

By Email

Our ref: 26-138.01L

Daniel Mcgrath
Rochdale Borough Council
Number One Riverside
Smith Street
Rochdale
OL16 1XU



Solum House
Unit 1 Elliott Court
St John's Road
Meadowfield
Durham
DH7 8PN

9th May 2026

Dear Daniel,

Re: Ground Contamination Risk Assessment - Proposed Allotment Gardens, Queens Drive Rochdale

As requested by Rochdale Borough Council, a brief programme of intrusive investigation works have been carried out over an area of land for the potential relocation of allotments gardens at Queens Drive, Rochdale. We have pleasure in providing you with our Ground Investigation Report. The following documents are enclosed;

- Exploratory Hole Location Plan
- Trial Pit Record Sheets (TP01 - TP05)
- Laboratory Testing Results (Ref. 26-04836)

The intrusive investigation works undertaken by ARC comprised 5 no. manually excavated trial pits (TP01 & TP05), the positions of which can be seen on the Exploratory Hole Location Plan attached in Appendix I.

The information contained in this report is limited to the areas of the site as indicated on the Exploratory Hole Location Plan attached, and to those areas accessible during the ground investigation. When considering the full scope of the development any features and / or issues not specifically mentioned in this report cannot be assumed to have been covered.

1.0 Ground Conditions

For an accurate description of the shallow ground conditions encountered at the exploratory positions created by Arc Environmental Limited, reference should be made to the trial pit record sheets attached in Appendix II. It should be noted that there is always the possibility of variation in the ground conditions around and between the borehole locations.

In summary, made ground was recorded to depths of between c.0.30m to at least c.1.00m below current ground levels (bcgl) generally comprising vegetation overlying dark brown sandy gravelly soil with anthropogenic debris (i.e. brick, porcelain, etc). In turn underlain by reddish brown clayey gravelly sand with anthropogenic debris (i.e. brick, porcelain, etc), recorded in TP01 – TP04).

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Re: Ground Contamination Risk Assessment - Proposed Allotment Gardens, Queens Drive Rochdale (Cont'd)

1.0 Ground Conditions (Cont'd)

The underlying natural drift deposits recorded in TP05 only, comprised orangish brown silty SAND, recorded to a depth of c.0.80m bcd.

There was no visual and / or olfactory evidence of significant ground contamination (i.e. fuel-derived contaminants, ash, asbestos, etc) noted within any of the exploratory locations.

2.0 Groundwater

No groundwater ingress was recorded within any of the exploratory locations.

3.0 Laboratory Testing

All laboratory testing was carried out in accordance with BS1377-1:2016 by Chemtech Environmental Ltd. of Stanley, Co. Durham Ltd (UKAS & MCERTS accredited).

3.1 Determination of pH & SO₄: -

Representative samples of the made ground encountered in the trial pits were tested to determine their acidic (pH) and soluble sulphate (SO₄) levels. The results are shown in Table 1 below and are also contained in the Chemtech Analytical Report (Ref no. 25-04836), a copy of which is attached in Appendix III.

Table 1

<u>Location</u>	<u>Depth (m)</u>	<u>Strata</u>	<u>pH</u>	<u>SO₄(mg/l)</u>	<u>Design SO₄ Class</u>	<u>ACEC Class</u>
TP01	0.10-0.20	Made Ground	6.8	40.8	DS-1	AC-1
TP02	0.10-0.30	Made Ground	5.4	22.9	DS-1	AC-2z
TP03	0.20-0.40	Made Ground	7.8	78.1	DS-1	AC-1
TP04	0.60-0.80	Made Ground	7.1	17.3	DS-1	AC-1
TP05	0.10-0.25	Made Ground	5.0	23.6	DS-1	AC-3Z

From these results the samples tested range in pH from 5.0 to 7.8 and the amount of Soluble Sulphate present ranged from 17.3mg/l to 78.1mg/l. Therefore, in accordance with BRE Special Digest 1: 2005, for any buried concrete, the site should be given an overall classification of Class DS-1. When considering the nature of the materials tested and assuming mobile groundwater, the assessment of the Aggressive Chemical Environment for Concrete (ACEC) for the site overall, is AC-3z.

3.2 Contamination Screening / Screening Strategy: -

All works associated with this ground contamination assessment and investigations have been completed in accordance with BS10175:2011+A2:2017: Investigation of potentially contaminated sites – Code of practice & Land Contamination Risk Management (LCRM: October 2020) with the following precautions specific to this project.

