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THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 21-32955

Issue: 1

Date of Issue: 06/04/2021

Contact: Sam Parry

Customer Details: CC Geotechnical Ltd
Unit 1 & 2 Deltic Place
Deltic Way
Liverpool
Merseyside L33 7BA

Quotation No: Q17-00806

Order No: Not Supplied

Customer Reference: CCG-C-21-12093

Date Received: 31/03/2021

Date Approved: 06/04/2021

Details: Cottam Parkway Station

Approved by: 

Mike Varley, Technical Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)

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Sample Summary

Report No.: 21-32955, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
232154	WS01 1.50	25/03/2021	31/03/2021	Clayey loam	



Results Summary

2683

Report No.: 21-32955, issue number 1

ELAB Reference	232154
Customer Reference	
Sample ID	
Sample Type	SOIL
Sample Location	WS01
Sample Depth (m)	1.50
Sampling Date	25/03/2021

Determinand	Codes	Units	LOD	
Soil sample preparation parameters				
Material removed	N	%	0.1	< 0.1
Description of Inert material removed	N		0	None
Anions				
Water Soluble Sulphate	M	g/l	0.02	0.02
Inorganics				
Acid Soluble Sulphate (SO ₄)	U	%	0.02	< 0.02



Method Summary

Report No.: 21-32955, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Acid Soluble Sulphate	U	Air dried sample	06/04/2021	115	Ion Chromatography
Water soluble anions	M	Air dried sample	01/04/2021	172	Ion Chromatography

Report Information

Report No.: 21-32955, issue number 1

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
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S	Subcontracted to approved laboratory UKAS Accredited for the test
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NS	Subcontracted to approved laboratory. UKAS accreditation is not applicable.
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

LOD LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.
Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed.
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The results relate only to the sample received.
PCB congener results may include any coeluting PCBs
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Deviation Codes

-
- | | |
|---|--|
| a | No date of sampling supplied |
| b | No time of sampling supplied (Waters Only) |
| c | Sample not received in appropriate containers |
| d | Sample not received in cooled condition |
| e | The container has been incorrectly filled |
| f | Sample age exceeds stability time (sampling to receipt) |
| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month
All water samples will be retained for 7 days following the date of the test report
Charges may apply to extended sample storage



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THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 21-32950

Issue: 1

Date of Issue: 07/04/2021

Contact: Sam Parry

Customer Details: CC Geotechnical Ltd
Unit 1 & 2 Deltic Place
Deltic Way
Liverpool
Merseyside L33 7BA

Quotation No: Q17-00806

Order No: Not Supplied

Customer Reference: CCG-C-21-12093

Date Received: 31/03/2021

Date Approved: 07/04/2021

Details: Cottam Parkway Substation

Approved by:

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Sample Summary

Report No.: 21-32950, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
232149	WS02 0.65	26/03/2021	31/03/2021	Silty clayey loam	



Results Summary

2683

Report No.: 21-32950, issue number 1

ELAB Reference	232149
Customer Reference	
Sample ID	
Sample Type	SOIL
Sample Location	WS02
Sample Depth (m)	0.65
Sampling Date	26/03/2021

Determinand	Codes	Units	LOD	
Soil sample preparation parameters				
Material removed	N	%	0.1	< 0.1
Description of Inert material removed	N		0	None
Metals				
Arsenic	M	mg/kg	1	12.2
Cadmium	M	mg/kg	0.5	< 0.5
Chromium	M	mg/kg	5	43.9
Copper	M	mg/kg	5	18.4
Lead	M	mg/kg	5	14.5
Mercury	M	mg/kg	0.5	< 0.5
Nickel	M	mg/kg	5	42.9
Selenium	M	mg/kg	1	< 1.0
Zinc	M	mg/kg	5	51.3
Inorganics				
Total Sulphide	N	mg/kg	2	< 2
Acid Soluble Sulphate (SO ₄)	U	%	0.02	< 0.02
Water Soluble Boron	N	mg/kg	0.5	< 0.5
Miscellaneous				
Fraction of Organic Carbon	N		0.0001	0.0041
pH	M	pH units	0.1	7.1
Polyaromatic hydrocarbons				
Naphthalene	M	mg/kg	0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1
Benzo(b)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(a)pyrene	M	mg/kg	0.1	< 0.1
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4



Results Summary

2683

Report No.: 21-32950, issue number 1

ELAB Reference	232149
Customer Reference	
Sample ID	
Sample Type	SOIL
Sample Location	WS02
Sample Depth (m)	0.65
Sampling Date	26/03/2021

Determinand	Codes	Units	LOD	
TPH CWG				
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0
Total Petroleum Hydrocarbons				
PAH Fingerprint	N	n/a	0	n/a
TPH Fingerprint	N	n/a	0	n/a



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Results Summary

Report No.: 21-32950, issue number 1

Asbestos Results

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Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos Identification	Gravimetric Analysis Total (%)	Gravimetric Analysis by ACM Type (%)	Free Fibre Analysis (%)	Total Asbestos (%)
232149	0.65	WS02	Brown soil, stones	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 21-32950, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	01/04/2021	109	Colorimetry
pH	M	Air dried sample	06/04/2021	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	06/04/2021	115	Ion Chromatography
PAH (GC-FID)	M	As submitted sample	01/04/2021	133	GC-FID
Low range Aliphatic hydrocarbons soil	N	As submitted sample	01/04/2021	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	01/04/2021	181	GC-MS
Water soluble boron	N	Air dried sample	01/04/2021	202	Colorimetry
Total organic carbon/Total sulphur	N	Air dried sample	06/04/2021	210	IR
Aliphatic hydrocarbons in soil	N	As submitted sample	01/04/2021	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	06/04/2021	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	01/04/2021	214	GC-FID
Asbestos identification	U	Air dried sample	07/04/2021	280	Microscopy
Aqua regia extractable metals	M	Air dried sample	01/04/2021	300	ICPMS

Tests marked N are not UKAS accredited

Report Information

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Deviation Codes

-
- | | |
|---|--|
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| c | Sample not received in appropriate containers |
| d | Sample not received in cooled condition |
| e | The container has been incorrectly filled |
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| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month

All water samples will be retained for 7 days following the date of the test report

Charges may apply to extended sample storage



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Issue: 1

Date of Issue: 07/04/2021

Contact: Sam Parry

Customer Details: CC Geotechnical Ltd
Unit 1 & 2 Deltic Place
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Merseyside L33 7BA

Quotation No: Q17-00806

Order No: Not Supplied

Customer Reference: CCG-C-21-12093

Date Received: 31/03/2021

Date Approved: 07/04/2021

Details: Cottam Parkway Station

Approved by:

Mike Varley, Technical Manager

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Sample Summary

Report No.: 21-32951, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
232150	WS03 0.10	26/03/2021	31/03/2021	Silty loam	

Results Summary

2683

Report No.: 21-32951, issue number 1

ELAB Reference	232150
Customer Reference	
Sample ID	
Sample Type	SOIL
Sample Location	WS03
Sample Depth (m)	0.10
Sampling Date	26/03/2021

Determinand	Codes	Units	LOD	
Soil sample preparation parameters				
Material removed	N	%	0.1	< 0.1
Description of Inert material removed	N		0	None
Metals				
Arsenic	M	mg/kg	1	10.8
Cadmium	M	mg/kg	0.5	< 0.5
Chromium	M	mg/kg	5	35.8
Copper	M	mg/kg	5	24.4
Lead	M	mg/kg	5	38.6
Mercury	M	mg/kg	0.5	< 0.5
Nickel	M	mg/kg	5	25.0
Selenium	M	mg/kg	1	< 1.0
Zinc	M	mg/kg	5	69.0
Inorganics				
Total Sulphide	N	mg/kg	2	< 2
Acid Soluble Sulphate (SO4)	U	%	0.02	0.03
Water Soluble Boron	N	mg/kg	0.5	< 0.5
Miscellaneous				
Fraction of Organic Carbon	N		0.0001	0.0200
pH	M	pH units	0.1	6.4
Polyaromatic hydrocarbons				
Naphthalene	M	mg/kg	0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	0.7
Anthracene	M	mg/kg	0.1	0.2
Fluoranthene	M	mg/kg	0.1	1.1
Pyrene	M	mg/kg	0.1	1.0
Benzo(a)anthracene	M	mg/kg	0.1	0.6
Chrysene	M	mg/kg	0.1	0.6
Benzo(b)fluoranthene	M	mg/kg	0.1	0.5
Benzo(k)fluoranthene	M	mg/kg	0.1	0.7
Benzo(a)pyrene	M	mg/kg	0.1	0.5
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	0.4
Dibenzo(a,h)anthracene	M	mg/kg	0.1	0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	0.3
Total PAH(16)	M	mg/kg	0.4	6.9



Results Summary

2683

Report No.: 21-32951, issue number 1

ELAB Reference	232150
Customer Reference	
Sample ID	
Sample Type	SOIL
Sample Location	WS03
Sample Depth (m)	0.10
Sampling Date	26/03/2021

Determinand	Codes	Units	LOD	
TPH CWG				
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0
Total Petroleum Hydrocarbons				
PAH Fingerprint	N	n/a	0	probable pyrogenic source
TPH Fingerprint	N	n/a	0	n/a



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Results Summary

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Asbestos Results

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Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos Identification	Gravimetric Analysis Total (%)	Gravimetric Analysis by ACM Type (%)	Free Fibre Analysis (%)	Total Asbestos (%)
232150	0.10	WS03	Brown soil, stones, clinker	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 21-32951, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	01/04/2021	109	Colorimetry
pH	M	Air dried sample	06/04/2021	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	06/04/2021	115	Ion Chromatography
PAH (GC-FID)	M	As submitted sample	01/04/2021	133	GC-FID
Low range Aliphatic hydrocarbons soil	N	As submitted sample	01/04/2021	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	01/04/2021	181	GC-MS
Water soluble boron	N	Air dried sample	01/04/2021	202	Colorimetry
Total organic carbon/Total sulphur	N	Air dried sample	06/04/2021	210	IR
Aliphatic hydrocarbons in soil	N	As submitted sample	01/04/2021	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	06/04/2021	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	01/04/2021	214	GC-FID
Asbestos identification	U	Air dried sample	07/04/2021	280	Microscopy
Aqua regia extractable metals	M	Air dried sample	01/04/2021	300	ICPMS

