Hadfield House
Hadfield Street
Combrook
Manchester
M16 9FE
Tel : 0161 874 2400
Fax : 0161 874 2468

Scientific Analysis Laboratories Ltd

Certificate of Analysis

Report Number: 430847-1

Date of Report: 29-Oct-2014

Customer: Curtins Consulting Ltd.
10 Oxford Court
Bishopsgate
Manchester
M2 3WQ

Customer Contact: Miss Amy Ward

Customer Job Reference: EB1310/GL/4077
Customer Purchase Order: EB967
Customer Site Reference: St Francis Xavier, Liverpool
Date Job Received at SAL: 20-Oct-2014
Date Analysis Started: 23-Oct-2014
Date Analysis Completed: 29-Oct-2014

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with QP22

UKAS TESTING
1549

mCERTS

Report checked and authorised by :
Mr Ross Walker
Customer Services Manager (Land)

Issued by :
Mr Ross Walker
Customer Services Manager (Land)

SAL Reference: 430847
Project Site: St Francis Xavier, Liverpool
Customer Reference: EB1310/GL/4077

Soil — Analysed as Soil
MCERTS Preparation

SAL Reference	430847 019	430847 020	430847 021	430847 022
Customer Sample Reference	WS4A	WS4B	WS4C	WS4D
Depth	0.30	0.40	0.45	0.50
Date Sampled	19-OCT-2014	19-OCT-2014	19-OCT-2014	19-OCT-2014
Type	Sandy Soil	Sandy Soil	Sandy Soil	Sandy Soil

Determinand	Method	Test Sample	LOD	Units				
Moisture @ 105 C	T162	AR	0.1	%	17	19	13	13

SAL Reference: 430847
Project Site: St Francis Xavier, Liverpool
Customer Reference: EB1310/GL/4077

Soil — Analysed as Soil
Total and Speciated USEPA16 PAH

SAL Reference	430847 019	430847 020	430847 021	430847 022
Customer Sample Reference	WS4A	WS4B	WS4C	WS4D
Depth	0.30	0.40	0.45	0.50
Date Sampled	19-OCT-2014	19-OCT-2014	19-OCT-2014	19-OCT-2014
Type	Sandy Soil	Sandy Soil	Sandy Soil	Sandy Soil

Determinand	Method	Test Sample	LOD	Units				
Naphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T207	M105	0.1	mg/kg	<0.1	0.3	<0.1	<0.1
Fluorene	T207	M105	0.1	mg/kg	<0.1	0.2	<0.1	<0.1
Phenanthrene	T207	M105	0.1	mg/kg	0.6	2.0	0.6	0.9
Anthracene	T207	M105	0.1	mg/kg	0.1	0.6	0.1	0.3
Fluoranthene	T207	M105	0.1	mg/kg	1.1	3.4	1.5	1.9
Pyrene	T207	M105	0.1	mg/kg	1.0	3.1	1.4	1.7
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	0.6	1.8	0.9	1.0
Chrysene	T207	M105	0.1	mg/kg	0.4	1.3	0.6	0.7
Benzo(b/k)Fluoranthene	T207	M105	0.1	mg/kg	0.6	2.3	1.1	1.2
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	0.6	2.1	1.0	1.2
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	0.2	0.5	0.3	0.3
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	<0.1	0.1	<0.1	<0.1
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	0.2	0.7	0.4	0.4
PAH(total)	T207	M105	0.1	mg/kg	5.4	18	7.9	9.6

SAL Reference: 430847
Project Site: St Francis Xavier, Liverpool
Customer Reference: EB1310/GL/4077

Soil — Analysed as Soil
Miscellaneous

SAL Reference	430847 001	430847 002	430847 003	430847 004	430847 005	430847 006	430847 007	430847 008	430847 009
Customer Sample Reference	WS1A	WS1B	WS1B	WS1C	WS1C	WS1D	WS2A	WS2A	WS2A
Depth	0.32	0.60	0.40	0.50	0.30	0.42	1.80	1.00	0.50
Date Sampled	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014

Determinand	Method	Test Sample	LOD	Units									
Asbestos ID	T27	AR			N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

SAL Reference: 430847
Project Site: St Francis Xavier, Liverpool
Customer Reference: EB1310/GL/4077

Soil Analysed as Soil
Miscellaneous

SAL Reference	430847 010	430847 011	430847 012	430847 013	430847 014	430847 015	430847 016	430847 017	430847 018
Customer Sample Reference	WS2B	WS2B	WS2C	WS2D	WS3A	WS3B	WS3B	WS3C	WS3D
Depth	1.00	0.50	0.50	0.50	0.50	0.70	0.50	0.50	0.50
Date Sampled	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014

Determinand	Method	Test Sample	LOD	Units									
Asbestos ID	T27	AR			N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Chrysotile Detected	N.D.	N.D.

Index to symbols used in 430847-1

Value	Description
AR	As Received
M105	Analysis conducted on an "as received" aliquot. Results are reported on a dry weight basis where moisture content was determined by assisted drying of sample at 105C
N.D.	Not Detected
S	Analysis was subcontracted
M	Analysis is MCERTS accredited
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Notes

Asbestos was subcontracted to REC Asbestos

Method Index

Value	Description
T27	PLM
T162	Grav (1 Dec) (105 C)
T207	GC/MS (MCERTS)

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Moisture @ 105 C	T162	AR	0.1	%	N	019-022
Naphthalene	T207	M105	0.1	mg/kg	M	019-022
Acenaphthylene	T207	M105	0.1	mg/kg	U	019-022
Acenaphthene	T207	M105	0.1	mg/kg	M	019-022
Fluorene	T207	M105	0.1	mg/kg	M	019-022
Phenanthrene	T207	M105	0.1	mg/kg	M	019-022
Anthracene	T207	M105	0.1	mg/kg	U	019-022
Fluoranthene	T207	M105	0.1	mg/kg	M	019-022
Pyrene	T207	M105	0.1	mg/kg	M	019-022
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	M	019-022
Chrysene	T207	M105	0.1	mg/kg	M	019-022
Benzo(b/k)Fluoranthene	T207	M105	0.1	mg/kg	M	019-022
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	M	019-022
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	M	019-022
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	M	019-022
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	M	019-022
PAH(total)	T207	M105	0.1	mg/kg	U	019-022
Asbestos ID	T27	AR			SU	001-018

SAL
A CONCEPT LIFE SCIENCES company

Scientific Analysis Laboratories is a limited company registered in England and Wales (No 2514788) whose address is at Hadfield House, Hadfield Street, Manchester M16 9FE

Scientific Analysis Laboratories Ltd

Certificate of Analysis

Hadfield House
Hadfield Street
Combrook
Manchester
M16 9FE
Tel : 0161 874 2400
Fax : 0161 874 2468

Report Number: 430847-1 Interim

Date of Report: 24-Oct-2014

Customer: Curtins Consulting Ltd.
10 Oxford Court
Bishopsgate
Manchester
M2 3WQ

Customer Contact: Miss Amy Ward

Customer Job Reference: EB1310/GL/4077
Customer Purchase Order: EB967
Customer Site Reference: St Francis Xavier, Liverpool
Date Job Received at SAL: 20-Oct-2014
Date Analysis Started: 23-Oct-2014
Date Analysis Completed:

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with QP22

UKAS TESTING
1549

mCERTS

Report checked and authorised by :

Issued by :
Mr Ross Walker
Customer Services Manager (Land)

SAL Reference: 430847
Project Site: St Francis Xavier, Liverpool
Customer Reference: EB1310/GL/4077

Soil — Analysed as Soil
MCERTS Preparation

				SAL Reference	430847 019	430847 020	430847 021	430847 022
				Customer Sample Reference	WS4A	WS4B	WS4C	WS4D
				Date Sampled	19-OCT-2014	19-OCT-2014	19-OCT-2014	19-OCT-2014
				Depth	0.30	0.40	0.45	0.50
				Type	Sandy Soil	Sandy Soil	Sandy Soil	Sandy Soil
Determinand	Method	Test Sample	LOD	Units				
Moisture @ 105 C	T162	AR	0.1	%	17	19	13	13

SAL Reference: 430847
Project Site: St Francis Xavier, Liverpool
Customer Reference: EB1310/GL/4077

Soil — Analysed as Soil
Total and Speciated USEPA16 PAH

				SAL Reference	430847 019	430847 020	430847 021	430847 022
				Customer Sample Reference	WS4A	WS4B	WS4C	WS4D
				Date Sampled	19-OCT-2014	19-OCT-2014	19-OCT-2014	19-OCT-2014
				Depth	0.30	0.40	0.45	0.50
				Type	Sandy Soil	Sandy Soil	Sandy Soil	Sandy Soil
Determinand	Method	Test Sample	LOD	Units				
Naphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T207	M105	0.1	mg/kg	<0.1	0.3	<0.1	<0.1
Fluorene	T207	M105	0.1	mg/kg	<0.1	0.2	<0.1	<0.1
Phenanthrene	T207	M105	0.1	mg/kg	0.6	2.0	0.6	0.9
Anthracene	T207	M105	0.1	mg/kg	0.1	0.6	0.1	0.3
Fluoranthene	T207	M105	0.1	mg/kg	1.1	3.4	1.5	1.9
Pyrene	T207	M105	0.1	mg/kg	1.0	3.1	1.4	1.7
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	0.6	1.8	0.9	1.0
Chrysene	T207	M105	0.1	mg/kg	0.4	1.3	0.6	0.7
Benzo(b/k)Fluoranthene	T207	M105	0.1	mg/kg	0.6	2.3	1.1	1.2
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	0.6	2.1	1.0	1.2
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	0.2	0.5	0.3	0.3
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	<0.1	0.1	<0.1	<0.1
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	0.2	0.7	0.4	0.4
PAH(total)	T207	M105	0.1	mg/kg	5.4	18	7.9	9.6

SAL Reference: 430847
Project Site: St Francis Xavier, Liverpool
Customer Reference: EB1310/GL/4077

Soil — Analysed as Soil
Miscellaneous

				SAL Reference	430847 001	430847 002	430847 003	430847 004	430847 005	430847 006	430847 007	430847 008	430847 009
				Customer Sample Reference	WS1A	WS1B	WS1B	WS1C	WS1C	WS1D	WS2A	WS2A	WS2A
				Date Sampled	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014
				Depth	0.32	0.60	0.40	0.50	0.30	0.42	1.80	1.00	0.50
Determinand	Method	Test Sample	LOD	Units									
Asbestos ID	T27	AR											

SAL Reference: 430847
Project Site: St Francis Xavier, Liverpool
Customer Reference: EB1310/GL/4077

Soil Analysed as Soil
Miscellaneous

SAL Reference	430847 010	430847 011	430847 012	430847 013	430847 014	430847 015	430847 016	430847 017	430847 018
Customer Sample Reference	WS2B	WS2B	WS2C	WS2D	WS3A	WS3B	WS3B	WS3C	WS3D
Date Sampled	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014	18-OCT-2014
Depth	1.00	0.50	0.50	0.50	0.50	0.70	0.50	0.50	0.50

Determinand	Method	Test Sample	LOD	Units									
Asbestos ID	T27	AR											

Index to symbols used in 430847-1 Interim

Value	Description
AR	As Received
M105	Analysis conducted on an "as received" aliquot. Results are reported on a dry weight basis where moisture content was determined by assisted drying of sample at 105C
S	Analysis was subcontracted
M	Analysis is MCERTS accredited
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Notes

