Date:	1/05/2012	Title:	FP_BH3 Four Points 6.0m to 11.0m
Prepared by:	M. Pickett		
Checked by:	D. Lowe	CES Project ID:	CES111206-CA
Scale:	NTS		
Size:	A4	Client:	Cadence Australia

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1,
55 Grandview Street
Pymble NSW 2073
ph: 02 8569 2200 fax: 02 9983 0582

Date:	1/05/2012	Title:	FP_BH3 Four Points 11.0m to 15.2m
Prepared by:	M. Pickett		
Checked by:	D. Lowe	CES Project ID:	CES111206-CA
Scale:	NTS		
Size:	A4	Client:	Cadence Australia

CONSULTING EARTH SCIENTISTS
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55 Grandview Street
Pymble NSW 2073
ph: 02 8569 2200 fax: 02 9983 0582

Project ID:	CES111206-CA
Client:	Cadence Australia
Project:	Four Points Hotel
Location:	Wheat Road

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55 Grandview Street, Pymble NSW 2073
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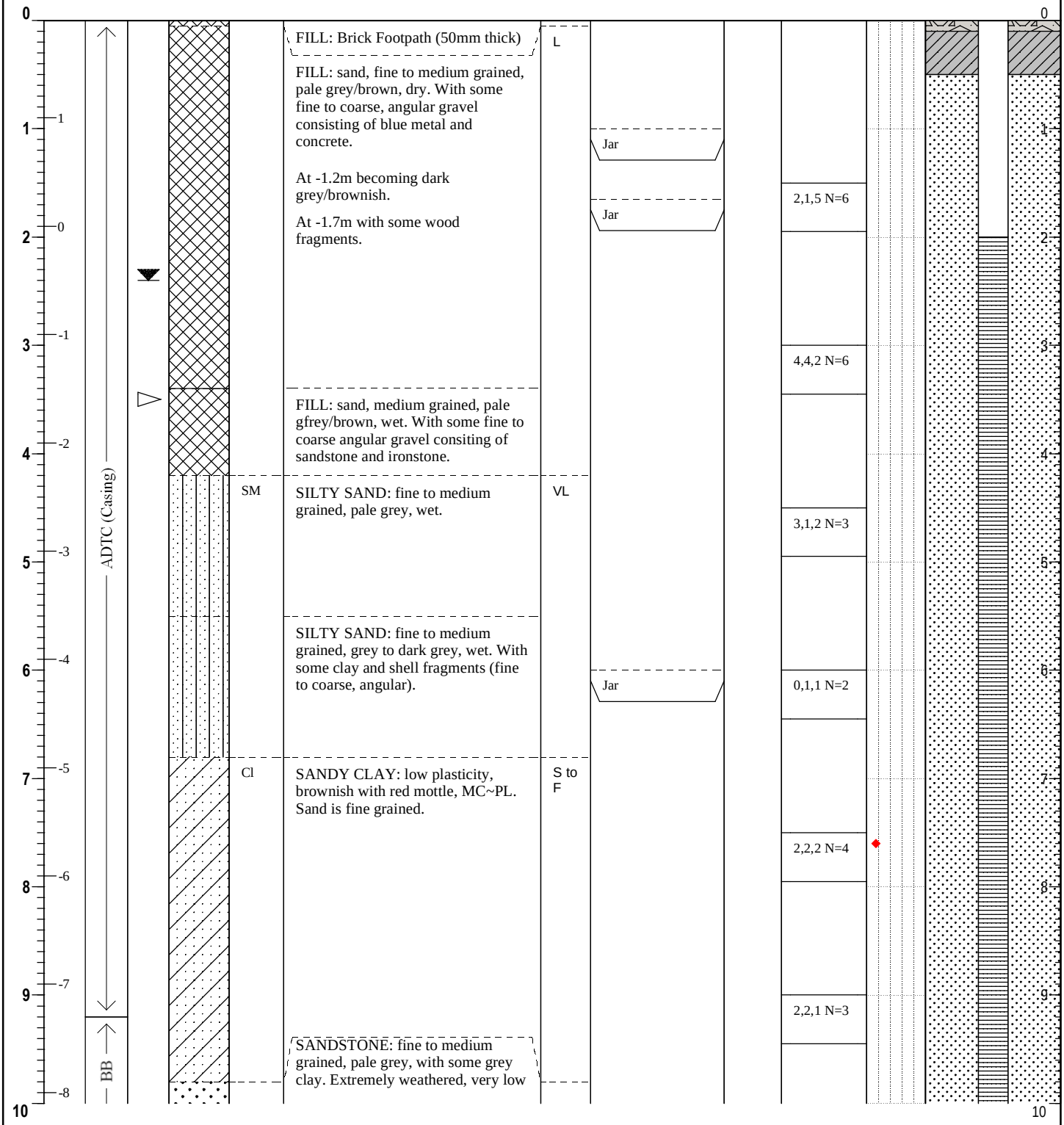
www.consultingearth.com.au

