GeoAssist Limited

Civil, Environmental & Geotechnical

Client:
Towerhouse Systems Limited
7 Leegate Close
Heaton Moor
Stockport
SK4 3NN

Consultant/Engineer:
SWF Consultants Limited
Suite 1, Ground Floor
Marwood House
Riverside Park
Sothwood Road
Bromborough
Wirral
CH62 3QX

Verification & Validation Information

10 Bamford Grove, Didsbury, Manchester

Unit 4
Sheffield Street
Heaton Norris
Stockport
Cheshire
SK4 1RU
Telephone : 0161 480 8885
e-mail : info@geoassist.co.uk

August 2019 Site Ref: 5833/BGD VVIR

Client:
Towerhouse Systems Limited
7 Leegate Close
Heaton Moor
Stockport
SK4 3NN

Consultant:
SWF Consultants Limited
Suite 1, Ground Floor
Marwood House
Riverside Park
Sothwood Road
Bromborough
Wirral
CH62 3QX

Verification & Validation Information

This report presents the validation information for the imported soils to the development at 10 Bamford Grove, Didsbury, Manchester as required by planning consent. All samples were obtained from stockpiled soil that was delivered to site and Photographs of the development are appended to this report along with certification for the imported soils and analytical testing of the soils as imported (Concept Life Sciences).

Background Information

The soils were cleared for import based on the supplier declared certification. The soils as imported were then sampled and tested. The soils as imported were found to generally conform with the generic assessment criteria for residential land use and were found to be fit for purpose. Much of the soil has been used beneath grassed areas and within concrete based raised planters. Elsewhere the scheme is mainly hardstanding.

General Site Works

The developer and all contractors employed by the developer were required to monitor for, and report any evidence of contamination found during construction/placement. None was encountered or reported.

Waste Transfer Notes for materials leaving site and invoices for imported materials are appended to this report.

Concluding Statement

The evidence presented demonstrate that all reasonably practicable steps have been taken to ensure the site is fit for purpose and the risk to the occupiers from soils contamination within soft landscaped areas is low.

Matthew Benson BSc
Geotechnical/Environmental Engineer

Mark Richardson MSc CEng MICE
Technical Director

This report has been prepared by GeoAssist Limited with all reasonable professional skill, care and diligence within the terms of the contract with Towerhouse Systems Limited. The report is confidential to Towerhouse Systems Limited, their/the named persons advisors and bankers, and GeoAssist Limited accepts no responsibility of whatever nature to third parties to whom this review may be divulged. GeoAssist Limited owns the copyright in this review. All rights are reserved, and unauthorised use is prohibited. Towerhouse Systems Limited may use the review for their/her/his own purposes.

5833GALv1.00









P1. Soil stock pile (as tested)	P2. Raised Planters
P2. First generation aggregate used beneath pathways	P3. Hardstanding and Pond

GeoAssist Limited
Civil, Environmental & Geotechnical
Telephone: +44 (0) 161 480 8885 e-mail : info@geoassist.co.uk

A1

Photographs

Site Name	10 Bamford Grove
Location	Didsbury, Manchester
GeoAssist Ref	5833BGD
Client	Towerhouse Systems Limited
	7 Leegate Close Heaton Moor Stockport SK4 3NN
Planning Consultant	SWF Consultants Limited
NGR (centre of site)	384260,391360
Production Date	Aug 19
Survey Method	
Surveyor	Others
Status	Final v1.00
Base Survey	OSGB36

ace
consultancy engineering business environment

CONCEPT LIFE SCIENCES
DELIVERING SCIENCE

Concept Life Sciences is a trading name of Concept Life Sciences Analytical & Development Services Limited registered in England and Wales (No 2514788)

Concept Life Sciences

Certificate of Analysis

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

Report Number: 826181-1

Date of Report: 12-Jun-2019

Customer: Geoassist Ltd
Unit 4
Sheffield Street
Heaton Norris
Stockport
SK4 1RU

Customer Contact: Mr Mark Richardson

Customer Job Reference: 5833 BGD
Customer Site Reference: 10 Bamford Grove, Didsbury, Manchester
Date Job Received at Concept: 05-Jun-2019
Date Analysis Started: 06-Jun-2019
Date Analysis Completed: 12-Jun-2019

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.