Asbestos was subcontracted to REC Asbestos

Method Index

Value	Description
T162	Grav (1 Dec) (105 C)
T207	GC/MS (MCERTS)
T27	PLM

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Asbestos ID	T27	AR			SU	001-018
Moisture @ 105 C	T162	AR	0.1	%	N	019-022
Naphthalene	T207	M105	0.1	mg/kg	M	019-022
Acenaphthylene	T207	M105	0.1	mg/kg	U	019-022
Acenaphthene	T207	M105	0.1	mg/kg	M	019-022
Fluorene	T207	M105	0.1	mg/kg	M	019-022
Phenanthrene	T207	M105	0.1	mg/kg	M	019-022
Anthracene	T207	M105	0.1	mg/kg	U	019-022
Fluoranthene	T207	M105	0.1	mg/kg	M	019-022
Pyrene	T207	M105	0.1	mg/kg	M	019-022
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	M	019-022
Chrysene	T207	M105	0.1	mg/kg	M	019-022
Benzo(b/k)Fluoranthene	T207	M105	0.1	mg/kg	M	019-022
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	M	019-022
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	M	019-022
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	M	019-022
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	M	019-022
PAH(total)	T207	M105	0.1	mg/kg	U	019-022

Hadfield House
Hadfield Street
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Tel : 0161 874 2400
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Scientific Analysis Laboratories Ltd

Certificate of Analysis

Report Number: 432935-1

Date of Report: 12-Nov-2014

Customer: Curtins Consulting Ltd.
10 Oxford Court
Bishopsgate
Manchester
M2 3WQ

Customer Contact: Ms Gemma Lownsbrough

Customer Job Reference: EB1310/GL/4077
Customer Purchase Order: EB967
Customer Site Reference: St Francis Xavier, Liverpool
Date Job Received at SAL: 20-Oct-2014
Date Analysis Started: 03-Nov-2014
Date Analysis Completed: 11-Nov-2014

The results reported relate to samples received in the laboratory
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with QP22

Report checked and authorised by :
Mr Ross Walker
Customer Services Manager (Land)

Issued by :
Mr Ross Walker
Customer Services Manager (Land)

SAL Reference:	432935
Project Site:	St Francis Xavier, Liverpool
Customer Reference:	EB1310/GL/4077

Soil Analysed as Soil

Miscellaneous

SAL Reference	432935 001
Customer Sample Reference	WS3B (430847/016)
Date Sampled	18-OCT-2014

Determinand	Method	Test Sample	LOD	Units	
Asbestos Quantification	T27	AR	0.001	%	Chrysotile Detected <0.001%

Index to symbols used in 432935-1

Value	Description
AR	As Received
S	Analysis was subcontracted
U	Analysis is UKAS accredited

Method Index

Value	Description
T27	PLM

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Asbestos Quantification	T27	AR	0.001	%	SU	001

IAN FARMER ASSOCIATES

Unit 4 Faraday Close, Pattinson North Industrial Estate, Washington, Tyne & Wear, NE38 8QJ.
Tel. 0191 4828500 Fax. 0191 4828520 Email. washington@ianfarmer.co.uk Internet.www.ianfarmer.co.uk

Ian Farmer Associates (1998) Ltd
17 Rivington Court
Warrington
Cheshire
WA1 4RT

F.A.O. Mr A Latimer

TEST REPORT - 41498/1

Site :	St Francis Xavier School
Job Number :	41498
Originating Client :	Curtins Consulting
Originating Reference :	41498
Date Sampled :	Not Given
Date Scheduled :	02/09/2014
Date Testing Started :	08/09/14
Date Testing Finished :	19/09/14

Remarks :

- First Report for above Job Number
- Samples will be disposed of 28 days after the report is issued unless otherwise agreed
- This report may contain results from tests which are not included within the scope of the UKAS accreditation. Please see final sheet for details.

Authorised By: D. Smith Daniel Smith

Position : Laboratory Supervisor Date : 19/09/14

IAN FARMER ASSOCIATES

Laboratory Test Report - 41498/1

Site : St Francis Xavier School

Client : Curtins Consulting

Job Number 41498

DETERMINATION OF MOISTURE CONTENT, LIQUID LIMIT AND PLASTIC LIMIT AND DERIVATION OF PLASTICITY AND LIQUIDITY INDEX

Borehole/ Trial Pit	Depth (m)	Sample	Natural / Sieved	Natural Moisture Content %	Sample Passing 425µm Sieve		Liquid Limit %	Plastic Limit %	Plasticity Index %	Liquidity Index	Class	Description / Remarks
					Percentage %	Moisture Content %						
WS50	1.50	D9	Natural	9.0	92	9.4	28	13	15	-0.24	CL	Brown sandy SILT

Method of Preparation : BS 1377:PART 1:1990:7.4 Preparation of samples for classification tests BS 1377:PART 2:1990:4.2 & 5.2 Sample preparations

Method of Test : BS 1377:PART 2:1990:3.2 Determination of moisture content 4.3 Determination of the liquid limit 5.3 Determination of the plastic limit and plasticity index

IAN FARMER ASSOCIATES

Test Report : **41498/1**

Site : St Francis Xavier School
Job Number : 41498
Originating Client : Curtins Consulting

All opinions and interpretations contained within this report are outside of our Scope of Accreditation.

The following tests contained within this report are not UKAS Accredited.

Date of Issued : 19/09/14

Derwentside Environmental Testing Services

Certificate of Analysis

Certificate Number 14-14698

10-Sep-14

Client Ian Farmer Associates
17 Rivington Court
Hardwick Grange
Woolston
Warrington
Cheshire
WA1 4RT

Our Reference 14-14698

Client Reference 41498

Contract Title St Francis Xavier Scool

Description 55 Soil samples.

Date Received 04-Sep-14

Date Started 04-Sep-14

Date Completed 10-Sep-14

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the scope of UKAS accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Rob Brown
Business Manager

UKAS TESTING
2139

Derwentside Environmental Testing Services

Summary of Chemical Analysis

Soil Samples

Our Ref 14-14698
Client Ref 41498
Contract Title St Francis Xavier Scool

			Lab No	695043	695044	695045	695046	695047	695048	695049	695050	695051	695052	695053	695054	695055
			Sample ID	BH01	BH01	WS01	WS01	WS02	WS03	WS04	WS04	WS05	WS05	WS06	WS08	WS09
			Depth	0.50	2.00	0.80	2.00	0.80	1.00	1.20	2.70	0.80	1.20	1.50	0.30	0.45
			Other ID	4	9	4	9	4	6	6	9	4	6	7	2	4
			Sample Type	D	D	D	D	D	D	D	D	D	D	D	D	D
			Sampling Date	18/08/14	18/08/14	n/s	n/s	n/s	n/s	n/s	n/s	n/s	20/08/14	n/s	21/08/14	21/08/14
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**													
Inorganics																
pH	DETSC 2008#			8.2	8.0	7.2	7.8	7.2	7.7	8.1	7.6	8.0	8.1	7.6	6.3	7.4
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	490	34	17	12	< 10	< 10	< 10	20	17	11	10	< 10	< 10

Key: # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied.

Derwentside Environmental Testing Services

Summary of Chemical Analysis
Soil Samples

Our Ref 14-14698
Client Ref 41498
Contract Title St Francis Xavier Scool

				Lab No	695056	695057	695058	695059	695060	695061	695062	695063	695064	695065	695066	695067	695068
				Sample ID	WS10	WS13	WS13	WS14	WS15	WS16	WS17	WS19	WS22	WS23	WS23	WS26	WS27
				Depth	1.20	0.80	1.70	0.80	2.00	1.20	0.80	0.45	0.80	0.80	1.70	0.65	0.50
				Other ID	6	4	9	4	8	6	4	6	4	4	7	4	4
				Sample Type	D	D	D	D	D	D	D	D	D	D	D	D	D
				Sampling Date	21/08/14	n/s	n/s	21/08/14	22/08/14	22/08/14	n/s	20/08/14	n/s	22/08/14	n/s	n/s	22/08/14
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**														
Inorganics																	
pH	DETSC 2008#				7.4	7.1	7.3	7.8	7.3	8.1	7.8	7.5	7.0	7.8	7.7	7.8	8.6
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l		< 10	25	25	22	13	14	< 10	< 10	14	< 10	< 10	< 10	< 10

Key: # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied.

Derwentside Environmental Testing Services

Summary of Chemical Analysis

Soil Samples

Our Ref 14-14698
Client Ref 41498
Contract Title St Francis Xavier Scool

				Lab No	695069	695070	695071	695072	695073	695074	695075	695076	695077	695078	695079	695080	695081
				Sample ID	WS28	WS29	WS30	WS31	WS32	WS35	WS36	WS37	WS37	WS38	WS39	WS39	WS40
				Depth	0.40	0.30	1.20	0.70	0.30	0.50	1.20	0.80	1.90	1.00	0.50	1.20	0.80
				Other ID	5	2	6	6	2	6	6	4	8	6	4	6	4
				Sample Type	D	D	D	D	D	D	D	D	D	D	D	D	D
				Sampling Date	n/s	20/08/14	19/08/14	n/s	20/08/14	n/s	26/08/14	18/08/14	n/s	19/08/14	n/s	n/s	19/08/14
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**														
Inorganics																	
pH	DETSC 2008#				7.4	7.3	7.7	7.2	6.5	7.4	7.4	6.7	7.7	11.5	7.6	7.3	7.3
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l		< 10	< 10	21	32	12	< 10	< 10	54	15	260	36	58	14

Key: # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 14-14698
Client Ref 41498
Contract Title St Francis Xavier Scool

	Lab No	695082	695083	695084	695085	695086	695087	695088	695089	695090	695091	695092	695093	695094
	Sample ID	WS41	WS42	WS44	WS44	WS45	WS46	WS48	WS50	WS52	WS53	WS54	WS56	WS58
	Depth	0.45	0.50	0.80	1.20	0.90	1.20	0.30	0.50	0.30	0.30	0.48	0.70	0.50
	Other ID	4	3	5	10	8	6	4	6	4	3	4	6	7
	Sample Type	D	D	D	D	D	D	D	D	D	B	D	D	D
	Sampling Date	26/08/14	18/08/14	n/s	n/s	19/08/14	n/s	26/08/14	18/08/14	n/s	n/s	n/s	n/s	n/s
	Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**											
Inorganics														
pH	DETSC 2008#			8.1	8.0	7.6	7.9	7.2	7.4	8.4	7.4	8.3	8.7	8.2	7.6	8.2
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	19	17	140	81	16	12	< 10	24	< 10	17	< 10	< 10	14

Key: # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 14-14698
Client Ref 41498
Contract Title St Francis Xavier Scool

			Lab No	695095	695096	695097
			Sample ID	WS59	WS60	WS61
			Depth	0.30	0.60	0.45
			Other ID	2	6	3
			Sample Type	D	D	B
			Sampling Date	27/08/14	27/08/14	n/s
			Sampling Time	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**			
Inorganics						
pH	DETSC 2008#			7.8	7.9	7.8
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	< 10	16	28

Key: # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied.