LOG ID: FP_BH4

Sheet: 1 of 3

X-Coord:	333765	GDA 94 MGA 56	**Date Commenced:**	02/05/2012	**Logged by:** MTP
Y-Coord:	6250854		**Date Completed:**	02/05/2012	**Checked by:** MTP
Surface Elevation (R.L) :	1.90	m AHD	**Hole Diameter (mm):**	100mm	

Drilling Information				LITHOLOGY				Samples		Tests		
Depth (mBGL)	R.L. (m)	Method (Support)	Water	Symbol	USCS Symbol	Description SOIL TYPE: plasticity or particle characteristics colour, moisture, secondary and minor components	Consistency / Density	Sample ID	Type	SPT	Pocket Penetrometer (kPa) 100 200 300 400	Well Installation Detail



Drill Company:	Macquarie Drilling Pty Ltd	**Operator Name:**	Ray Dudek	Refer to Standard Sheets for details of abbreviations
Machine Type:	E50	**Operators Licence No.:**		

Project ID:	CES111206-CA
Client:	Cadence Australia
Project:	Four Points Hotel
Location:	Wheat Road

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LOG ID: FP_BH4

X-Coord:	333765	GDA 94 MGA 56	**Date Commenced:**	02/05/2012	**Logged by:** MTP
Y-Coord:	6250854		**Date Completed:**	02/05/2012	**Checked by:** MTP
Surface Elevation (R.L) :	1.90	m AHD	**Hole Diameter (mm):**	100mm	

Drilling Information				LITHOLOGY				Samples		Tests		
Depth (mBGL)	R.L. (m)	Method (Support)	Water	Symbol	USCS Symbol	Description SOIL TYPE: plasticity or particle characteristics colour, moisture, secondary and minor components	Consistency / Density	Sample ID	Type	SPT	Pocket Penetrometer (kPa) 100 200 300 400	Well Installation Detail
10						strength.						
						Begin Core Drilling.						
11	-9											
12	-10											
13	-11											
14	-12					End of Borehole.						
15	-13											
16	-14											
17	-15											
18	-16											
19	-17											
20	-18											

Drill Company:	Macquarie Drilling Pty Ltd	**Operator Name:**	Ray Dudek
Machine Type:	E50	**Operators Licence No.:**	

Refer to Standard Sheets for details of abbreviations

Project ID:	CES111206-CA
Client:	Cadence Australia
Project:	Four Points Hotel
Location:	Wheat Road

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Corehole ID: FP_BH4

Sheet: 3 of 3

X-Coord:	6250854	**Date Commenced:**	02/05/2012	**Logged by:**	MTP
Y-Coord:	333765	**Date Completed:**	02/05/2012	**Checked by:**	MTP
Surface Elevation (R.L):	1.90 m AHD	**Hole Diameter (mm):**	NMLC		

Drilling Information | **LITHOLOGY** | **Natural Defects**

Depth (mBGL)	R.L. (m)	Method (Support)	% Coreloss	Water	Symbol	Rock Description (ROCK TYPE: grain characteristics, colour structure, minor components)	Weathering	Estimated Strength MPa (EL 0.03, VL 0.1, L 0.3, M 1, H 3, VH 10, EH)	Is (50) MPa	RQD %	Spacing (mm) (20, 60, 200, 600, 2000)	Description
10												
			0%			SANDSTONE: fine to medium grained, pale grey with some orange iron staining. Distinctly cross-bedded at 0 to 20 degrees.	MW			100%		BP, 0 to 30 degrees, PR, RF, CN to Sn Fe.
11	-9		0%			SANDSTONE: medium to coarse grained, pale grey/pinkish with some orange iron staining. Distinctly cross-bedded at 10 to 20 degrees.				100%		
12	-10	NMLC							D=1.26 A=1.73			BP BP BP BP
			0%			SANDSTONE: fine to medium grained, pale grey with a trace of orange iron staining. Distinctly cross-bedded at 10 to 20 degrees.	SW			97%		
13	-11								D=0.69 A=0.76			BP BP
14	-12					End of Borehole.						SM, near horizontal, grey clay, 50mm thick, PP=180kPa.
15	-13											
16	-14											
17	-15											
18	-16											
19	-17											
20	-18											