Customers are responsible for information provided where, if incorrect, it could affect the validity of the results.

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 Concept Life Sciences SOPs

All results have been reviewed in accordance with QMSection 15 of the Concept Life Sciences, Analytical Services Quality Manual

UKAS TESTING
1549

Report checked
and authorised by :
Jack Nagy
Customer Service Advisor

Issued by :
Jack Nagy
Customer Service Advisor

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Concept Reference: 826181
Project Site: 10 Bamford Grove, Didsbury, Manchester
Customer Reference: 5833 BGD

Soil Analysed as Soil
ICRCL (Maxi)

				Concept Reference	**826181 001**	**826181 002**	**826181 003**
				Customer Sample Reference	**DSP C1**	**DSP C2**	**DSP C3**
				Date Sampled	**05-JUN-2019**	**05-JUN-2019**	**05-JUN-2019**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**			
Chromium VI	T6	A40	1	mg/kg	<1	<1	<1
Arsenic	T6	A40	1	mg/kg	**13**	**17**	**15**
Boron (water-soluble)	T6	A40	1	mg/kg	<1	<1	<1
Cadmium	T6	A40	1	mg/kg	<1	<1	<1
Chromium	T6	A40	1	mg/kg	**10**	**14**	**13**
Copper	T6	A40	1	mg/kg	**42**	**56**	**50**
Cyanide(Total)	T4	AR	1	mg/kg	<1	<1	<1
Cyanide(free)	T4	AR	1	mg/kg	<1	<1	<1
Lead	T6	A40	1	mg/kg	**210**	**160**	**140**
Mercury	T6	A40	1	mg/kg	<1	<1	<1
Nickel	T6	A40	1	mg/kg	**13**	**18**	**17**
pH	T7	A40			**7.6**	**7.5**	**7.6**
Phenols(Mono)	T4	AR	1	mg/kg	<1	<1	<1
Selenium	T6	A40	3	mg/kg	<3	<3	<3
SO4(Total)	T102	A40	0.01	%	**0.07**	**0.08**	**0.07**
Sulphide	T4	A40	10	mg/kg	<10	<10	<10
Sulphur(Free)	T2	AR	500	mg/kg	<500	<500	<500
Thiocyanate	T4	A40	10	mg/kg	<10	<10	<10
Zinc	T6	A40	1	mg/kg	**140**	**140**	**130**

Concept Reference: 826181
Project Site: 10 Bamford Grove, Didsbury, Manchester
Customer Reference: 5833 BGD

Soil Analysed as Soil
Total and Speciated USEPA16 PAH

				Concept Reference	**826181 001**	**826181 002**	**826181 003**
				Customer Sample Reference	**DSP C1**	**DSP C2**	**DSP C3**
				Date Sampled	**05-JUN-2019**	**05-JUN-2019**	**05-JUN-2019**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**			
Naphthalene	T149	AR	0.01	mg/kg	**0.07**	**0.06**	**0.18**
Acenaphthylene	T149	AR	0.01	mg/kg	**0.07**	**0.13**	**0.06**
Acenaphthene	T149	AR	0.01	mg/kg	**0.12**	**0.15**	**0.32**
Fluorene	T149	AR	0.01	mg/kg	**0.11**	**0.18**	**0.23**
Phenanthrene	T149	AR	0.01	mg/kg	**1.2**	**2.6**	**1.9**
Anthracene	T149	AR	0.01	mg/kg	**0.28**	**0.79**	**0.40**
Fluoranthene	T149	AR	0.01	mg/kg	**2.2**	**4.4**	**2.7**
Pyrene	T149	AR	0.01	mg/kg	**1.9**	**3.5**	**2.3**
Benzo(a)Anthracene	T149	AR	0.01	mg/kg	**1.1**	**2.1**	**1.3**
Chrysene	T149	AR	0.01	mg/kg	**1.2**	**2.0**	**1.5**
Benzo(b/k)Fluoranthene	T149	AR	0.01	mg/kg	**2.0**	**3.3**	**2.3**
Benzo(a)Pyrene	T149	AR	0.01	mg/kg	**1.1**	**2.0**	**1.4**
Indeno(123-cd)Pyrene	T149	AR	0.01	mg/kg	**0.57**	**1.0**	**0.72**
Dibenzo(ah)Anthracene	T149	AR	0.01	mg/kg	**0.18**	**0.34**	**0.24**
Benzo(ghi)Perylene	T149	AR	0.01	mg/kg	**0.70**	**1.1**	**0.88**
PAH(total)	T149	AR	0.01	mg/kg	**13**	**24**	**17**