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- | | |
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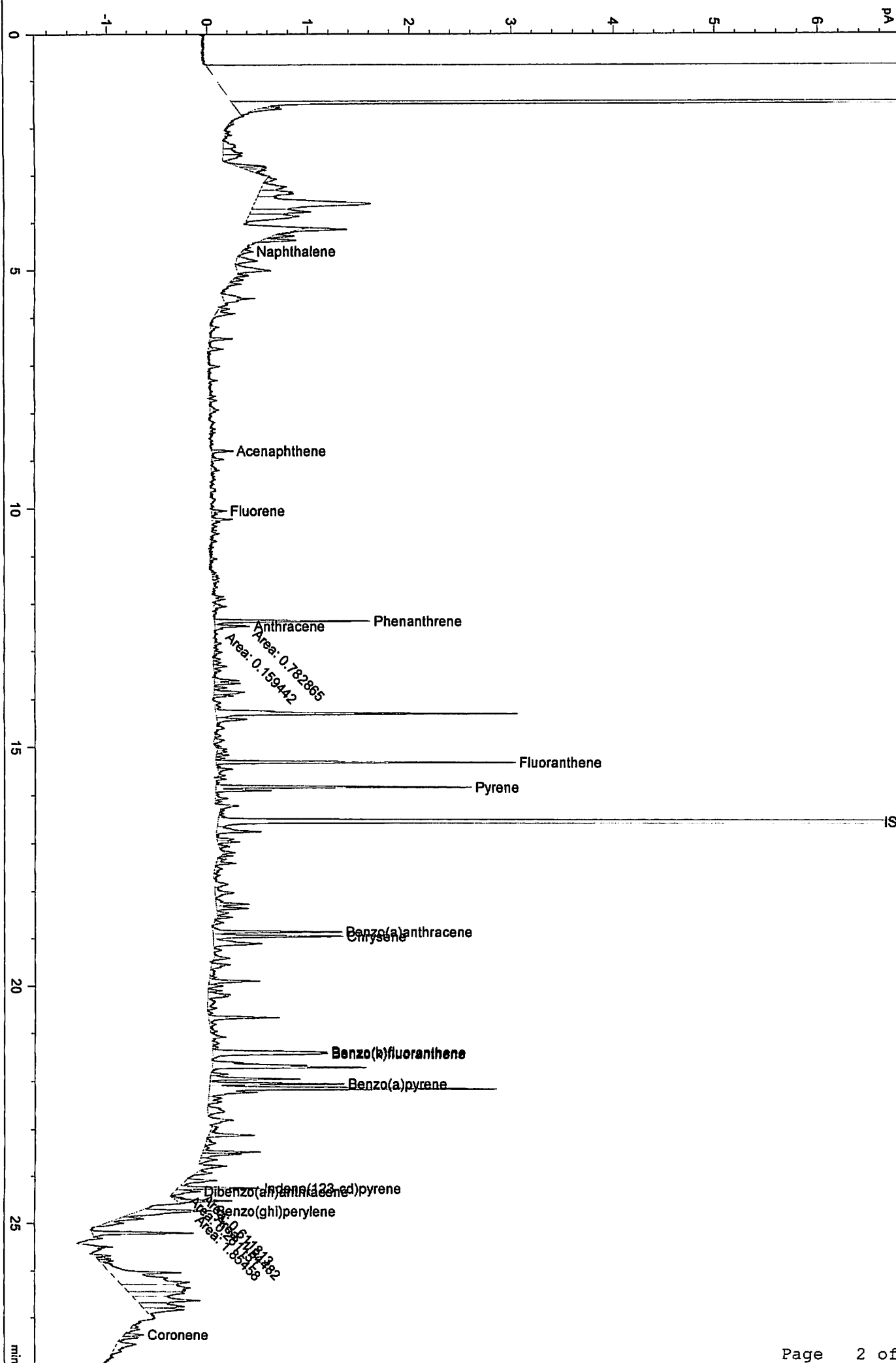
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Sample Summary

Report No.: 21-32957, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
232156	WS04 1.00	25/03/2021	31/03/2021	Silty clayey loam	



Results Summary

2683

Report No.: 21-32957, issue number 1

ELAB Reference	232156
Customer Reference	
Sample ID	
Sample Type	SOIL
Sample Location	WS04
Sample Depth (m)	1.00
Sampling Date	25/03/2021

Determinand	Codes	Units	LOD	
Soil sample preparation parameters				
Material removed	N	%	0.1	< 0.1
Description of Inert material removed	N		0	None
Anions				
Water Soluble Sulphate	M	g/l	0.02	< 0.02
Inorganics				
Acid Soluble Sulphate (SO ₄)	U	%	0.02	< 0.02



Method Summary

Report No.: 21-32957, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Acid Soluble Sulphate	U	Air dried sample	06/04/2021	115	Ion Chromatography
Water soluble anions	M	Air dried sample	01/04/2021	172	Ion Chromatography

Report Information

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THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 21-33092

Issue: 1

Date of Issue: 15/04/2021

Contact: Sam Parry

Customer Details: CC Geotechnical Ltd
Unit 1 & 2 Deltic Place
Deltic Way
Liverpool
Merseyside L33 7BA

Quotation No: Q17-00806

Order No: Not Supplied

Customer Reference: CCG-C-21-12093

Date Received: 08/04/2021

Date Approved: 15/04/2021

Details: Cottam Parkway Station

Approved by:

Mike Varley, Technical Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)

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Sample Summary

Report No.: 21-33092, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
232869	WS04 0.70	26/03/2021	08/04/2021	Silty clayey loam	



Results Summary

2683

Report No.: 21-33092, issue number 1

ELAB Reference	232869
Customer Reference	
Sample ID	
Sample Type	SOIL
Sample Location	WS04
Sample Depth (m)	0.70
Sampling Date	26/03/2021

Determinand	Codes	Units	LOD	
Soil sample preparation parameters				
Material removed	N	%	0.1	< 0.1
Description of Inert material removed	N		0	None
Anions				
Water Soluble Sulphate	M	g/l	0.02	< 0.02
Inorganics				
Acid Soluble Sulphate (SO ₄)	U	%	0.02	< 0.02



Method Summary

Report No.: 21-33092, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Acid Soluble Sulphate	U	Air dried sample	15/04/2021	115	Ion Chromatography
Water soluble anions	M	Air dried sample	13/04/2021	172	Ion Chromatography

Report Information

Report No.: 21-33092, issue number 1

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
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S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
NS	Subcontracted to approved laboratory. UKAS accreditation is not applicable.
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"
LOD	<p>LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.</p> <p>Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed.</p> <p>ELAB are unable to provide an interpretation or opinion on the content of this report.</p> <p>The results relate only to the sample received.</p> <p>PCB congener results may include any coeluting PCBs</p> <p>Uncertainty of measurement for the determinands tested are available upon request</p> <p>Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.</p>

Deviation Codes

-
- | | |
|---|--|
| a | No date of sampling supplied |
| b | No time of sampling supplied (Waters Only) |
| c | Sample not received in appropriate containers |
| d | Sample not received in cooled condition |
| e | The container has been incorrectly filled |
| f | Sample age exceeds stability time (sampling to receipt) |
| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month

All water samples will be retained for 7 days following the date of the test report

Charges may apply to extended sample storage



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THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 21-32952

Issue: 1

Date of Issue: 06/04/2021

Contact: Sam Parry

Customer Details: CC Geotechnical Ltd
Unit 1 & 2 Deltic Place
Deltic Way
Liverpool
Merseyside L33 7BA

Quotation No: Q17-00806

Order No: Not Supplied

Customer Reference: CCG-C-21-12093

Date Received: 26/03/2021

Date Approved: 06/04/2021

Details: Cottam Parkway Station

Approved by:

Mike Varley, Technical Manager

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Sample Summary

Report No.: 21-32952, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
232151	WS04 0.70	26/03/2021	26/03/2021	Clayey loam	



Results Summary

2683

Report No.: 21-32952, issue number 1

ELAB Reference	232151
Customer Reference	
Sample ID	
Sample Type	SOIL
Sample Location	WS04
Sample Depth (m)	0.70
Sampling Date	26/03/2021

Determinand	Codes	Units	LOD	
Soil sample preparation parameters				
Material removed	N	%	0.1	< 0.1
Description of Inert material removed	N		0	None
Metals				
Arsenic	M	mg/kg	1	16.3
Cadmium	M	mg/kg	0.5	< 0.5
Chromium	M	mg/kg	5	19.1
Copper	M	mg/kg	5	9.5
Lead	M	mg/kg	5	12.3
Mercury	M	mg/kg	0.5	< 0.5
Nickel	M	mg/kg	5	20.6
Selenium	M	mg/kg	1	1.9
Zinc	M	mg/kg	5	51.3
Inorganics				
Total Sulphide	N	mg/kg	2	< 2
Acid Soluble Sulphate (SO ₄)	U	%	0.02	< 0.02
Water Soluble Boron	N	mg/kg	0.5	< 0.5
Miscellaneous				
Fraction of Organic Carbon	N		0.0001	0.0066
pH	M	pH units	0.1	8.3
Polyaromatic hydrocarbons				
Naphthalene	M	mg/kg	0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1
Benzo(b)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(a)pyrene	M	mg/kg	0.1	< 0.1
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4



Results Summary

2683

Report No.: 21-32952, issue number 1

ELAB Reference	232151
Customer Reference	
Sample ID	
Sample Type	SOIL
Sample Location	WS04
Sample Depth (m)	0.70
Sampling Date	26/03/2021

Determinand	Codes	Units	LOD	
TPH CWG				
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0
Total Petroleum Hydrocarbons				
PAH Fingerprint	N	n/a	0	n/a
TPH Fingerprint	N	n/a	0	n/a



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Results Summary

Report No.: 21-32952, issue number 1

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #) in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos	Gravimetric Analysis Total	Gravimetric Analysis by ACM Type	Free Fibre Analysis	Total Asbestos
232151	0.70	WS04	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 21-32952, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	01/04/2021	109	Colorimetry
pH	M	Air dried sample	06/04/2021	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	06/04/2021	115	Ion Chromatography
PAH (GC-FID)	M	As submitted sample	01/04/2021	133	GC-FID
Low range Aliphatic hydrocarbons soil	N	As submitted sample	01/04/2021	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	01/04/2021	181	GC-MS
Water soluble boron	N	Air dried sample	01/04/2021	202	Colorimetry
Total organic carbon/Total sulphur	N	Air dried sample	06/04/2021	210	IR
Aliphatic hydrocarbons in soil	N	As submitted sample	01/04/2021	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	06/04/2021	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	01/04/2021	214	GC-FID
Asbestos identification	U	Air dried sample	01/04/2021	280	Microscopy
Aqua regia extractable metals	M	Air dried sample	01/04/2021	300	ICPMS

Tests marked N are not UKAS accredited

Report Information

Report No.: 21-32952, issue number 1

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I/S	Insufficient Sample
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n/t	Not tested
<	means "less than"
>	means "greater than"

