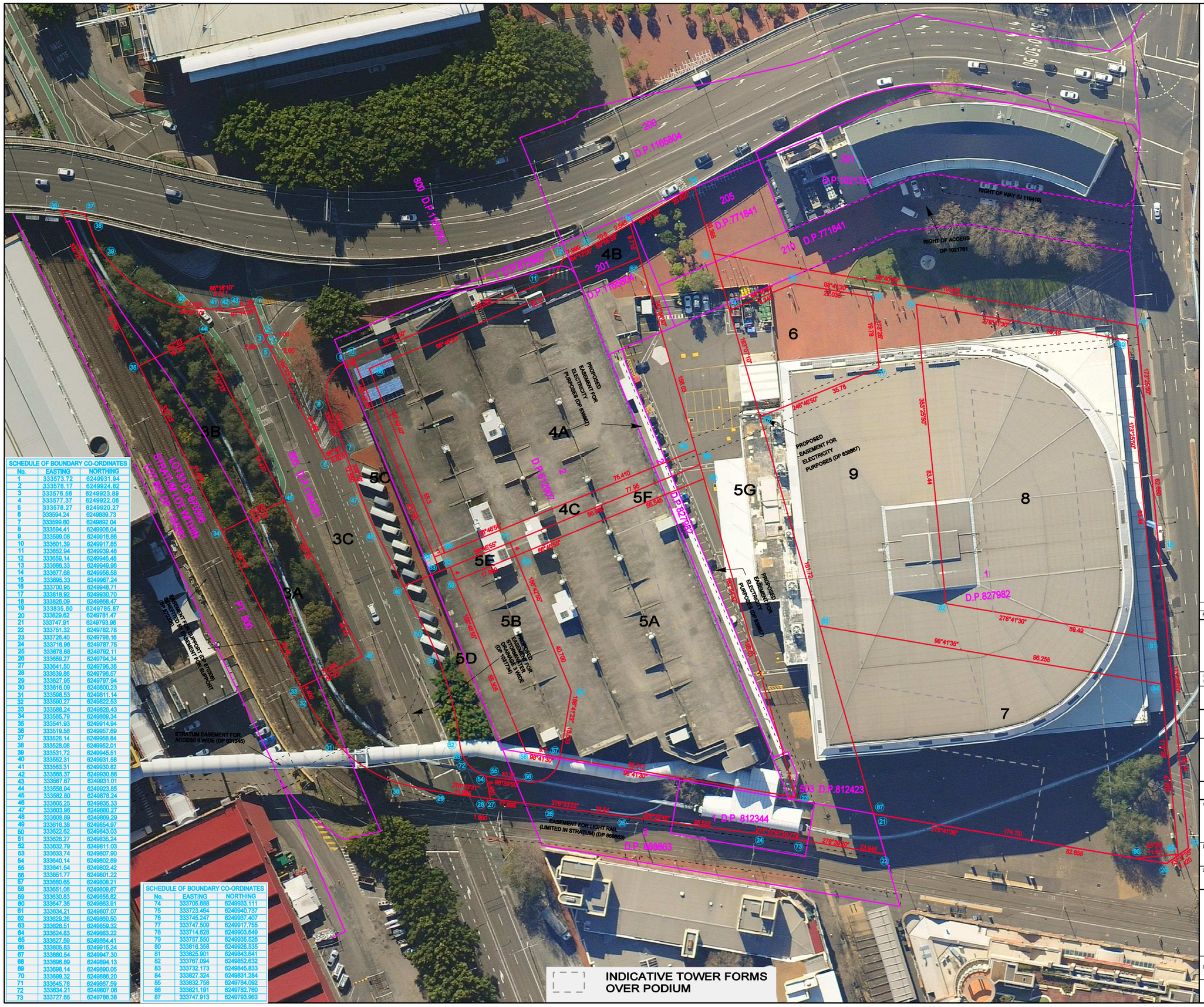

SCHEDULE OF BOUNDARY CO-ORDINATES		
No.	EASTING	NORTHING
1	333573.72	6249931.94
2	333576.17	6249924.82
3	333578.56	6249923.89
4	333577.37	6249922.06
5	333578.27	6249920.27
6	333594.24	6249889.73
7	333599.60	6249892.04
8	333594.41	6249906.04
9	333599.08	6249916.86
10	333601.39	6249917.85
11	333652.94	6249939.48
12	333659.14	6249946.48
13	333666.33	6249949.96
14	333677.68	6249956.58
15	333695.33	6249967.24
16	333700.95	6249948.71
17	333818.92	6249930.70
18	333826.09	6249868.47
19	333835.60	6249785.67
20	333829.62	6249781.47
21	333747.91	6249793.96
22	333751.32	6249782.78
23	333726.40	6249798.16
24	333716.96	6249787.75
25	333678.68	6249792.11
26	333659.27	6249794.34
27	333641.50	6249796.38
28	333639.86	6249796.57
29	333627.95	6249797.94
30	333616.09	6249800.23
31	333596.53	6249811.14
32	333590.27	6249822.53
33	333588.24	6249826.43
34	333585.79	6249869.34
35	333541.93	6249914.94
36	333519.56	6249957.69
37	333526.14	6249956.84
38	333528.06	6249952.01
39	333531.72	6249945.51
40	333552.31	6249931.58
41	333563.31	6249930.82
42	333565.37	6249930.86
43	333567.67	6249931.01
44	333558.94	6249923.85
45	333582.80	6249878.24
46	333605.25	6249835.33
47	333603.96	6249880.27
48	333606.89	6249869.29
49	333616.38	6249854.97
50	333622.62	6249843.03
51	333626.27	6249835.24
52	333632.79	6249811.03
53	333633.74	6249807.90
54	333640.14	6249802.69
55	333641.54	6249802.42
56	333651.77	6249801.22
57	333660.65	6249808.21
58	333651.06	6249809.67
59	333630.83	6249856.82
60	333647.36	6249863.91
61	333634.21	6249807.07
62	333629.26	6249860.50
63	333626.51	6249859.32
64	333624.83	6249863.22
65	333627.59	6249884.41
66	333605.83	6249915.24
67	333680.54	6249947.30
68	333696.89	6249894.13
69	333698.14	6249990.05
70	333699.32	6249886.20
71	333645.78	6249867.59
72	333634.21	6249807.06
73	333727.65	6249786.38

SCHEDULE OF BOUNDARY CO-ORDINATES		
No.	EASTING	NORTHING
74	333705.588	6249933.111
75	333723.464	6249940.737
76	333745.247	6249937.407
77	333747.509	6249917.755
78	333714.628	6249903.646
79	333757.550	6249935.526
80	333816.359	6249926.535
81	333825.901	6249843.641
82	333767.094	6249852.632
83	333732.173	6249845.833
84	333627.324	6249831.284
85	333632.758	6249784.092
86	333621.191	6249782.760
87	333747.913	6249793.963

NOTES:

LIMITED BOUNDARY SURVEY MADE. IF ANY CONSTRUCTION IS INTENDED IN THE PROXIMITY OF THE BOUNDARIES IT IS RECOMMENDED THAT A FURTHER SURVEY BE REQUESTED FOR THE MARKING OF THE RELEVANT BOUNDARIES.

ORIGIN OF CO-ORDINATES:
SSM 168145
E 333 679.368
N 6249942.260

ORIGIN OF AZIMUTH:
SSM 54327 TO SSM 168146

ORIGIN OF LEVELS:
PM 55082 RL 3.288 AHD

THIS PLAN HAS BEEN CREATED AT A SCALE OF 1:500 AND MAY NOT BE SATISFACTORY FOR OTHER PURPOSES. THE ACCURACY OF ANY ENLARGEMENT OR OTHER REPRODUCTION MAY BE LESS THAN THAT OF THE ORIGINAL.

BOUNDARY LOCATION ADOPTED FROM
CAD FILE PROVIDED BY LEND LEASE 23/7/13
DCM - 7428a-COMBINED SITE BOUNDARY

FINAL BOUNDARIES, DIMENSIONS AND CO-ORDINATES MAY VARY SUBJECT TO APPROVAL AND REGISTRATION PROVIDED AT TITLES OFFICE.

APPROXIMATE LOCATION OF AERIAL PHOTOGRAPH ADDED

REV.	DATE	AMENDMENTS
A	12/12/2013	TOWER FORMS ADDED

RYGATE SURVEYORS
SURVEYING SINCE 1893
Rygate & Company Pty Limited
P.W. Rygate & West
ABN 61 001 204 897
Suite 904 Level 9, 89 York St Sydney NSW 2000
P +61 2 9262 6500
F +61 2 9262 6843
surveyors@rygate.com.au
W rygate.com.au

SUBDIVISION | STRATA PLANS | STRATUM SUBDIVISION | LEASE PLANS | TOPOGRAPHIC SURVEYS | GPS SURVEYS | 3D MODELLING | RACECOURSE DESIGN | PROJECT MANAGEMENT | SUN SHADOW DIAGRAMS

SURVEYOR	DRAWN	CHECKED	APPROVED
-	-		

0 50
REDUCTION RATIO 1:500 @ A1

DATUM :
CONTOUR INTERVAL :
ORIGIN OF LEVELS :

THIS TITLE BLOCK AND NOTES FORM AN INTEGRAL PART OF THE PLAN AND MUST BE REPRODUCED IN ANY USE, DUPLICATION OR AMENDMENT.