Re: Ground Contamination Risk Assessment - Proposed Allotment Gardens, Queens Drive Rochdale (Cont'd)

3.0 Laboratory Testing (Cont'd)

3.2 Contamination Screening / Screening Strategy (Cont'd): -

Samples were recovered by a representative of ARC Environmental Ltd. during the intrusive investigation works. All samples were stored at approximately c.2-8°C using cool boxes and ice packs prior to delivery to a UKAS / MCERTS accredited laboratory. Sampling was carried out in accordance with 'Technical Policy Statement 63: UKAS Policy on Deviating Samples'.

Representative samples of the shallow made ground were passed onto Chemtech Environmental of Stanley so that soil contamination screening could be carried out to assess any potential risk to human health.

The samples were screened using a standard generic contamination suite as detailed below (based on the CLEA SGV listed analytes with additions), which is used to assess typical made ground (disturbed natural strata mixed with anthropogenic debris) of an unknown source. Although no visual and / or olfactory evidence of significant ground contamination (i.e. fuel-derived contaminants, ash, asbestos, etc) was noted within the exploratory locations, representative samples were tested for Speciated PAH (Polycyclic Aromatic Hydrocarbons), Speciated TPH (Total Petroleum Hydrocarbons), & Asbestos.

The catalogue of testing results can be found in the Chemtech Analytical Report (Ref. 26-04836), attached in Appendix III, and the total analysis carried out is summarised below.

- 5 no. samples screened using a Generic Soils Suite - (suite comprises; Arsenic, Cadmium, Chromium (Total), Copper, Lead, Mercury, Nickel, Selenium, Zinc & Cyanide)
- 5 no. samples screened for Speciated PAH's – based on the current USEPA 16 PAH's
- 5 no. samples screened for Speciated Total Petroleum Hydrocarbons (full Aliphatic & Aromatic split)
- 5 no. samples screened for BTEX (Benzene, Toluene, Ethylbenzene, m & p-Xylene & o-Xylene)
- 5 no. samples screened for the presence of asbestos (presence)

The results have been used to carry out a Level 1: Quantitative Risk Assessment for Human Health.

4.0 Ground Contamination Risk Assessment: -

4.1 Methodology: -

A Level 1 quantitative human health risk assessment has been undertaken, generally in accordance with BS10175: British Standard Code of Practice for the Investigation of Potentially Contaminated Sites (2011+A2:2017) & Land Contamination Risk Management (LCRM: October 2020).

This quantitative human health risk assessment uses the current UK practice for assessing the risks from land contamination, which is based on the established source-pathway-receptor pollutant linkage methodology and 'suitable for use' approach (Part IIA, EPA 1990 - inserted through Section 57 EA 1995).

Re: Ground Contamination Risk Assessment - Proposed Allotment Gardens, Queens Drive Rochdale (Cont'd)

4.0 Ground Contamination Risk Assessment (Cont'd): -

4.2 Level 1 Risk Assessment (Human Health): -

The soil screening results from across the site have been assessed by comparing the Maximum Concentration (C_M) values recorded for each analyte to the Critical Concentration (C_C) values chosen for this site (taken as Allotment). The results of the testing are enclosed and are summarised in Table 1 below and on the following page.

The average TOC percentage across the 5 no. samples tested is 4.55%, which when converted to SOM using a conversion factor of 1.72 is 7.82%. As such it is deemed suitable to adopt Critical Concentrations for the site based on an SOM of 6.0%.