LOD LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.
Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed.
ELAB are unable to provide an interpretation or opinion on the content of this report.
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Uncertainty of measurement for the determinands tested are available upon request
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Deviation Codes

-
- | | |
|---|--|
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| b | No time of sampling supplied (Waters Only) |
| c | Sample not received in appropriate containers |
| d | Sample not received in cooled condition |
| e | The container has been incorrectly filled |
| f | Sample age exceeds stability time (sampling to receipt) |
| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month
All water samples will be retained for 7 days following the date of the test report
Charges may apply to extended sample storage



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THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 21-32953

Issue: 1

Date of Issue: 08/04/2021

Contact: Sam Parry

Customer Details: CC Geotechnical Ltd
Unit 1 & 2 Deltic Place
Deltic Way
Liverpool
Merseyside L33 7BA

Quotation No: Q17-00806

Order No: Not Supplied

Customer Reference: CCG-C-21-12093

Date Received: 31/03/2021

Date Approved: 08/04/2021

Details: Cottam Parkway Station

Approved by: 

Mike Varley, Technical Manager

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Sample Summary

Report No.: 21-32953, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
232152	WS05 0.20	26/03/2021	31/03/2021	Silty loam	



Results Summary

2683

Report No.: 21-32953, issue number 1

ELAB Reference	232152
Customer Reference	
Sample ID	
Sample Type	SOIL
Sample Location	WS05
Sample Depth (m)	0.20
Sampling Date	26/03/2021

Determinand	Codes	Units	LOD	
Soil sample preparation parameters				
Material removed	N	%	0.1	< 0.1
Description of Inert material removed	N		0	None
Metals				
Arsenic	M	mg/kg	1	10.1
Cadmium	M	mg/kg	0.5	< 0.5
Chromium	M	mg/kg	5	27.8
Copper	M	mg/kg	5	53.2
Lead	M	mg/kg	5	57.4
Mercury	M	mg/kg	0.5	< 0.5
Nickel	M	mg/kg	5	21.4
Selenium	M	mg/kg	1	< 1.0
Zinc	M	mg/kg	5	108
Inorganics				
Total Sulphide	N	mg/kg	2	< 2
Acid Soluble Sulphate (SO4)	U	%	0.02	0.03
Water Soluble Boron	N	mg/kg	0.5	0.7
Miscellaneous				
Fraction of Organic Carbon	N		0.0001	0.0412
pH	M	pH units	0.1	5.8
Polyaromatic hydrocarbons				
Naphthalene	M	mg/kg	0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	0.1
Pyrene	M	mg/kg	0.1	0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1
Benzo(b)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(a)pyrene	M	mg/kg	0.1	< 0.1
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4



Results Summary

2683

Report No.: 21-32953, issue number 1

ELAB Reference	232152
Customer Reference	
Sample ID	
Sample Type	SOIL
Sample Location	WS05
Sample Depth (m)	0.20
Sampling Date	26/03/2021

Determinand	Codes	Units	LOD	
TPH CWG				
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0
Total Petroleum Hydrocarbons				
PAH Fingerprint	N	n/a	0	n/a
TPH Fingerprint	N	n/a	0	n/a



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Results Summary

Report No.: 21-32953, issue number 1

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #) in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos	Gravimetric Analysis Total	Gravimetric Analysis by ACM Type	Free Fibre Analysis	Total Asbestos
232152	0.20	WS05	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 21-32953, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	01/04/2021	109	Colorimetry
pH	M	Air dried sample	06/04/2021	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	06/04/2021	115	Ion Chromatography
PAH (GC-FID)	M	As submitted sample	01/04/2021	133	GC-FID
Low range Aliphatic hydrocarbons soil	N	As submitted sample	01/04/2021	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	01/04/2021	181	GC-MS
Water soluble boron	N	Air dried sample	01/04/2021	202	Colorimetry
Total organic carbon/Total sulphur	N	Air dried sample	06/04/2021	210	IR
Aliphatic hydrocarbons in soil	N	As submitted sample	01/04/2021	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	06/04/2021	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	01/04/2021	214	GC-FID
Asbestos identification	U	Air dried sample	07/04/2021	280	Microscopy
Aqua regia extractable metals	M	Air dried sample	01/04/2021	300	ICPMS

Tests marked N are not UKAS accredited

Report Information

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LOD	<p>LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.</p> <p>Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed.</p> <p>ELAB are unable to provide an interpretation or opinion on the content of this report.</p> <p>The results relate only to the sample received.</p> <p>PCB congener results may include any coeluting PCBs</p> <p>Uncertainty of measurement for the determinands tested are available upon request</p> <p>Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.</p>

Deviation Codes

-
- | | |
|---|--|
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Sample Retention and Disposal

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THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 21-32958

Issue: 1

Date of Issue: 06/04/2021

Contact: Sam Parry

Customer Details: CC Geotechnical Ltd
Unit 1 & 2 Deltic Place
Deltic Way
Liverpool
Merseyside L33 7BA

Quotation No: Q17-00806

Order No: Not Supplied

Customer Reference: CCG-C-21-12093

Date Received: 31/03/2021

Date Approved: 06/04/2021

Details: Cottam Parkway Station

Approved by: 

Mike Varley, Technical Manager

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Sample Summary

Report No.: 21-32958, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
232157	WS06 1.00	25/03/2021	31/03/2021	Clayey loam	



Results Summary

2683

Report No.: 21-32958, issue number 1

ELAB Reference	232157
Customer Reference	
Sample ID	
Sample Type	SOIL
Sample Location	WS06
Sample Depth (m)	1.00
Sampling Date	25/03/2021

Determinand	Codes	Units	LOD	
Soil sample preparation parameters				
Material removed	N	%	0.1	< 0.1
Description of Inert material removed	N		0	None
Anions				
Water Soluble Sulphate	M	g/l	0.02	0.04
Inorganics				
Acid Soluble Sulphate (SO ₄)	U	%	0.02	0.02



Method Summary

Report No.: 21-32958, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Acid Soluble Sulphate	U	Air dried sample	06/04/2021	115	Ion Chromatography
Water soluble anions	M	Air dried sample	01/04/2021	172	Ion Chromatography

Report Information

Report No.: 21-32958, issue number 1

Key

U	hold UKAS accreditation
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Deviation Codes

-
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|---|--|
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THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 21-32954

Issue: 1

Date of Issue: 07/04/2021

Contact: Sam Parry

Customer Details: CC Geotechnical Ltd
Unit 1 & 2 Deltic Place
Deltic Way
Liverpool
Merseyside L33 7BA

Quotation No: Q17-00806

Order No: Not Supplied

Customer Reference: CCG-C-21-12093

Date Received: 31/03/2021

Date Approved: 07/04/2021

Details: Cottam Parkway Station

Approved by:

Mike Varley, Technical Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)

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Sample Summary

Report No.: 21-32954, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
232153	WS06 1.00	31/03/2021	31/03/2021	Clayey loam	

Results Summary

2683

Report No.: 21-32954, issue number 1

ELAB Reference	232153
Customer Reference	
Sample ID	
Sample Type	SOIL
Sample Location	WS06
Sample Depth (m)	1.00
Sampling Date	31/03/2021

Determinand	Codes	Units	LOD	
Soil sample preparation parameters				
Material removed	N	%	0.1	< 0.1
Description of Inert material removed	N		0	None
Metals				
Arsenic	M	mg/kg	1	13.8
Cadmium	M	mg/kg	0.5	< 0.5
Chromium	M	mg/kg	5	30.6
Copper	M	mg/kg	5	19.5
Lead	M	mg/kg	5	13.7
Mercury	M	mg/kg	0.5	< 0.5
Nickel	M	mg/kg	5	34.6
Selenium	M	mg/kg	1	< 1.0
Zinc	M	mg/kg	5	54.6
Inorganics				
Total Sulphide	N	mg/kg	2	< 2
Acid Soluble Sulphate (SO4)	U	%	0.02	< 0.02
Water Soluble Boron	N	mg/kg	0.5	< 0.5
Miscellaneous				
Fraction of Organic Carbon	N		0.0001	0.0032
pH	M	pH units	0.1	8.0
Polyaromatic hydrocarbons				
Naphthalene	M	mg/kg	0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1
Benzo(b)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(a)pyrene	M	mg/kg	0.1	< 0.1
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4



Results Summary

2683

Report No.: 21-32954, issue number 1

ELAB Reference	232153
Customer Reference	
Sample ID	
Sample Type	SOIL
Sample Location	WS06
Sample Depth (m)	1.00
Sampling Date	31/03/2021

Determinand	Codes	Units	LOD	
TPH CWG				
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	4.6
Total Petroleum Hydrocarbons				
PAH Fingerprint	N	n/a	0	n/a
TPH Fingerprint	N	n/a	0	n/a



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Results Summary

Report No.: 21-32954, issue number 1

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #) in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos Identification	Gravimetric Analysis Total (%)	Gravimetric Analysis by ACM Type (%)	Free Fibre Analysis (%)	Total Asbestos (%)
232153	1.00	WS06	Brown soil, stones	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 21-32954, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	01/04/2021	109	Colorimetry
pH	M	Air dried sample	06/04/2021	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	06/04/2021	115	Ion Chromatography
PAH (GC-FID)	M	As submitted sample	01/04/2021	133	GC-FID
Low range Aliphatic hydrocarbons soil	N	As submitted sample	01/04/2021	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	01/04/2021	181	GC-MS
Water soluble boron	N	Air dried sample	01/04/2021	202	Colorimetry
Total organic carbon/Total sulphur	N	Air dried sample	06/04/2021	210	IR
Aliphatic hydrocarbons in soil	N	As submitted sample	01/04/2021	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	06/04/2021	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	01/04/2021	214	GC-FID
Asbestos identification	U	Air dried sample	07/04/2021	280	Microscopy
Aqua regia extractable metals	M	Air dried sample	01/04/2021	300	ICPMS

Tests marked N are not UKAS accredited

Report Information

Report No.: 21-32954, issue number 1

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
NS	Subcontracted to approved laboratory. UKAS accreditation is not applicable.
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"
LOD	<p>LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.</p> <p>Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed.</p> <p>ELAB are unable to provide an interpretation or opinion on the content of this report.</p> <p>The results relate only to the sample received.</p> <p>PCB congener results may include any coeluting PCBs</p> <p>Uncertainty of measurement for the determinands tested are available upon request</p> <p>Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.</p>

Deviation Codes

-
- | | |
|---|--|
| a | No date of sampling supplied |
| b | No time of sampling supplied (Waters Only) |
| c | Sample not received in appropriate containers |
| d | Sample not received in cooled condition |
| e | The container has been incorrectly filled |
| f | Sample age exceeds stability time (sampling to receipt) |
| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month

