

Borehole No. **BH10/ MW8**

Engineering Log - Piezometer

Sheet 2 of 2
Office Job No.: **ENVILCOV00315AH**

Client: **Valad Property Group**

Date started: **20.5.2008**

Principal:

Date completed: **20.5.2008**

Project: **ESA 630-726 Princess Highway Tempe**

Logged by: **NC**

Borehole Location: ***Kennards Self Storage***

Checked by: **BS**

[illegible]

Borehole No. **MW10**

Engineering Log - Piezometer

Sheet 1 of 1
Office Job No.: **ENVILCOV00315AH**

Client: **Valad Property Group**

Date started: **28.5.2008**

Principal:





Date completed: **28.5.2008**

Project: **ESA 630-726 Princess Highway Tempe**

Logged by: **NC**

Borehole Location: **ATECO**

Checked by: **BS**

drill model & mounting: Truck mounted drill rig		Easting:		slope: -90°		R.L. Surface:					
hole diameter:		Northing:		bearing:		datum:					
drilling information				material substance							
method	penetration 1 2 3	support water	notes samples, tests, etc	well details	RL	depth metres	material soil type: plasticity or particle characteristics, colour, secondary and minor components.				
ADT						1	CONCRETE FILL: GRAVELLY SAND: fine to medium grained, brown to dark brown. Gravel is medium grained, pale brown to dark brown.				
			E			2	SANDY CLAY: low plasticity, pale brown mottled grey.				
			E			3	GRAVELLY SAND: fine to medium grained, grey with some pale brown. Gravel is fine to medium grained.				
			E			4	Becoming darker grey.				
						5	Becoming lighter grey to pale brown.				
						6					
						7					
						8	Borehole terminated at 7m				
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool DT diatube B blank bit V V bit T TC bit TBX Tubex *bit shown by suffix e.g. ADT				support C casing N nil penetration 1 2 3 4  water  10/1/98 water level on date shown  water inflow  water outflow		notes, samples, tests U ₅₀ undisturbed sample 50mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone P pressure meter Bs bulk sample R refusal E environmental sample PID PID measurement WS water sample PZ piezometer ALT air lift test		classification symbols and soil description based on unified classification system moisture D dry M moist W wet W _p plastic limit W _L liquid limit		consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense	

Borehole No. **MW11**

Sheet 1 of 2
Office Job No.: **ENVILCOV00315AH**

Engineering Log - Piezometer

Client: **Valad Property Group**

Date started: **27.5.2008**

Principal:

Date completed: **27.5.2008**

Project: **ESA 630-726 Princess Highway Tempe**

Logged by: **NC**

Borehole Location: **ATECO**

Checked by: **BS**

drill model & mounting:Truck mounted drill rig						Easting:		slope: -90°		R.L. Surface:					
hole diameter:						Northing:		bearing:		datum:					
drilling information						material substance									
method		penetration 1 2 3		support water	notes samples, tests, etc	well details	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	structure and additional observations	
ADTDT												M	S	FILL	
		E + DUP 6, 6a						1			FILL: SANDY GRAVELLY CLAY:low plasticity, grey to dark brown. Gravel is medium grained, red brown to grey. Some brick fragments and roadbase gravels.			PID: 0.7	
		E									FILL: GRAVELLY SILTY CLAY:medium plasticity, brown to dark brown. Gravels are fine grain, pale brown to brown. Some crushed brick material.	M	S	PID: 0.4	
		E						2						PID: 0.4	
											SILTY CLAY:medium plasticity, pale brown to brown.	M	S	RESIDUAL	
		E									GRAVELLY SAND:fine to medium grained, pale brown to brown. Gravel is medium grained, grey to pale brown.	D	L	PID: 0.7	
		E						3							
								4						PID: 0.5	
Air Blade								5			Becoming darker colour, more grey to brown.				
								6				M	L		
								7							
								8				W	L		
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool DT diatube B blank bit V V bit T TC bit TBX Tubex *bit shown by suffix e.g. ADT				support C casing N nil penetration 1 2 3 4 no resistance ranging to refusal water 10/1/98 water level on date shown water inflow water outflow		notes, samples, tests U ₅₀ undisturbed sample 50mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone P pressure meter Bs bulk sample R refusal E environmental sample PID PID measurement WS water sample PZ piezometer ALT air lift test				classification symbols and soil description based on unified classification system moisture D dry M moist W wet W _p plastic limit W _L liquid limit				consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense	