Drill Company:	Macquarie Drilling Pty Ltd	**Operator Name:**	Ray Dudek
Machine Type:	E50		

Refer to Standard Sheets for details of abbreviations

Date:	2/05/2012	Title:	FP_BH4 Four Points 10.2m to 14.0m	
Prepared by:	M. Pickett			
Checked by:	D. Lowe	CES Project ID:	CES111206-CA	
Scale:	NTS			
Size:	A4	Client:	Cadence Australia	

CONSULTING EARTH SCIENTISTS
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Project ID:	CES111206-CA
Client:	Cadence Australia
Project:	Four Points Hotel
Location:	Wheat Road

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
55 Grandview Street, Pymble NSW 2073
PH: (02) 8569 2200 FAX: (02) 9983 0582
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LOG ID: FP_BH5

Sheet: 1 of 4

X-Coord:	333776	GDA 94 MGA 56	**Date Commenced:**	27/04/2012	**Logged by:** MTP
Y-Coord:	6250723		**Date Completed:**	27/04/2012	**Checked by:** MTP
Surface Elevation (R.L) :	3.50	m AHD	**Hole Diameter (mm):**	100mm	

Drilling Information				LITHOLOGY				Samples		Tests		
Depth (mBGL)	R.L. (m)	Method (Support)	Water	Symbol	USCS Symbol	Description SOIL TYPE: plasticity or particle characteristics colour, moisture, secondary and minor components	Consistency / Density	Sample ID	Type	SPT	Pocket Penetrometer (kPa) 100 200 300 400	Well Installation Detail
0	3	ADTC (Casing)	▷			CONCRETE: consisting of two slabs, each 200mm thick.						
1	2					FILL: clayey sand, fine to medium grained, brown, dry. With some fine to coarse, subangular to angular gravel consisting of concrete and sandstone.	L	Jar				
2	1					FILL: sand, fine to medium grained, dark brown, dry. With a trace of clay and subangular to angular gravel consiting of brick, concrete and glass.		Jar		3,2,2 N=4		
3	0				SP	SAND: coarse grained, pale brown, wet. With a trace of silt and fine grained sand.		Jar		3,1,5 N=6		
4	-1				SM	SILTY SAND: medium to coarse grained, dark grey, wet. with some shell fragments (fine to coarse, angular).	MD	Jar		2,1,10/50mm N=R		
5	-2					SANDSTONE: fine to medium grained, pale grey, with some grey clay. Extremely weathered, very low strength.				6,5/100mm N=R		
6	-3					Begin Core Drilling.						
7	-4											
8	-5											
9	-6											
10												

Drill Company:	Macquarie Drilling Pty Ltd	**Operator Name:**	Ray Dudek
Machine Type:	E50	**Operators Licence No.:**	

Refer to Standard Sheets for details of abbreviations

Project ID:	CES111206-CA
Client:	Cadence Australia
Project:	Four Points Hotel
Location:	Wheat Road

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1
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LOG ID: FP_BH5

X-Coord:	333776	GDA 94 MGA 56	**Date Commenced:**	27/04/2012	**Logged by:** MTP
Y-Coord:	6250723		**Date Completed:**	27/04/2012	**Checked by:** MTP
Surface Elevation (R.L) :	3.50	m AHD	**Hole Diameter (mm):**	100mm	

Drilling Information				LITHOLOGY				Samples		Tests		
Depth (mBGL)	R.L. (m)	Method (Support)	Water	Symbol	USCS Symbol	Description SOIL TYPE: plasticity or particle characteristics colour, moisture, secondary and minor components	Consistency / Density	Sample ID	Type	SPT	Pocket Penetrometer (kPa) 100 200 300 400	Well Installation Detail
10												
	-7											
11												
	-8											
12												
	-9											
13												
	-10											
14												
	-11											
15						End of Borehole.						
	-12											
16												
	-13											
17												
	-14											
18												
	-15											
19												
	-16											
20												

Drill Company:	Macquarie Drilling Pty Ltd	**Operator Name:**	Ray Dudek
Machine Type:	E50	**Operators Licence No.:**	

Refer to Standard Sheets for details of abbreviations

Project ID:	CES111206-CA
Client:	Cadence Australia
Project:	Four Points Hotel
Location:	Wheat Road