All water samples will be retained for 7 days following the date of the test report

Charges may apply to extended sample storage



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THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 21-32899

Issue: 1

Date of Issue: 07/04/2021

Contact: Sam Parry

Customer Details: CC Geotechnical Ltd
Unit 1 & 2 Deltic Place
Deltic Way
Liverpool
Merseyside L33 7BA

Quotation No: Q17-00806

Order No: Not Supplied

Customer Reference: CCG-C-21-12093

Date Received: 29/03/2021

Date Approved: 07/04/2021

Details: Cottam Parkway Station

Approved by: 

Mike Varley, Technical Manager

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Sample Summary

Report No.: 21-32899, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
231911	WS07 Natural 0.20	24/03/2021	29/03/2021	Silty loam	

Results Summary

2683

Report No.: 21-32899, issue number 1

ELAB Reference	231911
Customer Reference	Natural
Sample ID	
Sample Type	SOIL
Sample Location	WS07
Sample Depth (m)	0.20
Sampling Date	24/03/2021

Determinand	Codes	Units	LOD	
Soil sample preparation parameters				
Material removed	N	%	0.1	< 0.1
Description of Inert material removed	N		0	None
Metals				
Arsenic	M	mg/kg	1	8.4
Cadmium	M	mg/kg	0.5	< 0.5
Chromium	M	mg/kg	5	29.8
Copper	M	mg/kg	5	16.8
Lead	M	mg/kg	5	31.3
Mercury	M	mg/kg	0.5	< 0.5
Nickel	M	mg/kg	5	26.3
Selenium	M	mg/kg	1	< 1.0
Zinc	M	mg/kg	5	47.9
Inorganics				
Total Sulphide	N	mg/kg	2	< 2
Acid Soluble Sulphate (SO4)	U	%	0.02	0.02
Water Soluble Boron	N	mg/kg	0.5	< 0.5
Miscellaneous				
Fraction of Organic Carbon	N		0.0001	0.0114
pH	M	pH units	0.1	6.6
Polyaromatic hydrocarbons				
Naphthalene	M	mg/kg	0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1
Benzo(b)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(a)pyrene	M	mg/kg	0.1	< 0.1
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4



Results Summary

2683

Report No.: 21-32899, issue number 1

ELAB Reference	231911
Customer Reference	Natural
Sample ID	
Sample Type	SOIL
Sample Location	WS07
Sample Depth (m)	0.20
Sampling Date	24/03/2021

Determinand	Codes	Units	LOD	
TPH CWG				
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0
Total Petroleum Hydrocarbons				
PAH Fingerprint	N	n/a	0	n/a
TPH Fingerprint	N	n/a	0	n/a



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Results Summary

Report No.: 21-32899, issue number 1

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #) in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos Identification	Gravimetric Analysis Total (%)	Gravimetric Analysis by ACM Type (%)	Free Fibre Analysis (%)	Total Asbestos (%)
231911	0.20	WS07 Natural	Brown soil, stones	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 21-32899, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	30/03/2021	109	Colorimetry
pH	M	Air dried sample	01/04/2021	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	31/03/2021	115	Ion Chromatography
PAH (GC-FID)	M	As submitted sample	30/03/2021	133	GC-FID
Low range Aliphatic hydrocarbons soil	N	As submitted sample	31/03/2021	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	31/03/2021	181	GC-MS
Water soluble boron	N	Air dried sample	30/03/2021	202	Colorimetry
Total organic carbon/Total sulphur	N	Air dried sample	31/03/2021	210	IR
Aliphatic hydrocarbons in soil	N	As submitted sample	30/03/2021	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	31/03/2021	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	30/03/2021	214	GC-FID
Asbestos identification	U	Air dried sample	01/04/2021	280	Microscopy
Aqua regia extractable metals	M	Air dried sample	30/03/2021	300	ICPMS

Tests marked N are not UKAS accredited

Report Information

Report No.: 21-32899, issue number 1

Key

U	hold UKAS accreditation
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SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
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I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

LOD

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

Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed.

ELAB are unable to provide an interpretation or opinion on the content of this report.

The results relate only to the sample received.

PCB congener results may include any coeluting PCBs

Uncertainty of measurement for the determinands tested are available upon request

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

Deviation Codes

-
- | | |
|---|--|
| a | No date of sampling supplied |
| b | No time of sampling supplied (Waters Only) |
| c | Sample not received in appropriate containers |
| d | Sample not received in cooled condition |
| e | The container has been incorrectly filled |
| f | Sample age exceeds stability time (sampling to receipt) |
| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month

All water samples will be retained for 7 days following the date of the test report

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THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 21-32900

Issue: 1

Date of Issue: 06/04/2021

Contact: Sam Parry

Customer Details: CC Geotechnical Ltd
Unit 1 & 2 Deltic Place
Deltic Way
Liverpool
Merseyside L33 7BA

Quotation No: Q17-00806

Order No: Not Supplied

Customer Reference: CCG-C-21-12093

Date Received: 29/03/2021

Date Approved: 06/04/2021

Details: Cottam Parkway Station

Approved by:

Mike Varley, Technical Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)

This report may only be reproduced in full



Sample Summary

Report No.: 21-32900, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
231912	WS08 Natural 0.10	24/03/2021	29/03/2021	Silty loam	

Results Summary

2683

Report No.: 21-32900, issue number 1

ELAB Reference	231912
Customer Reference	Natural
Sample ID	
Sample Type	SOIL
Sample Location	WS08
Sample Depth (m)	0.10
Sampling Date	24/03/2021

Determinand	Codes	Units	LOD	
Soil sample preparation parameters				
Material removed	N	%	0.1	< 0.1
Description of Inert material removed	N		0	None
Metals				
Arsenic	M	mg/kg	1	11.2
Cadmium	M	mg/kg	0.5	< 0.5
Chromium	M	mg/kg	5	28.2
Copper	M	mg/kg	5	37.0
Lead	M	mg/kg	5	33.9
Mercury	M	mg/kg	0.5	< 0.5
Nickel	M	mg/kg	5	24.7
Selenium	M	mg/kg	1	< 1.0
Zinc	M	mg/kg	5	58.5
Inorganics				
Total Sulphide	N	mg/kg	2	< 2
Acid Soluble Sulphate (SO4)	U	%	0.02	0.02
Water Soluble Boron	N	mg/kg	0.5	< 0.5
Miscellaneous				
Fraction of Organic Carbon	N		0.0001	0.0137
pH	M	pH units	0.1	6.5
Polyaromatic hydrocarbons				
Naphthalene	M	mg/kg	0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	0.1
Pyrene	M	mg/kg	0.1	0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1
Benzo(b)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(a)pyrene	M	mg/kg	0.1	< 0.1
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	0.5



Results Summary

2683

Report No.: 21-32900, issue number 1

ELAB Reference	231912
Customer Reference	Natural
Sample ID	
Sample Type	SOIL
Sample Location	WS08
Sample Depth (m)	0.10
Sampling Date	24/03/2021

Determinand	Codes	Units	LOD	
TPH CWG				
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0
Total Petroleum Hydrocarbons				
PAH Fingerprint	N	n/a	0	n/a
TPH Fingerprint	N	n/a	0	n/a



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Results Summary

Report No.: 21-32900, issue number 1

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #) in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos	Gravimetric Analysis Total	Gravimetric Analysis by ACM Type	Free Fibre Analysis	Total Asbestos
231912	0.10	WS08 Natural	Brown soil, stones	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 21-32900, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	30/03/2021	109	Colorimetry
pH	M	Air dried sample	01/04/2021	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	31/03/2021	115	Ion Chromatography
PAH (GC-FID)	M	As submitted sample	30/03/2021	133	GC-FID
Low range Aliphatic hydrocarbons soil	N	As submitted sample	31/03/2021	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	31/03/2021	181	GC-MS
Water soluble boron	N	Air dried sample	30/03/2021	202	Colorimetry
Total organic carbon/Total sulphur	N	Air dried sample	31/03/2021	210	IR
Aliphatic hydrocarbons in soil	N	As submitted sample	30/03/2021	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	31/03/2021	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	30/03/2021	214	GC-FID
Asbestos identification	U	Air dried sample	01/04/2021	280	Microscopy
Aqua regia extractable metals	M	Air dried sample	30/03/2021	300	ICPMS

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Report Information

Report No.: 21-32900, issue number 1

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SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
NS	Subcontracted to approved laboratory. UKAS accreditation is not applicable.
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"
LOD	<p>LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.</p> <p>Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed.</p> <p>ELAB are unable to provide an interpretation or opinion on the content of this report.</p> <p>The results relate only to the sample received.</p> <p>PCB congener results may include any coeluting PCBs</p> <p>Uncertainty of measurement for the determinands tested are available upon request</p> <p>Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.</p>

Deviation Codes

-
- | | |
|---|--|
| a | No date of sampling supplied |
| b | No time of sampling supplied (Waters Only) |
| c | Sample not received in appropriate containers |
| d | Sample not received in cooled condition |
| e | The container has been incorrectly filled |
| f | Sample age exceeds stability time (sampling to receipt) |
| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month

All water samples will be retained for 7 days following the date of the test report

Charges may apply to extended sample storage



Unit A2
Windmill Road
Ponswood Industrial Estate
St Leonards on Sea
East Sussex
TN38 9BY
Telephone: (01424) 718618

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info@elab-uk.co.uk

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 21-32904

Issue: 1

Date of Issue: 06/04/2021

Contact: Sam Parry

Customer Details: CC Geotechnical Ltd
Unit 1 & 2 Deltic Place
Deltic Way
Liverpool
Merseyside L33 7BA

Quotation No: Q17-00806

Order No: Not Supplied

Customer Reference: CCG-C-21-12093

Date Received: 29/03/2021

Date Approved: 06/04/2021

Details: Cottam Parkway Station

Approved by:

Mike Varley, Technical Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)

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Sample Summary

Report No.: 21-32904, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
231959	WS12 Natural 0.20	23/03/2021	29/03/2021	Silty loam	



Results Summary

2683

Report No.: 21-32904, issue number 1

ELAB Reference	231959
Customer Reference	Natural
Sample ID	
Sample Type	SOIL
Sample Location	WS12
Sample Depth (m)	0.20
Sampling Date	23/03/2021

