1.0	<1	<1.0	<1.0
Dibenz(a,h)anthracene			<1	<1	<1.0		<1	<1.0	<1.0		<1	<1.0	<3.8		<1	<1.0	<1.0	<1	<1.0	<1.0
Benzo(g,h,i)perylene			<1	<1	<1.0		<1	<1.0	<1.0		<1	<1.0	<3.8		<1	<1.0	<1.0	<1	<1.0	<1.0
Sum of PAHs			<1	<1	<1		7.1	19.5	12.3		3.5	1.8	<3.8		11.2	24	5.9	3.4	5.8	6.7
P enols (µg/)																				
Phenol	1200		<1	<1.0			<1	<1.0	<1.0		<1	<1.0	<3.8		<1	<1.0	<1.0	<1	<1.0	<1.0
2-Chlorophenol	870		<1	<1.0			<1	<1.0	<1.0		<1	<1.0	<3.8		<1	<1.0	<1.0	<1	<1.0	<1.0
2-Methylphenol	13		<1	<1.0			<1	<1.0	<1.0		<1	<1.0	<3.8		<1	225	<1.0	<1	<1.0	<1.0
3- & 4-Methylphenol	543		<2	<2.0			<2	<2.0	<2.0		<2	<2.0	<7.7		<2	49	<2.0	<2	<2.0	<2.0
Cresols (sum of methylphenols)		200	<1	<1.0			<1	<1.0	<1.0		<1	<1.0	<3.8		<1	274	<1.0	<1	<1.0	<1.0
2-Nitrophenol			<1	<1.0			<1	<1.0	<1.0		<1	<1.0	<3.8		<1	<1.0	<1.0	<1	<1.0	<1.0
2,4-Dimethylphenol	2	730	<1	<1.0			<1	<1.0	<1.0		<1	<1.0	<3.8		<1	4.6	<1.0	<1	<1.0	<1.0
2,4-Dichlorophenol	120	200	<1	<1.0			<1	<1.0	<1.0		<1	<1.0	<3.8		<1	1.3	<1.0	<1	<1.0	<1.0
2,6-Dichlorophenol			<1	<1.0			<1	<1.0	<1.0		<1	<1.0	<3.8		<1	<1.0	<1.0	<1	<1.0	<1.0
4-Chloro-3-methylphenol	350	350	<1	<1.0			<1	<1.0	<1.0		<1	<1.0	<3.8		1.9	36.4	<1.0	<1	<1.0	<1.0
2,4,6-Trichlorophenol			<1	<1.0			<1	<1.0	<1.0		<1	<1.0	<3.8		<1	<1.0	<1.0	<1	<1.0	<1.0
2,4,5-Trichlorophenol	0.5	1	<1	<1.0			<1	<1.0	<1.0		<1	<1.0	<3.8		<1	1	<1.0	<1	<1.0	<1.0
Pentachlorophenol			<2	<2.0			<2	<2.0	<2.0		<2	<2.0	<7.7		<2	<2.0	<2.0	<2	<2.0	<2.0
2,3,4,6-Tetrachlorophenol									<1.0				<3.8				<1.0		<1.0	<1.0
PC s (µg/)																				
Total Polychlorinated biphenyls			<1				<1				<6				<1				<1	

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Offsite Wells														
			Upgradient					Cross-gradient					Downgradient				
			MW01					CR14					CR13				
			18/5/09	2/6/09	17/9/09	7/10/09	26/2/09	19/5/09	2/6/09	17/9/09	7/10/09	26/2/09	19/5/09	2/6/09	17/9/09	7/10/09	
OCs																	
Pesticides (µg/L)																	
Naphthalene	85	70						<1						<1.0	<1.0		
2-Methylnaphthalene																	
Acenaphthylene								<1						<1.0	<1.0		
Acenaphthene								<1						<1.0	<1.0		
Fluorene								<1						<1.0	<1.0		
Phenanthrene	2							<1						<1.0	<1.0		
Anthracene								<1						<1.0	<1.0		
Fluoranthene								<1						<1.0	<1.0		
Pyrene								<1						<1.0	<1.0		
Benz(a)anthracene								<1						<1.0	<1.0		
Chrysene								<1						<1.0	<1.0		
Benzo(b)fluoranthene								<1						<1.0	<1.0		
Benzo(k)fluoranthene								<1						<1.0	<1.0		
Benzo(a)pyrene								<0.5						<0.5	<0.5		
Indeno(1,2,3-cd)pyrene								<1						<1.0	<1.0		
Dibenz(a,h)anthracene								<1						<1.0	<1.0		
Benzo(g,h,i)perylene								<1						<1.0	<1.0		
Sum of PAHs								<1							<1.0		
Pesticides (µg/L)																	
Phenol	1200							<1						<1.0	<1.0		
2-Chlorophenol	870							<1						<1.0	<1.0		
2-Methylphenol	13							<1						<1.0	<1.0		
3- & 4-Methylphenol	543							<2						<2.0	<2.0		
Cresols (sum of methylphenols)		200						<1						<1.0	<1.0		
2-Nitrophenol								<1						<1.0	<1.0		
2,4-Dimethylphenol	2	730						<1						<1.0	<1.0		
2,4-Dichlorophenol	120	200						<1						<1.0	<1.0		
2,6-Dichlorophenol								<1						<1.0	<1.0		
4-Chloro-3-methylphenol	350	350						<1						<1.0	<1.0		
2,4,6-Trichlorophenol								<1						<1.0	<1.0		
2,4,5-Trichlorophenol	0.5	1						<1						<1.0	<1.0		
Pentachlorophenol								<2						<2.0	<2.0		
2,3,4,6-Tetrachlorophenol															<1.0		
PCBs (µg/L)																	
Total Polychlorinated biphenyls								<1									

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Drain			
			Downgradient			
			26/2/09	2/6/09	9/6/09	17/9/09
OCs						
Pesticides (µg/l)						
Naphthalene	85	70		<1.0		<1.0
2-Methylnaphthalene						<1.0
Acenaphthylene				<1.0		<1.0
Acenaphthene				<1.0		<1.0
Fluorene				<1.0		<1.0
Phenanthrene	2			<1.0		<1.0
Anthracene				<1.0		<1.0
Fluoranthene				<1.0		<1.0
Pyrene				<1.0		<1.0
Benz(a)anthracene				<1.0		<1.0
Chrysene				<1.0		<1.0
Benzo(b)fluoranthene				<1.0		<1.0
Benzo(k)fluoranthene				<1.0		<1.0
Benzo(a)pyrene				<0.5		<0.5
Indeno(1,2,3-cd)pyrene				<1.0		<1.0
Dibenz(a,h)anthracene				<1.0		<1.0
Benzo(g,h,i)perylene				<1.0		<1.0
Sum of PAHs						<1.0
Pesticides (µg/l)						
Phenol	1200			<1.0		<1.0
2-Chlorophenol	870			<1.0		<1.0
2-Methylphenol	13			<1.0		<1.0
3- & 4-Methylphenol	543			<2.0		<2.0
Cresols (sum of methylphenols)		200		<1.0		<1.0
2-Nitrophenol				<1.0		<1.0
2,4-Dimethylphenol	2	730		<1.0		<1.0
2,4-Dichlorophenol	120	200		<1.0		<1.0
2,6-Dichlorophenol				<1.0		<1.0
4-Chloro-3-methylphenol	350	350		<1.0		<1.0
2,4,6-Trichlorophenol				<1.0		<1.0
2,4,5-Trichlorophenol	0.5	1		<1.0		<1.0
Pentachlorophenol				<2.0		<2.0
2,3,4,6-Tetrachlorophenol						<1.0
PCBs (µg/l)						
Total Polychlorinated biphenyls						

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Groundwater Beneath Former Landfill													
			Cross-gradient					Downgradient								
			MW02					MW06								
			18/5/09	2/6/09	17/9/09	7/10/09	18/5/09	18/5/09	2/6/09	17/9/09	7/10/09	19/5/09	2/6/09	17/9/09	7/10/09	
OC Pesticides (µg/l)																
Hexachlorobenzene (HCB)																
alpha-BHC																
beta-BHC																
gamma-BHC																
delta-BHC																
Aldrin																
Dieldrin																
Endrin																
Heptachlor																
Heptachlor epoxide																
cis-Chlordane																
trans-Chlordane																
4,4'-DDD																
4,4'-DDE																
4,4'-DDT																
alpha-Endosulfan																
beta-Endosulfan																
Endrin aldehyde																
Endosulfan sulphate																
Endrin ketone																
Methoxychlor																
OP Pesticides (µg/l)																
Dichlorvos																
Demeton-S-methyl																
Monocrotophos																
Dimethoate																
Diazinon																
Chlorpyrifos-methyl																
Parathion-methyl																
Malathion																
Fenthion																
Chlorpyrifos																
Parathion																
Phosphor-ethyl																
Chlorfenvinphos																
Bromophos-ethyl																
Fenamiphos																
Prothiofos																
Ethion																
Carbophenothion																
Azinphos Methyl																