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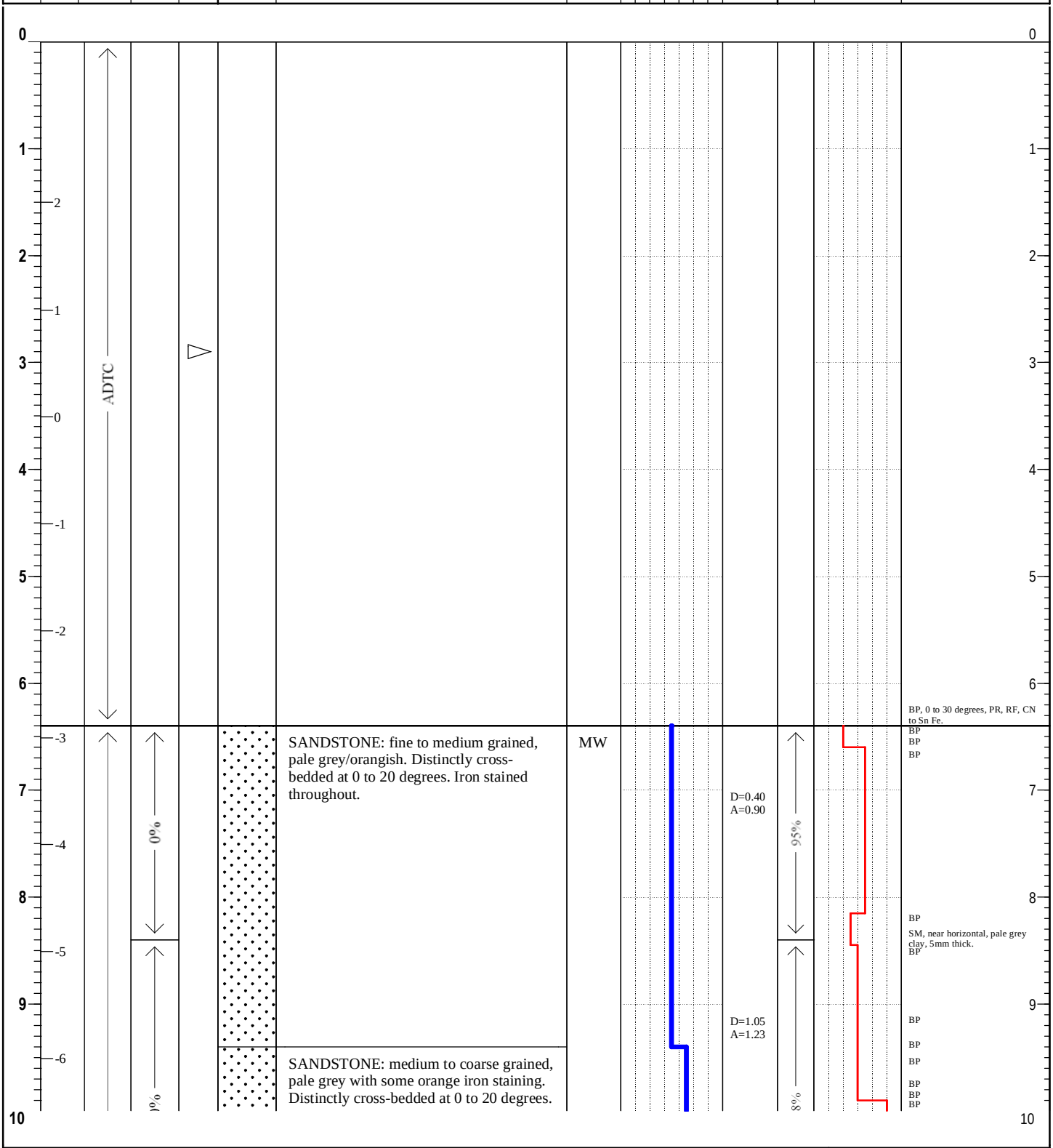
www.consultingearth.com.au

Corehole ID: FP_BH5

X-Coord:	6250723	**Date Commenced:**	27/04/2012	**Logged by:**	MTP
Y-Coord:	333776	**Date Completed:**	27/04/2012	**Checked by:**	MTP
Surface Elevation (R.L):	3.50 m AHD	**Hole Diameter (mm):**	NMLC		



Drill Company:	Macquarie Drilling Pty Ltd	**Operator Name:**	Ray Dudek
Machine Type:	E50		

Refer to Standard Sheets for details of abbreviations

Project ID:	CES111206-CA
Client:	Cadence Australia
Project:	Four Points Hotel
Location:	Wheat Road

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PH: (02) 8569 2200 FAX: (02) 9983 0582
www.consultingearth.com.au

Corehole ID: FP_BH5

Sheet: 4 of 4

X-Coord:	6250723	**Date Commenced:**	27/04/2012	**Logged by:**	MTP
Y-Coord:	333776	**Date Completed:**	27/04/2012	**Checked by:**	MTP
Surface Elevation (R.L):	3.50 m AHD	**Hole Diameter (mm):**	NMLC		