Determinand	Codes	Units	LOD	
Soil sample preparation parameters				
Material removed	N	%	0.1	< 0.1
Description of Inert material removed	N		0	None
Metals				
Arsenic	M	mg/kg	1	13.0
Cadmium	M	mg/kg	0.5	< 0.5
Chromium	M	mg/kg	5	31.8
Copper	M	mg/kg	5	35.8
Lead	M	mg/kg	5	54.4
Mercury	M	mg/kg	0.5	< 0.5
Nickel	M	mg/kg	5	26.9
Selenium	M	mg/kg	1	< 1.0
Zinc	M	mg/kg	5	57.0
Inorganics				
Total Sulphide	N	mg/kg	2	< 2
Acid Soluble Sulphate (SO ₄)	U	%	0.02	0.02
Water Soluble Boron	N	mg/kg	0.5	0.6
Miscellaneous				
Fraction of Organic Carbon	N		0.0001	0.0149
pH	M	pH units	0.1	6.8
Polyaromatic hydrocarbons				
Naphthalene	M	mg/kg	0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	0.1
Anthracene	M	mg/kg	0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	0.2
Pyrene	M	mg/kg	0.1	0.2
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1
Chrysene	M	mg/kg	0.1	0.1
Benzo(b)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(a)pyrene	M	mg/kg	0.1	< 0.1
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	0.7



Results Summary

2683

Report No.: 21-32904, issue number 1

ELAB Reference	231959
Customer Reference	Natural
Sample ID	
Sample Type	SOIL
Sample Location	WS12
Sample Depth (m)	0.20
Sampling Date	23/03/2021

Determinand	Codes	Units	LOD	
TPH CWG				
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0
Total Petroleum Hydrocarbons				
PAH Fingerprint	N	n/a	0	n/a
TPH Fingerprint	N	n/a	0	n/a



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Results Summary

Report No.: 21-32904, issue number 1

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #) in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos	Gravimetric Analysis Total	Gravimetric Analysis by ACM Type	Free Fibre Analysis	Total Asbestos
231959	0.20	WS12 Natural	Brown soil, stones	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 21-32904, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	30/03/2021	109	Colorimetry
pH	M	Air dried sample	01/04/2021	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	31/03/2021	115	Ion Chromatography
PAH (GC-FID)	M	As submitted sample	30/03/2021	133	GC-FID
Low range Aliphatic hydrocarbons soil	N	As submitted sample	31/03/2021	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	31/03/2021	181	GC-MS
Water soluble boron	N	Air dried sample	30/03/2021	202	Colorimetry
Total organic carbon/Total sulphur	N	Air dried sample	31/03/2021	210	IR
Aliphatic hydrocarbons in soil	N	As submitted sample	30/03/2021	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	31/03/2021	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	30/03/2021	214	GC-FID
Asbestos identification	U	Air dried sample	01/04/2021	280	Microscopy
Aqua regia extractable metals	M	Air dried sample	30/03/2021	300	ICPMS

Tests marked N are not UKAS accredited

Report Information

Report No.: 21-32904, issue number 1

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
NS	Subcontracted to approved laboratory. UKAS accreditation is not applicable.
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"
LOD	<p>LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.</p> <p>Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed.</p> <p>ELAB are unable to provide an interpretation or opinion on the content of this report.</p> <p>The results relate only to the sample received.</p> <p>PCB congener results may include any coeluting PCBs</p> <p>Uncertainty of measurement for the determinands tested are available upon request</p> <p>Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.</p>

Deviation Codes

-
- | | |
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| e | The container has been incorrectly filled |
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Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month

All water samples will be retained for 7 days following the date of the test report

Charges may apply to extended sample storage



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THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 21-32905

Issue: 1

Date of Issue: 06/04/2021

Contact: Sam Parry

Customer Details: CC Geotechnical Ltd
Unit 1 & 2 Deltic Place
Deltic Way
Liverpool
Merseyside L33 7BA

Quotation No: Q17-00806

Order No: Not Supplied

Customer Reference: CCG-C-21-12093

Date Received: 29/03/2021

Date Approved: 06/04/2021

Details: Cottam Parkway Station

Approved by: 

Mike Varley, Technical Manager

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Sample Summary

Report No.: 21-32905, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
231960	WS13 Natural 0.10	23/03/2021	29/03/2021	Silty loam	



Results Summary

2683

Report No.: 21-32905, issue number 1

ELAB Reference	231960
Customer Reference	Natural
Sample ID	
Sample Type	SOIL
Sample Location	WS13
Sample Depth (m)	0.10
Sampling Date	23/03/2021

Determinand	Codes	Units	LOD	
Soil sample preparation parameters				
Material removed	N	%	0.1	< 0.1
Description of Inert material removed	N		0	None
Metals				
Arsenic	M	mg/kg	1	13.8
Cadmium	M	mg/kg	0.5	< 0.5
Chromium	M	mg/kg	5	25.0
Copper	M	mg/kg	5	49.6
Lead	M	mg/kg	5	68.0
Mercury	M	mg/kg	0.5	< 0.5
Nickel	M	mg/kg	5	22.0
Selenium	M	mg/kg	1	< 1.0
Zinc	M	mg/kg	5	90.0
Inorganics				
Total Sulphide	N	mg/kg	2	< 2
Acid Soluble Sulphate (SO ₄)	U	%	0.02	0.05
Water Soluble Boron	N	mg/kg	0.5	0.9
Miscellaneous				
Fraction of Organic Carbon	N		0.0001	0.0585
pH	M	pH units	0.1	5.9
Polyaromatic hydrocarbons				
Naphthalene	M	mg/kg	0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1
Benzo(b)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(a)pyrene	M	mg/kg	0.1	< 0.1
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4



Results Summary

2683

Report No.: 21-32905, issue number 1

ELAB Reference	231960
Customer Reference	Natural
Sample ID	
Sample Type	SOIL
Sample Location	WS13
Sample Depth (m)	0.10
Sampling Date	23/03/2021

Determinand	Codes	Units	LOD	
TPH CWG				
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0
Total Petroleum Hydrocarbons				
PAH Fingerprint	N	n/a	0	n/a
TPH Fingerprint	N	n/a	0	n/a



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Results Summary

Report No.: 21-32905, issue number 1

Asbestos Results

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Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos	Gravimetric Analysis Total	Gravimetric Analysis by ACM Type	Free Fibre Analysis	Total Asbestos
231960	0.10	WS13 Natural	Brown Soil,Root	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 21-32905, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	30/03/2021	109	Colorimetry
pH	M	Air dried sample	01/04/2021	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	31/03/2021	115	Ion Chromatography
PAH (GC-FID)	M	As submitted sample	30/03/2021	133	GC-FID
Low range Aliphatic hydrocarbons soil	N	As submitted sample	31/03/2021	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	31/03/2021	181	GC-MS
Water soluble boron	N	Air dried sample	30/03/2021	202	Colorimetry
Total organic carbon/Total sulphur	N	Air dried sample	31/03/2021	210	IR
Aliphatic hydrocarbons in soil	N	As submitted sample	30/03/2021	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	31/03/2021	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	30/03/2021	214	GC-FID
Asbestos identification	U	Air dried sample	06/04/2021	280	Microscopy
Aqua regia extractable metals	M	Air dried sample	30/03/2021	300	ICPMS

Tests marked N are not UKAS accredited

Report Information

Report No.: 21-32905, issue number 1

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U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"
LOD	<p>LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.</p> <p>Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed.</p> <p>ELAB are unable to provide an interpretation or opinion on the content of this report.</p> <p>The results relate only to the sample received.</p> <p>PCB congener results may include any coeluting PCBs</p> <p>Uncertainty of measurement for the determinands tested are available upon request</p> <p>Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.</p>

Deviation Codes

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- | | |
|---|--|
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| e | The container has been incorrectly filled |
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| g | Sample age exceeds stability time (sampling to analysis) |

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Sample Retention and Disposal

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THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 21-32907

Issue: 1

Date of Issue: 06/04/2021

Contact: Sam Parry

Customer Details: CC Geotechnical Ltd
Unit 1 & 2 Deltic Place
Deltic Way
Liverpool
Merseyside L33 7BA

Quotation No: Q17-00806

Order No: Not Supplied

Customer Reference: CCG-C-21-12093

Date Received: 29/03/2021

Date Approved: 06/04/2021

Details: Cottam Parkway Station

Approved by:

Mike Varley, Technical Manager

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Sample Summary

Report No.: 21-32907, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
231976	WS16 Natural 0.60	23/03/2021	29/03/2021	Silty clayey loam	



Results Summary

2683

Report No.: 21-32907, issue number 1

ELAB Reference	231976
Customer Reference	Natural
Sample ID	
Sample Type	SOIL
Sample Location	WS16
Sample Depth (m)	0.60
Sampling Date	23/03/2021

Determinand	Codes	Units	LOD	
Soil sample preparation parameters				
Material removed	N	%	0.1	< 0.1
Description of Inert material removed	N		0	None
Metals				
Arsenic	M	mg/kg	1	11.9
Cadmium	M	mg/kg	0.5	< 0.5
Chromium	M	mg/kg	5	40.6
Copper	M	mg/kg	5	23.0
Lead	M	mg/kg	5	15.5
Mercury	M	mg/kg	0.5	< 0.5
Nickel	M	mg/kg	5	45.3
Selenium	M	mg/kg	1	< 1.0
Zinc	M	mg/kg	5	54.5
Inorganics				
Total Sulphide	N	mg/kg	2	< 2
Acid Soluble Sulphate (SO ₄)	U	%	0.02	< 0.02
Water Soluble Boron	N	mg/kg	0.5	< 0.5
Miscellaneous				
Fraction of Organic Carbon	N		0.0001	0.0026
pH	M	pH units	0.1	6.9
Polyaromatic hydrocarbons				
Naphthalene	M	mg/kg	0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1
Benzo(b)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(a)pyrene	M	mg/kg	0.1	< 0.1
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4



Results Summary

2683

Report No.: 21-32907, issue number 1

ELAB Reference	231976
Customer Reference	Natural
Sample ID	
Sample Type	SOIL
Sample Location	WS16
Sample Depth (m)	0.60
Sampling Date	23/03/2021

Determinand	Codes	Units	LOD	
TPH CWG				
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	1.1
>C16-C21 Aromatic	N	mg/kg	1	1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	2.1
Total Petroleum Hydrocarbons				
PAH Fingerprint	N	n/a	0	n/a
TPH Fingerprint	N	n/a	0	n/a



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Results Summary

Report No.: 21-32907, issue number 1

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #) in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos	Gravimetric Analysis Total	Gravimetric Analysis by ACM Type	Free Fibre Analysis	Total Asbestos
231976	0.60	WS16 Natural	Brown Soil	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 21-32907, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	30/03/2021	109	Colorimetry
pH	M	Air dried sample	01/04/2021	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	31/03/2021	115	Ion Chromatography
PAH (GC-FID)	M	As submitted sample	30/03/2021	133	GC-FID
Low range Aliphatic hydrocarbons soil	N	As submitted sample	31/03/2021	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	31/03/2021	181	GC-MS
Water soluble boron	N	Air dried sample	30/03/2021	202	Colorimetry
Total organic carbon/Total sulphur	N	Air dried sample	31/03/2021	210	IR
Aliphatic hydrocarbons in soil	N	As submitted sample	30/03/2021	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	31/03/2021	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	30/03/2021	214	GC-FID
Asbestos identification	U	Air dried sample	06/04/2021	280	Microscopy
Aqua regia extractable metals	M	Air dried sample	30/03/2021	300	ICPMS