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Groundwater Within Former Landfill															
			Cross-gradient						Downgradient									
			MW03			MW04			MW08			MW05			MW07			
			18/5/09	2/6/09	17/9/09	7/10/09	18/5/09	2/6/09	17/9/09	7/10/09	19/5/09	2/6/09	17/9/09	7/10/09	18/5/09	2/6/09	17/9/09	7/10/09
OC Pesticides (µg/l)																		
Hexachlorobenzene (HCB)			<0.5				<0.5				<2.9				<0.5			
alpha-BHC			<0.5				<0.5				<2.9				<0.5			
beta-BHC			<0.5				<0.5				<2.9				<0.5			
gamma-BHC			<0.5				<0.5				<2.9				<0.5			
delta-BHC			<0.5				<0.5				<2.9				<0.5			
Aldrin			<0.5				<0.5				<2.9				<0.5			
Dieldrin			<0.5				<0.5				<2.9				<0.5			
Endrin			<0.5				<0.5				<2.9				<0.5			
Heptachlor			<0.5				<0.5				<2.9				<0.5			
Heptachlor epoxide			<0.5				<0.5				<2.9				<0.5			
cis-Chlordane			<0.5				<0.5				<2.9				<0.5			
trans-Chlordane			<0.5				<0.5				<2.9				<0.5			
4,4'-DDD			<0.5				<0.5				<2.9				<0.5			
4,4'-DDE			<2				<2				<3				<2			
alpha-Endosulfan			<0.5				<0.5				<2.9				<0.5			
beta-Endosulfan			<0.5				<0.5				<2.9				<0.5			
Endrin aldehyde			<0.5				<0.5				<2.9				<0.5			
Endosulfan sulphate			<0.5				<0.5				<2.9				<0.5			
Endrin ketone			<0.5				<0.5				<2.9				<0.5			
Methoxychlor			<2				<2				<3				<2			
OP Pesticides (µg/l)																		
Dichlorvos			<0.5				<0.5				<2.9				<0.5			
Dementon-S-methyl			<0.5				<0.5				<2.9				<0.5			
Monocrotophos			<2				<2				<3				<2			
Dimethoate			<0.5				<0.5				<2.9				<0.5			
Diazinon			<0.5				<0.5				<2.9				<0.5			
Chlorpyrifos-methyl			<0.5				<0.5				<2.9				<0.5			
Parathion-methyl			<2				<2				<3				<2			
Malathion			<0.5				<0.5				<2.9				<0.5			
Fenthion			<0.5				<0.5				<2.9				<0.5			
Chlorpyrifos			<0.5				<0.5				<2.9				<0.5			
Parathion			<2				<2				<3				<2			
Phosphor-ethyl			<0.5				<0.5				<2.9				<0.5			
Chlorfenvinphos			<0.5				<0.5				<2.9				<0.5			
Bomophos-ethyl			<0.5				<0.5				<2.9				<0.5			
Fenamiphos			<0.5				<0.5				<2.9				<0.5			
Prothiophos			<0.5				<0.5				<2.9				<0.5			
Ethion			<0.5				<0.5				<2.9				<0.5			
Carbophenothion			<0.5				<0.5				<2.9				<0.5			
Azinphos Methyl			<0.5				<0.5				<2.9				<0.5			

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Offsite Wells																			
			Upgradient					Cross-gradient					Downgradient									
			MW01					CR14					CR15					CR13				
			18/5/09	2/6/09	17/9/09	7/10/09	26/2/09	19/5/09	2/6/09	17/9/09	7/10/09	26/2/09	19/5/09	2/6/09	17/9/09	7/10/09	26/2/09	19/5/09	2/6/09	17/9/09	7/10/09	
OC Pesticides (µg/ l)																						
Hexachlorobenzene (HCB)																						
alpha-BHC											<0.5											
beta-BHC											<0.5											
gamma-BHC											<0.5											
delta-BHC											<0.5											
Aldrin											<0.5											
Dieldrin											<0.5											
Endrin											<0.5											
Heptachlor											<0.5											
Heptachlor epoxide											<0.5											
cis-Chlordane											<0.5											
trans-Chlordane											<0.5											
4,4'-DDD											<0.5											
4,4'-DDE											<0.5											
4,4'-DDT											<0.5											
alpha-Endosulfan											<0.5											
beta-Endosulfan											<0.5											
Endrin aldehyde											<0.5											
Endosulfan sulphate											<0.5											
Endrin ketone											<0.5											
Methoxychlor											<2											
OP Pesticides (µg/ l)																						
Dichlorvos											<0.5											
Demeton-S-methyl											<0.5											
Monocrotophos											<2											
Dimethoate											<0.5											
Diazinon											<0.5											
Chlorpyrifos-methyl											<0.5											
Parathion-methyl											<2											
Malathion											<0.5											
Fenthion											<0.5											
Chlorpyrifos											<0.5											
Parathion											<2											
Phosphor-ethyl											<0.5											
Chlorfenvinphos											<0.5											
Bromophos-ethyl											<0.5											
Fenamiphos											<0.5											
Prothiofos											<0.5											
Ethion											<0.5											
Carbophenothion											<0.5											
Azinphos Methyl											<0.5											

Parameter	Environmental Assessment Criteria	Human Health Assessment Criteria	Drain				
			Downgradient				
			26/2/09	2/6/09	9/6/09	17/9/09	7/10/09
OC Pesticides ($\mu\text{g/l}$)							
Hexachlorobenzene (HCB)							
alpha-BHC							
beta-BHC							
gamma-BHC							
delta-BHC							
Aldrin							
Dieldrin							
Endrin							
Heptachlor							
Heptachlor epoxide							
cis-Chlordane							
trans-Chlordane							
4,4'-DDD							
4,4'-DDE							
4,4'-DDT							
alpha-Endosulfan							
beta-Endosulfan							
Endrin aldehyde							
Endosulfan sulphate							
Endrin ketone							
Methoxychlor							
OP Pesticides ($\mu\text{g/l}$)							
Dichlorvos							
Demeton-S-methyl							
Monocrotophos							
Dimethoate							
Diazinon							
Chlorpyrifos-methyl							
Parathion-methyl							
Malathion							
Fenthion							
Chlorpyrifos							
Parathion							
Phosphor-ethyl							
Chlorfenvinphos							
Bromophos-ethyl							
Fenamiphos							
Prothiofos							
Ethion							
Carbophenothion							
Azinphos Methyl							

Analyte	Environmental Assessment Criteria	Human Health Assessment Criteria	22-Jan-01	06-Jul-01	17-Apr-02	22-Jan-02	18-Oct-02	24-Jan-03	16-Apr-03	29-Jul-03	24-Oct-03	23-Jan-04	16-Apr-04	29-Jul-04	03-Nov-04	04-Feb-05	28-Apr-05	28-Jul-05	27-Oct-05	03-Feb-06	03-May-06	26-Jul-06	24-Oct-06	30-Jan-07	24-Apr-07	24-Jul-07	23-Oct-07	11-Feb-08	01-May-08	01-Aug-08	
pH (pH Units)	6.5-8.0		5.78	5.31	5.86	6.25	5.83	6.11	6.77	6.43	6.57	6.07	5.79	6.38	5.68	5.82	5.48	5.45	6.03	5.82	5.78	5.75	6.15	6.49	5.96	6.11	5.87	6.08	5.37	6.12	
EC (µS/cm)	2200						346	282	302	245	349	333	343	276	337	342	305	350	386	274	285	358	376	315	357	385	378	315	261	320	
Inorganic (mg/l)																															
Calcium							4	4	4	5	6	5	5	5	6.9	2.9	5.4	2	3.5	2.9	2.6	4.5	5.1	5.1	4.4	6.3	4.1	4.6	2.6	4.2	
Sodium			35	39	34	34	29	34	32	33	38	36	35	26	24	34	34	32	51	43	37	41	50	39	45	39	38	36	37	35	
Potassium			<1	<1	<1	<1	<1	<1	<1	<1	<1	1	1	0.62	1.6	0.5	0.6	0.1	0.4	0.3	<0.1	0.8	0.7	0.3	1	0.2	0.8	0.5	0.3	1.1	
Magnesium														9.7	16	6.1	10	5.3	6.5	6.7	6.3	7.5	9.4	10	9	11	11	9.5	8.4	8.7	
Bicarbonate			78	42	56	57	74	48	46	34	61	65	53	48	29	16.4	56.6	21	51	40.2	37.7	52	90	65.6	82.03	66.4	53.3	50	40	27	
Sulphate			15	17	17	17	12	15	14	13	15	16	14	17	14	12	13	11	13	13	9	13	15	13	12	15	12	14	10	13	
Chloride			50	55	77	43	45	49	49	93	50	43	54	53	49	59	46	51	62	55	53	52	50	52	48	50	62	49	55	58	
Fluoride														<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
Aluminium														0.2				14	<0.02	8.6	0.91	<0.02	8.6	18	12	0.12	17	15	10	0.08	
Iron		1	19.8	1.55	12	11.2	14.5	14	242	8.39	6.77	2.89	4.94	78	13	0.03	14	14	<0.02												
Copper	0.0025		0.001	<0.001	<0.01	<0.001																									
Manganese	3.6	0.5	0.049	0.039	0.046	0.039	0.043	0.042	0.03	0.029	0.038	0.038	0.042	0.03	0.047	0.03	0.05	0.03	0.04	0.03	0.03	0.022	0.045	0.045	0.045	0.047	0.034	0.029	0.025	0.08	
Nickel	0.017	0.1	0.002	<0.001	0.009	0.001																									
Lead	0.0094	0.05	0.002	<0.001	<0.001	<0.001																									
Zinc	0.031	5	0.007	0.002	0.007	0.009	0.007	0.013	0.003	<0.001	0.004	0.003	0.004	<0.003	0.017	0.011	<0.003	<0.003	<0.003	0.004	0.009	0.013	0.0097	0.013	0.025	0.003	0.004	0.008	0.006	<0.01	
Ammonia	2.3	0.5	0.48	0.06	0.72	0.57	0.59	0.61	0.53	0.53	0.63	0.62	0.56	0.7	0.5	0.5	0.8	0.6	0.8	0.6	0.4	0.5	0.7	0.8	0.8	0.7	0.6	0.6	0.4	0.3	
Nitrate	17	10000	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.02	0.01	0.01	0.03	0.16	0.09	<0.023	0.04	0.027	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	0.04	0.02	0.02	<0.02	<0.01	
Phosphate																															
Total Organic Carbon							4	1	9	<1	9	9	9	10	11	0.5	2	14	23	6	9	18	3	3	7	3	3	5	1	3	
Total Phosphorus			0.18	0.7	0.07	<0.01																									
Chemical Oxygen Demand	0.05		104	193	104	31																									
Biological Oxygen Demand			4	8	<2	<2																									
Organics (µg/l)																															
TPH (C6-C9)			<20	<20	<20	<20																									
TPH (C10-C14)			89	<50	<50	<50																									
TPH (C15-C28)			165	<100	<100	<100																									
TPH (C29-C36)			99	<50	<50	<50																									
TPH (C10-C36)	600	600	353	<220	<220	55																									