CLIENT
LEND LEASE (HAYMARKET) PTY LTD

LOCALITY
DARLING HARBOUR

L.G.A.
SYDNEY

SHOWING PROPOSED LOT DIMENSIONS, PROPOSED SICEEP HAYMARKET BOUNDARY AND EXISTING TITLE LOCATIONS HAYMARKET REMEDIATION

CAD REFERENCE 76098_DCM7428A-haymarket boundary_121213.dgn

REFERENCE No.	PLAN No.	DATE	SHEET No.
76098	76098_4	12/12/2013	4 OF 4 SHEETS

Appendix C
Borehole Logs

Site Specific Remedial Action Plan
Haymarket, Sydney NSW

coffey environments

Engineering Log - Borehole

Borehole No.	**BH1**
Sheet	1 of 3
Office Job No.:	**GEOTLCOV24303AA**
Client:	**Sydney Harbour Foreshore Authority**
Date started:	**7.6.2011**
Principal:	
Date completed:	**7.6.2011**
Project:	**Sydney International Convention & Entertainment Centre**
Logged by:	**LJG**
Borehole Location:	**Darling Drive, Haymarket, NSW**
Checked by:	**SS**

drill model and mounting: Hydrapower Scout Truck | Easting: | slope: -90° | R.L. Surface: 3.75

hole diameter: 100 mm | Northing | bearing: N/A | datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADT		C	C	E+0.5ppm					**FILL: BRICK PAVERS:** 0.08m. **FILL: SAND:** Medium grained, brown, with some roots, 0.02m. **FILL: CONCRETE:** Grey, 0.50m.	D			PAVEMENT
				E+0ppm	3				**FILL: SAND:** Coarse grained, red, brown, grey, trace of clay and fine to medium sandstone and brick gravel.	D			FILL
				SPT 7,11,10 N*=21		1							
				E+0ppm	2				**FILL: Clayey SAND:** Coarse grained, brown, low plasticity clay, with some medium grained sand, trace of shells, fibers and fine grained rounded sandstone and brick gravel.				
ADV				SPT 1,1,2 N*=3	1	2							
				E+0ppm		3		CL	**Sandy CLAY:** Low to medium plasticity clay, dark brown, coarse grained sand, with some shells.	M	F		POSSIBLY FILL?
			►	SPT 3,2,1 N*=3	0	4			4.00m Band of red partially cemented sand and ironstone gravel.	W			
					-1			SC	**Clayey SAND:** Medium to coarse grained, brown, red, orange mottled, low to medium plasticity clay, with some shells.		L		ESTUARINE/ALLUVIUM
						5		SW	**SAND:** Medium to coarse grained, brown, grey, red, with some clay and shells.				
				SPT 1,2,4 N*=6	-2								
						6		SP	**SAND:** Coarse grained, pale grey to grey, trace of clay and shells.		L-MD		RESIDUAL SOIL
					-3								
				SPT 8/70mm N*=R		7			**SANDSTONE:** Extremely weathered, coarse grained, grey, red, brown, estimated to be low strength, remoulds to a sand.				WEATHERED BEDROCK
					-4	8			Borehole BH1 continued as cored hole				

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	**BH10**
Sheet	1 of 4
Office Job No.:	**GEOTLCOV24303AA**
Client:	***Sydney Harbour Foreshore Authority***
Date started:	***1.6.2011***
Principal:	
Date completed:	***10.6.2011***
Project:	***Sydney International Convention & Entertainment Centre***
Logged by:	***LJG***
Borehole Location:	***Little Pier Street, Haymarket, NSW***
Checked by:	***SS***

drill model and mounting:	Ausroc 4000 Truck	Easting:	slope:	-90°	R.L. Surface: 3
hole diameter:	100 mm	Northing	bearing:	N/A	datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa (100 200 300 400)	structure and additional observations
ADT		C	C						**BRICK PAVERS:**	D			PAVEMENT
									FILL: Gravelly SAND: Medium to coarse, brown, fine to medium angular gravel.				
									CONCRETE: 0.20m				
									FILL: Clayey SAND: Coarse grained, brown	D			FILL
									FILL: Sandy CLAY: Medium plasticity, red-brown/pale grey.				
				SPT 8/90mm N*=R	2	1			1.09m - With some asphalt gravel.				1m - Slight odour, tar and asphalt. 1.09m - Strong odour
					1	2				M			
									FILL: Silty CLAY: Low to medium plasticity, grey, brown, trace of sand.	D			
				SPT 3,2,3 N*=5					**FILL: CLAY:** Medium to high plasticity, red, brown, pale grey, orange mottled, with some fine gravel.				
			►		0	3		SM	**Silty SAND:** Medium to coarse grained, black, with some shells, trace of fine gravel.	W	VL		ESTUARINE
					-1	4		SC	**Clayey SAND:** Coarse grained, brown, medium to high plasticity clay.				
				SPT 1,0,0 N*=0				SC	**Clayey SAND:** Coarse grained, black, low plasticity clay, with some shells, trace of silt.				ESTUARINE
					-2	5							
WB								CH	**CLAY:** High plasticity, red brown, grey with some sand.		St		ALLUVIUM / SLOPE WASH
					-3	6		SC	**Clayey SAND:** Fine grained, pale grey, low plasticity clay.		MD		
				SPT 4,5,7 N*=12	-4	7		CL-CH	**Sandy CLAY:** Medium to high plasticity clay, pale grey, yellow brown.		VSt	×	
								CH	**CLAY:** High plasticity, red brown, grey, with some coarse sand.			×	
					-5	8							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

BOREHOLE GEOTLCOV24303AA.GPJ COFFEY.GDT 19.8.11

Form GEO 5.3 Issue 3 Rev.2

coffey environments

Engineering Log - Borehole

Borehole No.	**BH10**
Sheet	2 of 4
Office Job No.:	**GEOTLCOV24303AA**
Client:	**Sydney Harbour Foreshore Authority**
Date started:	**1.6.2011**
Principal:	
Date completed:	**10.6.2011**
Project:	**Sydney International Convention & Entertainment Centre**
Logged by:	**LJG**
Borehole Location:	**Little Pier Street, Haymarket, NSW**
Checked by:	**SS**

drill model and mounting:	Ausroc 4000 Truck	Easting:	slope:	-90°	R.L. Surface: 3
hole diameter:	100 mm	Northing	bearing:	N/A	datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
WB				SPT 6,7,9 N*=16				CH	**CLAY:** High plasticity, red brown, grey, with some coarse sand. *(continued)*	W	VSt	×	
					-6	9		CH	**CLAY:** High plasticity, red, brown, dark grey, orange mottled, trace of ironstone gravel and fine sand.		St/VSt	×	
				SPT 5,5,7 N*=12	-7	10		SC	**Clayey SAND:** Coarse grained, grey, low to medium clay.		MD		RESIDUAL SOIL
					-8	11			Borehole BH10 continued as cored hole				
					-9	12							
					-10	13							
					-11	14							
					-12	15							
					-13	16							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit
*bit shown by suffix e.g.	ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	**BH11**
Sheet	1 of 3
Office Job No.:	**GEOTLCOV24303AA**
Client:	**Sydney Harbour Foreshore Authority**
Date started:	**1.6.2011**
Principal:	
Date completed:	**1.6.2011**
Project:	**Sydney International Convention & Entertainment Centre**
Logged by:	**RH**
Borehole Location:	**Sydney Entertainment Centre, Haymarket, NSW**
Checked by:	**SS**

drill model and mounting:	Ausroc 4000 Truck	Easting:	slope:	-90°	R.L. Surface: 2.9
hole diameter:	100 mm	Northing	bearing:	N/A	datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa (100 200 300 400)	structure and additional observations
ADV		C	C	D E+0ppm					**FILL: SAND:** Medium to coarse grained, pale brown, with some quartz and shell fragments.	M			FILL
				E+0ppm D	2	1			**FILL: SAND:** Fine to coarse grained, dark brown, black, with some fine to medium lithic gravels and sandstone.				
				E+1.1ppm					**FILL: SANDSTONE BOULDER:** Pale yellow and white				0.70m distinct bitumen odour 0.80m SPT1 moved from 1.0m to 1.50m due to sandstone boulder.
				SPT 13,5,3 N*=8	1	2			**FILL: SAND:** Fine to coarse grained, dark brown, black, with some fine to medium lithic gravels and sandstone. 1.40m colour becoming brown				
				E+0.3ppm				CL	**Silty CLAY:** Low plasticity, pale grey mottled red.	W	F		ALLUVIUM
					0	3		SC	**Clayey SAND:** Fine to medium grained, dark grey, clay rich and sand rich layers throughout		MD		
				U_{50}									3.00m distinct organic odour
				E+0.6ppm									
					-1	4		CH	**CLAY:** High plasticity, dark grey, brown.		S-F		
				SPT 3,4,10 N*=14	-2	5		CL	**Silty CLAY:** Low plasticity, pale grey mottled red and orange iron stained, with some red clay pockets throughout.		VSt		RESIDUAL SOIL
					-3	6			5.70m increased iron staining				
				SPT 7,8,9 N*=17	-4	7							
				SPT 3,5,30/120mm N*=R	-5	8			**SANDSTONE:** Extremely weathered, medium grained, pale grey, white, estimated to be very low strength.				WEATHERED BEDROCK

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	***BH11***
Sheet	2 of 3
Office Job No.:	***GEOTLCOV24303AA***
Client:	***Sydney Harbour Foreshore Authority***
Date started:	***1.6.2011***
Principal:	
Date completed:	***1.6.2011***
Project:	***Sydney International Convention & Entertainment Centre***
Logged by:	***RH***
Borehole Location:	***Sydney Entertainment Centre, Haymarket, NSW***
Checked by:	***SS***

drill model and mounting:	Ausroc 4000 Truck	Easting:	slope:	-90°	R.L. Surface: 2.9
hole diameter:	100 mm	Northing	bearing:	N/A	datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
									Borehole BH11 continued as cored hole				
					-6	9							
					-7	10							
					-8	11							
					-9	12							
					-10	13							
					-11	14							
					-12	15							
					-13	16							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit
*bit shown by suffix e.g.	ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	**BH12**
Sheet	1 of 3
Office Job No.:	**GEOTLCOV24303AA**
Client:	***Sydney Harbour Foreshore Authority***
Date started:	**10.6.2011**
Principal:	
Date completed:	**10.6.2011**
Project:	***Sydney International Convention & Entertainment Centre***
Logged by:	**RC**
Borehole Location:	***Sydney Entertainment Centre, Haymarket, NSW***
Checked by:	**SS**

drill model and mounting: Hydrapower Scout Truck | Easting: | slope: -90° | R.L. Surface: 2.8