Index to symbols used in 826181-1

Value	Description
A40	Assisted dried < 40C
AR	As Received
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Method Index

Value	Description
T6	ICP/OES
T102	ICP/OES (HCl extract)
T4	Colorimetry
T149	GC/MS (SIR)
T7	Probe
T2	Grav

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	Concept References
Chromium VI	T6	A40	1	mg/kg	N	001-003
Arsenic	T6	A40	1	mg/kg	U	001-003
Boron (water-soluble)	T6	A40	1	mg/kg	N	001-003
Cadmium	T6	A40	1	mg/kg	U	001-003
Chromium	T6	A40	1	mg/kg	U	001-003
Copper	T6	A40	1	mg/kg	U	001-003
Cyanide(Total)	T4	AR	1	mg/kg	U	001-003
Cyanide(free)	T4	AR	1	mg/kg	U	001-003
Lead	T6	A40	1	mg/kg	U	001-003
Mercury	T6	A40	1	mg/kg	U	001-003
Nickel	T6	A40	1	mg/kg	U	001-003
pH	T7	A40			U	001-003
Phenols(Mono)	T4	AR	1	mg/kg	U	001-003
Selenium	T6	A40	3	mg/kg	U	001-003
SO4(Total)	T102	A40	0.01	%	U	001-003
Sulphide	T4	A40	10	mg/kg	N	001-003
Sulphur(Free)	T2	AR	500	mg/kg	N	001-003
Thiocyanate	T4	A40	10	mg/kg	N	001-003
Zinc	T6	A40	1	mg/kg	U	001-003
Naphthalene	T149	AR	0.01	mg/kg	U	001-003
Acenaphthylene	T149	AR	0.01	mg/kg	U	001-003
Acenaphthene	T149	AR	0.01	mg/kg	U	001-003
Fluorene	T149	AR	0.01	mg/kg	U	001-003
Phenanthrene	T149	AR	0.01	mg/kg	U	001-003
Anthracene	T149	AR	0.01	mg/kg	U	001-003
Fluoranthene	T149	AR	0.01	mg/kg	U	001-003
Pyrene	T149	AR	0.01	mg/kg	U	001-003
Benzo(a)Anthracene	T149	AR	0.01	mg/kg	U	001-003
Chrysene	T149	AR	0.01	mg/kg	U	001-003
Benzo(b/k)Fluoranthene	T149	AR	0.01	mg/kg	U	001-003
Benzo(a)Pyrene	T149	AR	0.01	mg/kg	U	001-003
Indeno(123-cd)Pyrene	T149	AR	0.01	mg/kg	U	001-003
Dibenzo(ah)Anthracene	T149	AR	0.01	mg/kg	U	001-003
Benzo(ghi)Perylene	T149	AR	0.01	mg/kg	U	001-003
PAH(total)	T149	AR	0.01	mg/kg	U	001-003

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Concept Life Sciences

Certificate of Analysis

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

Report Number: 826187-1

Date of Report: 11-Jun-2019

Customer: Geoassist Ltd
Unit 4
Sheffield Street
Heaton Norris
Stockport
SK4 1RU

Customer Contact: Mr Mark Richardson

Customer Job Reference: 5833 BGD
Customer Site Reference: 10 Bamford Grove, Didsbury, Manchester
Date Job Received at Concept: 05-Jun-2019
Date Analysis Started: 06-Jun-2019
Date Analysis Completed: 11-Jun-2019

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.