Table 1

Bold = Elevated concentrations

Analyte	Critical Conc. (C_C)	No. of Samples Screened	Max. Conc. (C_M) Recorded	No. of Samples $>C_C$
Metals and Non-Metals				
Arsenic	43 ⁽¹⁾	5	25.9	0
Cadmium	1.9 ⁽¹⁾	5	1.1	0
Chromium III	18000 ⁽¹⁾	5	21.7	0
Chromium VI	1.8 ⁽¹⁾	5	<0.040	0
Copper	520 ⁽¹⁾	5	66.1	0
Lead	80 ⁽²⁾	5	186	3 (TP01, TP02 & TP05)
Mercury	19 ⁽¹⁾	5	<0.6	0
Nickel	53 ⁽¹⁾	5	41.6	0
Selenium	88 ⁽¹⁾	5	<3.0	0
Zinc	620 ⁽¹⁾	5	65.7	0
Cyanide	34 ⁽³⁾	5	<1.0	0
PAHs				
Acenaphthene	200 ⁽¹⁾	5	0.046	0
Acenaphthylene	160 ⁽¹⁾	5	<0.015	0
Anthracene	2200 ⁽¹⁾	5	0.091	0
Benzo(a)anthracene	13 ⁽¹⁾	5	0.372	0
Benzo(a)pyrene	3.5 ⁽¹⁾	5	0.334	0
Benzo(b)fluoranthene	3.9 ⁽¹⁾	5	0.507	0
Benzo(ghi)perylene	640 ⁽¹⁾	5	0.292	0
Benzo(k)fluoranthene	130 ⁽¹⁾	5	0.174	0
Chrysene	19 ⁽¹⁾	5	0.396	0
Dibenz(ah)anthracene	0.43 ⁽¹⁾	5	0.050	0
Fluoranthene	290 ⁽¹⁾	5	0.745	0
Fluorene	160 ⁽¹⁾	5	0.032	0
Indeno(123cd)pyrene	39 ⁽¹⁾	5	0.365	0
Naphthalene	24 ⁽¹⁾	5	0.036	0
Phenanthrene	90 ⁽¹⁾	5	0.372	0
Pyrene	620 ⁽¹⁾	5	0.647	0

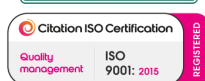
⁽¹⁾ = LQM CIEH Suitable 4 Use Levels (S4UL Nov 2014 (Revised August 2015) – Allotment – 6.0% SOM), ⁽²⁾ = C4SL Values (Allotment), ⁽³⁾ = ATRISK^{SOIL} SSV, NAD= No Asbestos Detected.

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Re: Ground Contamination Risk Assessment - Proposed Allotment Gardens, Queens Drive Rochdale (Cont'd)

4.0 Ground Contamination Risk Assessment (Cont'd): -

4.2 Level 1 Risk Assessment (Human Health) (Cont'd): -

Table 1 (Cont'd)

Bold = Elevated concentrations

Analyte	Critical Conc. (C _c)	No. of Samples Screened	Max. Conc. (C _M) Recorded	No. of Samples >C _c
BTEX & MTBE				
Benzene	0.075 ⁽¹⁾	5	<0.001	0
Toluene	120 ⁽¹⁾	5	<0.001	0
Ethylbenzene	91 ⁽¹⁾	5	<0.001	0
m & p-Xylene	160 ⁽¹⁾	5	<0.002	0
o-Xylene	160 ⁽¹⁾	5	<0.002	0
TPHs				
VPH Aliphatic (>C5-C6)	3900 ⁽¹⁾	5	<0.10	0
VPH Aliphatic (>C6-C8)	13000 ⁽¹⁾	5	<0.10	0
VPH Aliphatic (>C8-C10)	1700 ⁽¹⁾	5	<0.10	0
EPH Aliphatic (>C10-C12)	7300 ⁽¹⁾	5	1.5	0
EPH Aliphatic (>C12-C16)	13000 ⁽¹⁾	5	1.1	0
EPH Aliphatic (>C16-35)	270000 ⁽¹⁾	5	6.7	0
EPH Aliphatic (>C35-C44)	270000 ⁽¹⁾	5	<0.5	0
VPH Aromatic (>EC5-EC7)	57 ⁽¹⁾	5	<0.010	0
VPH Aromatic (>EC7-EC8)	120 ⁽¹⁾	5	<0.010	0
VPH Aromatic (>EC8-EC10)	51 ⁽¹⁾	5	<0.010	0
EPH Aromatic (>EC10-EC12)	74 ⁽¹⁾	5	1.9	0
EPH Aromatic (>EC12-EC16)	130 ⁽¹⁾	5	5.4	0
EPH Aromatic (>EC16-EC21)	260 ⁽¹⁾	5	2.6	0
EPH Aromatic (>EC21-EC35)	1600 ⁽¹⁾	5	18.5	0
EPH Aromatic (>EC35-EC44)	1600 ⁽¹⁾	5	4.0	0
Asbestos	Presence	5	NAD	0

⁽¹⁾ = LQM CIEH Suitable 4 Use Levels (S4UL Nov 2014 (Revised August 2015) – Allotment – 6.0% SOM), ⁽²⁾ = C4SL Values (Allotment), ⁽³⁾ = ATRISK^{SOIL} SSV, NAD= No Asbestos Detected.

The results of the analysis and risk assessment have identified the following:

- The Maximum Concentration (C_M) value for Lead exceeds the chosen Critical Concentration (C_c) value at the locations of TP01, TP02 & TP05.
- None of the remaining (C_M) values for any of the analytes screened for exceed the (C_c) values taken for this site.