Information in Support of the Analytical Results

Our Ref 14-14698
Client Ref 41498
Contract St Francis Xavier Scool

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
695043	BH01 0.50 SOIL	18/08/14	PT 1L	pH (7 days)	
695044	BH01 2.00 SOIL	18/08/14	PT 1L	pH (7 days)	
695045	WS01 0.80 SOIL		PT 1L	Sample date not supplied	
695046	WS01 2.00 SOIL		PT 1L	Sample date not supplied	
695047	WS02 0.80 SOIL		PT 1L	Sample date not supplied	
695048	WS03 1.00 SOIL		PT 1L	Sample date not supplied	
695049	WS04 1.20 SOIL		PT 1L	Sample date not supplied	
695050	WS04 2.70 SOIL		PT 1L	Sample date not supplied	
695051	WS05 0.80 SOIL		PT 1L	Sample date not supplied	
695052	WS05 1.20 SOIL	20/08/14	PT 1L	pH (7 days)	
695053	WS06 1.50 SOIL		PT 1L	Sample date not supplied	
695054	WS08 0.30 SOIL	21/08/14	PT 1L	pH (7 days)	
695055	WS09 0.45 SOIL	21/08/14	PT 1L	pH (7 days)	
695056	WS10 1.20 SOIL	21/08/14	PT 1L	pH (7 days)	
695057	WS13 0.80 SOIL		PT 1L	Sample date not supplied	
695058	WS13 1.70 SOIL		PT 1L	Sample date not supplied	
695059	WS14 0.80 SOIL	21/08/14	PT 1L	pH (7 days)	
695060	WS15 2.00 SOIL	22/08/14	PT 1L	pH (7 days)	
695061	WS16 1.20 SOIL	22/08/14	PT 1L	pH (7 days)	
695062	WS17 0.80 SOIL		PT 1L	Sample date not supplied	
695063	WS19 0.45 SOIL	20/08/14	PT 1L	pH (7 days)	
695064	WS22 0.80 SOIL		PT 1L	Sample date not supplied	
695065	WS23 0.80 SOIL	22/08/14	PT 1L	pH (7 days)	
695066	WS23 1.70 SOIL		PT 1L	Sample date not supplied	
695067	WS26 0.65 SOIL		PT 1L	Sample date not supplied	
695068	WS27 0.50 SOIL	22/08/14	PT 1L	pH (7 days)	
695069	WS28 0.40 SOIL		PT 1L	Sample date not supplied	
695070	WS29 0.30 SOIL	20/08/14	PT 1L	pH (7 days)	
695071	WS30 1.20 SOIL	19/08/14	PT 1L	pH (7 days)	
695072	WS31 0.70 SOIL		PT 1L	Sample date not supplied	
695073	WS32 0.30 SOIL	20/08/14	PT 1L	pH (7 days)	
695074	WS35 0.50 SOIL		PT 1L	Sample date not supplied	
695075	WS36 1.20 SOIL	26/08/14	PT 1L	pH (7 days)	
695076	WS37 0.80 SOIL	18/08/14	PT 1L	pH (7 days)	
695077	WS37 1.90 SOIL		PT 1L	Sample date not supplied	
695078	WS38 1.00 SOIL	19/08/14	PT 1L	pH (7 days)	
695079	WS39 0.50 SOIL		PT 1L	Sample date not supplied	
695080	WS39 1.20 SOIL		PT 1L	Sample date not supplied	
695081	WS40 0.80 SOIL	19/08/14	PT 1L	pH (7 days)	
695082	WS41 0.45 SOIL	26/08/14	PT 1L	pH (7 days)	
695083	WS42 0.50 SOIL	18/08/14	PT 1L	pH (7 days)	
695084	WS44 0.80 SOIL		PT 1L	Sample date not supplied	
695085	WS44 1.20 SOIL		PT 1L	Sample date not supplied	
695086	WS45 0.90 SOIL	19/08/14	PT 1L	pH (7 days)	
695087	WS46 1.20 SOIL		PT 1L	Sample date not supplied	
695088	WS48 0.30 SOIL	26/08/14	PT 1L	pH (7 days)	
695089	WS50 0.50 SOIL	18/08/14	PT 1L	pH (7 days)	
695090	WS52 0.30 SOIL		PT 1L	Sample date not supplied	
695091	WS53 0.30 SOIL		PT 1L	Sample date not supplied	

Derwentside Environmental Testing Services

Information in Support of the Analytical Results

Our Ref 14-14698
Client Ref 41498
Contract St Francis Xavier Scool

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
695092	WS54 0.48 SOIL		PT 1L	Sample date not supplied	
695093	WS56 0.70 SOIL		PT 1L	Sample date not supplied	
695094	WS58 0.50 SOIL		PT 1L	Sample date not supplied	
695095	WS59 0.30 SOIL	27/08/14	PT 1L	pH (7 days)	
695096	WS60 0.60 SOIL	27/08/14	PT 1L	pH (7 days)	
695097	WS61 0.45 SOIL		PT 1L	Sample date not supplied	

Key: P-Plastic T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Derwentside Environmental Testing Services

Certificate of Analysis

Certificate Number 14-15174

15-Sep-14

Client Ian Farmer Associates
14 Faraday Close
District 15
Pattinson North Industrial Est
Washington
Tyne & Wear
NE38 8QJ

Our Reference 14-15174

Client Reference 41498

Contract Title Woolton St Fraacis

Description One Soil sample.

Date Received 10-Sep-14

Date Started 10-Sep-14

Date Completed 15-Sep-14

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the scope of UKAS accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. Observations and interpretations are outside the scope of ISO 17025. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Rob Brown
Business Manager

UKAS TESTING
2139

Derwentside Environmental Testing Services

Summary of Chemical Analysis
Soil Samples

Our Ref 14-15174
Client Ref 41498
Contract Title Woolton St Fraacis

Lab No	697424
Sample ID	WS50
Depth	1.50
Other ID	7
Sample Type	D
Sampling Date	18/08/14
Sampling Time	n/s

Test	Method	LOD	Units	
Inorganics				
pH	DETSC 2008#			7.3
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	30

Key: # -MCERTS (accreditation only implied if report carries the MCERTS logo). n/s -not supplied.

Information in Support of the Analytical Results

Our Ref 14-15174
Client Ref 41498
Contract Woolton St Fraacis

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
697424	WS50 1.50 SOIL	18/08/14	PT 1L	pH (7 days)	

Key: P-Plastic T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time and/or inappropriate containers are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

IAN FARMER ASSOCIATES

4 Faraday Close, District 15, Pattinson North Industrial Estate, Washington, Tyne & Wear, NE38 8QJ.
Tel. 0191 4166375 Fax. 0191 4191578 Email. ceg@ianfarmer.co.uk Internet.www.ianfarmerassociates.co.uk

TEST CERTIFICATE

PLATE BEARING

BS 1377: Part 9 :1990 and IAN73/06 Rev1:2009 HD25

Job Number :	41498	Report Number:	41498/PL01/PB
Site:	St Francis Xavier School	Sample Number:	41498/PL01
Client:	Ian Farmer Associates	Date Tested:	28/08/2014
Address:	17 Rivington Court,	Date Received:	28/08/2014
	Warrington,	Tested by:	C.Spencer for IFA
	Cheshire,	Sampled At :	Site
	WA1 4RT	Groundwater Level:	Unknown
		Plate Dia. (mm):	455
Requested By:	Client	Weather Conditions:	Sunny 15°C
Test Location:	PL01	Test Depth (m):	0
Sample Description:	Grass		

Maximum Pressure Applied (kN/m^2)	Maximum Deformation (mm)	Pressure at 1.25mm penetration (kN/m^2)	Modulus of Subgrade Reaction ($MN/m^2/m$)	Calculated CBR (%) at 1.25mm
18	1.33	17	8.6	0.4

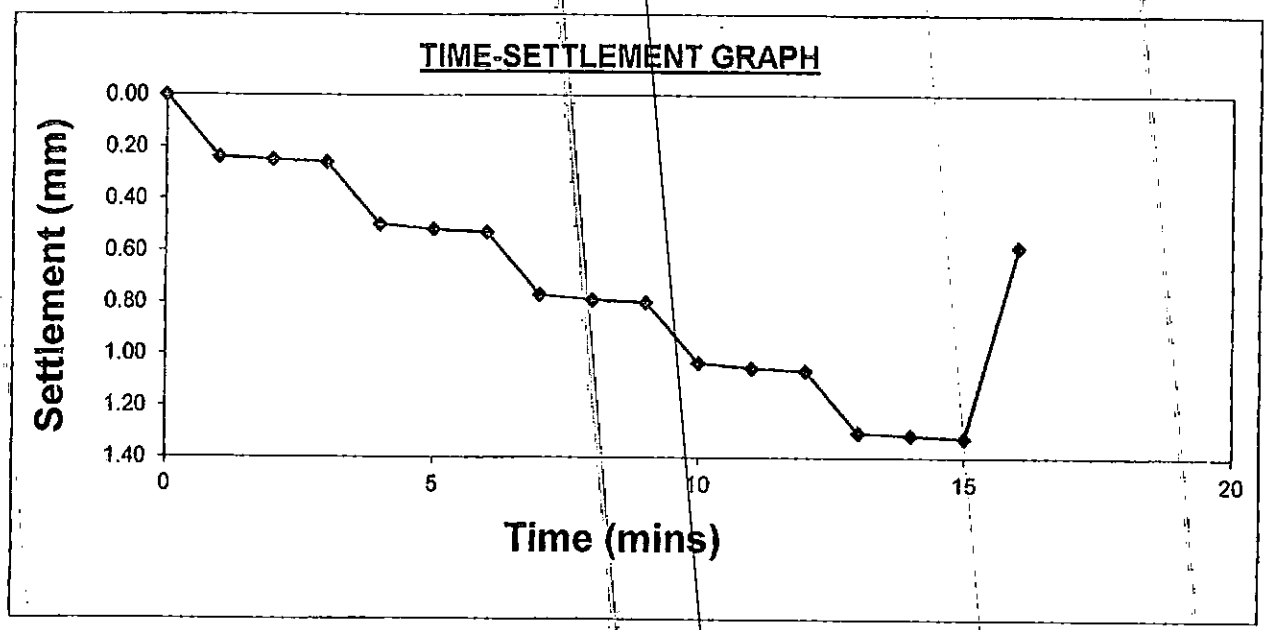
Comments:

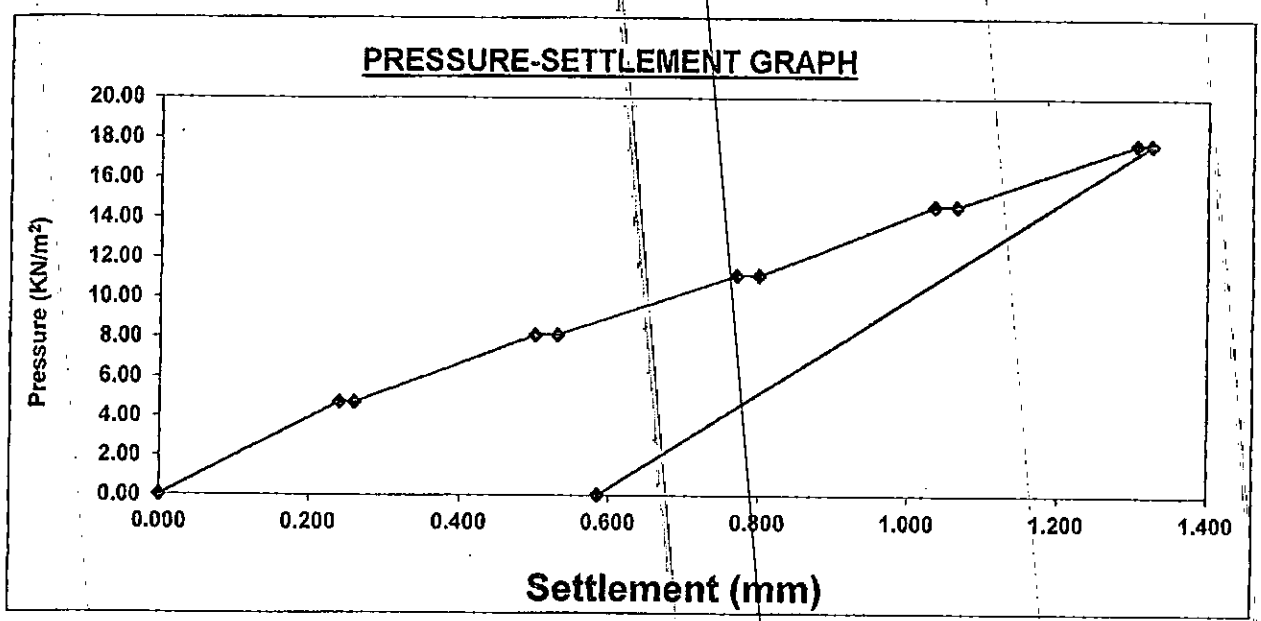
Checked By : D.Smith — Date : 1/9/14

D.Smith
Laboratory Supervisor

IAN FARMER ASSOCIATES

Site:	St Francis Xavier School	Report Number	41498/PL01/PB
Job Number:	41498	Location:	PL01
Client:	Ian Farmer Associates	Date Tested	28/08/2014
Applied Pressure: (kN/m^2)	17.7	CBR Value: (%)	0.4
Modulus of subgrade reaction: (MN/M^2/M)	8.6	Total Settlement: (mm)	1.33