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Tests covered by this certificate were conducted in accordance with Concept Life Sciences SOPs

All results have been reviewed in accordance with QMSection 15 of the Concept Life Sciences, Analytical Services Quality Manual

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Report checked and authorised by :
Aleksandra Pacula
Senior Customer Service Advisor

Issued by :
Aleksandra Pacula
Senior Customer Service Advisor

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Concept Reference: 826187
Project Site: 10 Bamford Grove, Didsbury, Manchester
Customer Reference: 5833 BGD

Soil Analysed as Soil
Miscellaneous

Concept Reference	**826187 001**	**826187 002**	**826187 003**	**826187 004**	**826187 005**
Customer Sample Reference	**DSP A**	**DSP B**	**DSP C**	**DSP D**	**DSP E**
Date Sampled	**05-JUN-2019**	**05-JUN-2019**	**05-JUN-2019**	**05-JUN-2019**	**05-JUN-2019**

Determinand	Method	Test Sample	LOD	Units					
Lead	T6	A40	1	mg/kg	**170**	**150**	**160**	**170**	**130**

Index to symbols used in 826187-1

Value	Description
A40	Assisted dried < 40C
U	Analysis is UKAS accredited

Method Index

Value	Description
T6	ICP/OES

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	Concept References
Lead	T6	A40	1	mg/kg	U	001-005

Soils Risk Assessment

Site Reference: 5833 BGD
Project Site: 10 Bamford Grove
Project Location: Didsbury, Manchester
Client: Towerhouse Systems Limited

SAL Reference	Res whgp	826181 001	826181 002	826181 003	826187 001	826187 002	826187 003	826187 004	826187 005
Customer Sample Ref:	C4SL / S4UL	DSP C1	DSP C2	DSP C3	DSP A	DSP B	DSP C	DSP D	DSP E
	SOM 1% GAC	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00	00/01/00
Determinand	LQM II								
Arsenic	37	13	17	15	-	-	-	-	-
Boron (water-soluble)	290	1	1	1	-	-	-	-	-
Cadmium	22	1	1	1	-	-	-	-	-
Chromium	910	10	14	13	-	-	-	-	-
Chromium VI	21	1	1	1	-	-	-	-	-
Copper	2400	42	56	50	-	-	-	-	-
Cyanide(Total)	-	1	1	1	-	-	-	-	-
Cyanide(free)	34	1	1	1	-	-	-	-	-
Lead	200	210	160	140	170	150	160	170	130
Mercury	1.2	1	1	1	-	-	-	-	-
Nickel	130	13	18	17	-	-	-	-	-
pH	-	7.6	7.5	7.6	-	-	-	-	-
Phenols(Mono)	1100	1	1	1	-	-	-	-	-
Selenium	250	3	3	3	-	-	-	-	-
SO4(Total)	-	0.07	0.08	0.07	-	-	-	-	-
Sulphide	-	10	10	10	-	-	-	-	-
Sulphur(Free)	-	500	500	500	-	-	-	-	-
Thiocyanate	-	10	10	10	-	-	-	-	-
Zinc	3700	140	140	130	-	-	-	-	-
Acenaphthene	1100	0.12	0.15	0.32	-	-	-	-	-
Acenaphthylene	920	0.07	0.13	0.06	-	-	-	-	-
Anthracene	11000	0.28	0.79	0.4	-	-	-	-	-
Benzo(a)Anthracene	-	1.1	2.1	1.3	-	-	-	-	-
Benzo(a)Pyrene SM	5	1.1	2	1.4	-	-	-	-	-
Benzo(b/k)Fluoranthene	-	2	3.3	2.3	-	-	-	-	-
Benzo(ghi)Perylene	-	0.7	1.1	0.88	-	-	-	-	-
Chrysene	-	1.2	2	1.5	-	-	-	-	-
Dibenzo(ah)Anthracene	-	0.18	0.34	0.24	-	-	-	-	-
Fluoranthene	890	2.2	4.4	2.7	-	-	-	-	-
Fluorene	860	0.11	0.18	0.23	-	-	-	-	-
Indeno(123-cd)Pyrene	-	0.57	1	0.72	-	-	-	-	-
Naphthalene	13	0.07	0.06	0.18	-	-	-	-	-
Phenanthrene	440	1.2	2.6	1.9	-	-	-	-	-
Pyrene	2000	1.9	3.5	2.3	-	-	-	-	-
PAH(total)	500	13	24	17	-	-	-	-	-

All Units mg/kg unless otherwise stated — Indicates Exceedance of Applicable Level