D.3 Landfill Gas Data

D.3.1 Historical Data

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Cronulla Park: Historical Gas Monitoring Results

Date	Eastern Boundary						Northern Boundary			Western Boundary		
	G1			CR13			G2			G3		
	CH4	CO2	O2	CH4	CO2	O2	CH4	CO2	O2	CH4	CO2	O2
22-Mar-95	0.2	3.4	20.3				0	10.9	11.4	0	0.8	20.2
29-Mar-95	0.2	4	19				0	9	12.7	0	5.4	20
31-Mar-95	0	3.5	20.5				0	0.3	21.9	0	0.02	21.7
01-Apr-95	0.198	1.96	20.5									
08-Aug-00				0.3			0.2			0		
27-Oct-00				0			0.2			0.2		
22-Jan-01				0			0.3			0.3		
06-Jul-01				1.7			0			0		
22-Jan-02				0.2			0			0.2		
17-Apr-02				0.2			0			0.2		
18-Oct-02				0			0.1			0.1		
24-Jan-03				0.3			0.3			0.1		
16-Apr-03				0			0.2			0		
29-Jul-03				0			0			0		
24-Oct-03				0			0			0		
23-Jan-04				0.1			0.1			0		
16-Apr-04				0.3			0.1			0		
27-Jul-04				0.2			0.2			0.1		
03-Nov-04				0.1	12	15.1	0	0	20.6	0	0	20.6
04-Feb-05				0.1	4.9	17.5	0	4.9	12.7	0	3.4	17.5
28-Apr-05				0	2.9	19.5	0	5.3	15.5	0	2.8	18.7
27-Jul-05				0.3	11.2	17.7	0.1	5.7	12	0.1	0.3	20.3
27-Oct-05				0.1	0.8	20.8	0.1	1	19.5	0	2.3	19.3
03-Feb-06				0.1	0.1	20.3	0	0	19.8	0.1	3.7	16.8
03-May-06				0	0.2	20.1	0	7.8	13.5	0	0.1	20.3
27-Jul-06				0	1	20.9	0	6.1	14.6	0	0.1	21.3
24-Oct-06				0.1	1.2	19.6	0.1	6.3	14.9	0.1	2	19.1
30-Jan-07				0	4.2	18.1	0.2	8	15.1	0.2	1.6	19.8
24-Apr-07				0	0.9	20.1	0	5.2	15.2	0	1.8	19.5
24-Jul-07				0.2	4	19.3	0	0.4	20.3	0	1.1	20.5
23-Oct-07				0	0.7	19.9	0	1.2	19.4	0	7.3	14.2
01-Feb-08				0.1	0	20	0.1	3.8	14.7	0	4.2	15.8
01-May-08				0	0.2	20.5	0	0	20.4	0	0.1	20.7
01-Aug-08				0	3.5	20.2	0	1.3	18.5	0	1.9	19.2

Cronulla Park: Historical as Monitorin Results

Date	Southern Boundary									South-Western Boundary		
	GW1			CR15			GW3			CR14		
	CH4	CO2	O2	CH4	CO2	O2	CH4	CO2	O2	CH4	CO2	O2
22-Mar-95							0	0.8	21.1			
29-Mar-95							0	0.3	21			
31-Mar-95							0	0.1	22.4			
01-Apr-95							0.001	0.17	20.9			
08-Aug-00	0									0.2		
27-Oct-00	0.3									0.2		
22-Jan-01	0.3			0						0		
06-Jul-01	0			0						0		
22-Jan-02	0.2			0.3						0.2		
17-Apr-02	0.2			0.2						0.2		
18-Oct-02	0.3			0.3						0.1		
24-Jan-03	0			0.1						0.1		
16-Apr-03	0			0						0		
29-Jul-03	0			0						0		
24-Oct-03	0			0						0		
23-Jan-04	0			0.1						0.1		
16-Apr-04	0.1			0.2						0		
27-Jul-04	0.3			0.3						0.1		
03-Nov-04	0	0	20.5	0	0	20.3				0	0	20.7
04-Feb-05	0	7.6	12.4	0	0	20.4				0	4.7	14.5
28-Apr-05	0	0	20.6	0	0.4	20.4						
27-Jul-05	0.1	5.1	16.8	0.2	7.4	17.2						
27-Oct-05	0.1	5.5	14.8	0.1	1.6	19.8				0.1	0.1	20.8
03-Feb-06	0	3.6	16.9	0	0.5	19.5				0	3.5	16.8
03-May-06	0	1.9	18.5	0.1	1.5	18.9				0.1	1.4	19
27-Jul-06	0	5.5	15.2	0	1.2	20.6				0	6.1	14.5
24-Oct-06	0.1	4.8	16.2	0.1	6.6	16.9				0	8.7	6.5
30-Jan-07	0.3	9.2	11.9	0	0.6	19.8				0.1	4.3	14.2
24-Apr-07	0	7.1	14.6	0	1.6	19.7				0	2.4	16.1
24-Jul-07	0.1	2.6	18.5	0.1	2.5	19.6				0	9.4	7.9
23-Oct-07	0	5.2	15.8	0	1.1	19.7				0	9.8	7.1
01-Feb-08	0	6.9	13.8	0.1	0.7	19.9				0	0	20.4
01-May-08	0	0.1	20.6	0	0.1	20.6				0	1.6	19
01-Aug-08	0	4.4	17.4	0	1.1	20.2				0	10.1	9

Cronulla Park: Historical Gas Monitorin Results

Date	Within Former Landfill											
	G5			G6			G7			GW2		
	CH4	CO2	O2	CH4	CO2	O2	CH4	CO2	O2	CH4	CO2	O2
22-Mar-95	14.7	6	18	12.3	15	25.5	0	17.9	14.2			
29-Mar-95	19	7	17	28	16	9.6	0	5.4	20			
31-Mar-95	19	7	18	20	15	9	0.2	7.5	14.5			
01-Apr-95	2.849	3.05	19.5	16.06	10.15	14.8	0.36	7.02	14.9			
08-Aug-00										0.7		
27-Oct-00										8		
22-Jan-01												
06-Jul-01												
22-Jan-02												
17-Apr-02												
18-Oct-02												
24-Jan-03												
16-Apr-03												
29-Jul-03												
24-Oct-03												
23-Jan-04												
16-Apr-04												
27-Jul-04												
03-Nov-04										1.9	0	21.2
04-Feb-05												
28-Apr-05												
27-Jul-05												
27-Oct-05												
03-Feb-06												
03-May-06												
27-Jul-06												
24-Oct-06												
30-Jan-07												
24-Apr-07												
24-Jul-07												
23-Oct-07												
01-Feb-08												
01-May-08												
01-Aug-08												