The results of the contamination screening and analysis have confirmed that the made ground below the site poses a possible risk to Human Health where exposure pathways are available, and if the site were to be developed for allotment gardens, appropriate remediation works will be required.

Re: Ground Contamination Risk Assessment - Proposed Allotment Gardens, Queens Drive Rochdale (Cont'd)

5.0 Conclusions and Recommendations: -

5.1 Ground Conditions: -

From the information gained during these intrusive investigation works, made ground was recorded to depths of between c.0.30m to at least c.1.00m below current ground levels (bcgl) generally comprising vegetation overlying dark brown sandy gravelly soil with anthropogenic debris (i.e. brick, porcelain, etc). In turn underlain by reddish brown clayey gravelly sand with anthropogenic debris (i.e. brick, porcelain, etc), recorded in TP01 – TP04).

Underlying the made ground natural drift deposits were recorded in TP05 only, comprising orangish brown silty SAND, recorded to a depth of c.0.80m bcgl.

5.2 Ground Contamination Assessment: -

From the results of the contamination screening, elevated levels of lead have been recorded in three of the five samples screened that represent a potential risk to human health where exposure pathways are available.

As a result, if the proposed allotment development were to proceed remedial works will be required. It is recommended that for any areas of allotment gardens, a clean cover system be implemented comprising at least 450mm of clean imported sub-soil and at least 150mm of clean imported topsoil (total cover thickness of at least 600mm).

A Remediation Strategy may be required as part of any planning application process, which will detail the remedial measures required, as well as a subsequent validation report upon completion of the development works. Where buildings and areas of hardstanding are proposed then the source-pathway-receptor pollutant linkage will not exist and the made ground can remain in-situ with no requirement to incorporate clean cover materials.

5.3 General Comments: -

Where we have sampled and tested for asbestos, this is discussed in the report. Whilst no asbestos has been found in any of the samples tested, there is always the possibility, along with other contamination, that undiscovered asbestos exists between sample locations and the possibility of unknown asbestos exists on all sites.

Re: Ground Contamination Risk Assessment - Proposed Allotment Gardens, Queens Drive Rochdale (Cont'd)

5.0 Conclusions and Recommendations: -

5.3 General Comments (Cont'd): -

An “observational technique” can be applied to the design and construction of this site, and where ground conditions seem to vary from that indicated from the works carried out to date, then advice from a suitably qualified Engineer should be sought.

We trust the contents of this brief report is to your satisfaction and if you require any further information or clarification, please do not hesitate to contact us.