*Criteria Assumes Chromium III

**Criteria is derrived considering acute effects on 1-2yo Female Receptor ingesting a single dose of 3g of soil

**Criteria is derrived considering Total TPH (C10 to C35) is formed entirley of a 50:50 Aliphatic and Aromatic Split C8-C10 range

Basis of Assessment Criteria: EA 2005 WAC (Human Health Value) C4SL
LQM S4UL Atrisk 06

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DUTY OF CARE - TRANSFER NOTE / HIRE SHEET

Licence No CBDU41668

D&G MCKENNA HAULAGE LTD

UNIT 12, SANDFORD LANE, LEVENSHULME, MANCHESTER M19 3BJ

EMAIL: dandgmckennahaulageltd@live.co.uk Telephone: 07775 514945

DATE: 15.5.19 No:

A Producer of the materials	Company / Name: Tower House Site Address: 16B Hesketh Ave
B Description of the materials	How are the materials contained?: GRAB Describe materials being transferred: SOIL Quantity: 3 X 16T
C Carrier of the materials	Drivers Name: Damien Vehicle Reg: BX65 MFE
D Disposer of the materials	Company Name: BOOTH'S Disposal Address: GREAT HARWOOD Licence No:

MINIMUM HIRE 9 HOURS				No. of Loads
Day Work:	Hours Worked:	Travel Time:	Total Hours:	

Consignee's Signature

CONDITIONS OF SALE. It is essential that all written particulars entered above should be checked by Consignee since this delivery note once signed by the Consignee represents formal acceptance of the material in good order and condition and subsequent complainants cannot be accepted. All complaints, whether in respect of material or circumstances must be made to the driver of the vehicle and be confirmed in writing, direct to the company immediately.
Company Reg No. 5312025

DUTY OF CARE - TRANSFER NOTE / HIRE SHEET

Licence No CBDU41668

D&G MCKENNA HAULAGE LTD

UNIT 12, SANDFORD LANE, LEVENSHULME, MANCHESTER M19 3BJ

EMAIL: dandgmckennahaulageltd@live.co.uk Telephone: 07775 514945

DATE: 13.5.19 No:

A Producer of the materials	Company / Name: Tower House Site Address: 16B Hesketh Ave
B Description of the materials	How are the materials contained?: GRAB Describe materials being transferred: SOIL Quantity: 16T X 3
C Carrier of the materials	Drivers Name: DAMIEN Vehicle Reg: BX65 MFE
D Disposer of the materials	Company Name: BOOTH'S Disposal Address: GREAT HARWOOD Licence No:

MINIMUM HIRE 9 HOURS				No. of Loads
Day Work:	Hours Worked:	Travel Time:	Total Hours:	

Consignee's Signature

CONDITIONS OF SALE. It is essential that all written particulars entered above should be checked by Consignee, since this delivery note once signed by the Consignee represents formal acceptance of the material in good order and condition and subsequent complainants cannot be accepted. All complaints, whether in respect of material or circumstances must be made to the driver of the vehicle and be confirmed in writing, direct to the company immediately.
Company Reg No. 5312025

D & G McKenna Haulage Ltd

237 Wellington Road North
Heaton Chapel
Stockport
SK4 2RQ
Mobile: 07775 51 49 45
Phone/Fax: 0161 224 8627
E-mail:- info@mckennahaulage.co.uk

Date: 31.05.19

INVOICE: 479.227

Towerhouse System Ltd

16.05.19 – 10 Ton of Mot to Didsbury	= £240.00 + vat
20.05.19 – 10 Ton of Mot to Didsbury	= £240.00 + vat
23.05.19 – 10 Ton of Mot to Didsbury	= £240.00 + vat
24.05.19 – 1 Load of Top Soil to Didsbury	= £370.00 + vat
24.05.19 – 3 Loads of Top Soil to Didsbury	= £1,110.00 + vat
28.05.19 – 1 Load of Top Soil to Didsbury	= £370.00 + vat
28.05.19 – 1 Load of Top Soil to Didsbury	= £300.00 + vat

Sub Total = £2,870.00

Vat @ 20% = £574.00

Amount Due = £3,444.00

Please can payment be made via bacs, any problems please contact me on the above mobile number.
Our Bank Details are as follows:-

Bank: Lloyds Bank
Account Name: D & G McKenna Haulage Ltd
Sort Code: 30.95.42
Account Number: 02142405