Drilling Information | **LITHOLOGY** | **Natural Defects**

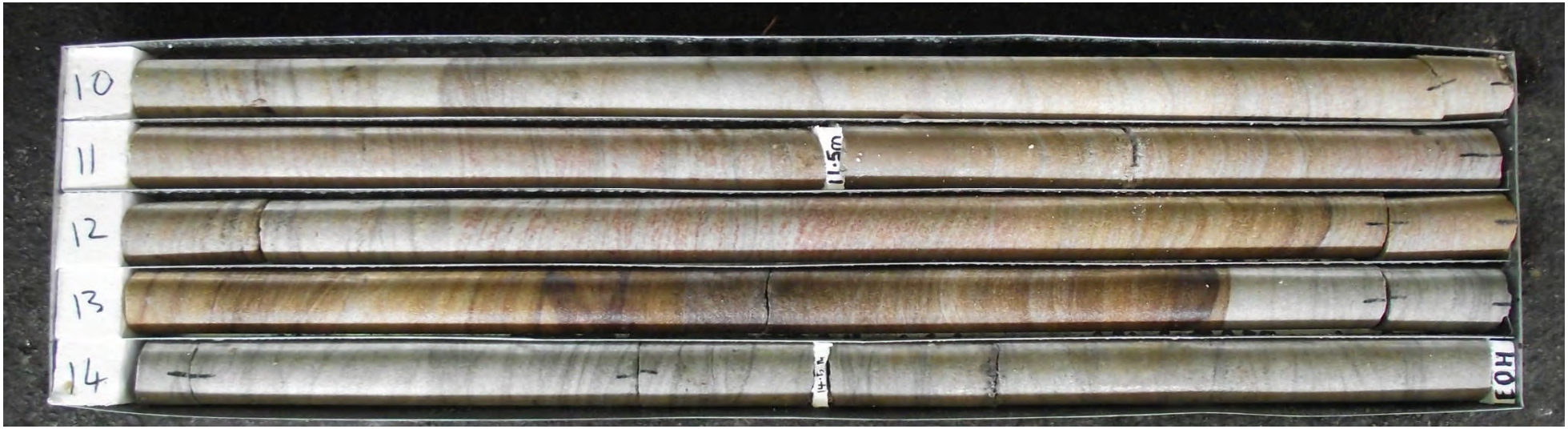
Depth (mBGL)	R.L. (m)	Method (Support)	% Coreloss	Water	Symbol	Rock Description (ROCK TYPE: grain characteristics, colour structure, minor components)	Weathering	Estimated Strength MPa (EL 0.03, VL 0.1, L 0.3, M 1, H 3, VH 10, EH)	Is (50) MPa	RQD %	Spacing (mm) (20, 60, 200, 600, 2000)	Description
10												
	-7	NMLC										
11												
	-8								D=1.86 A=2.00			SM, near horizontal, pale grey clay, 5mm thick.
12												BP
	-9		0%							100%		
13									D=1.65 A=1.57			BP
	-10											
14						SANDSTONE: fine grained, pale grey. Distinctly cross-bedded at 0 to 20 degrees.	SW					
	-11		0%							100%		SM, near horizontal, pale grey clay, 5mm thick.
15						End of Borehole.						
	-12											
16												
	-13											
17												
	-14											
18												
	-15											
19												
	-16											
20												

Drill Company:	Macquarie Drilling Pty Ltd	**Operator Name:**	Ray Dudek
Machine Type:	E50		

Refer to Standard Sheets for details of abbreviations

Date:	27/04/2012	Title:	FP_BH5 Four Points 6.4m to 10.0m	
Prepared by:	M. Pickett			
Checked by:	D. Lowe	CES Project ID:	CES111206-CA	
Scale:	NTS			
Size:	A4	Client:	Cadence Australia	

CONSULTING EARTH SCIENTISTS
Suite 3, Level 1,
55 Grandview Street
Pymble NSW 2073
ph: 02 8569 2200 fax: 02 9983 0582



Date:	27/04/2012	Title:	FP_BH5 Four Points 10.0m to 15.0m	CONSULTING EARTH SCIENTISTS
Prepared by:	M. Pickett			Suite 3, Level 1,
Checked by:	D. Lowe	CES Project ID:	CES111206-CA	55 Grandview Street
Scale:	NTS			Pymble NSW 2073
Size:	A4	Client:	Cadence Australia	ph: 02 8569 2200 fax: 02 9983 0582

APPENDIX B

Geotechnical Laboratory Test Results

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

CERTIFICATE OF ANALYSIS 72707

Client:

Consulting Earth Scientists Pty Ltd
Suite 3, Level 1
55 Grandview Street
Pymble
NSW 2073

Attention: Mark Pickett

Sample log in details:

Your Reference:	**CES111206-CA Four Points**
No. of samples:	14 soils
Date samples received / completed instructions received	02/05/12 / 04/05/12

Analysis Details:

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

Report Details:

Date results requested by: / Issue Date:	11/05/12 / 11/05/12
Date of Preliminary Report:	Not issued

NATA accreditation number 2901. This document shall not be reproduced except in full.
Accredited for compliance with ISO/IEC 17025. **Tests not covered by NATA are denoted with *.**

Results Approved By:

Rhian Morgan
Reporting Supervisor

Nick Sarlamis
Inorganics Supervisor

Jeremy Faircloth
Chemist

NATA
ACCREDITED FOR TECHNICAL COMPETENCE

Miscellaneous Inorg - soil			
Our Reference:	UNITS	72707-7	72707-11
Your Reference	----------	FP-BH4	FP-BH5
Depth	----------	6.0	4.5
Date Sampled		26/04/2012	26/04/2012
Type of sample		soil	soil
Date prepared	-	11/05/2012	11/05/2012
Date analysed	-	11/05/2012	11/05/2012
pH 1:5 soil:water	pH Units	8.4	8.2
Chloride, Cl 1:5 soil:water	mg/kg	520	810
Sulphate, SO4 1:5 soil:water	mg/kg	76	110

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
Org-005	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-008	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA 21st ED, 4500-H+.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA 21st ED, 4110 -B.
Inorg-008	Moisture content determined by heating at 105 deg C for a minimum of 4 hours.

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	72707-1	120 || 110 || RPD: 9	LCS-1	88%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	72707-1	45 || 42 || RPD: 7	LCS-1	87%

QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			11/05/2012	[NT]	[NT]	LCS-1	11/05/2012
Date analysed	-			11/05/2012	[NT]	[NT]	LCS-1	11/05/2012
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	LCS-1	100%
Chloride, Cl 1:5 soil:water	mg/kg	2	Inorg-081	<2	[NT]	[NT]	LCS-1	94%
Sulphate, SO4 1:5 soil:water	mg/kg	2	Inorg-081	<2	[NT]	[NT]	LCS-1	116%

QUALITY CONTROL Moisture	UNITS	PQL	METHOD	Blank
Date prepared	-			[NT]
Date analysed	-			[NT]
Moisture	%	0.1	Inorg-008	[NT]

QUALITY CONTROL vTRH & BTEX in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	72707-2	07/05/2012
Date analysed	-	[NT]	[NT]	72707-2	08/05/2012
vTRH C_6 - C_9	mg/kg	[NT]	[NT]	72707-2	98%
Benzene	mg/kg	[NT]	[NT]	72707-2	98%
Toluene	mg/kg	[NT]	[NT]	72707-2	97%
Ethylbenzene	mg/kg	[NT]	[NT]	72707-2	95%
m+p-xylene	mg/kg	[NT]	[NT]	72707-2	99%
o-Xylene	mg/kg	[NT]	[NT]	72707-2	100%
Surrogate aaa-Trifluorotoluene	%	[NT]	[NT]	72707-2	100%

Report Comments:

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

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

Quality Control Definitions

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

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

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

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

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

Laboratory Acceptance Criteria

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

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

TEST CERTIFICATE

SGS Australia Pty Ltd
Unit 15, 33 Maddox Street
(PO Box 6432)
Alexandria NSW 2015
Australia

ABN 44 000 964 278
ph: +61 (0)2 9597 5599
fax: +61 (0)2 9597 3442

POINT LOAD STRENGTH INDEX

CLIENT: **Consulting Earth Scientists**
Suite 55 Upper Level Jones Bay Wharf 26-32 Pirrama Road Pyrmont NSW 2009