Borehole No. **MW11**

Engineering Log - Piezometer

Sheet 2 of 2
Office Job No.: **ENVILCOV00315AH**

Client: **Valad Property Group**

Date started: **27.5.2008**

Principal:





Date completed: **27.5.2008**

Project: **ESA 630-726 Princess Highway Tempe**

Logged by: **NC**

Borehole Location: **ATECO**

Checked by: **BS**

drill model & mounting: Truck mounted drill rig				Easting:		slope: -90°		R.L. Surface:											
hole diameter:				Northing:		bearing:		datum:											
drilling information						material substance													
method	penetration 1 2 3	support	water	notes samples, tests, etc	well details	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	structure and additional observations						
Air Blade							9			GRAVELLY SAND: fine to medium grained, pale brown to brown. Gravel is medium grained, grey to pale brown. (continued)	W	L							
							10			Borehole terminated at 10m									
							11												
							12												
							13												
							14												
							15												
							16												
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool DT diatube B blank bit V V bit T TC bit TBX Tubex *bit shown by suffix e.g. ADT				support C casing N nil penetration 1 2 3 4  no resistance ranging to refusal water  10/1/98 water level on date shown  water inflow  water outflow				notes, samples, tests U ₅₀ undisturbed sample 50mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone P pressure meter Bs bulk sample R refusal E environmental sample PID PID measurement WS water sample PZ piezometer ALT air lift test				classification symbols and soil description based on unified classification system moisture D dry M moist W wet W _p plastic limit W _L liquid limit				consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense			

Borehole No. **MW12**

Engineering Log - Piezometer

Sheet 1 of 2
Office Job No.: **ENVILCOV00315AH**

Client: **Valad Property Group**

Date started: **27.5.2008**

Principal:

Date completed: **27.5.2008**

Project: **ESA 630-726 Princess Highway Tempe**

Logged by: **NC**

Borehole Location: **ATECO**

Checked by: **BS**

drill model & mounting: Truck mounted drill rig		Easting:		slope: -90°		R.L. Surface:	
hole diameter:		Northing:		bearing:		datum:	
drilling information				material substance			
method	penetration 1 2 3	support water	notes samples, tests, etc	well details	RL	depth metres	structure and additional observations
ADT						1	FILL: GRAVELLY SANDY CLAY: low plasticity, pale brown to grey mottled brown. Gravel is fine grained, red to grey to brown. Some ironstone and shale fragments.
			E			2	FILL: GRAVELLY SANDY CLAY: low plasticity, brown to grey mottled dark brown. Gravel is fine to medium grained, red to brown to grey. Some ironstone fragments.
			E			3	SILTY CLAY: medium plasticity, pale brown to grey mottled brown to red.
			E			4	GRAVELLY SAND: fine to medium grained, pale brown to grey. Gravel is fine to medium grained, pale brown to grey. Some grey shale and ironstone fragments.
			E			5	Ironstone, red to brown, moderate strength.
						6	
						7	
						8	

PIEZOMETER ENVILCOV00315AH.GPJ COFFEY.GDT 25.6.08

Form GEO 5.10 Issue 3 Rev.0

Borehole No. **MW12**

Engineering Log - Piezometer

Sheet 2 of 2

Office Job No.: **ENVILCOV00315AH**

Client: **Valad Property Group**

Date started: **27.5.2008**

Principal:

Date completed: **27.5.2008**





Project: **ESA 630-726 Princess Highway Tempe**

Logged by: **NC**

Borehole Location: **ATECO**

Checked by: **BS**

drill model & mounting: Truck mounted drill rig				Easting:		slope: -90°		R.L. Surface:					
hole diameter:				Northing:		bearing:		datum:					
drilling information						material substance							
method	penetration 1 2 3	support	water	notes samples, tests, etc	well details	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	structure and additional observations
Air Blade							9			GRAVELLY SAND: fine to medium grained, pale brown to grey. Gravel is fine to medium grained, pale brown to grey. Some grey shale and ironstone fragments. <i>(continued)</i> Becoming darker brown to grey shale.	D	L	
							10			Borehole terminated at 8.7m			
							11						
							12						
							13						
							14						
							15						
							16						

method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool DT diatube B blank bit V V bit T TC bit TBX Tubex *bit shown by suffix e.g. ADT	support C casing N nil penetration 1 2 3 4  no resistance ranging to refusal water  10/1/98 water level on date shown  water inflow  water outflow	notes, samples, tests U ₅₀ undisturbed sample 50mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone P pressure meter Bs bulk sample R refusal E environmental sample PID PID measurement WS water sample PZ piezometer ALT air lift test	classification symbols and soil description based on unified classification system moisture D dry M moist W wet W _p plastic limit W _L liquid limit	consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense
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Borehole No. **MW13**