hole diameter: 100 mm | Northing | bearing: N/A | datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa (100 200 300 400)	structure and additional observations
ADT		C	C	E+0ppm					**FILL: Clayey SAND:** Fine to medium grained, brown, trace of gravel and rootlets.	D			TOPSOIL/FILL
				E+0ppm	2	1			**FILL: CONCRETE:** Pale grey (100mm)				FILL (Pavement?)
									FILL: Sandy GRAVEL: Medium to coarse, grey to dark grey.				
				E+0.7ppm					**FILL: Silty SAND:** Fine to medium grained, dark grey to black, with some clay and fine rounded gravel.	M			FILL slight odour
				SPT 4,4,3 N*=7	1	2			**FILL:** Very low strength shale remoulding as brown silty clay.	<Wp			
				E+0.8ppm					**FILL: Silty CLAY:** High plasticity, red-brown mottled orange-brown, with some sand.				
					0	3			2.7m - With some fine to medium subangular ironstone gravel.	>Wp			
ADV				SPT 0,0,1 N*=1				CH	3.4m - Band with some sand and shells (50mm). **Silty CLAY:** High plasticity, dark grey, with some bands of medium grained sand and some shells. 3.4m - Band with some sand and shells.		S/F		3.0m - SPT rods sunk 400mm under hammer weight ESTUARINE
				U_{50}	-1	4			3.95m - With some fibres. 4.2m - Becoming grey.				
				SPT 2,2,4 N*=6	-2	5		CH	4.7m - Becoming mottled red. **Sandy CLAY:** High plasticity, pale grey mottled red and orange-brown, medium grained sand, trace of silt.		St-VSt		COLLUVIUM / SLOPE WASH
					-3	6							
				SPT 2,4,8 N*=12	-4	7		SP	**SAND:** Medium grained, pale grey mottled brown, trace of clay.	W	MD		RESIDUAL SOIL
				SPT 3,11,30/60mm N*=R	-5	8			7.75m - Becoming yellow and red.		D		WEATHERED BEDROCK

5.5m at 11am on 10/6/2011

Notes, samples, tests: Borehole BH12 continued as cored hole

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support: M mud, N nil, C casing

penetration: 1 2 3 4 — no resistance ranging to refusal

water: 10/1/98 water level on date shown; water inflow; water outflow

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description: based on unified classification system

moisture

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

consistency/density index

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

BOREHOLE GEOTLCOV24303AA.GPJ COFFEY.GDT 19.8.11

Form GEO 5.3 Issue 3 Rev.2

coffey environments

Engineering Log - Borehole

Borehole No. **BH13**

Sheet 1 of 3

Office Job No.: **GEOTLCOV24303AA**

Client: ***Sydney Harbour Foreshore Authority***

Date started: ***9.6.2011***

Principal:

Date completed: ***9.6.2011***

Project: ***Sydney International Convention & Entertainment Centre***

Logged by: ***RC***

Borehole Location: ***Sydney Entertainment Centre, Haymarket, NSW***

Checked by: ***SS***

drill model and mounting: Hydrapower Scout Truck | Easting: | slope: -90° | R.L. Surface: 3.15

hole diameter: 100 mm | Northing | bearing: N/A | datum: AHD

drilling information						material substance						
method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADT					3				**FILL:** Rectangular, red-brown concrete pavers (50mm) overlying medium grained pale brown sand (50mm)	D			PAVEMENT
									FILL: Sandy GRAVEL: Medium to coarse, grey, fine to medium grained sand.				FILL
ADV						1			**FILL: Gravelly SAND:** Fine to medium grained, brown, fine to coarse angular to subrounded gravel.				
				SPT 10,8,2 N*=10	2					M			
									FILL: SAND: Medium grained, pale brown.	W			
						2			1.8m - With some brown gravel.				
			▼ 4m at 12pm on 9/6/2011		1			CH	**Silty CLAY:** High plasticity, dark grey.	>Wp	S		ESTUARINE
				SPT 1,1,1 N*=2		3							
				U_{50}	0								3m - With sulfuric odour
						4					F/St		
				SPT 3,6,6 N*=12	-1								
						5		CL	**Sandy CLAY:** Low plasticity, pale grey mottled, orange-brown, fine to medium grained sand with some fine to medium subangular ironstone gravel.		St-VSt		COLLUVIUM/SLOPE WASH
					-2								
				SPT 5,4,4 N*=8		6							
					-3				6.5m - Becoming red.				
						7			6.8m - One rootlet.				
				SPT 6,6,7 N*=13	-4								
						8							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil

C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

BOREHOLE GEOTLCOV24303AA.GPJ COFFEY.GDT 19.8.11

Form GEO 5.3 Issue 3 Rev.2

coffey environments

Engineering Log - Borehole

Borehole No.	**BH13**
Sheet	2 of 3
Office Job No.:	**GEOTLCOV24303AA**
Client:	**Sydney Harbour Foreshore Authority**
Date started:	**9.6.2011**
Principal:	
Date completed:	**9.6.2011**
Project:	**Sydney International Convention & Entertainment Centre**
Logged by:	**RC**
Borehole Location:	**Sydney Entertainment Centre, Haymarket, NSW**
Checked by:	**SS**

drill model and mounting: Hydrapower Scout Truck | Easting: | slope: -90° | R.L. Surface: 3.15

hole diameter: 100 mm | Northing | bearing: N/A | datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADV					-5	9		CL	**Sandy CLAY:** Low plasticity, pale grey mottled, orange-brown, fine to medium grained sand with some fine to medium subangular ironstone gravel. *(continued)*	>Wp	St-VSt		
				SPT 4,5,3 N*=8	-6			SP	**SAND:** Medium to coarse grained, dark grey to grey, with some high plasticity clay.	W	L-MD		RESIDUAL SOIL?
						10							WEATHERED ROCK
NMLC				SPT R,30/140,R N*=R	-7				Borehole BH13 continued as cored hole				SPT hammer bouncing
					-8	11							
					-9	12							
					-10	13							
					-11	14							
					-12	15							
						16							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	**BH14**
Sheet	1 of 2
Office Job No.:	**GEOTLCOV24303AA**
Client:	**Sydney Harbour Foreshore Authority**
Date started:	**17.6.2011**
Principal:	
Date completed:	**17.6.2011**
Project:	**Sydney International Convention & Entertainment Centre**
Logged by:	**RC**
Borehole Location:	**Harbour Street, Haymarket, NSW**
Checked by:	**SS**

drill model and mounting: Hydrapower Scout Truck | Easting: | slope: -90° | R.L. Surface: 3.3

hole diameter: 100 mm | Northing | bearing: N/A | datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADT		C	C	E+0.0ppm	3	1			**FILL: ASPHALT:** Dark grey, medium to coarse gravel, overlying medium to coase, pale brown. Sandy GRAVEL.	D			PAVEMENT
				E+0.0ppm					**Gravelly SAND:** Fine to medium grained, brown, dark brown, fine to coarse gravel, with some basalt cobbles (70mm), trace of silt.				FILL
				SPT 3,2,2 N*=4	2				**FILL: CONCRETE:** Pale grey				
					1	2			**FILL: Gravelly SAND:**	M			
			▶	SPT 1,0,0 N*=0	0	3		CH	**Silty CLAY:** High plasticity, dark grey, grey, trace of medium grained sand.	>Wp	VS	×	ESTUARINE
									3.5m - With some bands of sand.				
				SPT 2,3,2 N*=5	-1	4		CH	**Silty CLAY:** High plasticity, red mottled pale grey.		S/F	×	COLLUVIUM / SLOPE WASH
					-2	5							
				SPT 3,3,5 N*=8	-3	6		CH/SC	**BANDS OF Silty CLAY/Clayey SAND:** Clay is dark grey and highly plastic. Sand is medium to coarse grained and dark grey.	>Wp/W	S/L		ESTUARINE / ALLUVIUM
				SPT R,20/90 N*=R	-4	7			**SANDSTONE:** Medium to coarse grained, pale grey to white, remoulds to a sand.				WEATHERED BEDROCK
						8			Borehole BH14 continued as cored hole				

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	**BH15**
Sheet	1 of 3
Office Job No.:	**GEOTLCOV24303AA**
Client:	***Sydney Harbour Foreshore Authority***
Date started:	***21.6.2011***
Principal:	
Date completed:	***21.6.2011***
Project:	***Sydney International Convention & Entertainment Centre***
Logged by:	***LJG***
Borehole Location:	***Harbour Street, Haymarket, NSW***
Checked by:	***SS***

drill model and mounting:	Ausroc 4000 Truck	Easting:	slope:	-90°	R.L. Surface: 3.2
hole diameter:	100 mm	Northing	bearing:	N/A	datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa (100 200 300 400)	structure and additional observations
ADT		C	C		3				**FILL: BITUMEN:** 0.30m				FILL
									FILL: CONCRETE: 0.10m				
				E+0.3ppm					**FILL: Gravelly SAND:** Medium to coarse grained, dark grey, brown, fine grained gravel of brick, sandstone, aggregate, trace of clay.	D M			No odour/ staining.
						1			0.5m - Fine to medium grained gravel, with some clay.				
				SPT 8/160mm N*=R	2				1.0m - Crushed orange brick.				1m - SPT refused on gravel
									1.50m - With some clay and coarse sandstone gravel, trace of cobbles.				
					1	2							
								SC	**Clayey SAND:** Medium to coarse grained, black, dark grey, high plasticity clay, trace of organics.	W	MD		ESTUARINE
				SPT 3,1,2 N*=3				CL	**Silty CLAY:** Low plasticity, dark brown, dark grey, with some organic material and some shells.	M-W	F		
			►		0	3		SC	**Clayey SAND:** Coarse grained, dark grey, brown, trace of shells.	W	L-MD		ALLUVIUM
								CH	**CLAY:** High plasticity, pale grey mottled red brown, trace of sand. 3.5m - With some interbedded sand layers.		St-VSt		
						4		SC	**Clayey SAND:** Coarse grained, dark grey, dark brown, low plasticity clay, trace of shells.		MD		
				SPT 3,4,5 N*=9	-1			CH	**CLAY:** High plasticity, pale grey, trace of fine sand.		St		SLOPE WASH
						5							
					-2				5.20m - Pale grey, pale brown mottled.	M			ALLUVIUM
						6			5.80m - Pale grey, red, brown mottled, trace of fine to coarse sand and fine ironstone.				SLOPE WASH
				SPT 2,4,6 N*=10	-3								
						7							
					-4			CL	**Sandy CLAY:** Low to medium plasticity, pale brown mottled red, coarse sand.		St		ALLUVIUM
								SC	**Clayey SAND:** Coarse grained, red, trace of fine ironstone gravel and burrows.	M	MD		RESIDUAL SOIL
				SPT 7,5,6 N*=11		8			7.8m - Pale brown, mottled black and red, trace of				