PROJECT: **Four Points CES111206-CA**

LAB. NO.	SAMPLE SOURCE	LITHOLOGY	PLATEN SEPARATION DIAM (mm)	PLATEN SEPARATION HEIGHT (mm)	TEST ORIENTATION	POINT LOAD STRENGTH Is (MPa)	POINT LOAD STRENGTH $Is_{(50)}$ (MPa)	Type OF FAILURE
72158	FP_BH1 9.10 - 9.45m	Sandstone	51.5	31.1	Diametral Axial	1.52 2.21	1.54 2.11	FOB FOB
72159	FP_BH1 10.2 - 10.4m	Sandstone	50.5	30.9	Diametral Axial	1.94 1.93	1.95 1.84	FOB FOB
72160	FP_BH1 13.7 - 14.0m	Sandstone	51.5	39.2	Diametral Axial	2.72 2.01	2.76 2.02	FOB FOB
72161	FP_BH1 14.7 - 15.0m	Sandstone	51.5	31.6	Diametral Axial	1.76 2.11	1.79 2.03	FOB FOB
72163	FP_BH3 7.42 - 7.62m	Sandstone	51.4	33.1	Diametral Axial	0.77 0.85	0.78 0.82	FOB FOB
72164	FP_BH3 10.38 - 10.6m	Sandstone	51.7	29.5	Diametral Axial	1.24 1.39	1.26 1.31	FOB FOB
72165	FP_BH3 13.0 - 13.24m	Sandstone	51.6	31.5	Diametral Axial	1.28 1.52	1.30 1.45	FOB FOB
72166	FP_BH3 14.65 - 14.95m	Sandstone	51.6	30.9	Diametral Axial	0.93 1.16	0.94 1.11	FOB FOB

NOTES TO TESTING

Testing Device: ELE Point Load Tester

Sample History: Unsoaked

Sampled By: Client

Job Number: 133-100

Date Tested: 07.05.12

Test Method: AS 4133.4.1 2007

Failure Type
- FOB Fracture through fabric of specimen oblique to bedding not influenced by weak planes
- FB Fracture along bedding
- FIP Fracture influenced by pre-existing plane, microfracture, vein, chemical alteration
- CPF Chip or partial fracture

Approved Signatory: Chris Lloyd **Date:** 08.05.12

This document is issued in accordance with NATA's accreditation requirements

Accreditation No. 2418

TEST CERTIFICATE

SGS Australia Pty Ltd
Unit 15, 33 Maddox Street
(PO Box 6432)
Alexandria NSW 2015
Australia

ABN 44 000 964 278
ph: +61 (0)2 9597 5599
fax: +61 (0)2 9597 3442

POINT LOAD STRENGTH INDEX

CLIENT: **Consulting Earth Scientists**
Suite 55 Upper Level Jones Bay Wharf 26-32 Pirrama Road Pyrmont NSW 2009

PROJECT: **Four Points CES111206-CA**

LAB. NO.	SAMPLE SOURCE	LITHOLOGY	PLATEN SEPARATION DIAM (mm)	PLATEN SEPARATION HEIGHT (mm)	TEST ORIENTATION	POINT LOAD STRENGTH Is (MPa)	POINT LOAD STRENGTH $Is_{(50)}$ (MPa)	Type OF FAILURE
72168	FP_BH4 12.0 - 12.2m	Sandstone	51.5		Diametral	1.24	1.26	FOB
				31.0	Axial	1.81	1.73	FOB
72169	FP_BH4 13.0 - 13.25m	Sandstone	51.5		Diametral	0.68	0.69	FOB
				32.4	Axial	0.79	0.76	FOB
72170	FP_BH5 7.0 - 7.3m	Sandstone	51.7		Diametral	0.40	0.40	FOB
				28.7	Axial	0.96	0.90	FOB
72171	FP_BH5 9.1 - 9.33m	Sandstone	51.6		Diametral	1.04	1.05	FOB
				28.7	Axial	1.32	1.23	FOB
72172	FP_BH5 11.7 - 12.0m	Sandstone	51.6		Diametral	1.83	1.86	FOB
				32.5	Axial	2.07	2.00	FOB
72173	FP_BH5 13.0 - 13.3m	Sandstone	51.5		Diametral	1.63	1.65	FOB
				28.6	Axial	1.67	1.57	FOB

NOTES TO TESTING

Testing Device	ELE Point Load Tester
Sample History	Unsoaked
Sampled By:	Client
Job Number:	133-100
Date Tested:	07.05.12
Test Method:	AS 4133.4.1 2007

Failure Type

FOB	Fracture through fabric of specimen oblique to bedding not influenced by weak planes
FB	Fracture along bedding
FIP	Fracture influenced by pre-existing plane, microfracture, vein, chemical alteration
CPF	Chip or partial fracture

Approved Signatory: Chris Lloyd **Date:** 08.05.12

This document is issued in accordance with NATA's accreditation requirements

Accreditation No. 2418

ABN 44 000 964 278
ph: +61 (0)2 8594 0481
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TEST CERTIFICATE

SGS Australia Pty Ltd
Unit 15, 33 Maddox Street
(PO Box 6432)
Alexandria NSW 2015
Australia