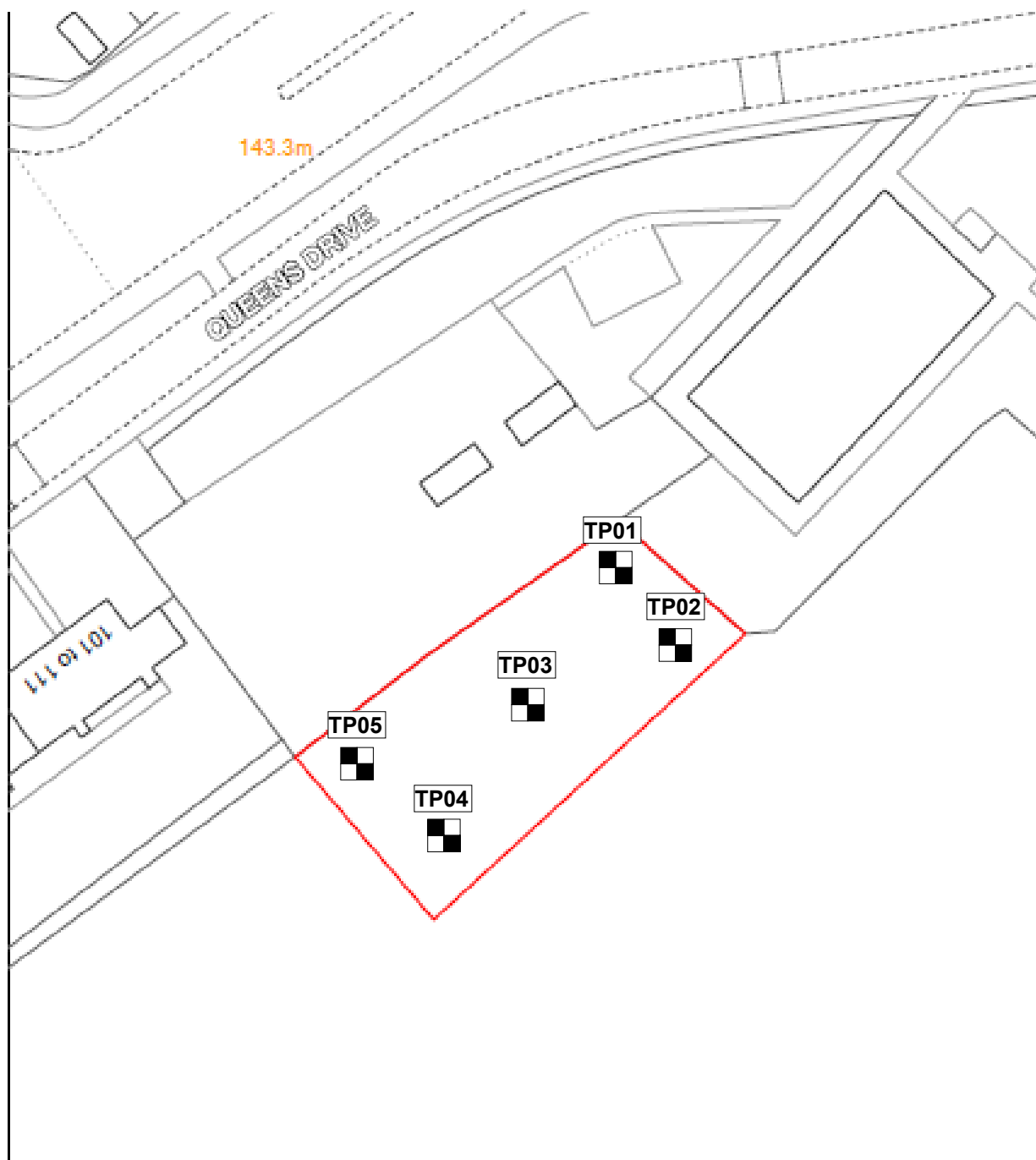
Yours sincerely,



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For and on behalf of Arc Environmental Ltd
Darren McGrath MEnvSc FGS Tech IOSH
Director

APPENDIX I

Exploratory Location Plan



Ground Investigation Report

Exploratory Hole Location Plan (Not to Scale)



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St Johns Road, Meadowfield
Durham
DH7 8PN
TEL: (0191) 378 6380

CLIENT: Rochdale Borough Council

PROJECT REF: 26-138

SITE NAME: Queens Drive Rochdale

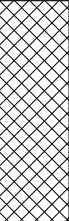
APPENDIX II

Trial Pit Record Sheets

					Trial Pit				TP01	
									Sheet 1 of 1	
					Hole Type TP		Easting	Northing	Ground Level (m)	Scale 1:10
Project Name Queens Drive					Project No. 26-138		Start Date 2026-03-31		End Date 2026-03-31	
Client Adept					Consultant PH/PR		Contractor ARC Environmental			
Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m)	Strata			
		Depth (m)	Type/ Ref	Results			Legend	Description		
		0.10-0.30	ES			(0.55)		Vegetation overlying dark brown sandy gravelly soil. Gravel is fine to coarse sandstone with anthropogenic debris (brick and porcelain) and abundant rootlets (MADE GROUND)		0.5
		0.60-0.80	ES			0.55		Reddish brown clayey gravelly sand. Gravel is fine to medium sandstone with anthropogenic debris (brick and porcelain) (MADE GROUND)		1.0
						(0.45)				
						1.00		End of Trial Pit at 1.00m		1.0
										1.5
										2.0
Remarks								Method, Plant, Stability, Dimensions 0.00 - 1.00m TP Hand Tools		Logger PH/PR

					Trial Pit				TP03			
									Sheet 1 of 1			
					Hole Type TP		Easting		Northing		Ground Level (m)	
Project Name Queens Drive					Project No. 26-138		Start Date 2026-03-31		End Date 2026-03-31			
Client Adept					Consultant PH/PR			Contractor ARC Environmental				
Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m)	Strata					
		Depth (m)	Type/ Ref	Results			Legend	Description				
		0.20-0.40	ES			(0.52)		Vegetation overlying dark brown sandy gravelly soil. Gravel is fine to coarse sandstone with anthropogenic debris (brick and porcelain) and abundant rootlets (MADE GROUND)		0.5		
		0.70-0.90	ES			(0.48)		Reddish brown clayey gravelly sand. Gravel is fine to medium sandstone with anthropogenic debris (brick and porcelain) (MADE GROUND)				
						1.00		End of Trial Pit at 1.00m		1.0		
										1.5		
										2.0		
Remarks								Method, Plant, Stability, Dimensions 0.00 - 1.00m TP Hand Tools		Logger PH/PR		