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	**BH15**
Sheet	2 of 3
Office Job No.:	**GEOTLCOV24303AA**
Client:	**Sydney Harbour Foreshore Authority**
Date started:	**21.6.2011**
Principal:	
Date completed:	**21.6.2011**
Project:	**Sydney International Convention & Entertainment Centre**
Logged by:	**LJG**
Borehole Location:	**Harbour Street, Haymarket, NSW**
Checked by:	**SS**

drill model and mounting: Ausroc 4000 Truck | Easting: | slope: -90° | R.L. Surface: 3.2

hole diameter: 100 mm | Northing | bearing: N/A | datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADT		C	C		-5				burrows.				WEATHERED BEDROCK
									SANDSTONE: Extremely weathered, coarse grained, pale brown, pale grey, estimated to be very low strength, remoulds to a sand.				
									Borehole BH15 continued as cored hole				TC Bit refusal at 8.50m
					-6	9							
					-7	10							
					-8	11							
					-9	12							
					-10	13							
					-11	14							
					-12	15							
						16							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	**BH16**
Sheet	1 of 6
Office Job No.:	**GEOTLCOV24303AA**
Client:	**Sydney Harbour Foreshore Authority**
Date started:	**20.6.2011**
Principal:	
Date completed:	**21.6.2011**
Project:	**Sydney International Convention & Entertainment Centre**
Logged by:	**LJG**
Borehole Location:	**Harbour Street, Haymarket, NSW**
Checked by:	**SS**

drill model and mounting:	Hydrapower Scout Truck	Easting:	slope:	-75°	R.L. Surface: 3.30
hole diameter:	100 mm	Northing	bearing:	177.5°	datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
PH		C	C		3	1			**BRICK PAVERS:** 0.06m **FILL: Gravelly SAND:** Fine to coarse, brown, dark brown, fine to rounded gravel with some clay and trace of medium to coarse gravel, roots, glass, metal piping, concrete, bricks.	D			FILL
AD					2	2			**FILL: SAND:** Medium to coarse grained, brown, with some clay and fine gravel.	M			
WB			►		1	3		CL/SC	**Sandy CLAY/Clayey SAND:** Low plasticity clay, medium to coarse grained sand, grey, brown, with some organic material.	W			ESTUARINE
					0	4							
					-1	5		CH	**CLAY:** High plasticity, red, brown, grey, trace of sand.				SLOPE WASH
				U_{50}	-2	6							
					-3	7		CH	**Sandy CLAY:** High plasticity, grey, coarse sand.				ALLUVIUM
					-4	8		SP	**SAND:** Coarse grained, grey, brown, trace of clay.				

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit
*bit shown by suffix e.g.	ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description
based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	**BH16**
Sheet	2 of 6
Office Job No.:	**GEOTLCOV24303AA**
Client:	**Sydney Harbour Foreshore Authority**
Date started:	**20.6.2011**
Principal:	
Date completed:	**21.6.2011**
Project:	**Sydney International Convention & Entertainment Centre**
Logged by:	**LJG**
Borehole Location:	**Harbour Street, Haymarket, NSW**
Checked by:	**SS**

drill model and mounting:	Hydrapower Scout Truck	Easting:		slope:	-75°	R.L. Surface:	3.30
hole diameter:	100 mm	Northing		bearing:	177.5°	datum:	AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
WB		C	C		-5	9		SP	**SAND:** Coarse grained, grey, brown, trace of clay. *(continued)*	W			
								SC	**Clayey SAND:** Medium to coarse sand, pale grey, red, brown, high plasticity clay.				
					-6	10							
					-7								
						11		SP	**SAND:** Coarse grained, grey, pale grey, trace of clay.				RESIDUAL SOIL
					-8	12							
					-9	13			**SANDSTONE:** Extremely weathered, coarse grained, pale grey to red brown, estimated to be low strength. Remoulds to a sand. 13.45m - Highly weathered.				WEATHERED BEDROCK
					-10	14			Borehole BH16 continued as cored hole				
					-11	15							
					-12	16							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	**BH17**
Sheet	1 of 4
Office Job No.:	**GEOTLCOV24303AA**
Client:	**Sydney Harbour Foreshore Authority**
Date started:	**16.6.2011**
Principal:	
Date completed:	**16.6.2011**
Project:	**Sydney International Convention & Entertainment Centre**
Logged by:	**LJG**
Borehole Location:	**Harbour Street, Haymarket, NSW**
Checked by:	**SS**

drill model and mounting:	Edson 3000 Truck	Easting:	slope:	-90°	R.L. Surface: 3.2
hole diameter:	100 mm	Northing	bearing:	N/A	datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa (100 200 300 400)	structure and additional observations
ADT		C	C		3	1			**FILL: BRICK PAVERS:** Brown, 0.08m **FILL: Clayey Gravelly SAND:** Medium to coarse grained, brown, grey, fine gravel, medium plasticity clay.	D			FILL
				SPT 6,7,4 N*=11	2	2			**FILL: SAND:** Coarse grained, grey, brown, yellow, red mottled, with some fine sandstone gravel, trace of clay.				
			►		1				**FILL: Silty CLAY:** Low plasticity, black, with some organic material, trace of sand and fine gravel.	W			
				SPT 2,0,0 N*=0	0	3			3.10m - With some sand.				
				SPT 2,3,5 N*=8	-1	4		CH	**CLAY:** High plasticity, red, brown, grey, trace of fine ironstone gravel.	M	St-VSt	×	ALLUVIUM
					-2	5							
				SPT 2,5,6 N*=11	-3	6		CH	**CLAY:** High plasticity, grey, red, brown, yellow, with some coarse sand, trace of fine to medium sandstone and ironstone gravel.		St-VSt	×	SLOPE WASH
								CL	**Gravelly CLAY:** Low plasticity, brown, grey, red, fine angular sandstone and ironstone gravel.	W			ALLUVIUM
				SPT 4,7,8 N*=15	-4	7		CH	**CLAY:** High plasticity, pale grey, red brown mottled, trace of sand.			×	
						8							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix
e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description
based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No. **BH17**

Sheet 2 of 4

Office Job No.: **GEOTLCOV24303AA**

Client: ***Sydney Harbour Foreshore Authority***

Date started: ***16.6.2011***

Principal:

Date completed: ***16.6.2011***

Project: ***Sydney International Convention & Entertainment Centre***

Logged by: ***LJG***

Borehole Location: ***Harbour Street, Haymarket, NSW***

Checked by: ***SS***

drill model and mounting: Edson 3000 Truck | Easting: | slope: -90° | R.L. Surface: 3.2

hole diameter: 100 mm | Northing | bearing: N/A | datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa (100 200 300 400)	structure and additional observations
ADT		C	C		-5	9		CH	**CLAY:** High plasticity, pale grey, red brown mottled, trace of sand. *(continued)* 8.10m - With some coarse sand.	W	St-VSt		
				SPT 4,12,10 N*=22				SC	**Clayey SAND:** Coarse grained, pale grey, grey.		MD		RESIDUAL SOIL
					-6			CH	**Sandy CLAY:** High plasticity clay, grey, pale grey, coarse sand.		St-VSt	×	
				SPT 4,16 N*=R	-7	10			**SANDSTONE:** Extremely weathered, coarse grained, pale grey, remoulds to a sandy clay. 10.30m - Highly weathered.			×	WEATHERED BEDROCK
					-8	11			Borehole BH17 continued as cored hole				
					-9	12							
					-10	13							
					-11	14							
					-12	15							
						16							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil

C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	**BH2**
Sheet	1 of 3
Office Job No.:	**GEOTLCOV24303AA**
Client:	**Sydney Harbour Foreshore Authority**
Date started:	**3.6.2011**
Principal:	
Date completed:	**3.6.2011**
Project:	**Sydney International Convention & Entertainment Centre**
Logged by:	**RH**
Borehole Location:	**Darling Drive, Haymarket, NSW**
Checked by:	**SS**

drill model and mounting:	Ausroc 4000 Truck	Easting:	slope:	-90°	R.L. Surface: 3.5
hole diameter:	100 mm	Northing	bearing:	N/A	datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa (100 200 300 400)	structure and additional observations
DT		C	C						**ASPHALT** / **CONCRETE**	D			PAVEMENT
ADT				E+0ppm	3	1			**FILL: Sandy SILT:** Low plasticity, pale brown, fine to medium grained sand with some clay.	M			FILL
				SPT 8,5,4 N*=9	2				**FILL: Clayey SAND:** Fine to coarse grained, dark brown and black with red brown mottles, some pale brown sand pockets, fine to coarse grained sandstone and fine grained ironstone gravels throughout, trace of glass and wire refuse.				
				E+1.0ppm		2							
				E+0ppm									
				SPT 4,3,3 N*=6	1	3			2.5m - Increasing clay content.				
					0			SW	**SAND:** Fine to coarse grained, grey, trace of silt.		VL		ALLUVIUM Slight organic odour.
				SPT 1,1,0 N*=1	-1	4		SC	**Clayey SAND:** Fine to medium to coarse grained, dark brown, low to medium plasticity clay.		L-MD		
						5		SC	**Clayey SAND:** Fine to coarse grained, pale grey, clay with some pockets of shells throughout.	W			
				SPT 1,2,3 N*=5	-2								5.7m - Distinct organic odour
					-3	6							
NMLC					-4	7			**SANDSTONE:** Extremely weathered, medium to coarse grained, pale yellow and brown, estimated to be very low strength, remoulds to a sand.				WEATHERED BEDROCK
						8			Borehole BH2 continued as cored hole				