D.3.2 2009 Investigation Data

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Cronulla Park: Gas Monitoring Results

Background Locations

Well ID	Barometric Pressure (kpa)	Sample Date	Reading	Gas Measurements (%)				
				Methane / Vapours	Carbon Dioxide	Oxygen	Hydrogen Sulfide	Carbon Monoxide
MW01	1013	18/05/2009	Average	0	0	20.3	0	0
		18/05/2009	Peak	0.2	0	21.5	0	0
	1021	2/06/2009	Average	0.1	0	21.3	0	10
		2/06/2009	Peak	0.1	0.1	21.3	0	16
	1009	23/06/2009	Average	0	0	20.4	0	0
		23/06/2009	Peak	0.1	0	20.3	0	0
	1013	17/09/2009	Average	0	0	20.7	0	0
		17/09/2009	Peak	0	0	20.7	0	0
	1017	10/10/2009	Average	0	0	21.4	0	0
		10/10/2009	Peak	0	0	21.4	0	0
MW02	1009	23/06/2009	Average	0	0	20.4	0	0
		23/06/2009	Peak	0.1	0	20.3	0	0
	1022	2/06/2009	Average	0	0.1	20.8	0	0
		2/06/2009	Peak	0.2	0.2	20.9	0	0
	1009	23/06/2009	Average	0	0	20.9	0	0
		23/06/2009	Peak	0	0	21.4	0	0
	1013	17/09/2009	Average	0	0	20.7	0	0
		17/09/2009	Peak	0	0	20.7	0	0
	1017	10/10/2009	Average	0	0	21.4	0	0
		10/10/2009	Peak	0	0	21.4	0	0

Cronulla Park: Gas Monitoring Results
Locations within Landfill

Well ID	Barometric Pressure (kpa)	Sample Date	Reading	Gas Measurements (%)				
				Methane / Vapours	Carbon Dioxide	Oxygen	Hydrogen Sulfide	Carbon Monoxide
MW03	1014	18/05/2009	Average	0	0	22.03	0	0
		18/05/2009	Peak	0.1	0	22.6	0	0
	1021	2/06/2009	Average	0	0	20.8	0	0
		2/06/2009	Peak	0	0	20.9	0	0
	1009	23/06/2009	Average	0	0	20.5	0	0
		23/06/2009	Peak	0	0	20.9	0	0
	1013	17/09/2009	Average	0	0	20.7	0	0
		17/09/2009	Peak	0	0	20.8	0	0
	1017	10/10/2009	Average	0	0	21.4	0	0
		10/10/2009	Peak	0	0	21.4	0	0
	1014	29/10/2009	Peak	0.02	6.2	17.7	0	0
MW04	1014	18/05/2009	Average	0.1	0	21.8	0	0
		18/05/2009	Peak	0.2	0	22	0	0
	1022	2/06/2009	Average	0.1	0	21.1	0	0
		2/06/2009	Peak	61	0	21.1	0	0
	1009	23/06/2009	Average	79.2	13.9	4.2	1	4
		23/06/2009	Peak	83	14.1	4.9	1	6
	1013	17/09/2009	Average	33.3	2.4	14.3	0	1
		17/09/2009	Peak	42.2	2.8	13.3	0	1
	1017	10/10/2009	Average	17.6	14.8	5.7	0	0
		10/10/2009	Peak	21.3	15.5	14.5	0	0
	1015	29/10/2009	Peak	69.5	5.9	1.7	0	0
MW05	1014	18/05/2009	Average	0	0	21.6	0	0
		18/05/2009	Peak	0	0	22.2	0	0
	1022	2/06/2009	Average	69.1	0	0	0	18
		2/06/2009	Peak	69.7	0	0	0.3	18.1
	1009	23/06/2009	Average	61.5	14.5	6	14	0
		23/06/2009	Peak	62.4	14.9	8.1	17	1
	1013	17/09/2009	Average	14.2	12	2.5	0	1
		17/09/2009	Peak	16.1	12.5	4.1	0	2
	1017	10/10/2009	Average	9.8	0.5	11.4	0	0
		10/10/2009	Peak	10.8	0.6	12.4	0	0
	1015	29/10/2009	Peak	0	0	21.4	0	0
MW07	1015	18/05/2009	Average	0.1	0	20.9	0	0
		18/05/2009	Peak	0.2	0	21.6	0	0
	1022	2/06/2009	Average	34.9	8.7	4.7	0	0
		2/06/2009	Peak	49.7	9.5	5.5	0	0
	1009	23/06/2009	Average	0	0	20.4	0	0
		23/06/2009	Peak	0.1	0	22.3	0	0
	1013	17/09/2009	Average	29.5	5.8	4.6	0	4
		17/09/2009	Peak	34.3	6.1	6.1	0	4
	1017	10/10/2009	Average	23.6	4.9	5.5	0	0
		10/10/2009	Peak	25.8	5.1	6.3	0	0
	1015	29/10/2009	Peak	31.8	7.8	0.9	0	0
MW08	1014	18/05/2009	Average	0.2	0	20.9	0	0
		18/05/2009	Peak	0.6	0	22.7	0	0
	1021	2/06/2009	Average	98.7	12.5	0	0	3
		2/06/2009	Peak	99.3	12.5	0	0	4
	1009	23/06/2009	Average	74.8	7.5	4.8	1	2
		23/06/2009	Peak	75.8	10.8	7.8	2	2
	1014	17/09/2009	Average	39.3	8.2	5.9	0	3
		17/09/2009	Peak	55.7	10.2	8	0	4
	1017	10/10/2009	Average	45	10.5	8.3	0	0
		10/10/2009	Peak	49.1	12.2	12.9	0	0
	1015	29/10/2009	Peak	45.7	13.6	2.8	0	3

Cronulla Park: Gas Monitoring Results

Landfill Vents

Vent ID	Barometric Pressure (kpa)	Sample Date	Reading	Gas Measurements (%)				
				Methane / Vapours	Carbon Dioxide	Oxygen	Hydrogen Sulfide	Carbon Monoxide
VENT01	1012	18/05/2009	Average	0	0	21.4	0	0
		18/05/2009	Peak	0	0	21.4	0	0
	1012	2/06/2009	Average	0	0	21.4	0	0
		2/06/2009	Peak	0.1	0	21.4	0	0
	1009	23/06/2009	Average	0	0	21.3	0	0
		23/06/2009	Peak	0	0	21.4	0	0
	1011	4/11/2009	Average	0	0	20.8	0	0
		4/11/2009	Peak	0	0	20.8	0	0
VENT02	1012	18/05/2009	Average	0	0	21.3	0	0
		18/05/2009	Peak	0	0	21.3	0	0
	1012	2/06/2009	Average	0	0	21.2	0	0
		2/06/2009	Peak	0	0	21.3	0	0
	1009	23/06/2009	Average	0	0	21.3	0	0
		23/06/2009	Peak	0	0	21.3	0	0
	1011	4/11/2009	Average	24.5	5	13.8	0	2
		4/11/2009	Peak	29	4.9	13.9	1	4
VENT03	1012	18/05/2009	Average	0	0	21.2	0	0
		18/05/2009	Peak	0	0	21.2	0	0
	1012	2/06/2009	Average	0	0	21.3	0	0
		2/06/2009	Peak	0	0	21.4	0	0
	1009	23/06/2009	Average	0	0	21.2	0	0
		23/06/2009	Peak	0	0	21.2	0	0
	1011	4/11/2009	Average	0.5	0.3	19.7	0	0
		4/11/2009	Peak	0.6	0.3	19.8	0	0
VENT04	1012	18/05/2009	Average	0	0	21.3	0	0
		18/05/2009	Peak	0	0	21.3	0	0
	1012	2/06/2009	Average	0	0	21.3	0	0
		2/06/2009	Peak	0	0	21.3	0	0
	1009	23/06/2009	Average	0	0	21.2	0	0
		23/06/2009	Peak	0	0	21.4	0	0
	1011	4/11/2009	Average	0	0.1	20.3	0	0
		4/11/2009	Peak	0	0.1	20.3	0	0