					Trial Pit				TP04	
									Sheet 1 of 1	
					Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:10	
Project Name Queens Drive					Project No. 26-138		Start Date 2026-03-31		End Date 2026-03-31	
Client Adept					Consultant PH/PR		Contractor ARC Environmental			
Inst/ Backfill	Water Levels	Samples and Tests			Level	Depth (thickness)	Strata			
		Depth (m)	Type/ Ref	Results	(m)	(m)	Legend	Description		
		0.10-0.30	ES			(0.45)		Vegetation overlying dark brown sandy gravelly soil. Gravel is fine to coarse sandstone with anthropogenic debris (brick and porcelain) and abundant rootlets (MADE GROUND)		
		0.60-0.80	ES			0.45		Reddish brown clayey gravelly sand. Gravel is fine to medium sandstone with anthropogenic debris (brick and porcelain) (MADE GROUND)		
						(0.55)				0.5
						1.00		End of Trial Pit at 1.00m		1.0
										1.5
										2.0
Remarks								Method, Plant, Stability, Dimensions 0.00 - 1.00m TP Hand Tools		Logger PH/PR

					Trial Pit				TP05 Sheet 1 of 1					
					Hole Type TP		Easting		Northing		Ground Level (m)		Scale 1:10	
					Project Name Queens Drive		Project No. 26-138		Start Date 2026-03-31		End Date 2026-03-31			
Client Adept					Consultant PH/PR					Contractor ARC Environmental				
Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m)	Strata							
		Depth (m)	Type/ Ref	Results			Legend	Description						
		0.10-0.25	ES			(0.30)		Vegetation overlying dark brown sandy gravelly soil. Gravel is fine to coarse sandstone with anthropogenic debris (brick and porcelain) and abundant rootlets (MADE GROUND)						
		0.40-0.60	ES			(0.50)		Orangish brown silty SAND.						
						0.80		End of Trial Pit at 0.80m						
Remarks								Method, Plant, Stability, Dimensions 0.00 - 0.80m TP Hand Tools		Logger PH/PR				

APPENDIX III

Laboratory Results

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ANALYTICAL TEST REPORT

Report Number 26-04836, issue number 1

Contract name: Queens Drive, Rochdale

Client reference: 26-138

Clients name: ARC Environmental Ltd

Clients address: ARC Environmental Ltd
Solum House, Unit 1 Elliott Court
St Johns Road
DH7 8PN

Samples received: 24/04/2026

Analysis started: 25/04/2026

Analysis completed: 29/04/2026

Report issued: 29/04/2026

Key

U UKAS accredited test

M MCERTS & UKAS accredited test

(B) Analysis performed at Southampton Site

I/S Insufficient sample to carry out test

U/S Sample not suitable for testing

NAD No Asbestos Detected

Full key available on Information page



Approved by: Rachael Burton
Technical Support Manager

SAMPLE INFORMATION

MCERTS (Soils):

Soil descriptions are only intended to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions. MCERTS accreditation applies for sand, clay and loam/topsoil, or combinations of these whether these are derived from naturally occurring soils or from made ground, as long as these materials constitute the major part of the sample. Other materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
% Moisture reported as MCERTS drying at 30°C

Lab ref	Sample ID	Depth (m)	Sample description	Material removed	% Removed	% Moisture
102551	TP01	0.10 - 0.30	Brown Sandy Loam with Vegetation and Gravel.	-	-	19.7
102552	TP02	0.10 - 0.30	Brown Sandy Loam with Vegetation and Gravel.	-	-	23.2
102553	TP03	0.20 - 0.40	Brown Sandy Loam with Vegetation and Gravel.	-	-	42.1
102554	TP04	0.60 - 0.80	Brown Sandy Loam with Vegetation and Gravel.	-	-	21.3
102555	TP05	0.10 - 0.25	Brown Sandy Loam with Vegetation and Gravel.	-	-	32.3