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support: M mud, 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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	**BH3**
Sheet	1 of 4
Office Job No.:	**GEOTLCOV24303AA**
Client:	**Sydney Harbour Foreshore Authority**
Date started:	**2.6.2011**
Principal:	
Date completed:	**2.6.2011**
Project:	**Sydney International Convention & Entertainment Centre**
Logged by:	**RH**
Borehole Location:	**Darling Drive, Haymarket, NSW**
Checked by:	**SS**

drill model and mounting:	Ausroc 4000 Truck	Easting:		slope:	-90°	R.L. Surface:	3.5
hole diameter:	100 mm	Northing		bearing:	N/A	datum:	AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
DT / ADV		C	C						**ASPHALT:** 0.05m **CONCRETE:** 0.45m				PAVEMENT
				D	3				**FILL: Sandy SILT:** Low plasticity, pale brown, fine grained sand, with some clay.	M			FILL
				SPT 9,6,8 N*=14	2	1			**FILL: Clayey SAND:** Fine to medium grained, dark brown, trace of pale brown sand pockets, fine to coarse grained sandstone and fine grained ironstone gravel.				
				E+1.4ppm									
				E+0.4ppm		2							
				SPT 4,5,10 N*=15	1								
					0	3							
				SPT 4,3,2 N*=5	-1	4		SW	**SAND:** Fine to coarse grained, with some low plasticity fines.		L		ALLUVIUM
						5		SC	**Clayey SAND:** Fine grained, dark brown, clay.	W			
			▶					SW	**SAND:** Medium to coarse grained, pale grey, trace of fines.		L-MD		
				SPT 5,4,3 N*=7	-2	6							
					-3	7		SC	**Clayey SAND:** Fine to coarse grained, pale grey, pale orange brown, with some silt.	M			RESIDUAL SOIL
				SPT 3,2,5 N*=7	-4	8							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit
*bit shown by suffix e.g.	ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	***BH3***
Sheet	2 of 4
Office Job No.:	***GEOTLCOV24303AA***
Client:	***Sydney Harbour Foreshore Authority***
Date started:	***2.6.2011***
Principal:	
Date completed:	***2.6.2011***
Project:	***Sydney International Convention & Entertainment Centre***
Logged by:	***RH***
Borehole Location:	***Darling Drive, Haymarket, NSW***
Checked by:	***SS***

drill model and mounting:	Ausroc 4000 Truck	Easting:	slope:	-90°	R.L. Surface: 3.5
hole diameter:	100 mm	Northing	bearing:	N/A	datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADV		C	C		-5			SC	**SANDSTONE:** Extremely to highly weathered, fine to coarse grained, pale orange brown, estimated to be very low to low strength.	M	L-MD		WEATHERED BEDROCK
									Borehole BH3 continued as cored hole				
					-6	9							
					-7	10							
					-8	11							
					-9	12							
					-10	13							
					-11	14							
					-12	15							
						16							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	**BH4**
Sheet	1 of 4
Office Job No.:	**GEOTLCOV24303AA**
Client:	***Sydney Harbour Foreshore Authority***
Date started:	**6.6.2011**
Principal:	
Date completed:	**6.6.2011**
Project:	***Sydney International Convention & Entertainment Centre***
Logged by:	**RH**
Borehole Location:	***Darling Drive, Haymarket, NSW***
Checked by:	**SS**

drill model and mounting:	Ausroc 4000 Truck	Easting:	slope:	-90°	R.L. Surface: 3.3
hole diameter:	100 mm	Northing	bearing:	N/A	datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
DT		C	C		3				**ASPHALT:**	D			PAVEMENT
									CONCRETE:				
ADV				E+0.4ppm		1			**FILL: SAND:** Fine to medium grained, pale brown with some low plasticity fines, ironstone inclusions.	M			FILL
				SPT 4,5,6 N*=11	2				**FILL: Clayey SAND:** Fine to medium grained, dark grey/dark brown, low plasticity, fines with a trace of light brown sand pockets and fine to medium grained sandstone and ironstone gravels.				
				E+0ppm		2							
				E+0.7ppm	1				2m - Band of partically cemented sand.				
				SPT 2,2,4 N*=6		3							2.3m - Slight hydrocarbon odour.
				E+0ppm	0					W			
				SPT 8,8,5 N*=13	-1	4			4m - Band of red, partially cemented sand.				
								SC	**Clayey SAND:** Fine to medium grained, grey.		L		ALLUVIUM
					-2	5							
				SPT 5,3,2 N*=5		6			**Clayey SAND:** Fine to coarse grained, pale grey, with some silt. Trace of bivalves and shell fragments in bands throughout layer.				5.7m - organic odour
					-3								
				SPT 8,14,11 N*=25	-4	7			**Clayey SAND:** Fine to coarse grained, pale grey with red/orange brown mottles, with some silt and fine to medium grained sandstone gravels.		D		RESIDUAL SOIL
						8							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description based on unified classification system

moisture

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

consistency/density index

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

BOREHOLE GEOTLCOV24303AA.GPJ COFFEY.GDT 19.8.11

Form GEO 5.3 Issue 3 Rev.2

coffey environments

Engineering Log - Borehole

Borehole No.	**BH4**
Sheet	2 of 4
Office Job No.:	**GEOTLCOV24303AA**
Client:	**Sydney Harbour Foreshore Authority**
Date started:	**6.6.2011**
Principal:	
Date completed:	**6.6.2011**
Project:	**Sydney International Convention & Entertainment Centre**
Logged by:	**RH**
Borehole Location:	**Darling Drive, Haymarket, NSW**
Checked by:	**SS**

drill model and mounting:	Ausroc 4000 Truck	Easting:	slope:	-90°	R.L. Surface: 3.3
hole diameter:	100 mm	Northing	bearing:	N/A	datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADV		C	C		-5				**Clayey SAND:** Fine to coarse grained, pale grey with red/orange brown mottles, with some silt and fine to medium grained sandstone gravels.	W	D		RESIDUAL SOIL
								SM	**Silty SAND:** Medium to coarse grained, pale grey with orange brown mottles.	M			WEATHERED BEDROCK
NMLC					-6	9			Borehole BH4 continued as cored hole				
					-7	10							
					-8	11							
					-9	12							
					-10	13							
					-11	14							
					-12	15							
						16							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	**BH5**
Sheet	1 of 4
Office Job No.:	**GEOTLCOV24303AA**
Client:	**Sydney Harbour Foreshore Authority**
Date started:	**14.6.2011**
Principal:	
Date completed:	**15.6.2011**
Project:	**Sydney International Convention & Entertainment Centre**
Logged by:	**LJG**
Borehole Location:	**Lackey Street, Haymarket, NSW**
Checked by:	**SS**

drill model and mounting:	Ausroc 4000 Truck	Easting:	slope:	-90°	R.L. Surface: 2.4
hole diameter:	100 mm	Northing	bearing:	N/A	datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa (100 200 300 400)	structure and additional observations
ADT		C	C		2	1			**FILL: BRICK PAVERS:**	D			FILL
									FILL: SAND: Coarse sand, brown, trace of roots. 0.3m - Medium to coarse sand with some clay, trace of gravel. 0.5m - Brown, yellow.				
				SPT 8,4,4 N*=8	1				**FILL: Clayey SAND:** Medium to coarse, brown mottled yellow, medium to high plasticity clay, with some fine gravel.				
						2			**FILL: CLAY:** Medium to high plasticity, pale grey, red brown, trace of fine rounded ironstone gravel and sand. (shale fill) 2.0m - Red brown mottled pale grey, grey.				
				SPT 1,2,5 N*=7	0				2.50m - With some fine shale gravels.				
						3			**FILL: Sandy CLAY:** Low to medium plasticity, pale grey, brown, corase sand, trace of gravel.	M			
			►		-1			SM	**Silty SAND:** Coarse grained, black with some shells.	W	L		ESTUARINE/ALLUVIUM
						4		SC	**Clayey SAND:** Coarse grained, brown, medium plasticity clay, trace of shells and fine gravel.				
WB				SPT 2,1,2 N*=3	-2			CL-CH	**Sandy CLAY:** Low to medium plasticity, dark brown to dark grey, fine to medium sand, with some organic fiberous materials.	>Wp	S-F		
						5							5.6m - Organic material in SPT sulphur odour
				SPT 2,1,2 N*=3	-3								
						6		SC	**Clayey SAND:** Coarse grained, dark brown to black, low plasticity clay, trace of fine gravel.		L		
					-4			CH	**CLAY:** High plasticity, red brown, pale grey, trace of ironstone and sand.	>Wp	VSt-H		SLOPE WASH
				SPT 7,8,12 N*=20	-5	7			7.20m - Yellow, brown mottled. 7.40m - Pale grey with some fine sand.				
						8							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description
based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No. **BH5**

Sheet 2 of 4

Office Job No.: **GEOTLCOV24303AA**

Client: ***Sydney Harbour Foreshore Authority***

Date started: ***14.6.2011***

Principal:

Date completed: ***15.6.2011***

Project: ***Sydney International Convention & Entertainment Centre***

Logged by: ***LJG***

Borehole Location: ***Lackey Street, Haymarket, NSW***

Checked by: ***SS***

drill model and mounting: Ausroc 4000 Truck | Easting: | slope: -90° | R.L. Surface: 2.4

hole diameter: 100 mm | Northing | bearing: N/A | datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetrometer kPa (100 200 300 400)	structure and additional observations
WB		C	C					CH		>Wp	VSt-H		
					-6	9		CS	**Sandy CLAY:** Low to medium plasticity, pale grey, medium sand, with some silt.		St	× ×	ALLUVIUM
				SPT 4,6,6 N*=12	-7			CH	**CLAY:** High plasticity, dark grey, trace of silt.		VSt-H		
				SPT 7,9,13 N*=22	-8	10						× × × ×	
					-9	11		SC	**Clayey SAND:** Medium to coarse, brown, grey, trace of gravel.	W	L-MD		ESTUARINE 11.50m - No sample recovered
				SPT 4,3,2 N*=5	-10	12							
						13			13.0m - Fine to coarse, dark grey, grey, trace of organics.				
				SPT 4,7,14 N*=21	-11	14		CL	**Silty CLAY:** Low plasticity, dark brown, black, with some organic material (wood) very light.	>Wp	St		
					-12	15		SC	**Clayey SAND:** Coarse grained, pale grey, dark grey, low plasticity clay, trace of silt.	W	L-MD		
				SPT 3,5,9 N*=14	-13	16							WEATHERED BEDROCK