D.4 Groundwater Monitoring Observations

RTI DL RELEASE - EHP

Perce groundwater (at each site) Monitoring Results

Well ID	Sample Date	Water Head			Quality Parameters					Comments		
		Depth to Water	Total Depth	Elevation	Corrected Static Water Level	DO	Total Dissolved Solids	pH	Reduction Potential		Temperature	
							ppK					
MW03	18/05/09	1.985	2.669	31.77	29.785	7.06	0.46	5.43	179	22.5	Brown water. Dry at 4L	
	2/06/09	1.832	2.637	31.77	29.938	6.27	0.444	5.46	262	20.5	Clear water. Dry at 5L.	
	17/09/09	2.064	2.639	31.77	29.706	3.16	0.385	5.19	108	21.6	Clear water. Dry at 4L.	
	7/10/09	2.095	2.638	31.77	29.675	5.8	0.385	4.39	62	21.8	Clear water. Dry at 2L.	
MW04	18/05/09	4.446	6.062	29.73	25.284	Hydrocarbon Sheen Encountered (No Parameters Taken)						Dark grey milky water. Strong synthetic odour. Dry at 15L.
	2/06/09	4.274	5.913	29.73	25.456	Hydrocarbon Sheen Encountered (No Parameters Taken)						Grey water. Strong synthetic odour.
	17/09/09	4.459	5.921	29.73	25.271	0.84	1.51	7.12	-144	25.3	Grey water. Strong synthetic odour.	
	7/10/09	4.457	5.94	29.73	25.273	Hydrocarbon Sheen Encountered (No Parameters Taken)						Grey water. Strong synthetic odour.
MW05	18/05/09	5.432	7.04	27.58	22.148	Hydrocarbon Sheen Encountered (No Parameters Taken)						Dark grey milky water. Strong synthetic odour.
	2/06/09	4.682	6.933	27.58	22.898	1.25	1.1	6.80	-103	21.8	Developed to slight hydrocarbon sheen. Strong synthetic odour.	
	17/09/09	5.574	6.943	27.58	22.006	0.81	1.77	6.85	-126	23.5	Dark grey milky water. Strong synthetic odour.	
	7/10/09	5.663	6.931	27.58	21.917	Hydrocarbon Sheen Encountered (No Parameters Taken)						Developed to slight hydrocarbon sheen. Strong synthetic odour.
MW07	18/05/09	2.537	5.673	28.48	25.943	0.06	3.12	7.38	-150	22.6	Dark grey milky water.	
	2/06/09	3.026	5.656	28.48	25.454	1.89	1.54	7.16	-87	20.3	Grey water. Strong synthetic odour. Dry at 25L.	
	17/09/09	3.283	5.555	28.48	25.197	0.39	3.19	7.55	-139	23.7	Grey water. Strong synthetic odour.	
	7/10/09	3.347	5.545	28.48	25.133	Hydrocarbon Sheen Encountered (No Parameters Taken)						Grey water. Strong synthetic odour.
MW08	18/05/09	3.336	3.606	30.65	27.314	Insufficient Sample Volume Achieved						Brown water. Dry at <2L. Visible gas was noted to be escaping from well during sampling (19/5).
	2/06/09	3.239	3.576	30.65	27.411	3.82	1.92	6.99	-58	19.4	Brown opaque water. High sediment load. Strong gas odour. Dry at 5L.	
	17/09/09	3.351	3.578	30.65	27.299	1.21	2.23	6.73	-59	22	Brown opaque water. High sediment load. Strong gas odour. Dry at 0.5L.	
	7/10/09	3.384	3.574	30.65	27.266	0.13	2.2	7.73	-197	22	Brown opaque water. High sediment load. Strong gas odour. Dry at 0.3L.	

Well ID	Sample Date	Water Head			Quality Parameters					Comments	
		Depth to Water	Total Depth	Elevation	Corrected Static Water Level	DO	Total Dissolved Solids	pH	Reduction Potential		Temperature
MW02	18/05/09	2.701	8.09	31.75	29.049	5.5	4.87	4.09	279	23.7	Developed to red milky water. Dry at 50L.
	2/06/09	3.721	8.039	31.75	28.029	3.96	4.04	3.65	380	22.4	Clear to murky brown water.
	17/09/09	2.752	8.045	31.75	28.998	1.13	2.92	3.41	416	23.2	Clear to murky brown water.
	7/10/09	2.671	8.041	31.75	29.079	5.79	4.34	3.86	458	22.4	Clear to murky brown water.
	18/05/09	6.262	10.109	27.81	21.548	1.27	2.22	6.27	-44	19.5	Brown water. Dry at 28L.
MW06	2/06/09	5.973	10.084	27.81	21.837	3.52	1.86	6.00	-20	20.9	Clear to milky white water. Dry at 10L.
	17/09/09	6.466	10.09	27.81	21.344	1.09	1.36	5.87	-9	24.1	Gray milky water. Synthetic odour.
	7/10/09	6.441	10.079	27.81	21.369	2.34	1.83	6.41	-30	22.7	Clear to milky white water. Dry at 15L.
	18/05/09	3.897	8.945	28.99	25.093	4.97	0.581	5.12	124	20.2	Clear water developing to milky. Dry at 30L.
MW09	2/06/09	3.902	8.910	28.99	25.088	4.11	0.332	4.44	242	20.7	Milky white water. Dry at 30L.
	17/09/09	4.097	8.908	28.99	24.893	1.42	2.42	3.75	267	20.4	Greyish red water develop to clear. Dry at 16L.
	7/10/09	4.12	8.909	28.99	24.87	3.79	0.492	4.29	275	22.1	Milky white water. Dry at 15L.

Well ID	Sample Date	Water Head				Quality Parameters					Comments
		Depth to Water	Total Depth	Elevation	Corrected Static Water Level	DO	Total Dissolved Solids	pH	Reduction Potential	Temperature	
MW01	18/05/09	2.967	7.978	33.96	30.993	4.63	3.9	3.9	369	22.6	Developed to red milky water. Dry at 30L.
	2/06/09	2.961	7.932	33.96	30.999	5.94	4.38	3.62	184	21.2	Reddish brown water, high turbidity.
	17/09/09	2.945	7.954	33.96	31.015	1.89	7.25	3.29	345	21.5	Reddish brown water, high turbidity.
	7/10/09	2.905	7.938	33.96	31.055	4.38	5.46	3.7	407	20.8	Reddish brown water, high turbidity.
	18/05/09	1.247	5.479	21.97	20.723	3.75	0.436	Probe Error	2	22.1	Clear water developing to milky.
CR13	2/06/09	1.082	5.482	21.97	20.888	3.51	0.381	4.99	111	21.6	Clear water. Dry at 15L.
	17/09/09	1.371	5.516	21.97	20.599	2.85	0.237	5.24	88	22.4	Clear water developing to milky. Dry at 17L
	7/10/09	1.365	5.51	21.97	20.605	4.04	0.379	5.74	90	21.6	Clear water. Dry at 15L.
	18/05/09	1.334	8.425	32.67	31.336	3.8	4.9	Probe Error	269	21.2	Clear water.
	2/06/09	1.345	8.384	32.67	31.325	2.79	0.158	3.75	148	21.4	Clear water.
CR14	17/09/09	1.076	8.387	32.67	31.594	1.93	0.156	4.26	215	23.3	Clear water.
	7/10/09	1.306	8.63	32.67	31.364	3.37	0.164	4.16	214	21.4	Clear water.
	18/05/09	2.043	2.898	29.8	27.757	3.45	0.944	Probe Error	100	19.7	Clear water.
	2/06/09	1.885	2.883	29.8	27.915	2.69	0.113	5.00	79	19.8	Opaque brown water. Dry at 25L.
	17/09/09	2.123	2.981	29.8	27.677	2.4	0.13	5.56	51	21.2	Opaque brown water. Dry at 5L.
CR15	7/10/09	2.211	2.981	29.8	27.589	4.61	0.143	6.02	18	20.6	Opaque brown water. Dry at 2L.



D.5 Calibration Records

RTI DL RELEASE - EHP



ENVIROEQUIP RENTALS

Your Friend in the Field

Equipment Report - GEOTECHNICAL INSTRUMENTS GA2000

This Gas Meter has been performance checked / calibrated* as follows:

Calibration	Cal Value	Reading	Cal Value	Reading	Pass?
CH4	50 60% vol	60%	0.00% vol	0 %	☒
CH4 LEL -check	50% LEL (2.5%CH4)	2.5 % Vol			☐
H2s	25ppm	25 ppm	0 ppm	0 ppm	☒
O2	21.0% vol	21 %	0.00% vol	0 %	☒
CO	100ppm	100 ppm	0 ppm	0 ppm	☒
CO2	10 40% vol	40%			☒
Operations Check					
☒ Cleaned/checked		☒ In line Filter Check		☒ Charged 100 %	

* Calibration gas traceability information is available upon request.