SOILS

Lab Number					102551	102552	102553	102554	102555
Sample ID					TP01	TP02	TP03	TP04	TP05
Depth (m)					0.10 - 0.30	0.10 - 0.30	0.20 - 0.40	0.60 - 0.80	0.10 - 0.25
Sampling Date					14/04/2026	14/04/2026	14/04/2026	14/04/2026	14/04/2026
Test	Method	Accred	LoD	Units					
Moisture Content	CE001	N	0.1	%	19.7	23.2	42.1	21.3	32.3
Metals									
Water Soluble Sulphate	CE061	M	10	mg/l	40.8	22.9	78.1	17.3	23.6
Arsenic	CE264	M	2.3	mg/kg	18.8	20.0	16.3	12.5	25.9
Cadmium	CE264	M	1.1	mg/kg	1.1	< 1.1	< 1.1	< 1.1	< 1.1
Chromium	CE264	U	1.3	mg/kg	21.7	14.4	15.2	13.2	16.1
Chromium III	CE208	N	2	mg/kg	21.7	14.4	15.2	13.2	16.1
Water Soluble Chromium VI	CE263	N	0.04	mg/kg	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Copper	CE264	M	1.2	mg/kg	66.1	32.5	22.7	17.4	38.0
Lead	CE264	U	2.4	mg/kg	186	122	61.4	46.9	143
Mercury	CE264	M	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Nickel	CE264	M	1.6	mg/kg	41.6	11.9	11.8	8.8	13.2
Selenium	CE264	M	3	mg/kg	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Zinc	CE264	M	2.4	mg/kg	65.7	43.4	54.5	46.0	31.5
pH	CE004	M	0.1	pH units	6.8	5.4	7.8	7.1	5.0
Free Cyanide	CE077	N	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Organic Carbon	CE197	M	0.1	%	4.41	4.65	2.67	2.59	8.44
Polyaromatic hydrocarbons									
Acenaphthene	CE087	M	0.013	mg/kg	0.026	0.020	0.016	< 0.013	0.046
Acenaphthylene	CE087	M	0.015	mg/kg	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Anthracene	CE087	U	0.017	mg/kg	0.045	0.043	0.034	< 0.017	0.091
Benzo(a)anthracene	CE087	U	0.012	mg/kg	0.139	0.300	0.146	0.044	0.372
Benzo(a)pyrene	CE087	U	0.019	mg/kg	0.112	0.239	0.094	0.025	0.334
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	0.165	0.357	0.147	0.039	0.507
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	0.088	0.198	0.074	< 0.019	0.292
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	0.060	0.111	0.045	< 0.025	0.174
Chrysene	CE087	M	0.028	mg/kg	0.141	0.295	0.135	0.033	0.396
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	< 0.017	0.017	< 0.017	< 0.017	0.050
Fluoranthene	CE087	M	0.017	mg/kg	0.286	0.526	0.252	0.064	0.745
Fluorene	CE087	U	0.013	mg/kg	0.016	< 0.013	< 0.013	< 0.013	0.032
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	0.117	0.258	0.092	0.028	0.365

SOILS

Lab Number					102551	102552	102553	102554	102555
Sample ID					TP01	TP02	TP03	TP04	TP05
Depth (m)					0.10 - 0.30	0.10 - 0.30	0.20 - 0.40	0.60 - 0.80	0.10 - 0.25
Sampling Date					14/04/2026	14/04/2026	14/04/2026	14/04/2026	14/04/2026
Test	Method	Accred	LoD	Units					
Naphthalene	CE087	M	0.016	mg/kg	0.022	< 0.016	< 0.016	< 0.016	0.036
Phenanthrene	CE087	M	0.014	mg/kg	0.158	0.163	0.139	0.032	0.372
Pyrene	CE087	M	0.016	mg/kg	0.257	0.540	0.238	0.064	0.647
Total PAH(16)	CE087	N	0.28	mg/kg	1.63	3.07	1.41	0.329	4.46
BTEX & Total Petroleum Hydrocarbons									
Benzene	CE267	U	0.001	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	CE267	U	0.001	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	CE267	U	0.001	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
MTBE	CE267	N	0.002	mg/kg	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
m,p-Xylene	CE267	U	0.002	mg/kg	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
oXylenes	CE267	U	0.002	mg/kg	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
>C5-C6 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
>C6-C8 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
>C8-C10 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
>C10-C12 Aliphatic (EH_2D_AL)	CE250	N	1	mg/kg	1.4	1.3	1.4	1.0	1.5
>C12-C16 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	1.1	1.1	1.1	0.7	1.1
>C16-C35 Aliphatic (EH_2D_AL)	CE250	N	3	mg/kg	4.1	6.5	3.8	< 3.0	6.7
>C35-C44 Aliphatic (EH_2D_AL)	CE250	N	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
>C5-C7 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
>C7-C8 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
>C8-C10 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
>C10-C12 Aromatic (EH_2D_AR)	CE250	N	0.6	mg/kg	1.4	1.6	1.5	0.9	1.9
>C12-C16 Aromatic (EH_2D_AR)	CE250	N	1	mg/kg	3.6	4.8	5.4	2.3	5.0
>C16-C21 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	< 2.0	3.9	< 2.0	< 2.0	2.6
>C21-C35 Aromatic (EH_2D_AR)	CE250	N	4.5	mg/kg	11.0	18.5	10.1	7.3	16.7
>C35-C44 Aromatic (EH_2D_AR)	CE250	N	2	mg/kg	< 2.0	4.0	< 2.0	< 2.0	3.1
>C5-C44 Total (HS_1D_MS+EH_2D_Total)	CE250	N	14	mg/kg	26.3	41.7	27.0	17.2	38.7
Asbestos									
Asbestos Identification	SUBCO N	SU	0	-	NAD	NAD	NAD	NAD	NAD