Engineering Log - Piezometer

Sheet 1 of 2

Office Job No.: **ENVILCOV00315AH**

Client: **Valad Property Group**

Date started: **29.5.2008**

Principal:

Date completed: **29.5.2008**





Project: **ESA 630-726 Princess Highway Tempe**

Logged by: **NC**

Borehole Location: **ATECO**

Checked by: **BS**

drill model & mounting: Truck mounted drill rig				Easting:		slope: -90°		R.L. Surface:					
hole diameter:				Northing:		bearing:		datum:					
drilling information					material substance								
method	penetration	support	water	notes samples, tests, etc	well details	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	structure and additional observations
ADT	1 2 3			E + DUPZ 10			1			CONCRETE FILL: SANDY GRAVEL: coarse grained, grey to dark brown. Sand is fine to medium grained, brown to dark brown. FILL: GRAVELLY SILTY CLAY: low plasticity, brown mottled grey to dark grey. Gravel is fine grained, pale grey to dark brown. SILTY CLAY: medium plasticity, brown mottled pale brown to grey.	M	S	FILL PID: 1.1
				E			2				M	F	RESIDUAL PID: 0.9 PID: 0.8
							3			SILTY CLAY: low to medium plasticity, pale brown to red mottled grey.	D	L	PID: 0.8
				E			4			GRAVELLY SAND: fine to medium grained, grey to pale brown. Gravel is fine grained, grey to pale brown.	D	L	PID: 0.7
Air Blade							5						
							6						
							7						
							8						

method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool DT diatube B blank bit V V bit T TC bit TBX Tubex *bit shown by suffix e.g. ADT	support C casing N nil penetration 1 2 3 4  no resistance ranging to refusal water  10/1/98 water level on date shown  water inflow  water outflow	notes, samples, tests U ₅₀ undisturbed sample 50mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone P pressure meter Bs bulk sample R refusal E environmental sample PID PID measurement WS water sample PZ piezometer ALT air lift test	classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense
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Borehole No. **MW13**

Engineering Log - Piezometer

Sheet 2 of 2

Office Job No.: **ENVILCOV00315AH**

Client: **Valad Property Group**

Date started: **29.5.2008**

Principal:





Date completed: **29.5.2008**

Project: **ESA 630-726 Princess Highway Tempe**

Logged by: **NC**

Borehole Location: **ATECO**

Checked by: **BS**

drill model & mounting: Truck mounted drill rig				Easting:		slope: -90°		R.L. Surface:							
hole diameter:				Northing:		bearing:		datum:							
drilling information						material substance									
method	penetration 1 2 3	support	water	notes samples, tests, etc	well details	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	structure and additional observations		
Air Blade							9			GRAVELLY SAND: fine to medium grained, grey to pale brown. Gravel is fine grained, grey to pale brown. (continued)	D	L			
							10			Borehole terminated at 9m					
							11								
							12								
							13								
							14								
							15								
							16								
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool DT diatube B blank bit V V bit T TC bit TBX Tubex *bit shown by suffix e.g. ADT				support C casing N nil penetration 1 2 3 4  no resistance ranging to refusal water  10/1/98 water level on date shown  water inflow  water outflow				notes, samples, tests U ₅₀ undisturbed sample 50mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone P pressure meter Bs bulk sample R refusal E environmental sample PID PID measurement WS water sample PZ piezometer ALT air lift test				classification symbols and soil description based on unified classification system moisture D dry M moist W wet W _p plastic limit W _L liquid limit		consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense	

Borehole No. **MW14**

Sheet 1 of 2
Office Job No.: **ENVILCOV00315AH**

Engineering Log - Piezometer

Client: **Valad Property Group**

Date started: **28.5.2008**

Principal:

Date completed: **28.5.2008**Project: **ESA 630-726 Princess Highway Tempe**

Logged by: **NC**

Borehole Location: **ATECO**

Checked by: **BS**

drill model & mounting:Truck mounted drill rig						Easting:		slope: -90°		R.L. Surface:					
hole diameter:						Northing:		bearing:		datum:					
drilling information						material substance									
method		penetration 1 2 3		support	water	notes samples, tests, etc	well details	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	structure and additional observations
ADTDT												CONCRETE	D	L	FILL
						E			1			FILL: GRAVELLY SAND:fine to medium grained, brown to dark brown. Gravel is medium grained, red to dark brown. Some brick fragments.	M	S	PID: 1.0
						E						FILL: GRAVELLY SILTY CLAY:medium plasticity, brown mottled grey to dark brown. Gravel is fine grained, red to brown with some dark brown.	D	L	PID: 0.9
						E			2			FILL: GRAVELLY SAND:fine to medium grained, dark brown. Gravel is medium grained, orange to red to brown. Some brick fragments, some glass and timber present.	M	S	PID: 0.6
						E						FILL: GRAVELLY SILTY CLAY:low to medium plasticity, dark brown. Gravel is fine grained, brown to dark brown.			
						E			3			SILTY CLAY: low plasticity, orange to brown mottled dark grey.	D	H	RESIDUAL PID: 0.5
						E			4			SILTY CLAY: low plasticity, grey mottled red to brown.	M	F	PID: 0.7
Air Blade									5			GRAVELLY SAND:fine to medium grained, pale brown to grey. Gravel is fine to medium grained, pale brown to grey.	D	L	
									6						
									7						
									8						
method		auger screwing*				support		C casing	N nil	notes, samples, tests		classification symbols and soil description		consistency/density index	
AS		auger drilling*				C casing		N nil		U ₅₀ undisturbed sample 50mm diameter		based on unified classification system		VS very soft	
AD		roller/tricone				N				D disturbed sample				S soft	
RR		washbore				N*				N standard penetration test (SPT)				F firm	
W		cable tool				Nc				P SPT - sample recovered				St stiff	
CT		diatube				P				Bs SPT with solid cone				VSt very stiff	
DT		blank bit				R				P pressure meter				H hard	
B		V bit				E				R refusal				Fb friable	
V		TC bit				PID				E environmental sample				VL very loose	
T		Tubex				WS				PID PID measurement				L loose	
TBX		on date shown				PZ				water sample				MD medium dense	
*bit shown by suffix		no resistance ranging to refusal				ALT				piezometer				D dense	
e.g. ADT		water inflow								air lift test				VD very dense	
		water outflow													

Borehole No. **MW14**

Engineering Log - Piezometer

Sheet 2 of 2
Office Job No.: **ENVILCOV00315AH**

Client: **Valad Property Group**

Date started: **28.5.2008**

Principal:





Date completed: **28.5.2008**

Project: **ESA 630-726 Princess Highway Tempe**

Logged by: **NC**

Borehole Location: **ATECO**

Checked by: **BS**

drill model & mounting: Truck mounted drill rig				Easting:		slope: -90°		R.L. Surface:							
hole diameter:				Northing:		bearing:		datum:							
drilling information						material substance									
method	penetration 1 2 3	support	water	notes samples, tests, etc	well details	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	structure and additional observations		
Air Blade							9			GRAVELLY SAND: fine to medium grained, pale brown to grey. Gravel is fine to medium grained, pale brown to grey. (continued)	D	L			
							10								
							11			Borehole terminated at 10.5m					
							12								
							13								
							14								
							15								
							16								
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool DT diatube B blank bit V V bit T TC bit TBX Tubex *bit shown by suffix e.g. ADT				support C casing N nil penetration 1 2 3 4  no resistance ranging to refusal water  10/1/98 water level on date shown  water inflow  water outflow				notes, samples, tests U ₅₀ undisturbed sample 50mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone P pressure meter Bs bulk sample R refusal E environmental sample PID PID measurement WS water sample PZ piezometer ALT air lift test				classification symbols and soil description based on unified classification system moisture D dry M moist W wet W _p plastic limit W _L liquid limit		consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense	

Borehole No. **MW15**

Sheet 1 of 2
Office Job No.: **ENVILCOV00315AH**

Engineering Log - Piezometer

Client: **Valad Property Group**

Date started: **27.5.2008**

Principal:

Date completed: **27.5.2008**

Project: **ESA 630-726 Princess Highway Tempe**

Logged by: **NC**

Borehole Location: **ATECO**

Checked by: **BS**

[illegible]