Date: 27/10 Checked by: Jo Ann

Signed: _____ 49-Sch4 - Signature _____

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

Sent	Received	Returned	Item
☒	☐	☐	Sampling Probe with In-Line Filter
☒	☐	☐	1m of Sampling Tube
☒	☐	☐	Carry Strap
☒	☐	☐	Battery Charger and AC/DC Power Supply
☒	☐	☐	Operating Quick Guide <u>behind foam on lid of case</u>
☒	☐	☐	Manual <u>behind foam on lid of case</u>
☒	☐	☐	Spare Inline Filters Qty (2)
☒	☐	☐	Carry case
☐	☐	☐	Data Cable and Software CD or Diskette
☐	☐	☐	
☐	☐	☐	

Processors Signature/ Initials _____

49-Sch4 - Signature _____

EE Quote Reference		Condition on return
Customer Ref	17047	
Equipment ID		
Equipment serial no.		
Return Date	/ /	
Return Time		

Melbourne	Sydney	Brisbane	Perth	Auckland	Kuala Lumpur
Brisbane 2/5 Ross Street, Newstead, Qld 4006					
Telephone: 07 3852 6111			FreeCall: 1-800-675-756		
Fax: 073852 6155					
Email: rentals.bris@enviroequip.com			Internet: www.rentals.enviroequip.com		



ENVIROEQUIP RENTALS

Your Friend in the Field

Equipment Report - MINIRAE 2000 PID

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

Calibration	Actual Value	Reading	Pass?		
Zero – fresh air	0.0 ppm	0.0 ppm	☒		
Span – Isobutylene	100 ppm	100 ppm	☒		
Operations Check					
☒ Performance Check (pump, lamp, sensor & battery voltage check)					
☒ Battery Charged	☒ Filters Check	☒ Spare battery Voltage (5.0v minimum)		V	

* Calibration gas traceability information is available upon request.

Date: 11/8/9 Checked by: AG

Signed: _____

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

Sent	Received	Returned	Item
☒	☐	☐	MiniRae 2000 PID / Operational Check, plus Battery Voltage @ <u>5.5V</u>
☒	☐	☐	Protective yellow rubber boot
☒	☐	☐	Inlet probe (attached to PID)
☒	☐	☐	Water trap filter.
☒	☐	☐	Spare water trap filter(s) Qty <u>1</u> @ \$ <u>7.50</u> +GST / filter if opened.
☒	☐	☐	Charger 240V to 12V 500mA
☒	☐	☐	Instruction Manual behind foam on the lid of case "
☒	☐	☐	Quick Guide Sheet behind foam on the lid of case "
☒	☐	☐	Spare Alkaline Battery Compartment with/without batteries
☒	☐	☐	Carry Case
☒	☐	☐	Calibration regulator & tubing (optional)
☐	☐	☐	
☐	☐	☐	

Processors Signature/ Initials _____

EE Quote Reference	<u>16306</u>	Condition on return
Customer Ref		
Equipment ID	PIDMINBJ	
Equipment serial no.	110-901247	
Return Date	/ /	
Return Time		

Melbourne	Sydney	Brisbane	Perth	Auckland	Kuala Lumpur
-----------	--------	----------	-------	----------	--------------

Brisbane- 2/5 Ross St, Newstead, QLD 4006

Telephone: 07 3852 6111

FreeCall: 1-800-675-756

Email: rentals.bris@enviroequip.com

Internet: www.rentals.enviroequip.com



ENVIROEQUIP RENTALS

Your Friend in the Field

Equipment Report - MINIRAE 2000 PID

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

Calibration	Actual Value	Reading	Pass?		
Zero – fresh air	0.0 ppm	0.0 ppm	☒		
Span – Isobutylene	100 ppm	100 ppm	☒		
Operations Check					
☒ Performance Check (pump, lamp, sensor & battery voltage check)					
☒ Battery Charged	☐ Filters Check	☒ Spare battery Voltage (5.0v minimum) <u>5.5</u> V			

* Calibration gas traceability information is available upon request.

Date: 21/8/9

Checked by: ALT

Signed: _____

49-Sch4 - Signature

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

Sent	Received	Returned	Item
☒	☐	☐	MiniRae 2000 PID / Operational Check, plus Battery Voltage @ <u>5.5</u> V
☒	☐	☐	Protective yellow rubber boot
☒	☐	☐	Inlet probe (attached to PID)
☒	☐	☐	Water trap filter.
☒	☐	☐	Spare water trap filter(s) Qty <u>1</u> @ \$ <u>7.50</u> +GST / filter if opened.
☒	☐	☐	Charger 240V to 12V 500mA
☒	☐	☐	Instruction Manual behind foam on the lid of case "
☒	☐	☐	Quick Guide Sheet behind foam on the lid of case "
☒	☐	☐	Spare Alkaline Battery Compartment with/without batteries
☒	☐	☐	Carry Case
☒	☐	☐	Calibration regulator & tubing (optional)
☐	☐	☐	
☐	☐	☐	

Processors Signature/ Initials _____

EE Quote Reference	<u>16102</u>	Condition on return
Customer Ref		
Equipment ID	PIDMINBH	
Equipment serial no.	110-900679	
Return Date	/ /	
Return Time		

Melbourne	Sydney	Brisbane	Perth	Auckland	Kuala Lumpur
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Brisbane- 2/5 Ross St, Newstead, QLD 4006

Telephone: 07 3852 6111

FreeCall: 1-800-675-756

Email: rentals.bris@enviroequip.com

Internet: www.rentals.enviroequip.com



ENVIROEQUIP RENTALS

Your Friend in the Field

Equipment Report - GEOTECHNICAL INSTRUMENTS GA2000

This Gas Meter has been performance checked / calibrated* as follows:

Calibration	Cal Value	Reading	Cal Value	Reading	Pass?
CH4	50 / 60% vol	60 %	0.00% vol	0 %	☒
CH4 LEL -check	50% LEL (2.5%CH4)	2.5 %			☐
H2s	25ppm	25 ppm	0 ppm	0 ppm	☒
O2	21.0% vol	21 %	0.00% vol	0 %	☒
CO	100ppm	100 ppm	0 ppm	0 ppm	☒
CO2	10 / 40% vol	40 %			☐
Operations Check					
☒ Cleaned/checked	☒ In line Filter Check		☒ Charged 100 %		

* Calibration gas traceability information is available upon request.

Date: 9/10/2009 Checked by: John R

Signed: _____ 49-Sch4 - Signature

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

Sent	Received	Returned	Item
☒	☐	☐	Sampling Probe with In-Line Filter
☒	☐	☐	1m of Sampling Tube
☒	☐	☐	Carry Strap
☒	☐	☐	Battery Charger and AC/DC Power Supply
☒	☐	☐	Operating Quick Guide <u>behind foam on lid of case</u>
☒	☐	☐	Manual <u>behind foam on lid of case</u>
☒	☐	☐	Spare Inline Filters Qty (2)
☒	☐	☐	Carry case
☐	☐	☐	Data Cable and Software CD or Diskette
☐	☐	☐	
☐	☐	☐	

Processors Signature/ Initials

49-Sch4 - Signature

EE Quote Reference	<u>16881</u>	Condition on return
Customer Ref		
Equipment ID		
Equipment serial no.		
Return Date	<u>/ /</u>	
Return Time		

Melbourne	Sydney	Brisbane	Perth	Auckland	Kuala Lumpur
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Brisbane 2/5 Ross Street, Newstead, Qld 4006

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ENVIROEQUIP RENTALS

Your Friend in the Field

Equipment Report – Solinst Model 122 Interface Meter

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

Cleaned/Tested

Pass?

Probe

☒

Tape/Reel

☒

☒ Performance Test & Battery Voltage Check (4.2 v) 8.0v minimum

Date: 11/08/09 Checked by: AG

Signed: _____ 49-Sch4 - Signature

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

Sent	Received	Returned	Item
☒	☐	☐	Interface meter: <u>32 m</u>
☒	☐	☐	Plastic Box / Bag
☒	☐	☐	Spare 9V Battery Qty <u>2</u>
☒	☐	☐	Probe Cleaning Brush
☒	☐	☐	Decon
☒	☐	☐	Instruction leaflet
☐	☐	☐	
☐	☐	☐	
Processors Signature/ Initials _____			

E Quote Reference	<u>16980</u>	Condition on return
Customer Ref		
Equipment ID	SOL12230BC	
Equipment serial no.	122 007445-1	
Return Date	<u> / / </u>	
Return Time		

Melbourne	Sydney	Brisbane	Perth	Auckland	Kuala Lumpur
Melbourne - 13A Rocklea Drive, Port Melbourne VIC 3207 Australia					
Telephone: +61-3-9646-4190		FreeCall (interstate): 1-800-675-756			
Rentals Direct Fax: +61-3-9681-9251		Head Office Fax: +61-3-9646-4195			
Email: rentals.melb@enviroequip.com			Internet: www.rentals.enviroequip.com		



ENVIROEQUIP RENTALS

Your Friend in the Field

Equipment Report – Solinst Model 122 Interface Meter

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

Cleaned/Tested Pass?
Probe ☒
Tape/Reel ☒
☒ Performance Test & Battery Voltage Check (8.0v) 8.0v minimum

Date: 21/9/9 Checked by: AG

Signed: _____ 49-Sch4 - Signature _____

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

Sent	Received	Returned	Item
☒	☐	☐	Interface meter: <u>32 m</u>
☒	☐	☐	Plastic Box / Bag
☒	☐	☐	Spare 9V Battery Qty <u>2</u>
☒	☐	☐	Probe Cleaning Brush
☒	☐	☐	Decon
☒	☐	☐	Instruction leaflet
☐	☐	☐	
☐	☐	☐	

Processors Signature/ Initials _____

EE Quote Reference	<u>16772</u>	Condition on return
Customer Ref		
Equipment ID	<u>SOL12230B3</u>	
Equipment serial no.		
Return Date	<u>/ /</u>	
Return Time		

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Filename: SOL12230BA



ENVIROEQUIP RENTALS

Your Friend in the Field

Equipment Report - TPS 90FLMV Water Quality Meter

This Water Quality Meter has been performance checked / calibrated* as follows:

pH ☒ pH 6.88 ☐ pH 7.00 ☐ pH 4.00 ☐ pH 10.00 ☐ pH
Conductivity ☒ 0.0mS/cm ☒ 2.76mS/cm ☐ 12.88mS/cm ☒ 58.6mS/cm ☐ mS/cm
TDS ☒ 0.0 ppk ☒ 36 ppk ☐ ppk
Dissolved Oxygen ☒ 0.00ppm in Sodium Sulphite ☐ 100% Saturation in Air
Redox (ORP)** ☐ Electrode operability test 240mV +/- 10%. Actual: 233 mV
☐ Electrodes cleaned/checked ☒ Charged 8.12 v (min 7.2V)

* Calibration solution traceability information is available upon request.