METHOD DETAILS

METHOD	TESTNAME	METHOD SUMMARY	ANALYSIS BASIS
CE267	VPH in Soil	HS-GCFID	As submitted sample
CE250	GCXGC in Soil	DCM Extraction and GCxGC-FID	As submitted sample
SUBCON	Asbestos Soil	HSG248	Air Dried Sample
CE061	W. Sol Metals	ICPOES	Air dried sample
CE264	Metals by ICP in Soil	ICPOES	Air dried sample
CE267	BTEX in Soils	Analysis by HSGCFID	As submitted sample
CE263	ChromiumVI by Discrete Analyser in Soil	Gallery	Air dried sample
CE087	PAH in Soil	DCM Extraction and GCMS	As submitted sample
CE077	Cyanides in Soils	Continuous Flow Analyser	As submitted sample
CE208	Chromium Hexavalent in Soil	Colorimetry	Air dried sample
CE197	TOC In Soil	PRIMACS Combustion Analyser	Air dried sample

DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.

For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.

Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

- a Sampling date not provided
- b Sampling time not provided (waters only)
- c Sample not received in appropriate containers
- d Storage Temperature
- e Headspace present in sample container
- f Sample exceeded sampling to receipt
- g Sample exceeded holding time(s)

Lab ref	Sample ID	Depth (m)	Deviating	Tests (Reason for deviation)
102551	TP01	0.10 - 0.30	N	
102552	TP02	0.10 - 0.30	N	
102553	TP03	0.20 - 0.40	N	
102554	TP04	0.60 - 0.80	N	
102555	TP05	0.10 - 0.25	N	

REPORT INFORMATION

Report No.:26-04836, issue number 1

Key

U	ISO17025 Accredited Result
M	ISO17025 and MCERTS Accredited Result
N	Do not currently hold accreditation
^	MCERTS accreditation not applicable for sample matrix
*	ISO17025 accreditation not applicable for sample matrix
S	Subcontracted
I/S	Insufficient Sample
U/S	Unsuitable sample
N/T	Not tested
<	Means "less than"
>	Means "greater than"

LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.

This report shall not be reproduced except in full, without prior written approval.

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

The results relate only to the sample received.

Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.

Moisture Content Calculated on a Wet Weight basis (at 30°C)

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

Where sampling was undertaken by Chemtech Environmental Limited it is outside the UKAS accreditation scope.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

BTEX compounds are identified by retention time only and may include interference from co-eluting compounds.

For soils and solids, all results are reported on a dry basis (30°C). Samples dried at no more than 30°C in a drying cabinet.

For soils and solids, analytical results are inclusive of stones and 'inert' material, where applicable.

'Client Reference', 'Sample ID', 'Sample Location', 'Sample Type', 'Depth', 'Sample Date' and 'Sample Time' information is provided by the customer

Sample Retention and Disposal

All soil samples will be retained for a period of 4 weeks from the point of receipt

All water samples will be retained for a period of 2 weeks from the point of Reporting

Charges may apply to extended sample storage

TPH Classification - HWOL Acronym System

HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
2D	GC-GC - Double coil gas chromatography
#1	EH_Total but with humics mathematically subtracted
#2	EH_Total but with fatty acids mathematically subtracted
-	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry

Unless specifically identified (noted as "(B)" in analyte name) all internal analysis performed at Durham site

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