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TEST CERTIFICATE

PLATE BEARING

BS 1377: Part 9 :1990 and IAN73/06 Rev1:2009 HD25

Job Number :	41498	Report Number:	41498/PL02/PB
Site:	St Francis Xavier School	Sample Number:	41498/PL02
Client:	Ian Farmer Associates	Date Tested:	28/08/2014
Address:	17 Rivington Court,	Date Received:	28/08/2014
	Warrington,	Tested by:	C.Spencer for IFA
	Cheshire,	Sampled At :	Site
	WA1 4RT	Groundwater Level:	Unknown
		Plate Dia. (mm):	455
Requested By:	Client	Weather Conditions:	Sunny 15°C
Test Location:	PL02	Test Depth (m):	0
Sample Description:	Grass		

Maximum Pressure Applied (kN/m^2)	Maximum Deformation (mm)	Pressure at 1.25mm penetration (kN/m^2)	Modulus of Subgrade Reaction ($MN/m^2/m$)	Calculated CBR (%) at 1.25mm
18	1.33	17	8.6	0.4

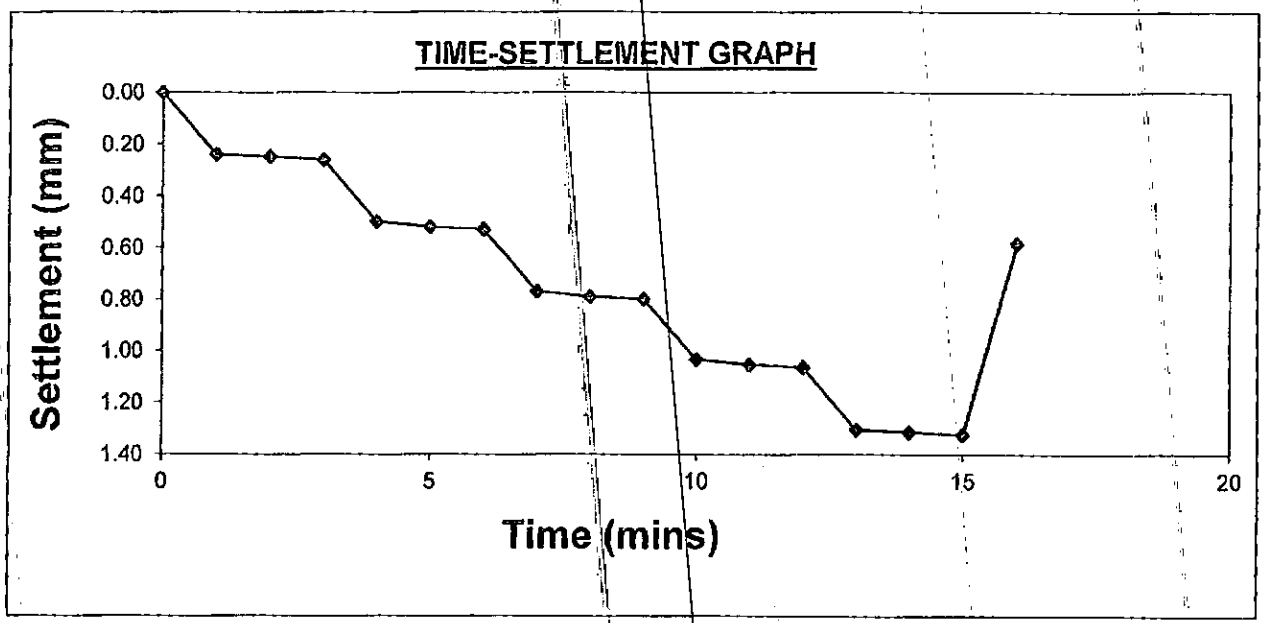
Comments:

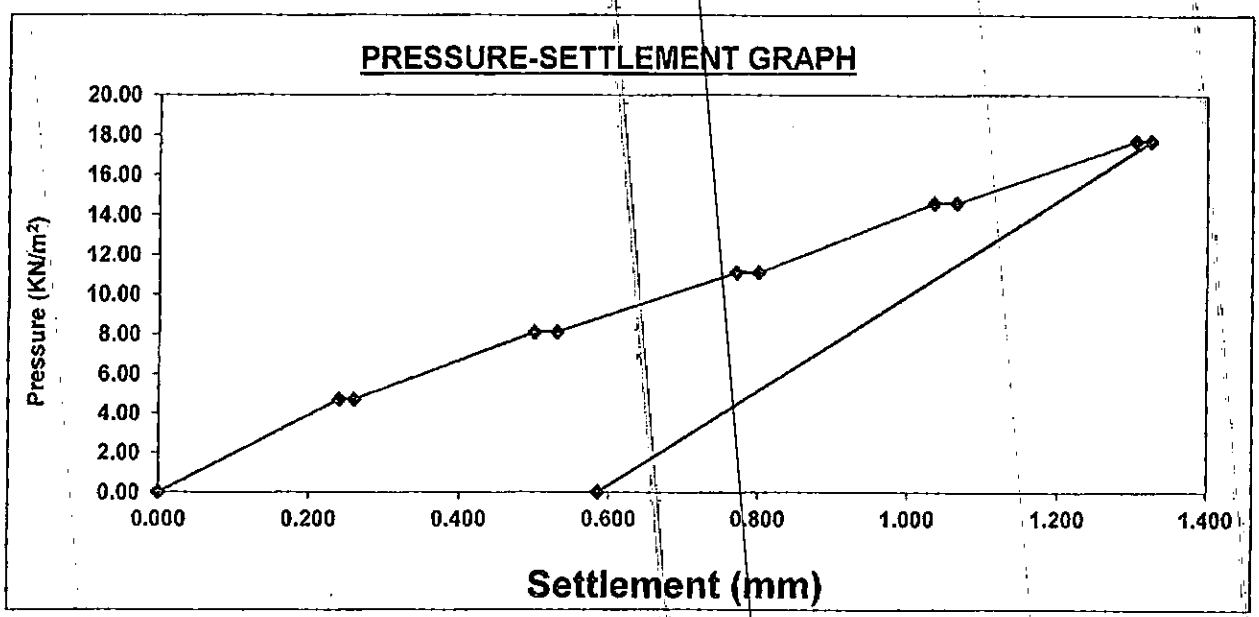
Checked By : D.Smith — Date : 1/9/14

D.Smith
Laboratory Supervisor

IAN FARMER ASSOCIATES

Site:	St Francis Xavier School		Report Number	41498/PL02/PB
Job Number:	41498		Location:	PL02
Client:	Ian Farmer Associates		Date Tested	28/08/2014
Applied Pressure: (kN/m^2)		17.7	CBR Value: (%)	**0.4**
Modulus of subgrade reaction: (MN/M^2/M)		8.6	Total Settlement: (mm)	**1.33**





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TEST CERTIFICATE

PLATE BEARING

BS 1377: Part 9 :1990 and IAN73/06 Rev1:2009 HD25

Job Number :	41498	Report Number:	41498/PL03/PB
Site:	St Francis Xavier School	Sample Number:	41498/PL03
Client:	Ian Farmer Associates	Date Tested:	28/08/2014
Address:	17 Rivington Court,	Date Received:	28/08/2014
	Warrington,	Tested by:	C.Spencer for IFA
	Cheshire,	Sampled At :	Site
	WA1 4RT	Groundwater Level:	Unknown
		Plate Dia. (mm):	455
Requested By:	Client	Weather Conditions:	Sunny 15°C
Test Location:	PL03	Test Depth (m):	0
Sample Description:	Grass		

Maximum Pressure Applied (kN/m^2)	Maximum Deformation (mm)	Pressure at 1.25mm penetration (kN/m^2)	Modulus of Subgrade Reaction ($MN/m^2/m$)	Calculated CBR (%) at 1.25mm
24	1.30	23	11.8	0.7

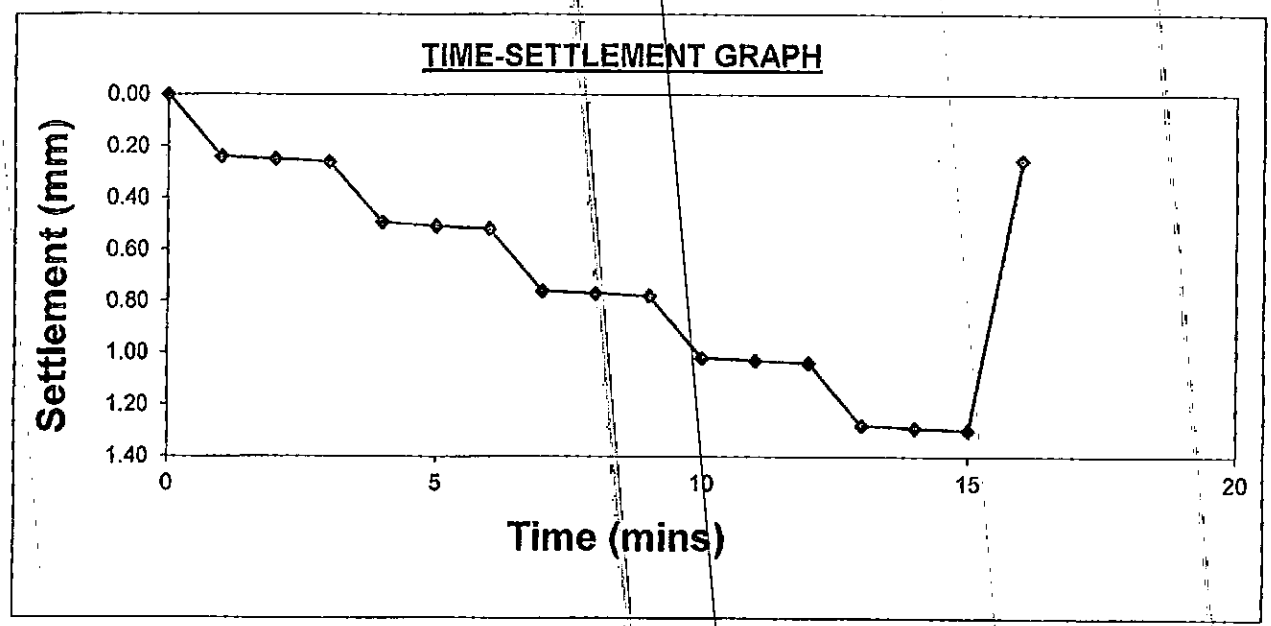
Comments:

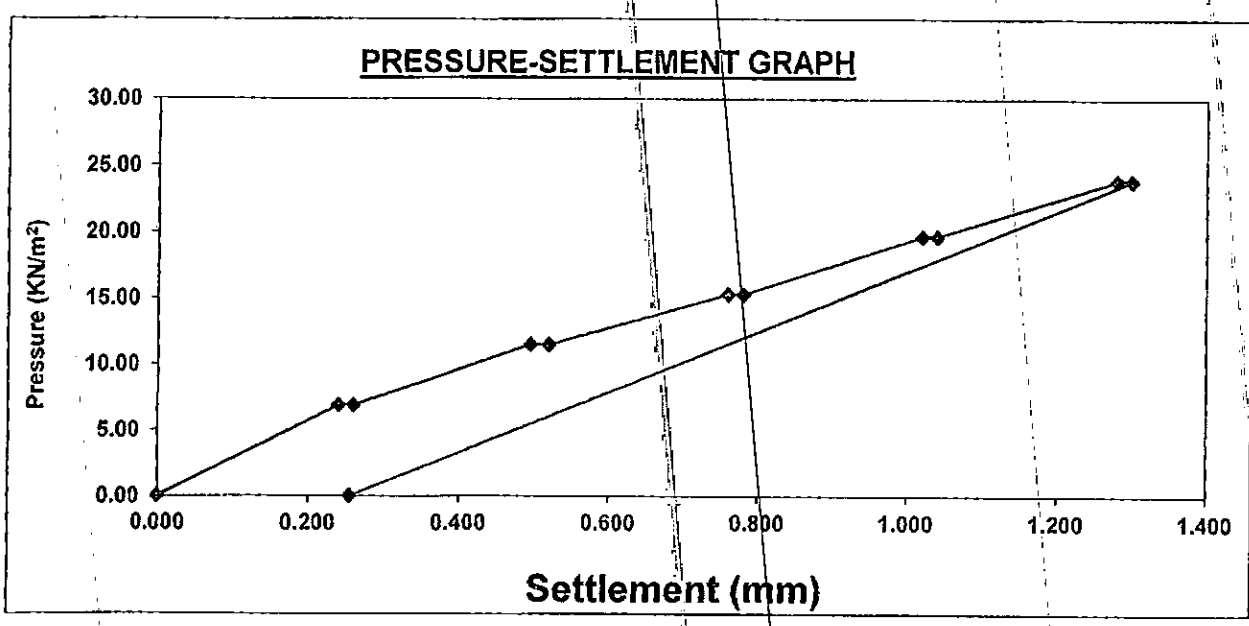
Checked By : D.Smith — Date : 1/9/14

D.Smith
Laboratory Supervisor

IAN FARMER ASSOCIATES

Site:	St Francis Xavier School		Report Number	41498/PL03/PB
Job Number:	41498		Location:	PL03
Client:	Ian Farmer Associates		Date Tested	28/08/2014
Applied Pressure: (kN/m^2)		23.9	CBR Value: (%)	**0.7**
Modulus of subgrade reaction: (MN/M^2/M)		11.8	Total Settlement: (mm)	**1.30**





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Tel. 0191 4166375 Fax. 0191 4191578 Email. ceg@ianfarmer.co.uk Internet.www.ianfarmerassociates.co.uk

TEST CERTIFICATE

PLATE BEARING

BS 1377: Part 9 :1990 and IAN73/06 Rev1:2009 HD25

Job Number :	41498	Report Number:	41498/PL04/PB
Site:	St Francis Xavier School	Sample Number:	41498/PL04
Client:	Ian Farmer Associates	Date Tested:	28/08/2014
Address:	17 Rivington Court,	Date Received:	28/08/2014
	Warrington,	Tested by:	C.Spencer for IFA
	Cheshire,	Sampled At :	Site
	WA1 4RT	Groundwater Level:	Unknown
		Plate Dia. (mm):	455
Requested By:	Client	Weather Conditions:	Sunny 15°C
Test Location:	PL04	Test Depth (m):	0
Sample Description:	Grass		

Maximum Pressure Applied (kN/m^2)	Maximum Deformation (mm)	Pressure at 1.25mm penetration (kN/m^2)	Modulus of Subgrade Reaction ($MN/m^2/m$)	Calculated CBR (%) at 1.25mm
17	1.29	17	8.5	0.4

Comments:

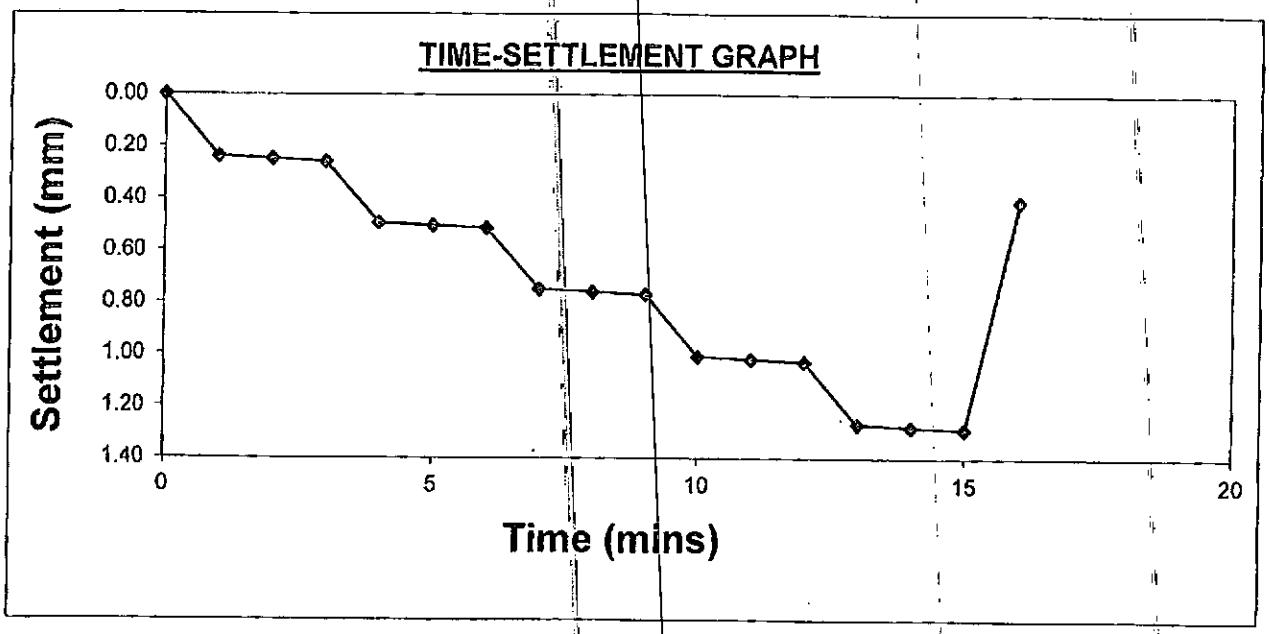
Checked By : D.Smith

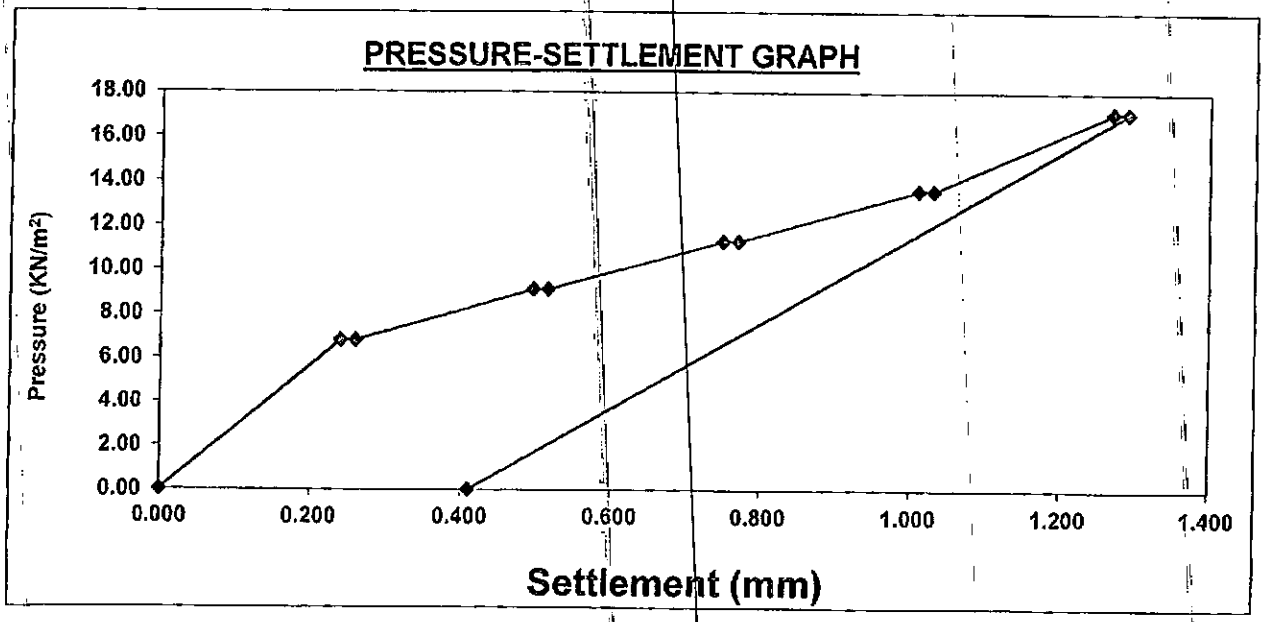
Laboratory Supervisor

Date : 1/9/14

IAN FARMER ASSOCIATES

Site:	St Francis Xavier School	Report Number	41498/PL04/PB
Job Number:	41498	Location:	PL04
Client:	Ian Farmer Associates	Date Tested	28/08/2014
Applied Pressure: (kN/m^2)	17.1	CBR Value: (%)	0.4
Modulus of subgrade reaction: (MN/M^2/M)	18.5	Total Settlement: (mm)	1.29





Appendix A5 – Gas Monitoring Results

Curtins Consulting
Merchant Exchange, 17-19 Whitworth Street West, Manchester, M1 5WG
Tel: 0161 236 2394
Fax: 0161 228 7902

curtins

GAS MONITORING LOG SHEET

Project:	St Francis Xavier	**Date:**	11/09/2014
Job Number:	EB1310	**Visit:**	1
Client:	Kier	**Weather:**	Sunny
Barometric State:	Steady	**Ground Conditions:**	Dry

Borehole Reference	Barometric Pressure mb	Flow l/hr		Methane %		Carbon Dioxide %		Oxygen %	Hydrogen Sulphide ppm	Water Level m bgl	Note
		Max	SS	Max	SS	Max	SS				
LCP01	1013	0.0	0.0	0.2	0.2	3.8	3.8	14.4	0	Dry	
WS01	1013	0.0	0.0	0.0	0.0	3.1	3.1	18.2	0	Dry	
WS03	-	-	-	-	-	-	-	-	-	-	1
WS05	1013	0.0	0.0	0.0	0.0	3.6	3.6	17.3	0	Dry	
WS10	1013	0.0	0.0	0.0	0.0	3.4	3.4	17.2	0	Dry	
WS13	1013	0.0	0.0	0.0	0.0	3.6	3.6	16.2	0	Dry	
WS15	1013	0.0	0.0	0.0	0.0	0.4	0.4	20.4	0	Dry	
WS16	1013	0.0	0.0	0.0	0.0	1.0	1.0	19.7	0	Dry	
WS17	1013	0.0	0.0	0.0	0.0	1.4	1.4	19.6	0	Dry	
WS26	1013	0.0	0.0	0.0	0.0	0.6	0.6	16.3	0	Dry	
WS30	1013	0.0	0.0	0.0	0.0	0.4	0.4	18.2	0	Dry	
WS31	-	-	-	-	-	-	-	-	-	-	1
WS35	-	-	-	-	-	-	-	-	-	-	2
WS36	1013	0.0	0.0	0.0	0.0	0.6	0.6	20.2	0	Dry	
WS37	1013	0.0	0.0	0.0	0.0	3.1	3.1	18.3	0	Dry	
WS41	1013	0.0	0.0	0.0	0.0	1.2	1.2	19.2	0	Dry	
WS43	1013	0.0	0.0	0.0	0.0	1.0	1.0	16.2	0	Dry	
WS45	1013	0.0	0.0	0.0	0.0	1.9	1.9	18.8	0	Dry	
WS47	-	-	-	-	-	-	-	-	-	-	1
WS50	1013	0.0	0.0	0.0	0.0	1.5	1.5	19.7	0	Dry	
WS53	1013	0.0	0.0	0.0	0.0	1.1	1.1	20.5	0	Dry	
WS56	1013	0.0	0.0	0.0	0.0	0.9	0.9	20.3	0	Dry	
WS58	1013	0.0	0.0	0.0	0.0	2.4	2.4	18.8	0	Dry	
WS59	1013	0.0	0.0	0.0	0.0	0.9	0.9	20.1	0	Dry	
WS61	1013	0.0	0.0	0.0	0.0	1.6	1.6	19.6	0	Dry	