UNIAXIAL COMPRESSIVE STRENGTH

CLIENT:	**Consulting Earth Scientists**	**JOB NO.:**	133-100
PROJECT:	**Four Points CES111206-CA**	**LAB NO.:**	72157
		Date Tested:	07.05.12
Sample ID:	**FP_BH1**	**Test Type:**	Compressive Strength
		Sample Type:	Single Individual Rock Core Specimen
Sample Length (mm):	136.2 Sample Diameter (mm): 51.8		
Length/Diameter Ratio:	2.6	**Rock Type:**	Sandstone
Dry Density (t/m^3):	2.15	**Depth (m):**	5.60 - 6.00m
Moisture Content (%):	5.9		

UNIAXIAL COMPRESSIVE STRENGTH:
U.C.S. (MPa) = 25.3

Notes on Testing: Specimen tested at the moisture condition as received.

Specimen supplied by client.

Bulk density value was determined by vernier calliper method.

Testing Equipment: CL 10305 2000kn Hydraulic Compression Machine

Mode of Failure: Brittle

Test Method: AS 4133.4.2.1

Approved Signatory: Chris Lloyd **Date:** 08.05.12

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UNIAXIAL COMPRESSIVE STRENGTH

CLIENT:	**Consulting Earth Scientists**	**JOB NO.:**	133-100
PROJECT:	**Four Points CES111206-CA**	**LAB NO.:**	72162
		Date Tested:	07.05.12
Sample ID:	**FP_BH3**	**Test Type:**	Compressive Strength
		Sample Type:	Single Individual Rock Core Specimen
Sample Length (mm):	134.4 Sample Diameter (mm): 51.7		
Length/Diameter Ratio:	2.6	**Rock Type:**	Sandstone
Dry Density (t/m^3):	2.22	**Depth (m):**	2.55 - 2.7m
Moisture Content (%):	6.0		

UNIAXIAL COMPRESSIVE STRENGTH:
U.C.S. (MPa) = 29.3

Notes on Testing: Specimen tested at the moisture condition as received.

Specimen supplied by client.

Bulk density value was determined by vernier calliper method.

Testing Equipment: CL 10305 2000kn Hydraulic Compression Machine

Mode of Failure: Brittle

Test Method: AS 4133.4.2.1

Approved Signatory: Chris Lloyd **Date:** 08.05.12

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UNIAXIAL COMPRESSIVE STRENGTH

CLIENT:	**Consulting Earth Scientists**	**JOB NO.:**	133-100
PROJECT:	**Four Points CES111206-CA**	**LAB NO.:**	72167
		Date Tested:	07.05.12
Sample ID:	**FP_BH4**	**Test Type:**	Compressive Strength
		Sample Type:	Single Individual Rock Core Specimen
Sample Length (mm):	134.3 Sample Diameter (mm): 51.7		
Length/Diameter Ratio:	2.6	**Rock Type:**	Sandstone
Dry Density (t/m^3):	2.22	**Depth (m):**	11.6 - 11.8m
Moisture Content (%):	6.8		

UNIAXIAL COMPRESSIVE STRENGTH:
U.C.S. (MPa) = 25.3

Notes on Testing: Specimen tested at the moisture condition as received.

Specimen supplied by client.

Bulk density value was determined by vernier calliper method.

Testing Equipment: CL 10305 2000kn Hydraulic Compression Machine

Mode of Failure: Brittle

Test Method: AS 4133.4.2.1

Approved Signatory: Chris Lloyd **Date:** 08.05.12

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Alexandria NSW 2015
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UNIAXIAL COMPRESSIVE STRENGTH

CLIENT:	**Consulting Earth Scientists**	**JOB NO.:**	133-100
PROJECT:	**Four Points**	**LAB NO.:**	72174
	CES111206-CA	**Date Tested:**	07.05.12
Sample ID:	**FP_BH5**	**Test Type:**	Compressive Strength
		Sample Type:	Single Individual Rock Core Specimen
Sample Length (mm):	131.8 Sample Diameter (mm): 51.6		
Length/Diameter Ratio:	2.6	**Rock Type:**	Sandstone
Dry Density (t/m^3):	2.18	**Depth (m):**	14.7 - 15.0m
Moisture Content (%):	6.1		

UNIAXIAL COMPRESSIVE STRENGTH:
U.C.S. (MPa) = 27.7

Notes on Testing: Specimen tested at the moisture condition as received.

Specimen supplied by client.

Bulk density value was determined by vernier calliper method.

Testing Equipment: CL 10305 2000kn Hydraulic Compression Machine

Mode of Failure: Brittle

Test Method: AS 4133.4.2.1

Approved Signatory: NAME **Date:**

This document is issued in accordance with NATA's accreditation requirements

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