Tests marked N are not UKAS accredited

Report Information

Report No.: 21-32907, issue number 1

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
NS	Subcontracted to approved laboratory. UKAS accreditation is not applicable.
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"
LOD	<p>LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.</p> <p>Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed.</p> <p>ELAB are unable to provide an interpretation or opinion on the content of this report.</p> <p>The results relate only to the sample received.</p> <p>PCB congener results may include any coeluting PCBs</p> <p>Uncertainty of measurement for the determinands tested are available upon request</p> <p>Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.</p>

Deviation Codes

-
- | | |
|---|--|
| a | No date of sampling supplied |
| b | No time of sampling supplied (Waters Only) |
| c | Sample not received in appropriate containers |
| d | Sample not received in cooled condition |
| e | The container has been incorrectly filled |
| f | Sample age exceeds stability time (sampling to receipt) |
| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month

All water samples will be retained for 7 days following the date of the test report

Charges may apply to extended sample storage



Unit A2
Windmill Road
Ponswood Industrial Estate
St Leonards on Sea
East Sussex
TN38 9BY
Telephone: (01424) 718618

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info@elab-uk.co.uk

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 21-32909

Issue: 1

Date of Issue: 06/04/2021

Contact: Sam Parry

Customer Details: CC Geotechnical Ltd
Unit 1 & 2 Deltic Place
Deltic Way
Liverpool
Merseyside L33 7BA

Quotation No: Q17-00806

Order No: Not Supplied

Customer Reference: CCG-C-21-12093

Date Received: 29/03/2021

Date Approved: 06/04/2021

Details: Cottam Parkway Station

Approved by:

Mike Varley, Technical Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)

This report may only be reproduced in full



Sample Summary

Report No.: 21-32909, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
231981	WS18 Natural 0.20	23/03/2021	29/03/2021	Silty loam	

Results Summary

Report No.: 21-32909, issue number 1

ELAB Reference	231981
Customer Reference	Natural
Sample ID	
Sample Type	SOIL
Sample Location	WS18
Sample Depth (m)	0.20
Sampling Date	23/03/2021

Determinand	Codes	Units	LOD	
Soil sample preparation parameters				
Material removed	N	%	0.1	< 0.1
Description of Inert material removed	N		0	None
Metals				
Arsenic	M	mg/kg	1	8.8
Cadmium	M	mg/kg	0.5	< 0.5
Chromium	M	mg/kg	5	27.4
Copper	M	mg/kg	5	20.9
Lead	M	mg/kg	5	27.5
Mercury	M	mg/kg	0.5	< 0.5
Nickel	M	mg/kg	5	23.0
Selenium	M	mg/kg	1	< 1.0
Zinc	M	mg/kg	5	40.3
Inorganics				
Total Sulphide	N	mg/kg	2	< 2
Acid Soluble Sulphate (SO ₄)	U	%	0.02	0.03
Water Soluble Boron	N	mg/kg	0.5	< 0.5
Miscellaneous				
Fraction of Organic Carbon	N		0.0001	0.0117
pH	M	pH units	0.1	6.5
Polyaromatic hydrocarbons				
Naphthalene	M	mg/kg	0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1
Benzo(b)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1
Benzo(a)pyrene	M	mg/kg	0.1	< 0.1
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4



Results Summary

2683

Report No.: 21-32909, issue number 1

ELAB Reference	231981
Customer Reference	Natural
Sample ID	
Sample Type	SOIL
Sample Location	WS18
Sample Depth (m)	0.20
Sampling Date	23/03/2021

Determinand	Codes	Units	LOD	
TPH CWG				
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	1.3
>C12-C16 Aliphatic	N	mg/kg	1	2.1
>C16-C21 Aliphatic	N	mg/kg	1	1.4
>C21-C35 Aliphatic	N	mg/kg	1	3.1
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	7.9
Total Petroleum Hydrocarbons				
PAH Fingerprint	N	n/a	0	n/a
TPH Fingerprint	N	n/a	0	n/a



Unit A2, Windmill Road, Ponswood Industrial Estate, St Leonards on Sea, East Sussex, TN38 9BY
Tel: +44 (0)1424 718618, Email: info@elab-uk.co.uk, Web: www.elab-uk.co.uk

Results Summary

Report No.: 21-32909, issue number 1

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #) in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos	Gravimetric Analysis Total	Gravimetric Analysis by ACM Type	Free Fibre Analysis	Total Asbestos
231981	0.20	WS18 Natural	Brown Soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 21-32909, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	30/03/2021	109	Colorimetry
pH	M	Air dried sample	01/04/2021	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	31/03/2021	115	Ion Chromatography
PAH (GC-FID)	M	As submitted sample	30/03/2021	133	GC-FID
Low range Aliphatic hydrocarbons soil	N	As submitted sample	31/03/2021	181	GC-MS
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Total organic carbon/Total sulphur	N	Air dried sample	31/03/2021	210	IR
Aliphatic hydrocarbons in soil	N	As submitted sample	30/03/2021	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	01/04/2021	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	30/03/2021	214	GC-FID
Asbestos identification	U	Air dried sample	06/04/2021	280	Microscopy
Aqua regia extractable metals	M	Air dried sample	30/03/2021	300	ICPMS

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Report Information

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| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month

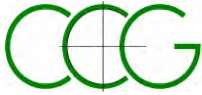
All water samples will be retained for 7 days following the date of the test report

Charges may apply to extended sample storage



APPENDIX H

DYNAMIC CONE PENETRATION TEST RESULTS



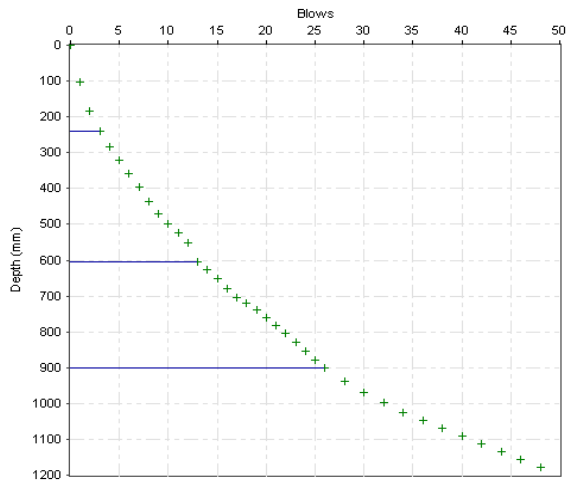
Dynamic Cone Penetrometer Strength Analysis Report

Site: COTTAM PARKWAY STATION
 Location: TP01
 Cone Angle: 60 degrees
 Zero Error: 175
 Test Date: 21/03/2021

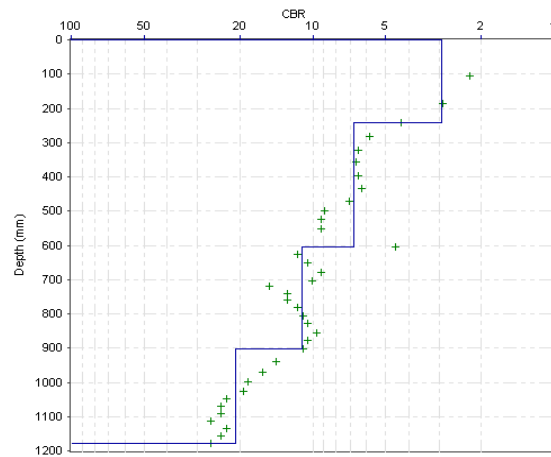
Job Number: CCG-C-21-12039
 Surface Type: -
 Thickness (mm): -

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	175	0	21	1	20	935	20.0
2	1	1	279	104.0	22	1	21	957	22.0
3	1	2	360	81.0	23	1	22	980	23.0
4	1	3	416	56.0	24	1	23	1004	24.0
5	1	4	458	42.0	25	1	24	1030	26.0
6	1	5	496	38.0	26	1	25	1054	24.0
7	1	6	533	37.0	27	1	26	1077	23.0
8	1	7	571	38.0	28	2	28	1113	18.0
9	1	8	610	39.0	29	2	30	1145	16.0
10	1	9	645	35.0	30	2	32	1173	14
11	1	10	673	28.0	31	2	34	1200	13.5
12	1	11	700	27.0	32	2	36	1223	11.5
13	1	12	727	27.0	33	2	38	1245	11
14	1	13	780	53.0	34	2	40	1267	11
15	1	14	802	22.0	35	2	42	1287	10
16	1	15	826	24.0	36	2	44	1310	11.5
17	1	16	853	27.0	37	2	46	1332	11
18	1	17	878	25.0	38	2	48	1352	10
19	1	18	895	17.0					
20	1	19	915	20.0					

Layer Boundaries: Chainage 1.000



Layer Boundaries Chart



CBR Chart

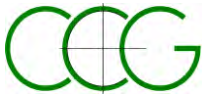
Layer Properties

No.	CBR value	Thickness	Depth	Depth (mmbgl)	Strength Coefficient
1	3	241	241	416	
2	7	364	605	780	
3	11	297	902	1077	
4	21	275	1177	1352	

CBR Derived by TDR equation

$$\log_{10}(\text{CBR}) = 2.48 - 1.057 \times \log_{10}(\text{penetration rate})$$

Remarks Surface material description: Grassed TOPSOIL



Dynamic Cone Penetrometer Strength Analysis Report

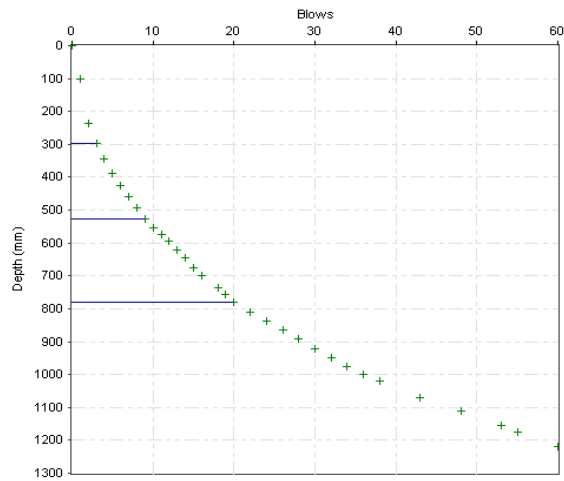
Site: COTTAM PARKWAY STATION
 Location: TP02
 Cone Angle: 60 degrees
 Zero Error: 160
 Test Date: 21/03/2021