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil

C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	**BH5**
Sheet	3 of 4
Office Job No.:	**GEOTLCOV24303AA**
Client:	**Sydney Harbour Foreshore Authority**
Date started:	**14.6.2011**
Principal:	
Date completed:	**15.6.2011**
Project:	**Sydney International Convention & Entertainment Centre**
Logged by:	**LJG**
Borehole Location:	**Lackey Street, Haymarket, NSW**
Checked by:	**SS**

drill model and mounting:	Ausroc 4000 Truck	Easting:	slope:	-90°	R.L. Surface: 2.4
hole diameter:	100 mm	Northing	bearing:	N/A	datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
WB									**SANDSTONE:** Extremely weathered, pale grey, brown, coarse grained, estimated to be very low strength, remoulds to SAND. *(continued)*				
					-14	17			Borehole BH5 continued as cored hole				
					-15	18							
					-16	19							
					-17	20							
					-18	21							
					-19	22							
					-20	23							
					-21	24							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	**BH6**
Sheet	1 of 4
Office Job No.:	**GEOTLCOV24303AA**
Client:	**Sydney Harbour Foreshore Authority**
Date started:	**9.6.2011**
Principal:	
Date completed:	**9.6.2011**
Project:	**Sydney International Convention & Entertainment Centre**
Logged by:	**LJG**
Borehole Location:	**Back of House of Sydney Entertainment Centre**
Checked by:	**SS**

drill model and mounting:	Ausroc 4000 Truck	Easting:	slope:	-90°	R.L. Surface: 2.6
hole diameter:	100 mm	Northing	bearing:	N/A	datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADT		C	C	E+0ppm					**FILL: ASPHALT:** 0.02m thick	D			PAVEMENT
									FILL: GRAVEL: Medium to coarse, subangular to subrounded, black, grey, trace of sand and clay.				
									FILL: CONCRETE: 0.08m				
DT				E, QC06,QC07+0ppm	2				**FILL: GRAVEL:** Medium to coarse angular to subangular, grey/brown, trace of fine gravel and sand.	D			
						1			**FILL: CONCRETE:** 0.16m	D			FILL
									FILL: GRAVEL: Medium to coarse, angular to subrounded, trace of fine gravel and cobbles.				
ADT				SPT 2,3,3 N*=6	1				**FILL: SANDSTONE BOULDER:** Coarse grained, yellow/orange, rounded.	<Wp			
									FILL: CLAY: High plasticity, red brown, pale grey, grey mottled, trace of fine gravel, ironstone and shale. (shale fill)				
				E+0.4ppm		2			1.80m - Grey, with some fine shale angular gravel.	M			
			▼	E+0ppm	0				**FILL: SAND:** Coarse grained, grey/brown, trace of silt and rubber.	W			
				SPT 5,2,2 N*=4	-1	3							
						4		SC	**Clayey SAND:** Coarse grained, brown, grey, low plasticity clay.				ESTUARINE
				E+0ppm				CL	**Sandy CLAY:** Low plasticity, brown, black, coarse sand, trace of silt.		F		
W				SPT 0,2,3 N*=5	-2	5		CL	**CLAY:** Low to medium red, brown, with some fine sand.				
					-3			CH	**Sandy CLAY:** High plasticity, red, brown, pale grey, medium to coarse sand.		St		ALLUVIUM
				E+0ppm		6		SC	**Clayey SAND:** Coarse grained, pale grey, red-brown, medium plasticity clay.		L-MD		
				SPT 5,3,5 N*=8	-4			CL	**Sandy CLAY:** Low to medium plasticity, pale grey.		St	×	
						7		CH	**CLAY:** High plasticity, red-brown, pale grey, micaceous.		VSt	× ×	SLOPE WASH
					-5			CL-CH	**Sandy CLAY:** Medium to high plasticity, grey, pale grey, coarse sand.				ALLUVIUM
						8							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

BOREHOLE GEOTLCOV24303AA.GPJ COFFEY.GDT 19.8.11

Form GEO 5.3 Issue 3 Rev.2

coffey environments

Engineering Log - Borehole

Borehole No.	**BH6**
Sheet	2 of 4
Office Job No.:	**GEOTLCOV24303AA**
Client:	**Sydney Harbour Foreshore Authority**
Date started:	**9.6.2011**
Principal:	
Date completed:	**9.6.2011**
Project:	**Sydney International Convention & Entertainment Centre**
Logged by:	**LJG**
Borehole Location:	**Back of House of Sydney Entertainment Centre**
Checked by:	**SS**

drill model and mounting:	Ausroc 4000 Truck	Easting:	slope:	-90°	R.L. Surface: 2.6
hole diameter:	100 mm	Northing	bearing:	N/A	datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa (100 200 300 400)	structure and additional observations
W		C	C	U_{50}				CL-CH	**Sandy CLAY:** Medium to high plasticity, grey, pale grey, coarse sand. *(continued)*	W	VSt		
				SPT 0,4,5 N*=9	-6	9		SC	**Clayey SAND:** Medium to coarse grained, grey, pale grey.		MD		
				SPT 5,6,9 N*=15	-7	10		CH	**CLAY:** High plasticity, red-brown, pale grey, grey, trace of coarse sand and fine grained.		VSt-H	× × ×	SLOPE WASH
				SPT 5,6,7 N*=13	-8	11		CH	**Silty CLAY:** High plasticity, dark grey, brown, black, micaeous.		VSt-H	× × ×	ALLUVIUM
				SPT 5,8,10 N*=18	-9	12		SP	**SAND:** Coarse grained, grey, dark grey, with some clay.		MD		
				SPT 0,5,7 N*=12	-10	13			14m - Dark grey, black, trace of organics.				
				SPT 9,R N*=R	-11	14			At 15m - Wtih some silt and organic material.				RESIDUAL SOIL?
					-12	15			**SANDSTONE:** Extremely weathered, coarse grained, black, dark grey, estimated low strength, with some organic matter.				WEATHERED BEDROCK
					-13	16			Borehole BH6 continued as cored hole				

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	**BH7**
Sheet	1 of 6
Office Job No.:	**GEOTLCOV24303AA**
Client:	***Sydney Harbour Foreshore Authority***
Date started:	***15.6.2011***
Principal:	
Date completed:	***17.6.2011***
Project:	***Sydney International Convention & Entertainment Centre***
Logged by:	***RC***
Borehole Location:	***Back of House of Sydney Entertainment Centre***
Checked by:	***SS***

drill model and mounting:	Hydrapower Scout Truck	Easting:		slope:	-60°	R.L. Surface:	2.6
hole diameter:	100 mm	Northing		bearing:	213.5°	datum:	AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADT		C	C						**FILL: ASPHALT:** (70mm thickness) overlying sandy gravel; medium to coarse grained, brown, dark grey.	D			PAVEMENT
					2				**FILL: Gravelly SAND:** Fine to medium grained, brown, fine to coarse gravel, trace of clay.				FILL
				D		1							
					1				**FILL: Gravelly CLAY:** Low plasticity, brown, orange brown.	<Wp			
						2				>Wp			
				D	0								
						3							
				D				CL	**Silty CLAY:** Low plasticity, dark grey, grey, trace of white shells.		S		ESTUARINE
WRR						4		SP	**SAND:** Medium grained, grey, with some clay.	W	L		
		C	C	U_{50}	-1			CH	**SILTY CLAY:** High plasticity, grey, trace of shells and plant fibres with some sandy bands.	>Wp	F	×	
						5							
					-2								
						6							
					-3				6.5m - Becoming brown mottled pale grey.				
		C	C			7							
					-4								
						8							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	***BH7***
Sheet	2 of 6
Office Job No.:	***GEOTLCOV24303AA***
Client:	***Sydney Harbour Foreshore Authority***
Date started:	***15.6.2011***
Principal:	
Date completed:	***17.6.2011***
Project:	***Sydney International Convention & Entertainment Centre***
Logged by:	***RC***
Borehole Location:	***Back of House of Sydney Entertainment Centre***
Checked by:	***SS***

drill model and mounting:	Hydrapower Scout Truck	Easting:		slope:	-60°	R.L. Surface:	2.6
hole diameter:	100 mm	Northing		bearing:	213.5°	datum:	AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
WRR		C	C					CH		>Wp	F		
					-5	9		CH	**CLAY:** High plasticity, red brown, orange brown, pale grey, with some fine grained sand.				SLOPE WASH
			◁		-6	10		SC	**Clayey SAND:** Medium to coarse grained, grey, with bands of clay.				ALLUVIUM
					-7	11							
					-8	12							
					-9	13							
				D		14							
					-10	15							
					-11	16			**SANDSTONE:** Medium to coarse grained, pale grey to white, extremely weathered to highly weathered.				WEATHERED BEDROCK

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No. **BH7**

Sheet 3 of 6

Office Job No.: **GEOTLCOV24303AA**

Client: ***Sydney Harbour Foreshore Authority***

Date started: ***15.6.2011***

Principal:

Date completed: ***17.6.2011***

Project: ***Sydney International Convention & Entertainment Centre***

Logged by: ***RC***

Borehole Location: ***Back of House of Sydney Entertainment Centre***

Checked by: ***SS***

drill model and mounting: Hydrapower Scout Truck | Easting: | slope: -60° | R.L. Surface: 2.6

hole diameter: 100 mm | Northing | bearing: 213.5° | datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
WRR		C	C						**SANDSTONE:** Medium to coarse grained, pale grey to white, extremely weathered to highly weathered. *(continued)*				
					-12	17			Borehole BH7 continued as cored hole				
					-13	18							
					-14	19							
					-15	20							
					-16	21							
					-17	22							
					-18	23							
						24							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil

C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	**BH8**
Sheet	1 of 1
Office Job No.:	**GEOTLCOV24303AA**
Client:	***Sydney Harbour Foreshore Authority***
Date started:	**14.6.2011**
Principal:	
Date completed:	**14.6.2011**
Project:	***Sydney International Convention & Entertainment Centre***
Logged by:	**RC**
Borehole Location:	***Back of House of Sydney Entertainment Centre***
Checked by:	**SS**

drill model and mounting: Hydrapower Scout Truck | Easting: | slope: -90° | R.L. Surface: 2.5

hole diameter: 100 mm | Northing | bearing: N/A | datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADT		C	C		2	1			**FILL: ASPHALT:** Dark grey, 70mm thickness overlying sands gravel: medium grained, grey, fine grained.	D M			PAVEMENT
									FILL: SAND: Fine to medium grained, dark brown, with some clay and fine gravel.				
									FILL: ASPHALT: Dark grey.				
									FILL: CONCRETE: Pale grey to grey.	D			
NMLC					1	2			1m - With some dark grey gravel aggregate and steel.				1m - TC Bit Refusal
									VOID:				
					0	3							
									Borehole BH8 terminated at 3m				BH8 was terminated at 3m, due to obstructions.
					-1	4							
					-2	5							
					-3	6							
					-4	7							
					-5	8							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	**BH9**
Sheet	1 of 1
Office Job No.:	**GEOTLCOV24303AA**
Client:	***Sydney Harbour Foreshore Authority***
Date started:	***15.6.2011***
Principal:	
Date completed:	***15.6.2011***
Project:	***Sydney International Convention & Entertainment Centre***
Logged by:	***RC***
Borehole Location:	***Back of House of Sydney Entertainment Centre***
Checked by:	***SS***

drill model and mounting: Hydrapower Scout Truck | Easting: | slope: -90° | R.L. Surface: 2.75

hole diameter: 100 mm | Northing | bearing: N/A | datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
ADT			Not Observed	E+0.0ppm	2	1			**FILL: ASPHALT:** Dark grey, grey, (70mm) overlying sandy gravel, medium, brown, dark grey.	D			PAVEMENT
									FILL: SAND: Medium to coarse grained, yellow, with some fine to coarse sandstone gravel.				SUB BASE
				E+0.0ppm					0.60m - Becoming brown, with some coarse dolerite gravel.				FILL
													PREVIOUS PAVEMENT
									FILL: ASPHALT: Grey.				BH9 was terminated at shallow depth due to obstructions after many attempts.
					1	2			**FILL: CONCRETE:** Pale grey.				
									Borehole BH9 terminated at 0.85m				
					0	3							
					-1	4							
					-2	5							
					-3	6							
					-4	7							
					-5	8							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix
e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description
based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No. **EB1**

Sheet 1 of 1

Office Job No.: **GEOTLCOV24303AA**

Client: ***Sydney Harbour Foreshore Authority***

Date started: ***10.6.2011***

Principal:

Date completed: ***10.6.2011***

Project: ***Sydney International Convention & Entertainment Centre***

Logged by: ***AN***

Borehole Location: ***Sydney Entertainment Centre, Haymarket, NSW***

Checked by:

drill model and mounting: Truck | Easting: | slope: -90° | R.L. Surface:

hole diameter: mm | Northing | bearing: | datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
				E+0.0ppm					**ASPHALT**				50mm Asphalt.
						0.5			**Gravelly SAND:** Medium to coarse grained, grey to brown, fine to medium grained gravel.	D/M			FILL.
				E+0.0ppm									
				E+0.0ppm		1.0			**Sandy CLAY:** Low plasticity, red to brown, fine to medium grained.	D/M			Sandstone flecks.
				E+2.7ppm		1.5			**Sandy CLAY:** Low plasticity, dark brown to brown, fine to medium grained.	M			Mild organic odour.
				E+0.6ppm		2.0			**Sandy CLAY:** Medium plasticity, grey to brown, fine grained.	M			Residual clays.
				E+0.0ppm		2.5							
						3.0			Borehole EB1 terminated at 3.1m				
						3.5							
						4.0							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil

C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No. **EB2**

Sheet 1 of 1

Office Job No.: **GEOTLCOV24303AA**

Client: ***Sydney Harbour Foreshore Authority***

Date started: ***10.6.2011***

Principal:

Date completed: ***10.6.2011***

Project: ***Sydney International Convention & Entertainment Centre***

Logged by: ***AN***

Borehole Location: ***Sydney Entertainment Centre, Haymarket, NSW***

Checked by:

drill model and mounting: Truck | Easting: | slope: -90° | R.L. Surface:

hole diameter: mm | Northing | bearing: | datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
				E+0.0ppm					**ASPHALT**	D	S		50mm Asphalt.
									GRAVEL: Road base, grey.	M	S		Porcelain flecks, broken bricks.
				E+0.0ppm					**Sandy CLAY:** Low plasticity, dark brown to black, fine grained.				
				E+0.3ppm		1							
									Sandy CLAY: Low to medium plasticity, grey, fine grained.	M	S		Residual.
				E+0.0ppm		2			**Sandy CLAY:** Medium plasticity, red mottled brown, fine grained.	M	F		
			►						**Sandy CLAY:** Low plasticity, brown, red to orange, fine to medium grained.	W	F		
				E+0.0ppm		3							
									Silty SAND: Fine to medium grained, grey to brown.	W	F		Sediments, organic odour.
				E+0.0ppm		4							
									Sandy CLAY: Medium to high plasticity, yellow to brown, medium to coarse grained. Trace of coarse grained, angular gravel (siltstone flecks).	M	St		Residual clays.
				E		5							
				E		6			Borehole EB2 terminated at 6m				
						7							
						8							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil

C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey environments

Engineering Log - Borehole

Borehole No.	***EB3***
Sheet	1 of 1
Office Job No.:	***GEOTLCOV24303AA***
Client:	***Sydney Harbour Foreshore Authority***
Date started:	***10.6.2011***
Principal:	
Date completed:	***10.6.2011***
Project:	***Sydney International Convention & Entertainment Centre***
Logged by:	***AN***
Borehole Location:	***Sydney Entertainment Centre, Haymarket, NSW***
Checked by:	

drill model and mounting: Truck | Easting: | slope: -90° | R.L. Surface:

hole diameter: mm | Northing | bearing: | datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
				E+0.0ppm					**ASPHALT**	D	L		50mm Asphalt.
				E+0.1ppm		1			**Sandy GRAVEL:** Medium to coarse grained, brown to red, fine grained sand. Trace of angular, coarse grained gravel.				FILL, 5% glass and brick fragments.
				E+0.0ppm									
				E+3.7ppm		2			**Sandy CLAY:** Medium plasticity, grey, fine grained.	M	F		Residual. Mild hydrocarbon odour.
				E+2.6ppm					**SAND:** Fine grained, yellow to brown.	M	F		
			▶	E+7.6ppm		3			**SAND:** Fine grained, grey to brown.	M/W	F		Mild hydrocarbon odour.
				E+1.1ppm		4			**Sandy CLAY:** Medium plasticity, yellow to brown, fine grained.	W	St		Residual clays.
				E+0.0ppm		5							
						6			**Sandy CLAY:** Medium to high plasticity, yellow mottled grey, fine grained.	M	St		
				E+0.0ppm					Borehole EB3 terminated at 6.1m				
						7							
						8							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

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

consistency/density index

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

coffey geotechnics

Engineering Log - Borehole

Borehole No.	**NBH23**
Sheet	1 of 1
Project No:	**GEOTLCOV24303AC**
Date started:	**17.4.2012**
Date completed:	**24.4.2012**
Logged by:	**JW**
Checked by:	**DS**

Client: ***Infrastructure NSW***

Principal:

Project: ***SICEEP***

Borehole Location: ***See Figure 3***

drill model and mounting: XP60 Ute | Easting: 333727 | slope: -90° | R.L. Surface: 2.7

hole diameter: 100 mm | Northing 6249937 | bearing: N/A | datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetrometer kPa 100 200 300 400	structure and additional observations
DT		N							**FILL: Red Brick** (0.08m)	D			PAVEMENT
									FILL: SAND: Coarse grained, pale brown, mottled yellow-brown, with some shell fragments	M			FILL
				E						D			CONCRETE SLAB
HA									**FILL: Concrete:** (0.25m)	M			FILL
					2				**FILL: Sandy GRAVEL:** Fine grained, subangular, dark grey, fine to medium grained sand				No Odour, PID = 0.4ppm
						1			**FILL: Clayey SAND:** Fine grained, pale brown, mottled red-brown				
ADT									**FILL: CLAY:** High plasticity, dark grey, mottled orange-brown, pale grey, trace fine grainedsand, and medium grained, subangular sandstone gravel	<Wp			
				SPT 3,2,4 N*=6	1								No Odour, PID = 0.8ppm
						2							
			▶		0			CL	**Sandy CLAY:** Low plasticity, dark grey, mottled black, fine grained sand	>Wp	VS	× ×	ALLUVIUM
				SPT 1,0,1 N*=1		3							No Odour, PID = 0.3ppm
					-1	4			Borehole NBH23 terminated at 3.45m				
					-2	5							
					-3	6							
					-4	7							
					-5	8							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support