** This meter uses an Ag/AgCl ORP electrode. To convert readings to SHE (Standard Hydrogen Electrode), add 199mV to the mV reading. For further information, refer to www.enviroequip.com/quipnotes/ORP.htm.

Date: 17/9/2004 Checked by: John

Signed: 49-Sch4 - Signature

Sent	Received	Returned	Item
☒	☐	☐	90FLMV Unit. Ops check / Battery Voltage @
☒	☐	☐	pH sensor 5m
☒	☐	☐	Conductivity / TDS / Temperature k=10 sensor 5m
☒	☐	☐	Dissolved Oxygen YSI5739 sensor 5m
☒	☐	☐	Redox (ORP) sensor 5m
☒	☐	☐	Battery charger 240V AC to 12V DC 200mA
☒	☐	☐	Instruction Manual
☒	☐	☐	Quick Guide
☒	☐	☐	Syringe with storage solution for pH & ORP sensors
☐	☐	☐	Carry Case
☐	☐	☐	
☐	☐	☐	

Processors Signature/ Initials

49-Sch4 - Signature

EE Quote Reference	16990	Condition on return
Customer Ref		
Equipment ID	90FLMVBH	
Equipment serial no.	T7931	
Return Date	/ /	
Return Time		

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Fax: 07 3852 6155

Email: rentals.bris@enviroequip.com

Internet: www.rentals.enviroequip.com

Filename: Eq Rep TPS 90FLMV ver 06.01.doc GENERIC.doc



ENVIROEQUIP RENTALS

Your Friend in the Field

Equipment Report - GEOTECHNICAL INSTRUMENTS GA2000

This Gas Meter has been performance checked / calibrated* as follows:

Calibration	Cal Value	Reading	Cal Value	Reading	Pass?
CH4	60% vol	60 %	0.00% vol	0 %	☒
CH4 -check only	2.5%CH4	2.6 %			☒
H2s	25ppm	25 ppm	0 ppm	0 ppm	☒
O2	21.0% vol	21 %	0.00% vol	0 %	☒
CO	100ppm	100 ppm	0 ppm	0 ppm	☒
CO2	40% vol	40 %			☒
Operations Check					
☒ Cleaned/checked	☒ In line Filter Check		☒ Battery Status @ 100 %		

* Calibration gas traceability information is available upon request.

Date: 16/9/04 Checked by: J. H. W. R.

Signed: 49-Sch4 - Signature

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

Sent	Received	Returned	Item
☒	☐	☐	Sampling Probe with In-Line Filter
☒	☐	☐	1m of Sampling Tube
☒	☐	☐	Carry Strap
☒	☐	☐	Battery Charger and AC/DC Power Supply
☒	☐	☐	Operating Quick Guide behind foam on lid of case "
☒	☐	☐	Manual behind foam on lid of case "
☒	☐	☐	Spare Inline Filters Qty (2)
☒	☐	☐	Carry case
☐	☐	☐	Data Cable and Software CD or Diskette
☐	☐	☐	Instrument Battery Status @ 100 %

Processors Signature/ Initials

49-Sch4 - Signature

EE Quote Reference	16941	Condition on return
Customer Ref		
Equipment ID	GA2000BD	
Equipment serial no.	GA 105771/07	
Return Date	/ /	
Return Time		

Phone: (Free Call) 1800 675 756		Fax: (Free Call) 1800 657 123		Email: info@enviroequip.com	
Melbourne Branch 5 Caribbean Drive, Scoresby 3179 Local Tel: 03 9757 4577 Local Fax: 03 9763 2083	Sydney Branch Level 1, 4 Talavera Road, North Ryde 2113 Local Tel: 02 8617 4250 Local Fax: 02 9909 4622	Adelaide Branch 27 Beulah Road, Norwood, South Australia 5067 Local Tel: 08 8334 0000 Local Fax: 08 8363 3110	Brisbane Branch Unit 2/5 Ross St, Newstead 4006 Local Tel: 07 3852 6111 Local Fax: 07 3852 6155	Perth Branch 121 Beringarra Ave Malaga WA 6090 Local Tel: 08 9262 7599 Local Fax: 08 9248 6836	

Issue 1

13-054

Mar 09

DL Documents

G540

Page 114 of 121



ENVIROEQUIP RENTALS

Your Friend in the Field

Oct 09

Equipment Report - TPS 90FLMV Water Quality Meter

This Water Quality Meter has been performance checked / calibrated* as follows:

pH ☒ pH 6.88 ☒ pH 7.00 ☒ pH 4.00 ☒ pH 10.00 ☐ pH
Conductivity ☒ 0.0mS/cm ☒ 2.76mS/cm ☒ 42.88mS/cm ☒ 58.6mS/cm ☐ mS/cm
TDS ☒ 0.0 ppk ☒ 36 ppk ☐ ppk
Dissolved Oxygen ☒ 0.00ppm in Sodium Sulphite ☒ 100% Saturation in Air
Redox (ORP)** ☒ Electrode operability test 240mV +/- 10%. Actual: 240 mV
☒ Electrodes cleaned/checked ☒ Charged 8.0 v (min 7.2V)

* Calibration solution traceability information is available upon request.

** This meter uses an Ag/AgCl ORP electrode. To convert readings to SHE (Standard Hydrogen Electrode), add 199mV to the mV reading. For further information, refer to www.enviroequip.com/quipnotes/ORP.htm.

Date: 02/10/09 Checked by: ALV

Signed: _____

Sent	Received	Returned	Item
☒	☐	☐	90FLMV Unit. Ops check / Battery Voltage @ 8.0V
☒	☐	☐	pH sensor 5m
☒	☐	☐	Conductivity / TDS / Temperature k=10 sensor 5m
☒	☐	☐	Dissolved Oxygen YSI5739 sensor 5m
☒	☐	☐	Redox (ORP) sensor 5m
☒	☐	☐	Battery charger 240V AC to 12V DC 200mA
☒	☐	☐	Instruction Manual
☒	☐	☐	Quick Guide
☒	☐	☐	Syringe with storage solution for pH & ORP sensors
☒	☐	☐	Carry Case
☐	☐	☐	
☐	☐	☐	

Processors Signature/ Initials _____

EE Quote Reference	16792	Condition on return
Customer Ref		
Equipment ID	90FLMVBH	
Equipment serial no.	T7931	
Return Date	/ /	
Return Time		

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Internet: www.rentals.enviroequip.com

Filename: Eq Rep TPS 90FLMV ver 06.01.doc GENERIC.doc



ENVIROEQUIP RENTALS

Your Friend in the Field

Equipment Report - MINIRAE 2000 PID

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

Calibration	Actual Value	Reading	Pass?		
Zero – fresh air	0.0 ppm	0.0 ppm	☒		
Span – Isobutylene	100 ppm	100 ppm	☒		
Operations Check					
☒ Performance Check (pump, lamp, sensor & battery voltage check)					
☒ Battery Charged	☒ Filters Check	☒ Spare battery Voltage (5.0v minimum)		V	

* Calibration gas traceability information is available upon request.

Date: 30/4/19 Checked by: AB

Signed: _____ 49-Sch4 - Signature

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

Sent	Received	Returned	Item
☒	☐	☐	MiniRae 2000 PID / Operational Check, plus Battery Voltage @ <u>11.5</u> V
☒	☐	☐	Protective yellow rubber boot
☒	☐	☐	Inlet probe (attached to PID)
☒	☐	☐	Water trap filter.
☒	☐	☐	Spare water trap filter(s) Qty <u>1</u> @ \$ <u>7.50</u> +GST / filter if opened.
☒	☐	☐	Charger 240V to 12V 500mA
☒	☐	☐	Instruction Manual behind foam on the lid of case
☒	☐	☐	Quick Guide Sheet behind foam on the lid of case
☒	☐	☐	Spare Alkaline Battery Compartment with/without batteries
☒	☐	☐	Carry Case
☒	☐	☐	Calibration regulator & tubing (optional)
☐	☐	☐	
☐	☐	☐	

Processors Signature/ Initials _____

EE Quote Reference	<u>14278</u>	Condition on return
Customer Ref		
Equipment ID	PIDMINBI	
Equipment serial no.	110-901144	
Return Date	/ /	
Return Time		

Melbourne	Sydney	Brisbane	Perth	Auckland	Kuala Lumpur
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ENVIROEQUIP RENTALS

Your Friend in the Field



EQUIPMENT CERTIFICATION REPORT

SOLINST INTERFACE METER.