Job Number: CCG-C-21-12039
 Surface Type: -
 Thickness (mm): -

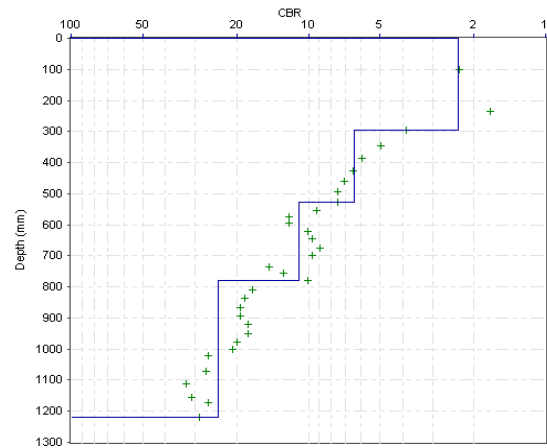
No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	160	0
2	1	1	261	101.0
3	1	2	395	134.0
4	1	3	457	62.0
5	1	4	506	49.0
6	1	5	547	41.0
7	1	6	585	38.0
8	1	7	620	35.0
9	1	8	653	33.0
10	1	9	686	33.0
11	1	10	713	27.0
12	1	11	734	21.0
13	1	12	755	21.0
14	1	13	780	25.0
15	1	14	806	26.0
16	1	15	834	28.0
17	1	16	860	26.0
18	2	18	895	17.5
19	1	19	915	20.0
20	1	20	940	25.0

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
21	2	22	970	15.0
22	2	24	998	14.0
23	2	26	1025	13.5
24	2	28	1052	13.5
25	2	30	1081	14.5
26	2	32	1110	14.5
27	2	34	1136	13.0
28	2	36	1161	12.5
29	2	38	1181	10.0
30	5	43	1230	9.8
31	5	48	1271	8.2
32	5	53	1314	8.6
33	2	55	1334	10
34	5	60	1380	9.2

Layer Boundaries: Chainage 2.000



Layer Boundaries Chart



CBR Chart

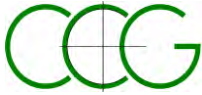
Layer Properties

No.	CBR value	Thickness	Depth	Depth (mmbgl)	Strength Coefficient
1	2	297	297	457	
2	6	229	526	686	
3	11	254	780	940	
4	24	440	1220	1380	

CBR Derived by TDR equation

$$\log_{10}(\text{CBR}) = 2.48 - 1.057 \times \log_{10}(\text{penetration rate})$$

Remarks Surface material description: Grassed TOPSOIL



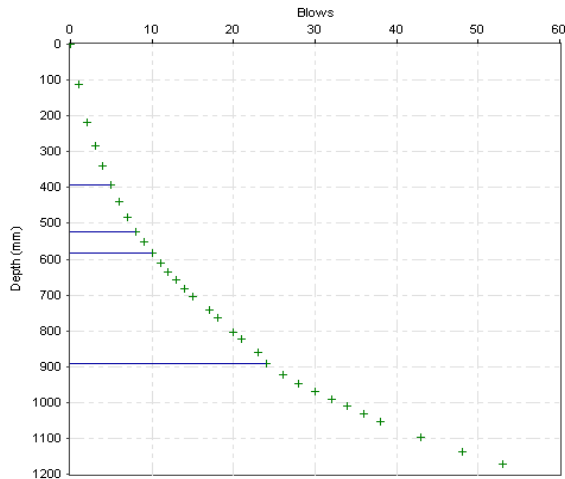
Dynamic Cone Penetrometer Strength Analysis Report

Site: COTTAM PARKWAY STATION
 Location: TP03
 Cone Angle: 60 degrees
 Zero Error: 191
 Test Date: 21/03/2021

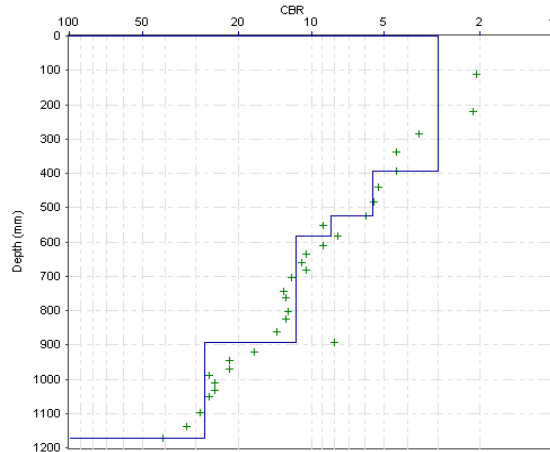
Job Number: CCG-C-21-12039
 Surface Type: -
 Thickness (mm): -

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	191	0	21	2	23	1052	18.5
2	1	1	302	111.0	22	1	24	1083	31.0
3	1	2	410	108.0	23	2	26	1113	15.0
4	1	3	476	66.0	24	2	28	1137	12.0
5	1	4	530	54.0	25	2	30	1161	12.0
6	1	5	584	54.0	26	2	32	1181	10.0
7	1	6	630	46.0	27	2	34	1202	10.5
8	1	7	674	44.0	28	2	36	1223	10.5
9	1	8	715	41.0	29	2	38	1243	10.0
10	1	9	743	28.0	30	5	43	1289	9.2
11	1	10	775	32.0	31	5	48	1330	8.2
12	1	11	803	28.0	32	5	53	1363	6.6
13	1	12	827	24.0					
14	1	13	850	23.0					
15	1	14	874	24.0					
16	1	15	895	21.0					
17	2	17	934	19.5					
18	1	18	954	20.0					
19	2	20	995	20.5					
20	1	21	1015	20.0					

Layer Boundaries: Chainage 3.000



Layer Boundaries Chart



CBR Chart

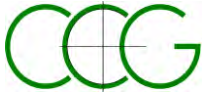
Layer Properties

No.	CBR value	Thickness	Depth	Depth (mmbgl)	Strength Coefficient
1	3	393	393	584	
2	6	131	524	715	
3	8	60	584	775	
4	12	308	892	1083	
5	27	280	1172	1363	

CBR Derived by TDR equation

$$\log_{10}(\text{CBR}) = 2.48 - 1.057 \times \log_{10}(\text{penetration rate})$$

Remarks Surface material description: Grassed TOPSOIL



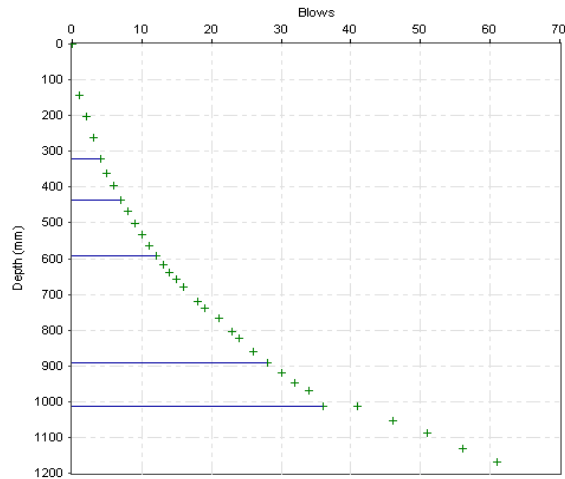
Dynamic Cone Penetrometer Strength Analysis Report

Site: COTTAM PARKWAY STATION
 Location: TP04
 Cone Angle: 60 degrees
 Zero Error: 184
 Test Date: 21/03/2021

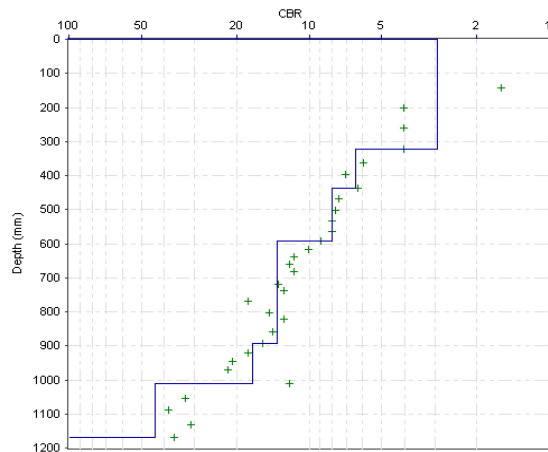
Job Number: CCG-C-21-12039
 Surface Type: -
 Thickness (mm): -

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	184	0	21	2	23	987	17.5
2	1	1	328	144.0	22	1	24	1007	20.0
3	1	2	387	59.0	23	2	26	1043	18.0
4	1	3	446	59.0	24	2	28	1076	16.5
5	1	4	505	59.0	25	2	30	1105	14.5
6	1	5	546	41.0	26	2	32	1130	12.5
7	1	6	581	35.0	27	2	34	1154	12.0
8	1	7	620	39.0	28	2	36	1196	21.0
9	1	8	653	33.0	29	5	41	1196	0.0
10	1	9	685	32.0	30	5	46	1237	8.2
11	1	10	716	31.0	31	5	51	1272	7
12	1	11	747	31.0	32	5	56	1315	8.6
13	1	12	775	28.0	33	5	61	1352	7.4
14	1	13	800	25.0					
15	1	14	822	22.0					
16	1	15	843	21.0					
17	1	16	865	22.0					
18	2	18	903	19.0					
19	1	19	923	20.0					
20	2	21	952	14.5					

Layer Boundaries: Chainage 4.000



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Depth (mmbgl)	Strength Coefficient
1	3	321	321	505	
2	6	115	436	620	
3	8	155	591	775	
4	14	301	892	1076	
5	17	120	1012	1196	
6	44	156	1168	1352	

CBR Derived by TDR equation

$$\log_{10}(\text{CBR}) = 2.48 - 1.057 \times \log_{10}(\text{penetration rate})$$

Remarks Surface material description: Grassed TOPSOIL



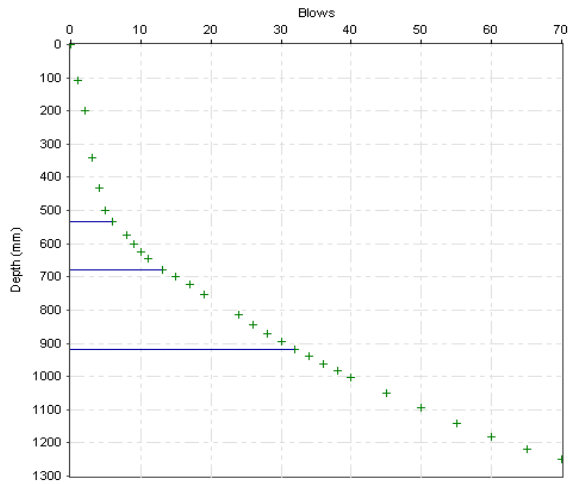
Dynamic Cone Penetrometer Strength Analysis Report