Notes

1 - Could not locate
2 - Under Parked Car

Logged by
GL

1% gas volume = 10,000 ppm
Flow rate, methane and cabon dioxide reported as 'maximum' (max) and 'steady state' (SS) readings.
All other gases recorded at 'steady state' unless otherwise stated

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GAS MONITORING LOG SHEET

Project:	St Francis Xavier	**Date:**	26/09/2014
Job Number:	EB1310	**Visit:**	2
Client:	Kier	**Weather:**	Sunny
Barometric State:	Steady	**Ground Conditions:**	Dry

Borehole Reference	Barometric Pressure	Flow		Methane		Carbon Dioxide		Oxygen	Hydrogen Sulphide	Water Level	Note
	mb	l/hr		%		%		%	ppm	m bgl	
		Max	SS	Max	SS	Max	SS				
LCP01	1013	-1.6	-1.6	0.0	0.0	0.1	0.1	20.9	0	Dry	
WS01	1013	0.0	0.0	0.0	0.0	3.5	3.5	18.4	0	Dry	
WS03	-	-	-	-	-	-	-	-	-	-	1
WS05	1013	0.0	0.0	0.0	0.0	0.8	0.8	20.3	0	Dry	
WS10	1013	0.0	0.0	0.0	0.0	3.2	3.2	19.1	0	Dry	
WS13	1013	0.0	0.0	0.0	0.0	4.6	4.6	16.2	0	Dry	
WS15	1013	0.0	0.0	0.0	0.0	1.2	1.2	20.1	0	Dry	
WS16	1013	0.0	0.0	0.0	0.0	0.5	0.5	20.5	0	Dry	
WS17	1012	0.0	0.0	0.0	0.0	2.4	2.4	18.3	0	Dry	
WS26	1012	0.0	0.0	0.0	0.0	0.1	0.1	20.8	0	Dry	
WS30	1013	0.0	0.0	0.0	0.0	0.0	0.0	21	0	Dry	
WS31	-	-	-	-	-	-	-	-	-	-	1
WS35	1012	0.0	0.0	0.0	0.0	9.5	9.5	3.9	0	Dry	
WS36	1013	0.0	0.0	0.0	0.0	4.0	4.0	17.4	0	Dry	
WS37	1013	0.0	0.0	0.0	0.0	1.9	1.9	20.3	0	Dry	
WS41	1013	0.0	0.0	0.0	0.0	6.0	6.0	20.5	0	Dry	
WS43	1013	0.0	0.0	0.0	0.0	1.0	1.0	16.4	0	Dry	
WS45	1013	0.0	0.0	0.0	0.0	1.8	1.8	19.1	0	Dry	
WS47	-	-	-	-	-	-	-	-	-	-	1
WS50	1013	0.0	0.0	0.0	0.0	0.1	0.1	20.9	0	Dry	
WS53	1013	0.0	0.0	0.0	0.0	3.1	3.1	9.5	0	Dry	
WS56	1013	0.0	0.0	0.0	0.0	0.8	0.8	20.6	0	Dry	
WS58	1013	0.0	0.0	0.0	0.0	0.6	0.6	19.2	0	Dry	
WS59	1013	0.0	0.0	0.0	0.0	0.7	0.7	20.7	0	Dry	
WS61	1013	0.0	0.0	0.0	0.0	0.7	0.7	20.7	0	Dry	

Notes

Logged by

1 Not located

KR

1% gas volume = 10,000 ppm

Flow rate, methane and cabon dioxide reported as 'maximum' (max) and 'steady state' (SS) readings.
All other gases recorded at 'steady state' unless otherwise stated

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GAS MONITORING LOG SHEET

Project: St Francis Xavier
Date: 10/10/2014
Job Number: EB1310
Visit: 3
Client: Kier
Weather: Sunny
Barometric State: Steady
Ground Conditions: Dry

Borehole Reference	Barometric Pressure	Flow		Methane		Carbon Dioxide		Oxygen	Hydrogen Sulphide	Water Level	Note
	mb	l/hr		%		%		%	ppm	m bgl	
		Max	SS	Max	SS	Max	SS				
LCP01	996	-1.9	-1.9	0.0	0.0	0.1	0.1	20.9	0	Dry	
WS01	996	0.0	0.0	0.0	0.0	0.2	0.2	20.1	0	Dry	
WS03	-	-	-	-	-	-	-	-	-	-	1
WS05	994	0.0	0.0	0.0	0.0	0.1	0.1	21.3	0	Dry	
WS10	996	0.0	0.0	0.0	0.0	0.1	0.1	20.1	0	Dry	
WS13	996	0.0	0.0	0.0	0.0	0.1	0.1	21.2	0	Dry	
WS15	996	0.0	0.0	0.0	0.0	0.1	0.1	20.6	0	Dry	
WS16	996	0.0	0.0	0.0	0.0	0.1	0.1	20.6	0	Dry	
WS17	995	0.0	0.0	0.0	0.0	1.2	1.2	19.6	0	Dry	
WS26	995	0.0	0.0	0.0	0.0	0.6	0.6	19.6	0	Dry	
WS30	995	0.0	0.0	0.0	0.0	0.1	0.1	20.7	0	Dry	
WS31	-	-	-	-	-	-	-	-	-	-	1
WS35	996	0.0	0.0	0.0	0.0	4.1	4.1	20.2	0	Dry	
WS36	996	0.0	0.0	0.0	0.0	0.1	0.1	20.6	0	Dry	
WS37	995	0.0	0.0	0.0	0.0	0.6	0.6	20.9	0	Dry	
WS41	995	0.0	0.0	0.0	0.0	0.1	0.1	20.1	0	Dry	
WS43	995	0.0	0.0	0.0	0.0	0.7	0.7	20.4	0	Dry	
WS45	995	0.0	0.0	0.0	0.0	0.1	0.1	20.1	0	Dry	
WS47	-	-	-	-	-	-	-	-	-	-	1
WS50	996	0.0	0.0	0.0	0.0	0.1	0.1	20.5	0	Dry	
WS53	996	0.0	0.0	0.0	0.0	0.1	0.1	20.4	0	Dry	
WS56	996	0.0	0.0	0.0	0.0	0.7	0.7	20.8	0	Dry	
WS58	996	0.0	0.0	0.0	0.0	0.6	0.6	20.5	0	Dry	
WS59	996	0.0	0.0	0.0	0.0	0.2	0.2	20.8	0	Dry	
WS61	996	0.0	0.0	0.0	0.0	0.1	0.1	21.0	0	Dry	

Notes

1 - Could not locate

2 - Under Parked Car

Logged by

GL

1% gas volume = 10,000 ppm

Flow rate, methane and cabon dioxide reported as 'maximum' (max) and 'steady state' (SS) readings.

All other gases recorded at 'steady state' unless otherwise stated

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GAS MONITORING LOG SHEET

Project: St Francis Xavier **Date:** 27/10/2014

Job Number: EB1310 **Visit:** 4

Client: Kier **Weather:** Sunny

Barometric State: steady **Ground Conditions:** Dry

Borehole Reference	Barometric Pressure mb	Flow l/hr		Methane %		Carbon Dioxide %		Oxygen %	Hydrogen Sulphide ppm	Water Level m bgl	Note
		Max	SS	Max	SS	Max	SS				
LCP01	1003	0.0	0.0	0.0	0.0	1.4	1.0	18.6	0	Dry	
WS01	1003	0.0	0.0	0.0	0.0	1.0	0.6	19.2	0	Dry	
WS03	-	-	-	-	-	-	-	-	-	-	1
WS05	1003	0.0	0.0	0.0	0.0	0.2	0.1	21.2	0	Dry	
WS10	1003	0.0	0.0	0.0	0.0	0.1	0.1	21.0	0	Dry	
WS13	1003	0.0	0.0	0.0	0.0	0.1	0.1	20.1	0	Dry	
WS15	1003	0.0	0.0	0.0	0.0	0.3	0.3	20.1	0	Dry	
WS16	1003	0.0	0.0	0.0	0.0	0.3	0.3	20.5	0	Dry	1
WS17	1003	0.0	0.0	0.0	0.0	0.1	0.1	21.2	0	Dry	
WS26	1003	0.0	0.0	0.0	0.0	0.1	0.1	19.8	0	Dry	
WS30	1003	0.0	0.0	0.0	0.0	0.2	0.1	20.1	0	Dry	
WS31	-	-	-	-	-	-	-	-	-	-	1
WS35	1003	0.0	0.0	0.0	0.0	2.0	2.0	19.8	0	Dry	
WS36	1003	0.0	0.0	0.0	0.0	0.7	0.6	20.6	0	Dry	
WS37	1003	0.0	0.0	0.0	0.0	2.0	1.9	18.4	0	Dry	
WS41	1003	0.0	0.0	0.0	0.0	0.4	0.4	18.6	0	Dry	
WS43	1003	0.0	0.0	0.0	0.0	0.4	0.1	18.9	0	Dry	
WS45	1003	0.0	0.0	0.0	0.0	0.1	0.1	19.1	0	Dry	
WS47	-	-	-	-	-	-	-	-	-	-	1
WS50	1003	0.0	0.0	0.0	0.0	0.9	0.9	20.1	1	Dry	
WS53	1003	0.0	0.0	0.0	0.0	0.2	0.2	19.5	0	Dry	
WS56	1003	0.0	0.0	0.0	0.0	0.6	0.6	20.2	0	Dry	
WS58	1003	0.0	0.0	0.0	0.0	0.6	0.6	20.6	0	Dry	
WS59	1003	0.0	0.0	0.0	0.0	0.2	0.2	19.2	0	Dry	
WS61	1003	0.0	0.0	0.0	0.0	0.3	0.3	21.3	0	Dry	

Notes **Logged by**

1 - Could not locate GL

2 - Flooded

1% gas volume = 10,000 ppm

Flow rate, methane and cabon dioxide reported as 'maximum' (max) and 'steady state' (SS) readings.