This Interface Meter has been performance checked as follows:

Cleaned/Tested	Description
☒	Probe/Sensor pins
☒	Tape/Reel
☒	Performance Test & Battery Voltage Check (9.0 v) 9.0v

Date: 20/4/9

Checked by: Ala

Signature: ✓ 49-Sch4 - Signature

Please check that the following items are received and that all items are returned. Please clean equipment before returning. A minimum \$20 cleaning / service / repair charge may be applied to any unclean or damaged items.

Sent	Received	Returned	Description
☒	☐	☐	Solinst Interface Meter Operational
☒	☐	☐	Solinst Interface Meter : <u>50</u> m
☒	☐	☐	Carry Bag/Box
☒	☐	☐	Spare 9V Batteries Qty (<u>2</u>)
☒	☐	☐	Instruction Guide
☒	☐	☐	Cleaning Brush

QUOTE NO.: 14278

CLIENTS REF: P/o No: _____
CLIENTS REF: Job No: _____

ID: SOL12230BF

SERIAL NO.: 122-007046-1

RETURN DATE: / /
TIME:

CONDITION ON RETURN: _____

2/5 Ross Street, Newstead, QLD 4006

Telephone: 07 3852 6111

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Internet: www.rentals.enviroequip.com

File: Eq Cert Interface meters



ENVIROEQUIP RENTALS

Your Friend in the Field

Equipment Report - GEOTECHNICAL INSTRUMENTS GA2000

This Gas Meter has been performance checked / calibrated* as follows:

Calibration	Cal Value	Reading	Cal Value	Reading	Pass?
CH4	50 / 60% vol	44 %	0.00% vol	0.0 %	☒
CH4 LEL -check	50% LEL (2.5%CH4)	49 % (2.5)			☒
H2s	25ppm	25 ppm	0 ppm	0.0 ppm	☒
O2	21.0% vol	18 %	0.00% vol	0.0 %	☒
CO	100ppm	100 ppm	0 ppm	0.0 ppm	☒
CO2	10 / 40% vol	10 %			☒
Operations Check					
☒ Cleaned/checked	☒ In line Filter Check		☒ Charged 100 %		

* Calibration gas traceability information is available upon request.

Date: 8/5/9 Checked by: AB

Signed: _____ 49-Sch4 - Signature _____

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

Sent	Received	Returned	Item
☒	☐	☐	Sampling Probe with In-Line Filter
☒	☐	☐	1m of Sampling Tube
☒	☐	☐	Carry Strap
☒	☐	☐	Battery Charger and AC/DC Power Supply
☒	☐	☐	Operating Quick Guide <u>behind foam on lid of case</u>
☒	☐	☐	Manual <u>behind foam on lid of case</u>
☒	☐	☐	Spare Inline Filters Qty (1)
☒	☐	☐	Carry case
☐	☐	☐	Data Cable and Software CD or Diskette
☐	☐	☐	
☐	☐	☐	

Processors Signature/ Initials _____

EE Quote Reference	<u>14272</u>	Condition on return
Customer Ref		
Equipment ID		
Equipment serial no.		
Return Date	<u>/ /</u>	
Return Time		

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Fax: 073852 6155					
Email: rentals.bris@enviroequip.com			Internet: www.rentals.enviroequip.com		

Filename: Eq Rep GA2000 ver 06.02.doc



ENVIROEQUIP RENTALS

Your Friend in the Field

Equipment Report - TPS 90FLMV Water Quality Meter

This Water Quality Meter has been performance checked / calibrated* as follows:

pH ☒ pH 6.88 ☒ pH 7.00 ☒ pH 4.00 ☒ pH 10.00 ☒ pH
Conductivity ☒ 0.0mS/cm ☒ 2.76mS/cm ☒ 12.88mS/cm ☒ 58.6mS/cm ☒ mS/cm
TDS ☒ 0.0 ppk ☒ 36 ppk ☒ ppk
Dissolved Oxygen ☒ 0.00ppm in Sodium Sulphite ☒ 100% Saturation in Air
Redox (ORP)** ☒ Electrode operability test 240mV +/- 10%. Actual: 240 mV
☒ Electrodes cleaned/checked ☒ Charged 80V (min 7.2V)

* Calibration solution traceability information is available upon request.

** This meter uses an Ag/AgCl ORP electrode. To convert readings to SHE (Standard Hydrogen Electrode), add 199mV to the mV reading. For further information, refer to www.enviroequip.com/quipnotes/ORP.htm.

Date: 7/5/9

Checked by: Ab

Signed: _____

49-Sch4 - Signature

Sent	Received	Returned	Item
☒	☐	☐	90FLMV Unit. Ops check / Battery Voltage @ 80V
☒	☐	☐	pH sensor 5m
☒	☐	☐	Conductivity / TDS / Temperature k=10 sensor 5m
☒	☐	☐	Dissolved Oxygen YSI5739 sensor 5m
☒	☐	☐	Redox (ORP) sensor 5m
☒	☐	☐	Battery charger: 240V AC to 12V DC 200mA
☒	☐	☐	Instruction Manual
☒	☐	☐	Quick Guide
☒	☐	☐	Syringe with storage solution for pH & ORP sensors
☐	☐	☐	Carry Case
☐	☐	☐	
☐	☐	☐	

Processors Signature/ Initials _____

EE Quote Reference	14278	Condition on return
Customer Ref		
Equipment ID	90FLMBH	
Equipment serial no.	T7931	
Return Date	/ /	
Return Time		

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ENVIROEQUIP RENTALS

Your Friend in the Field

Equipment Report – Solinst Model 122 Interface Meter

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

Cleaned/Tested Pass?
Probe ☒
Tape/Reel ☒
☒ Performance Test & Battery Voltage Check (9.0v) 8.0v minimum

Date: 18/5/19 Checked by: AG

Signed: _____ 49-Sch4 - Signature _____

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

Sent	Received	Returned	Item
☒	☐	☐	Interface meter: <u>30m</u>
☒	☐	☐	Plastic Box / Bag
☒	☐	☐	Spare 9V Battery Qty <u>2</u>
☒	☐	☐	Probe Cleaning Brush
☒	☐	☐	Decon
☒	☐	☐	Instruction leaflet
☐	☐	☐	
☐	☐	☐	

Processors Signature/ Initials _____

EE Quote Reference	<u>14791</u>	Condition on return
Customer Ref		
Equipment ID	<u>SOL12230BA</u>	
Equipment serial no.		
Return Date	<u> / / </u>	
Return Time		

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Fax: 07 3852 6155

Email: rentals.bris@enviroequip.com Internet: www.rentals.enviroequip.com

Filename: SOL12230BA



ENVIROEQUIP RENTALS

Your Friend in the Field

Equipment Report - GEOTECHNICAL INSTRUMENTS GA2000

This Gas Meter has been performance checked / calibrated* as follows:

Calibration	Cal Value	Reading	Cal Value	Reading	Pass?
CH4	50 / 60% vol	44 %	0.00% vol	0.0 %	☒
CH4 LEL -check	50% LEL (2.5%CH4)	49 % (2.5)			☐
H2s	25ppm	25 ppm	0 ppm	00 ppm	☐
O2	18-21.0% vol	18 %	0.00% vol	%	☐
CO	100ppm	100 ppm	0 ppm	0.0 ppm	☐
CO2	10 / 40% vol	10 %			☐
Operations Check					
☒ Cleaned/checked	☒ In line Filter Check		☒ Charged		%

* Calibration gas traceability information is available upon request.

Date: 29/5/9

Checked by: AL

Signed: _____

49-Sch4 - Signature

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

Sent	Received	Returned	Item
☒	☐	☐	Sampling Probe with In-Line Filter
☒	☐	☐	1m of Sampling Tube
☒	☐	☐	Carry Strap
☒	☐	☐	Battery Charger and AC/DC Power Supply
☒	☐	☐	Operating Quick Guide <u>behind foam on lid of case</u>
☒	☐	☐	Manual <u>behind foam on lid of case</u>
☒	☐	☐	Spare Inline Filters Qty (1)
☒	☐	☐	Carry case
☒	☐	☐	Data Cable and Software CD or Diskette
☐	☐	☐	
☐	☐	☐	

Processors Signature/ Initials _____

EE Quote Reference	14791	Condition on return
Customer Ref		
Equipment ID		
Equipment serial no.		
Return Date	/ /	
Return Time	.	

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