Site: COTTAM PARKWAY STATION
 Location: TP05
 Cone Angle: 60 degrees
 Zero Error: 122
 Test Date: 21/03/2021

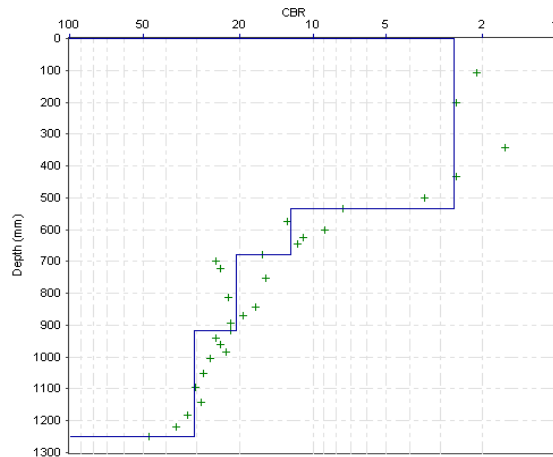
Job Number: CCG-C-21-12039
 Surface Type: -
 Thickness (mm): -

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	122	0	21	2	34	1061	10.5
2	1	1	231	109.0	22	2	36	1083	11.0
3	1	2	322	91.0	23	2	38	1106	11.5
4	1	3	463	141.0	24	2	40	1126	10.0
5	1	4	554	91.0	25	5	45	1173	9.4
6	1	5	622	68.0	26	5	50	1217	8.8
7	1	6	655	33.0	27	5	55	1263	9.2
8	2	8	695	20.0	28	5	60	1304	8.2
9	1	9	723	28.0	29	5	65	1341	7.4
10	1	10	746	23.0	30	5	70	1370	5.8
11	1	11	768	22.0					
12	2	13	800	16.0					
13	2	15	821	10.5					
14	2	17	843	11.0					
15	2	19	876	16.5					
16	5	24	935	11.8					
17	2	26	965	15.0					
18	2	28	992	13.5					
19	2	30	1016	12.0					
20	2	32	1040	12.0					

Layer Boundaries: Chainage 5.000



Layer Boundaries Chart



CBR Chart

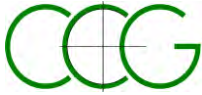
Layer Properties

No.	CBR value	Thickness	Depth	Depth (mmbgl)	Strength Coefficient
1	3	533	533	655	
2	12	145	678	800	
3	21	240	918	1040	
4	31	330	1248	1370	

CBR Derived by TDR equation

$$\log_{10}(\text{CBR}) = 2.48 - 1.057 \times \log_{10}(\text{penetration rate})$$

Remarks Surface material description: Grassed TOPSOIL



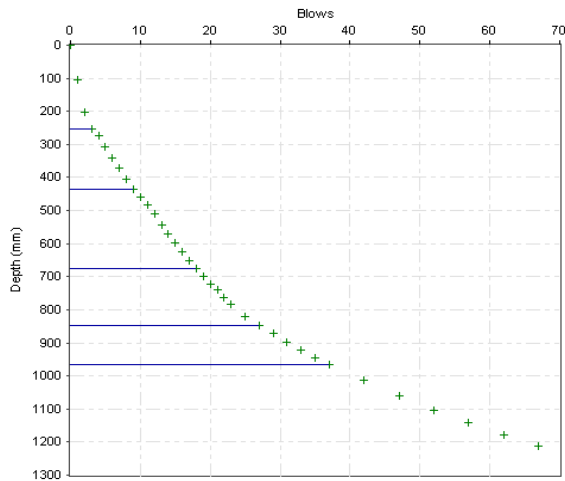
Dynamic Cone Penetrometer Strength Analysis Report

Site: COTTAM PARKWAY STATION
 Location: TP06
 Cone Angle: 60 degrees
 Zero Error: 171
 Test Date: 21/03/2021

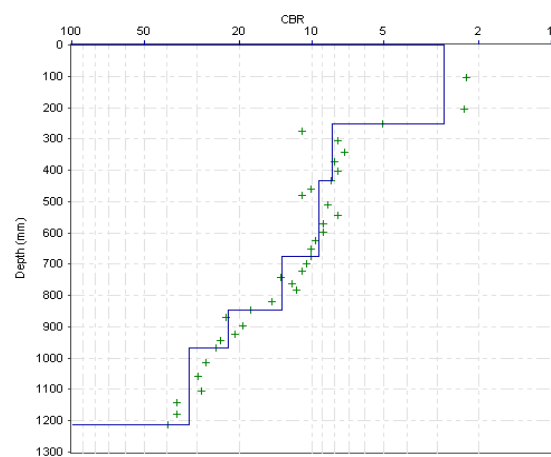
Job Number: CCG-C-21-12039
 Surface Type: -
 Thickness (mm): -

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/b)
1	0	0	171	0	21	1	20	893	23.0
2	1	1	274	103.0	22	1	21	912	19.0
3	1	2	375	101.0	23	1	22	933	21.0
4	1	3	423	48.0	24	1	23	955	22.0
5	1	4	446	23.0	25	2	25	990	17.5
6	1	5	478	32.0	26	2	27	1019	14.5
7	1	6	512	34.0	27	2	29	1042	11.5
8	1	7	543	31.0	28	2	31	1069	13.5
9	1	8	575	32.0	29	2	33	1094	12.5
10	1	9	605	30.0	30	2	35	1116	11
11	1	10	630	25.0	31	2	37	1137	10.5
12	1	11	653	23.0	32	5	42	1185	9.6
13	1	12	682	29.0	33	5	47	1230	9
14	1	13	714	32.0	34	5	52	1276	9.2
15	1	14	742	28.0	35	5	57	1313	7.4
16	1	15	770	28.0	36	5	62	1350	7.4
17	1	16	796	26.0	37	5	67	1384	6.8
18	1	17	821	25.0					
19	1	18	846	25.0					
20	1	19	870	24.0					

Layer Boundaries: Chainage 6.000



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	CBR value	Thickness	Depth	Depth (mmbgl)	Strength Coefficient
1	3	252	252	423	
2	8	182	434	605	
3	9	241	675	846	
4	13	173	848	1019	
5	22	118	966	1137	
6	33	247	1213	1384	

CBR Derived by TDR equation

$$\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \times \text{Log}_{10}(\text{penetration rate})$$

Remarks Surface material description: Grassed TOPSOIL



APPENDIX I

NOTES ON LIMITATIONS

Notes on Limitations For Geoenvironmental and Geotechnical Consultancy Services

General

This document has been prepared by CC GEOTECHNICAL LTD within the terms of the contract, scope of work, and resources agreed in writing with the client. The limitations of liability of CC GEOTECHNICAL LTD for the contents of this document have been agreed with the Client, as set out in the terms and conditions of offer and related contract documentation.

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The findings and opinions provided in this document are made in good faith and are subject to the limitations imposed by employing site assessment methods and techniques, appropriate to the time of investigation and within the limitations and constraints defined in this document.

The findings and opinions are relevant to the dates when the assessment was undertaken, but should not necessarily be relied upon to represent conditions at a substantially later date. In particular, seasonal groundwater levels, with the effects of precipitation, may affect the conditions found during the investigation. The report should be read in conjunction with the further Notes on Limitations included in Appendix A.

Where opinions expressed in this report are based on current available guidance and legislation, no liability can be accepted by CC GEOTECHNICAL LTD for the effects of any future changes to such guidelines and legislation. Additional information, improved practices, new guidance, changes in legislation, or amendments to design proposals, may necessitate this report having to be reviewed in whole or in part after that date. Opinions and interpretations are not accredited by UKAS.

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1. the consequences of this document being used for any purpose or project other than for which it was commissioned and/or
2. the consequences of use of this document by any party with whom an agreement has not been executed.

Phase I Environmental Audits / Desk Studies

The work undertaken to provide the basis of a Phase 1 Desk Study report comprises a study of available documented information from a variety of sources (including the client), together with (where appropriate) a brief walk over inspection of the site and meetings and discussions with relevant authorities and other interested parties. The opinions given in a Desk Study report have been dictated by finite data on which they are based and are relevant only to the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in the report, CC GEOTECHNICAL LTD reserves the right to review such information and to modify the opinions accordingly.

It should be noted that any risks identified in this report are perceived risks based on the information reviewed; actual risks can only be assessed following a physical investigation of the site.

Phase II Environmental Audits

The investigation of the site has been carried out with the intention of providing sufficient information concerning the type and degree of contamination, and ground and groundwater conditions to allow a reasonable risk assessment to be made. The objectives of the investigation have been limited to establishing the risks associated to potential human targets, building materials, the environment (including adjacent land), and surface and groundwater.

The amount of exploratory work and chemical testing undertaken may have been restricted by the timescale available, and the locations of the exploratory holes may have been restricted to areas unoccupied by the building(s) on the site, and further restricted by the existence of buried services. A more comprehensive investigation may be required if the site is to be redeveloped as, in addition to risk assessment, a number of important engineering and environmental issues may need to be resolved.

For those reasons, if costs have been included in relation to site remediation these must be considered as tentative only and must, in any event, be confirmed by a qualified quantity surveyor.

The exploratory holes undertaken, investigate only a small volume of the ground in relation to the size of the site, and can only provide a general indication of site conditions. The number of sampling points and the methods of sampling and testing do not preclude the existence of localised "hotspots" of contamination where concentrations may be significantly higher than those actually encountered.

Geoenvironmental Ground Investigations

The investigation of the site has been carried out to provide sufficient information within the agreed scope of the investigation, under the general headings of type and degree of contamination, geotechnical characteristics, and ground and groundwater conditions, to provide a reasonable assessment of the environmental risks together with engineering and development implications.

If costs have been included in relation to the site remediation, these must be confirmed by a qualified quantity surveyor.

The exploratory holes undertaken, investigate only a small volume of the ground in relation to the size of the site, and can only provide a general indication of the site conditions. The opinions provided and recommendations given in this report are based on the ground conditions apparent at the site of each of the exploratory holes. There may be ground conditions present on the site which have not been disclosed by this investigation, and which have therefore not been taken into account in this report.

The comments made on groundwater conditions are based on observations made at the time that site work was carried out. It should be noted that groundwater levels will vary owing to seasonal, tidal, weather, or other effects.

The risk assessment and opinions provided, inter alia, take into consideration currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.