All other gases recorded at 'steady state' unless otherwise stated

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GAS MONITORING LOG SHEET

Project: St Francis Xavier **Date:** 10/11/2014

Job Number: EB1310 **Visit:** 5

Client: Kier **Weather:** Sunny

Barometric State: Steady **Ground Conditions:** Dry

Borehole Reference	Barometric Pressure mb	Flow l/hr		Methane %		Carbon Dioxide %		Oxygen %	Hydrogen Sulphide ppm	Water Level m bgl	Note
		Max	SS	Max	SS	Max	SS				
LCP01	998	1.6	1.6	0.0	0.0	6.4	6.4	10.1	0	Dry	
WS01	998	0.5	0.5	0.0	0.0	0.6	0.6	20.1	0	Dry	
WS03	-	-	-	-	-	-	-	-	-	-	1
WS05	998	0.6	0.6	0.0	0.0	0.1	0.1	19.8	0	Dry	
WS10	998	0.0	0.0	0.0	0.0	0.6	0.6	19.2	0	Dry	
WS13	998	0.0	0.0	0.0	0.0	0.4	0.4	18.6	0	Dry	
WS15	998	0.0	0.0	0.0	0.0	0.1	0.1	19.1	0	Dry	
WS16	998	0.0	0.0	0.0	0.0	3.8	3.8	12.1	0	Dry	
WS17	998	0.1	0.1	0.0	0.0	1.1	1.1	18.9	0	Dry	
WS26	998	0.0	0.0	0.0	0.0	5.8	5.8	3.8	0	Dry	
WS30	998	0.1	0.1	0.0	0.0	0.8	0.8	18.6	0	Dry	
WS31	-	-	-	-	-	-	-	-	-	-	1
WS35	998	0.1	0.1	0.0	0.0	0.1	0.1	18.2	0	Dry	
WS36	998	0.0	0.0	0.0	0.0	0.9	0.9	20.1	0	Dry	
WS37	998	0.3	0.3	0.0	0.0	0.1	0.1	19.6	0	Dry	
WS41	998	0.0	0.0	0.0	0.0	0.6	0.6	21.1	0	Dry	
WS43	998	0.1	0.1	0.0	0.0	0.2	0.2	19.6	0	Dry	
WS45	998	0.0	0.0	0.0	0.0	0.1	0.1	19.2	0	Dry	
WS47	-	-	-	-	-	-	-	-	-	-	1
WS50	998	0.0	0.0	0.0	0.0	0.1	0.1	20.5	0	Dry	
WS53	998	0.0	0.0	0.0	0.0	0.6	0.6	16.5	0	Dry	
WS56	998	0.1	0.1	0.0	0.0	0.2	0.2	18.2	0	Dry	
WS58	998	0.0	0.0	0.0	0.0	1.1	1.1	20.1	0	Dry	
WS59	998	0.0	0.0	0.0	0.0	0.1	0.1	21.0	0	Dry	
WS61	998	0.0	0.0	0.0	0.0	0.1	0.1	18.6	0	Dry	

Notes

1 - Could not locate

2 - Under Parked Car

Logged by

KR

1% gas volume = 10,000 ppm

Flow rate, methane and cabon dioxide reported as 'maximum' (max) and 'steady state' (SS) readings.

All other gases recorded at 'steady state' unless otherwise stated

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GAS MONITORING LOG SHEET

Project: St Francis Xavier
Date: 11/09/2014
Job Number: EB1310
Visit: 6
Client: Kier
Weather: Sunny
Barometric State: Falling
Ground Conditions: Dry

Borehole Reference	Barometric Pressure	Flow		Methane		Carbon Dioxide		Oxygen	Hydrogen Sulphide	Water Level	Note
	mb	l/hr		%		%		%	ppm	m bgl	
		Max	SS	Max	SS	Max	SS				
LCP01	994	-0.4	-0.4	0.0	0.0	6.3	6.0	18.9	0	Dry	
WS01	994	0.0	0.0	0.0	0.0	0.6	0.6	21.1	0	Dry	
WS03	-	-	-	-	-	-	-	-	-	-	1
WS05	994	0.0	0.0	0.0	0.0	0.1	0.1	18.6	0	Dry	
WS10	998	0.0	0.0	0.0	0.0	0.6	0.6	20.9	0	Dry	
WS13	998	0.0	0.0	0.0	0.0	0.4	0.4	18.6	0	Dry	
WS15	998	0.0	0.0	0.0	0.0	0.1	0.1	19.1	0	Dry	
WS16	998	0.0	0.0	0.0	0.0	3.8	3.8	15.0	0	Dry	
WS17	998	0.0	0.0	0.0	0.0	1.1	1.1	20.2	0	Dry	
WS26	998	0.0	0.0	0.0	0.0	6.2	6.2	19.6	0	Dry	
WS30	998	0.0	0.0	0.0	0.0	0.1	0.1	18.6	0	Dry	
WS31	-	-	-	-	-	-	-	-	-	-	1
WS35	998	0.1	0.1	0.0	0.0	0.1	0.1	17.5	0	Dry	
WS36	998	0.0	0.0	0.0	0.0	3.1	3.0	22.5	0	Dry	
WS37	994	0.0	0.0	0.0	0.0	0.1	0.1	16.2	0	Dry	
WS41	994	0.0	0.0	0.0	0.0	0.6	0.6	18.1	0	Dry	
WS43	994	0.0	0.0	0.0	0.0	0.2	0.2	19.2	0	Dry	
WS45	994	0.0	0.0	0.0	0.0	0.1	0.1	19.5	0	Dry	
WS47	-	-	-	-	-	-	-	-	-	-	1
WS50	998	0.0	0.0	0.0	0.0	0.1	0.1	21.2	0	Dry	
WS53	998	0.0	0.0	0.0	0.0	0.6	0.6	16.5	0	Dry	
WS56	998	0.1	0.1	0.0	0.0	2.1	2.1	18.2	0	Dry	
WS58	994	0.0	0.0	0.0	0.0	1.1	1.1	16.1	0	Dry	
WS59	998	0.0	0.0	0.0	0.0	0.1	0.1	21.0	0	Dry	
WS61	998	0.0	0.0	0.0	0.0	0.1	0.1	18.6	0	Dry	

Notes

1 - Could not locate

Logged by

GL

1% gas volume = 10,000 ppm

Flow rate, methane and cabon dioxide reported as 'maximum' (max) and 'steady state' (SS) readings.

All other gases recorded at 'steady state' unless otherwise stated

Appendix A6 - Tier 1 Thresholds

- Tier 1 Thresholds *'Residential without plant uptake'* 6% SOM
- Category 4 Screening Levels (`C4SLs`)

Tier 1 Thresholds

Soil Contaminants: Initial Assessment of Risk

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The following tables can be used for the initial assessment with regard to the potential for the identified contaminants within a sand matrix with an average Soil Organic Matter (SOM) content of 6% to present a risk of significant harm to the **'Residential without the Consumption of Produce'** end user.

The list of determinands is non-industry specific and it should be recognised that additional site specific determinands may need to be accounted for.

Table 1.0 Inorganic Species and Phenols

Contaminants	Threshold Trigger Concentration For Planned End Use	
	Source (ref. 1)	Value (mg/kg)
Antimony	ATRISK^{soil} Soil Screening Value	394
Arsenic	ATRISK^{soil} Soil Screening Value	35
Beryllium	ATRISK^{soil} Soil Screening Value	94.7
Boron	Recognised threshold to prevent phytotoxic affects	3
Cadmium	ATRISK^{soil} Soil Screening Value	83.6
Chromium (VI)	ATRISK^{soil} Soil Screening Value	38.2
Copper	ATRISK^{soil} Soil Screening Value	8370
Cyanide (Free)	ATRISK^{soil} Soil Screening Value	34
Lead	Currently accepted threshold	450
Mercury	ATRISK^{soil} Soil Screening Value	1.02 ; 238 ; 14.1
Nickel	CLEA SGV for residential end use published May 09	130
Selenium	ATRISK^{soil} Soil Screening Value	595
Sulphate	Recognised threshold for protection of sub-surface concrete	2400
Sulphur (Free)	Recognised threshold for all end uses	5000
Sulphide	Recognised threshold for all end uses	250
Vanadium	ATRISK^{soil} Soil Screening Value	353
Zinc	ATRISK^{soil} Soil Screening Value	46800
pH	Typical value in uncontaminated soils	6-8
Phenol	Recognised threshold for protection of services (ref. 3)	5

1. The tables are for guidance only and must be read in conjunction with relevant source documentation.
2. Three values correspond to: elemental mercury (Hg); inorganic mercury (Hg^{2+}) and methyl mercury (Hg^{+4}).
3. For human health consider using ATRISK^{soil} Soil Screening Value of 519mg/kg.

Table 1.1 BTEX Species

Contaminants	Threshold Trigger Concentration For Planned End Use	
	Source	Value (mg/kg)
Benzene	ATRISK^{soil} Soil Screening Value	0.998
Toluene	ATRISK^{soil} Soil Screening Value	2710
Ethylbenzene	ATRISK^{soil} Soil Screening Value	843
m-Xylene	ATRISK^{soil} Soil Screening Value	302
o-Xylene	ATRISK^{soil} Soil Screening Value	321
p-Xylene	ATRISK^{soil} Soil Screening Value	288

Tier 1 Thresholds
Soil Contaminants: Initial Assessment of Risk

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Table 1.2 PAH Species

Contaminants	Threshold Trigger Concentration For Planned End Use	
	Source	Value (mg/kg)
Acenaphthene	ATRISK^{soil} Soil Screening Value (ref. 4)	4770
Anthracene	ATRISK^{soil} Soil Screening Value (ref. 4)	24000
Benz(a)anthracene	ATRISK^{soil} Soil Screening Value	9.04
Benzo(a)pyrene	ATRISK^{soil} Soil Screening Value	1.04
Benzo(b)fluoranthene	ATRISK^{soil} Soil Screening Value (ref. 4)	10.3
Benzo(ghi)perylene	ATRISK^{soil} Soil Screening Value (ref. 4)	104
Benzo(k)fluoranthene	ATRISK^{soil} Soil Screening Value (ref. 4)	104
Chrysene	ATRISK^{soil} Soil Screening Value (ref. 4)	1010
Dibenz(ah)anthracene	ATRISK^{soil} Soil Screening Value (ref. 4)	1.03
Fluoranthene	ATRISK^{soil} Soil Screening Value (ref. 4)	3210
Fluorene	ATRISK^{soil} Soil Screening Value (ref. 4)	3100
Indeno(123cd)pyrene	ATRISK^{soil} Soil Screening Value (ref. 4)	10.3
Naphthalene	ATRISK^{soil} Soil Screening Value	9.22
Pyrene	ATRISK^{soil} Soil Screening Value (ref. 4)	2400

4. Where free product is not observed, otherwise consider revising.

Table 1.3 Total Petroleum Hydrocarbon (TPH) Bandings (All values in mg/kg)

Carbon Range	Threshold Trigger Concentration For Planned End Use		
	Source	Aromatic	Aliphatic
C5 – C6	ATRISK^{soil} Soil Screening Value (ref. 5)	0.998 (C5-C7)	261
C6 – C8	ATRISK^{soil} Soil Screening Value (ref. 4 & 6)	2710 (C7-C8)	49400
C8 – C10	ATRISK^{soil} Soil Screening Value	233	144
C10 – C12	ATRISK^{soil} Soil Screening Value	1080	4340 (ref. 4)
C12 – C16	ATRISK^{soil} Soil Screening Value (ref. 4)	2040	5310
C16 – C21	ATRISK^{soil} Soil Screening Value	1330	146000
C21 – C35	ATRISK^{soil} Soil Screening Value	1330	

5. Based on total benzene concentration in the soil.
6. Based on total toluene concentration in the soil.

ATRISK^{soil} Soil Screening Values are published by Atkins Limited

4. PROVISIONAL C4SLs FOR BENZO(A)PYRENE AS A SURROGATE MARKER FOR GENOTOXIC PAHS

As described in the framework (see Section 5.1 of the main report), the setting of C4SLs involves an initial deterministic stage, whereby modified CLEA exposure modelling is combined with LLTCs to produce provisional C4SLs (pC4SLs) (Step 4), followed by quantitative (Step 5) and qualitative evaluations of uncertainty (Steps 6a and 6b), using probabilistic modelling and other methods, to examine their likely levels of precaution. Other considerations are also brought to bear (Steps 6c and 6d), such that any final C4SLs (Step 7) can most closely match Defra's defined policy objectives.

4.1 PROVISIONAL C4SLs

The pC4SLs for BaP (used as a surrogate marker for genotoxic PAHs), derived from the deterministic CLEA modelling using the proposed LLTC values, are presented in Table 4.1 below, along with BaP's existing generic assessment criteria (GACs).