M mud N nil
C casing

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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description
based on unified classification system

moisture

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

consistency/density index

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

BOREHOLE GINTGEOTLCOV24303AC_COMBINED WITH AA GINT.GPJ COFFEY.GDT 24.5.12

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coffey geotechnics

Engineering Log - Borehole

Borehole No.	**NBH24**
Sheet	1 of 1
Project No:	**GEOTLCOV24303AC**
Client:	***Infrastructure NSW***
Date started:	**24.4.2012**
Principal:	
Date completed:	**24.4.2012**
Project:	***SICEEP***
Logged by:	**JW**
Borehole Location:	***See Figure 3***
Checked by:	**DS**

drill model and mounting:	Ausrock 3000 Truck	Easting:	333604	slope:	-90°	R.L. Surface:	3.9
hole diameter:	100 mm	Northing	6249930	bearing:	N/A	datum:	AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetrometer kPa 100 200 300 400	structure and additional observations
HA		N		E					**FILL: Red Brick** (0.08m)	D			PAVEMENT
									FILL: SAND: Fine to medium grained, pale brown, trace fine to medium grained, subangular sandstone gravel	M			FILL
				E						<Wp			
					3	1			**FILL: Gravelly Sandy CLAY:** Low plasticity, dark grey, mottled dark brown, fine to medium grained sand and fine to medium grained, subangular gravel				No Odour, PID = 1.9ppm
ADT			▼						**FILL: CLAY:** High plasticity, pale grey, mottled orange-brown, dark grey, trace fine grained sand	>Wp			
				SPT 5/20,_,_ N*=R	2	2			**FILL: Gravelly CLAY:** Low plasticity, dark grey, mottled red-brown, medium to coarse grained, subangular gravel				
									FILL: Clayey GRAVEL: Fine to medium grained, subangular, dark grey, mottled black, low plasticity clay, with some medium to coarse grained sandstone gravel	W			No Odour, PID = 6.9ppm
								CL	**CLAY:** Low plasticity, dark grey, mottled black, trace of organics	>Wp	VS		ALLUVIUM
					1	3							
				SPT 0,0,1 N*=1				CL	**Sandy CLAY:** Low plasticity, dark grey, mottled black, fine grained sand, with some shell fragments			× × ×	Organic Odour, PID = 18.2ppm
									Borehole NBH24 terminated at 3.45m				
					0	4							
					-1	5							
					-2	6							
					-3	7							
					-4	8							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit
*bit shown by suffix e.g.	ADT

support: M mud, 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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description: based on unified classification system

moisture

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

consistency/density index

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

BOREHOLE GINTGEOTLCOV24303AC_COMBINED WITH AA GINT.GPJ COFFEY.GDT 24.5.12

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coffey geotechnics

Engineering Log - Piezometer

Borehole No. **NBH25**

Sheet 1 of 1

Project No: **GEOTLCOV24303AC**

Client: ***Infrastructure NSW***

Date started: ***18.4.2012***

Principal:

Date completed: ***18.4.2012***

Project: ***SICEEP***

Logged by: ***JW***

Borehole Location: ***See Figure 3***

Checked by: ***DS***

drill model & mounting: XP60 Ute | Easting: 323628 | slope: -90° | R.L. Surface: 3.3

hole diameter: 100 | Northing: 6249852 | bearing: N/A | datum: AHD

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
DT										**CONCRETE:** (0.4m) with 10mm reinforcement	D		CONCRETE SLAB
HA				E						**FILL: Sandy CLAY:** Low plasticity, pale brown, fine grained sand, trace fine to medium grained, subangular gravel	<Wp		FILL
				E									No Odour, Dup 2 + Dup 2a, PID = 8.3ppm
ADT							1			**FILL: Clayey SAND:** Fine grained, dark grey, with some fine to medium grained, subangular sandstone gravel	M		
				SPT 12/120,_,_ N*=R			2						No Odour, PID = 5.9ppm
										2m - Becoming dark grey, mottled red-brown			
				SPT 4,2,10/80 N*=R			3			**FILL: Gravelly Sandy CLAY:** High plasticity, dark grey, fine to medium grained, angular gravel, fine to medium grained sand	<Wp		No Odour, PID = 1.2ppm
							4						
				SPT 11,13,7 N*=20			5		CH	**Sandy CLAY:** High plasticity, dark grey/grey, fine grained sand		F-St	ALLUVIUM
											>Wp		No Odour, PID = 1.0ppm
				SPT 2,2,3 N*=5			6						
							7					St	
				SPT 4,7,11 N*=18			8			7.5m - Becoming dark grey/grey, mottled yellow-brown			No Odour, PID = 1.0ppm

Borehole terminated at 7.95m

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	W	wet
M	moist	Wp	plastic limit
		W_L	liquid limit

well details: betonite; sand; slotted PVC

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

PIEZOMETER GINTGEOTLCOV24303AC_COMBINED WITH AA GINT.GPJ COFFEY.GDT 24.5.12

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coffey geotechnics

Engineering Log - Borehole

Borehole No.	**NBH26**
Sheet	1 of 1
Project No:	**GEOTLCOV24303AC**
Client:	***Infrastructure NSW***
Date started:	***24.4.2012***
Principal:	
Date completed:	***24.4.2012***
Project:	***SICEEP***
Logged by:	***ACM***
Borehole Location:	***See Figure 3***
Checked by:	***DS***

drill model and mounting:	XC Drill Track	Easting:	slope: -90°	R.L. Surface:	3.3
hole diameter:	100 mm	Northing	bearing: N/A	datum:	AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetrometer kPa 100 200 300 400	structure and additional observations
ADT		N	None Observed	E	3				**ASPHALT:** (0.3m)				PAVEMENT
									FILL: Silty GRAVEL: Fine to medium grained, subangular, pale grey, mottled pale brown, with some fine to medium grained sand and red brick fragments	M			FILL No Odour, PID = 2.7ppm
									SANDSTONE: Fine to medium grained, pale grey to orange-brown, highly weathered, low to medium strength				BEDROCK
									Borehole NBH26 terminated at 0.8m				

BOREHOLE GINTGEOTLCOV24303AC_COMBINED WITH AA GINT.GPJ COFFEY.GDT 24.5.12

Form GEO 5.3 Issue 3 Rev.2

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support: M mud, 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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description based on unified classification system

moisture

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

consistency/density index

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

coffey geotechnics

Engineering Log - Borehole

Borehole No.	**NBH27**
Sheet	1 of 1
Project No:	**GEOTLCOV24303AC**
Date started:	**27.4.2012**
Date completed:	**27.4.2012**
Logged by:	**ACM**
Checked by:	**DS**

Client: ***Infrastructure NSW***

Principal:

Project: ***SICEEP***

Borehole Location: ***See Figure 3***

drill model and mounting: XP60 Truck | Easting: | slope: -90° | R.L. Surface: 2.7

hole diameter: 100 mm | Northing | bearing: N/A | datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetrometer kPa (100 200 300 400)	structure and additional observations
ADT				E					**ASPHALT:** (0.15m)	D			PAVEMENT
				E	2	1			**FILL: Gravelly SAND:** Fine grained, dark brown, mottled dark grey, fine to medium grained, subangular to angular gravel	M			FILL No Odour
									CONCRETE: (0.4m)	D			CONCRETE
				SPT 2,2,4 N*=6	1	2		CL	**CLAY:** Medium plasticity, pale brown, mottled orange-brown, red-brown	<Wp	F		ALLUVIUM No Odour, PID = 2.1ppm
					0	3		SP	**SAND:** Coarse grained, dark grey, mottled black, with some fine grained, subangular gravel	M	L		
			▼	SPT 2,1,2 N*=3	-1	4				W			No odour, PID = 2.8ppm
								SC	**Clayey SAND:** Fine to medium grained, dark grey, mottled black, with some organics		VL		Organic Odour
				SPT 3,3,3 N*=6	-2	5		CH	**CLAY:** Medium to high plasticity, pale brown, mottled dark grey	>Wp	St		No Odour, PID = 0.4ppm
					-3	6			Borehole NBH27 terminated at 5m				
					-4	7							
					-5	8							

BOREHOLE GINTGEOTLCOV24303AC_COMBINED WITH AA GINT.GPJ COFFEY.GDT 24.5.12

Form GEO 5.3 Issue 3 Rev.2

method
AS auger screwing*
AD auger drilling*
RR roller/tricone
W washbore
CT cable tool
HA hand auger
DT diatube
B blank bit
V V bit
T TC bit
*bit shown by suffix
e.g. ADT

support
M mud N nil
C casing

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
U_{63} undisturbed sample 63mm diameter
D disturbed sample
N standard penetration test (SPT)
N* SPT - sample recovered
Nc SPT with solid cone
V vane shear (kPa)
P pressuremeter
Bs bulk sample
E environmental sample
R refusal

classification symbols and soil description
based on unified classification system

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

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

coffey geotechnics

Engineering Log - Borehole

Borehole No.	**NBH29**
Sheet	1 of 1
Project No:	**GEOTLCOV24303AC**
Date started:	**17.4.2012**
Date completed:	**17.4.2012**
Logged by:	**JW**
Checked by:	**DS**

Client: ***Infrastructure NSW***

Principal:

Project: ***SICEEP***

Borehole Location: ***See Figure 3***

drill model and mounting:	XP60 Ute		Easting:	333735	slope:	-90°	R.L. Surface: 3
hole diameter:	100 mm		Northing	6249927	bearing:	N/A	datum: AHD

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetrometer kPa 100 200 300 400	structure and additional observations
ADT		N							**FILL: Red Brick** (0.08m)	D			PAVEMENT
				E					**FILL: SAND:** Coarse grained, yellow-brown, with some shell fragments and quartz grains	M			FILL
DT									**FILL: Sandy GRAVEL:** Medium to coarse grained, angular, dark grey, fine to coarse grained sand	D			No Odour, PID = 1.7ppm
ADT									**Concrete:** (0.2m) with 10mm reinforcement	M			CONCRETE SLAB
				E	2	1			**FILL: Clayey SAND:** Fine grained, dark grey, low plasticity clay				FILL
													Stong Hydrocarbon Odour, PID = 75.3ppm
				SPT 2,2,4 N*=6					**FILL: CLAY:** High plasticity, pale grey, mottled orange-brown with some iron oxide staining	<Wp			
			None Observed	E	1	2			2m - Becoming dark grey.				No Odour, PID = 35.2ppm
					0	3		CH	**CLAY:** High plasticity, pale grey, mottled orange-brown		F-St		ALLUVIUM
				E									No Odour, PID = 3.4ppm
					-1	4							
				SPT 3,4,6 N*=10									
					-2	5			Borehole NBH29 terminated at 4.95m				
					-3	6							
					-4	7							
					-5	8							

method

AS	auger screwing*
AD	auger drilling*
RR	roller/tricone
W	washbore
CT	cable tool
HA	hand auger
DT	diatube
B	blank bit
V	V bit
T	TC bit

*bit shown by suffix e.g. ADT

support: M mud, 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
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description based on unified classification system

moisture

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

consistency/density index

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