Table 4.1: Provisional C4SLs and GACs

	HCV or LLTC µg kg^{-1}(bw) day^{-1}		pC4SL (mg.kg^{-1})					
			Residential					
Exposure parameters	Oral	Inhal	With home grown prod.	Without home grown prod.	Allot-ments	Commer cial	POS_{resi}	POS_{park}
Current GAC [1]	0.02	7E-5	1.0	-	2.1	14	-	-
pC4SL with exposure changes only [2]	0.02	7E-5	2.4	2.5	2.7	36	4.9	10
pC4SL with LLTC but exposure parameters as SR3 [2,3]	0.042	3.0e-4 - 6.6e-4 [4]	3.2	3.4	5.1	76	-	-
pC4SL with changes in exposure and LLTC	0.042	3.0e-4 - 6.6e-4 [4]	5.0	5.3	5.7	76	10	21

1. GAC assuming 6% SOM from Nathanail *et al.*, 2009
2. Parameters as described in Section 3 and include non integration of assessment criteria
3. Chemical specific parameters as Section 3.1. Non contaminant specific parameters as SR3.
4. Note age specific adjustments used for residential and POS land-uses as shown in Table 2.5

The relative contribution of each exposure pathway to total ADE is shown for each land-use in Table 4.2.

Appendix A7 – Conceptual Site Model and Risk Assessment

Risk Assessment

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Table 1.0 presents a site-specific qualitative (Phase 1) risk assessment of environmental harm and Table 2.0 a revision comprising a semi-quantitative risk assessment (Phase 2) based upon the findings of the site investigation; the principle of both being to establish connecting links between a hazardous source to a potential receptor via an exposure pathway, the Conceptual Site Model.

The risk assessments correspond with the **total** site area.

Risk assessment is the process of collating known information on a hazard or set of hazards in order to estimate actual or potential risk to receptors. The receptor may be humans, a water resource, a sensitive local ecosystem or future construction materials. Receptors can be connected to the hazardous source by one or several exposure pathways such as direct contact for example. Risks are generally managed by isolating the receptor or intercepting the exposure pathway or by isolating or removing the hazard.

Without the three essential components of a source, pathway and receptor there can be no risk. Therefore the presence of hazard on a site does not necessarily mean there is a risk.

By considering where a viable pathway exists which connects a source with a receptor the risk assessment in Table 1.0 and Table 2.0 will identify where pollutant linkage exists. If there is no pollutant linkage there is no risk and only where a pollutant linkage is established does the risk assessment consider the level of risk.

The risk assessments consider the likelihood of a particular event taking place (accounting for the presence of the hazard and receptor and the integrity of the exposure pathway) in conjunction with the severity of the potential consequence (accounting for the potential severity of the hazard and the sensitivity of the receptor).

In the risk assessment shown in Table 1.0 and Table 2.0 the consequence of the hazard has been classified as severe or medium or mild or minor. The probability (likelihood) of the circumstances actually occurring has been classified as high likelihood or likely or low likelihood or unlikely.

The above consequences and probabilities have been integrated to give a qualitative (Table 1.0) and semi-quantitative (Table 2.0) estimation of the risk using Department of the Environment risk classifications. The following categorisation has been used for this purpose.

		Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability (Likelihood)	**High Likelihood**	Very High Risk	High Risk	Moderate Risk	Negligible Risk
	Likely	High Risk	Moderate Risk	Moderate/Low Risk	Negligible Risk
	Low Likelihood	High/Moderate Risk	Moderate/Low Risk	Low Risk	Negligible Risk
	Unlikely	Moderate/Low Risk	Low Risk	Negligible Risk	Negligible Risk

In accordance with DoE guidance, the following categorisation of **consequence** has been developed.

Classification	Definition	Examples
Severe	Short-term (acute) risk to human health likely to result in "significant harm" as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem or organisation forming part of such ecosystem.	High concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled water. Explosion, causing building collapse (can also equate to a short-term human health risk if buildings are occupied).
Medium	Chronic damage to Human Health. Pollution of sensitive water resources. A significant change in a particular ecosystem or organism forming part of such ecosystem.	Concentration of a contaminant from site exceeds the generic or site-specific assessment criteria. Leaching of contaminants from a site to a Principal or Secondary A aquifer. Death of a species within a designated nature reserve. Lesser toxic and asphyxiate effects
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services. Damage to sensitive buildings/structures/services or the environment.	Pollution of non-classified groundwater (exc. Secondary B aquifers). Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).
Minor	Harm, although not necessarily significant harm, which may result in a financial loss or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing, etc). Easily repairable effects of damage to buildings, structures and services.	The presence of contaminants at such concentrations that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discoloration of concrete.

Where risk is evaluated as **moderate** or greater within the Phase 2 Conceptual Site Model (Table 2.0) either; a) remedial action is recommended to address this residual risk (Section 7.2 in the main body of the report) or, b) further investigation is recommended to better inform the risk classification and/or to enable a more detailed, quantitative risk assessment to be undertaken.

Conceptual Site Model (CSM) and Risk Assessment
Table 1.0 (Phase 1)

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Table and Summary of Potential Risks, Sheet 1

Conceptual Site Model			Qualitative Risk Assessment		
Source	**Pathway(s)**	**Receptor(s)**	**Consequence (Potential Severity)**	**Likelihood of Occurrence**	**Risk***
S1: Made ground soils on site	**P2:** Vertical migration	**R2:** Controlled waters (Groundwater)	Medium	Likely	Moderate
	P3: Horizontal migration	**R3:** Controlled waters (Surface Waters)	Mild	Likely	Low / Moderate
	P1: Direct contact, ingestion, inhalation (dust and vapours)	**R1:** End user of site	Medium	Likely	Moderate
	P1: Direct contact, ingestion, inhalation (dust and vapours)	**R4:** Construction workers	Minor	Likely	Negligible
	P1 & P3: Direct contact, ingestion, inhalation (dust and vapours) and horizontal migration	**R4:** Construction materials	Mild	Likely	Moderate / Low
	P1 & P3: Direct contact, ingestion, inhalation (dust and vapours) and horizontal migration	**R6:** Local ecology	Minor	Likely	Negligible
S2: Made ground soils off site	**P3 & P1:** Horizontal migration and direct contact, ingestion, inhalation (dust and vapours)	**R1:** End user of site	Medium	Likely	Moderate
	P3 & P1: Horizontal migration and direct contact, ingestion, inhalation (dust and vapours)	**R4:** Construction workers	Minor	Likely	Negligible

* *Risk refers to the potential risk that the Source, Pathway, Receptor linkage is complete and is used to determine if any further investigation is required. It does not indicate immediate emergency risk to any individual or feature present on the site unless specifically noted.*

Conceptual Site Model (CSM) and Risk Assessment
Table 1.0 (Phase 1)

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Table and Summary of Potential Risks, Sheet 2

Conceptual Site Model			Qualitative Risk Assessment		
Source	**Pathway**	**Receptor**	**Consequence (Potential Severity)**	**Likelihood of Occurrence**	**Risk***
S3: Natural soils on or off site	**P1 & P3:** Direct contact, ingestion, inhalation (dust and vapours) and horizontal migration	**R1:** End user of site	Medium	Low Likelihood	Moderate / Low
	P1 & P3: Direct contact, ingestion, inhalation (dust and vapours) and horizontal migration	**R4:** Construction workers	Minor	Unlikely	Negligible
S4: Ground gases	**P2 & P3:** Vertical and horizontal migration	**R1:** End user of site	Severe	Likely	High
S5: Unexploded ordnance	**P1:** Direct contact	**R1:** End user of site	Severe	Unlikley	Moderate / Low
	P1: Direct contact	**R4:** Construction workers	Severe	Unlikley	Moderate / Low
S6: Radon	**P2 & P3:** Vertical and horizontal migration	**R1:** End user of site	Medium	Likely	Low

* *Risk refers to the potential risk that the Source, Pathway, Receptor linkage is complete and is used to determine if any further investigation is required. It does not indicate immediate emergency risk to any individual or feature present on the site unless specifically noted.*

Conceptual Site Model (CSM) and Revised Risk Assessment
Table 2.0 (Phase 2)

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Table and Summary of Potential Risks, Sheet 1

Conceptual Site Model			Qualitative Risk Assessment		
Source	**Pathway(s)**	**Receptor(s)**	**Consequence (Potential Severity)**	**Likelihood of Occurrence**	**Risk***
S1: Made ground soils on site	**P2:** Vertical migration	**R2:** Controlled waters (Groundwater)	Mild	Low Likliehood	Low
	P3: Horizontal migration	**R3:** Controlled waters (Surface Waters)	Mild	Low Likliehood	Low
	P1: Direct contact, ingestion, inhalation (dust and vapours)	**R1:** End user of site	Medium	Likely	Moderate
	P1: Direct contact, ingestion, inhalation (dust and vapours)	**R4:** Construction workers	Minor	Likely	Negligible
	P1 & P3: Direct contact, ingestion, inhalation (dust and vapours) and horizontal migration	**R4:** Construction materials	Mild	Likely	Moderate / Low
	P1 & P3: Direct contact, ingestion, inhalation (dust and vapours) and horizontal migration	**R6:** Local ecology	Minor	Likely	Negligible
S2: Made ground soils off site	**P3 & P1:** Horizontal migration and direct contact, ingestion, inhalation (dust and vapours)	**R1:** End user of site	Medium	Likley	Moderate
	P3 & P1: Horizontal migration and direct contact, ingestion, inhalation (dust and vapours)	**R4:** Construction workers	Minor	Likely	Negligible

* *Where risk is evaluated as* ***moderate*** *or greater) either; a) remedial action is recommended to address this residual risk (Section 7.2 in the main body of the report) or, b) further investigation is recommended to better inform the risk classification and/or to enable a more detailed, quantitative risk assessment to be undertaken.*

Conceptual Site Model (CSM) and Revised Risk Assessment
Table 2.0 (Phase 2)

curtins

Table and Summary of Potential Risks, Sheet 2

Conceptual Site Model			Qualitative Risk Assessment		
Source	Pathway	Receptor	Consequence (Potential Severity)	Likelihood of Occurrence	Risk*
S3: Natural soils on or off site	**P1 & P3:** Direct contact, ingestion, inhalation (dust and vapours) and horizontal migration	**R1:** End user of site	Medium	Unlikely	Low
	P1 & P3: Direct contact, ingestion, inhalation (dust and vapours) and horizontal migration	**R4:** Construction workers	Minor	Unlikely	Negligible
S4: Ground gases	**P2 & P3:** Vertical and horizontal migration	**R1:** End user of site	Severe	Likely	High
S5: Unexploded ordnance	**P1:** Direct contact	**R1:** End user of site	Severe	Unlikley	Moderate/Low
	P1: Direct contact	**R4:** Construction workers	Severe	Unlikely	Moderate/Low
S6: Radon	**P2 & P3:** Vertical and horizontal migration	**R1:** End user of site	Medium	Unlikely	Low

* *Where risk is evaluated as **moderate** or greater) either; a) remedial action is recommended to address this residual risk (Section 7.2 in the main body of the report) or, b) further investigation is recommended to better inform the risk classification and/or to enable a more detailed, quantitative risk assessment to be undertaken.*

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revisions	description	date
A	Amendments to boundary line	01.02.14
B	Amendments to boundary line	18.02.14
C	Amendments to boundary line	19.02.14
D	Amendments to boundary line	21.02.14
E	Amendments to boundary line	26.03.14
F	Planning issue	28.07.14

PLANNING

St. Francis Xavier College

Existing Site Boundary

Scale: 1:1000 @ A1
Reviewed by: NR

job	drawing	rev.
6249	SP(90)01	F

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