

Your Ref:  
Our Ref: CRM.1027.113.GE.L.001.B

Date: 13 May 2022  
Email: [steve.rhodes@enzygo.com](mailto:steve.rhodes@enzygo.com)

Harry Howard  
Hill Partnership Ltd  
The Power House,  
Gunpowder Mill,  
Powdermill Ln,  
Waltham Abbey  
EN9 1BN

By Email: HarryHoward@hill.co.uk

Dear Harry

**RE: Bell Road, Bottisham, Cambs, CB25 9DH**

### General

Enzygo Geoenvironmental Ltd undertook supplementary ground investigation works between 28<sup>th</sup> of March and 21<sup>st</sup> April March 2022 at the above named site. The locations of the exploratory holes are shown on Drawing CRM.1027.113.GE.D.001 and are discussed in the sections below:

### Pavement Design

Site sampling was undertaken by Enzygo Geoenvironmental Ltd comprising:

- Excavation of seven trial pits (CBR 1 to CBR7) along the route of the proposed adopted road. Trial pits were excavated to depths of 0.5m below ground level, within natural sub-soil and at the proposed sub-formation depth.
- Laboratory testing on recompacted samples to reflect conditions following proof rolling. Tests on samples were undertaken on soaked samples which reflects the sub-formation becoming saturated;
- Atterberg Limits determination were undertaken on all samples which are used to assess equilibrium values using the correlations given in Advice Note 73/06 and also provide an assessment of frost susceptibility.

Locations of the trial pit positions are shown on Drawing CRM.1027.113.GE.D.001 overlain on to the proposed development plan. Laboratory results are attached. When assessing the most appropriate CBR value from each sample the result which more closely matches the equilibrium value is used.

Results of the CBR testing is presented below:

Location	Soil	California Bearing Ratio		
		Plasticity Index	Equilibrium Value	Laboratory Soaked
CBR 1	Gravelly, sandy clay	10%	3%	6.3%
CBR 2	Gravelly, sandy clay	16%	3.5%	2.2%
CBR 3	Gravelly, sandy clay	16%	3.5%	3.8%
CBR 4	Gravelly, sandy clay	15%	3.5%	3.4%
CBR 5	Gravelly, silty clay	16%	3.5%	2.2%
CBR 6	Gravelly, silty clay	21%	4%	3.2%
CBR 7	Gravelly, sandy clay	19%	4%	4.4%

The exposed formation should be proof rolled, inspected and any soft materials removed and replaced with granular fill. This should remove localised soft spots which may otherwise reduce the CBR values.

Soils are considered to be frost susceptible.

### Soakaway Tests

Enzygo Geoenvironmental Ltd undertook soakaway testing at locations shown on Drawing CRM.1027.113.GE.D.001. Soakaway locations SA1 and SA2 were undertaken using the hybrid method required by Cambridgeshire County Council. Insufficient soakage was recorded and the tests failed.

Within the remainder of the soakaway pits three consecutive cycles of testing were undertaken at each location. As soakage was slow tests were undertaken over consecutive days with tests being run over night where necessary. Ground conditions are shown on the attached soakaway logs and comprised Topsoil like Made Ground over putty chalk. Results of the soakaway testing are shown on the attached sheets and summarised on the table below:

Soakaway	Depth (m bgl)	Test No	Soil Infiltration Rate
SA3	0.7	Test 1	1.81E <sup>-5</sup> m/s
		Test 2	7.72E <sup>-6</sup> m/s
		Test 3	6.36E <sup>-6</sup> m/s
SA4	0.7	Test 1	3.74E <sup>-5</sup> m/s
		Test 2	1.39E <sup>-5</sup> m/s
		Test 3	9.76E <sup>-6</sup> m/s
SA5	0.7	Test 1	3.22E <sup>-5</sup> m/s
		Test 2	7.87E <sup>-6</sup> m/s
		Test 3	8.66E <sup>-6</sup> m/s
SA6	0.7	Test 1	1.48E <sup>-5</sup> m/s
		Test 2	1.41E <sup>-5</sup> m/s
		Test 3	8.64E <sup>-6</sup> m/s
SA7	2.0	Test 1	4.44E <sup>-6</sup> m/s
		Test 2	2.80E <sup>-6</sup> m/s
		Test 3	1.69E <sup>-6</sup> m/s
SA8	0.7	Test 1	1.69E <sup>-5</sup> m/s
		Test 2	1.23E <sup>-5</sup> m/s
		Test 3	6.81E <sup>-6</sup> m/s

### Waste Classification

Samples of soil were collected for Waste Assessment Criteria (WAC) testing. Ten soil samples (WAC1 to WAC10) were collected. Soil samples were sent to I2 ltd who are UKAS and MCERTS accredited. Two stage Waste Acceptance Criteria (WAC) tests were undertaken on the samples. Results are attached and discussed below:

It is considered that the soils tested should be classified as Inert waste based on the chemical and WAC testing undertaken.

The Waste Management paper 3 requires the landfill to make an appropriate assessment of the waste classification. As such final assessment will be undertaken by the receiving landfill based on the requirements of their permit

### Gas Monitoring

An earlier investigation included the installation of two ground gas monitoring wells with limited monitoring undertaken. During the supplementary site investigation works undertaken by Enzygo Geoenvironmental Ltd an additional well (WS1) was installed to provide three locations at the site in accordance with CIRIA C665.

Return monitoring visits have been undertaken to monitor ground gas at the three wells present on site. The results are summarised below:

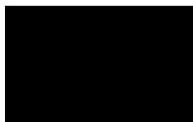
Exploratory Hole	Atmos pressure (Mb)	Flow (l/hr)	CH4		CO2		O2
			Concentration (%)	GSV (l/hr)	Concentration (%)	GSV (l/hr)	Concentration (%)
<b>6.4.22</b>							
WS1	994	<0.1	<0.1	<0.0001	1.1	<0.0011	19.2
WS01	994	<0.1	<0.1	<0.0001	0.4	<0.0004	20.1
WS10	994	<0.1	<0.1	<0.0001	1.4	<0.0014	18.7
<b>13.4.22</b>							
WS1	1014	<0.1	<0.1	<0.0001	1.8	<0.0018	18.6
WS01	1014	<0.1	<0.1	<0.0001	0.6	<0.0006	19.9
WS10	1014	<0.1	<0.1	<0.0001	1.6	<0.0016	17.9
<b>20.4.22</b>							
WS1	1018	<0.1	<0.1	<0.0001	1.3	<0.0013	19.3
WS01	1018	<0.1	<0.1	<0.0001	1.1	<0.0011	19.1
WS10	1018	<0.1	<0.1	<0.0001	1.5	<0.0015	19.5
<b>27.4.22</b>							
WS1	1027	<0.1	<0.1	<0.0001	1.8	<0.0018	19.1
WS01	1027	<0.1	<0.1	<0.0001	1.3	<0.0013	19.9
WS10	1027	<0.1	<0.1	<0.0001	1.7	<0.0017	19.2
<b>4.5.22</b>							
WS1	1017	<0.1	<0.1	<0.0001	1.3	<0.0013	19.7
WS01	1017	<0.1	<0.1	<0.0001	1.2	<0.0012	19.8
WS10	1017	<0.1	<0.1	<0.0001	1.3	<0.0013	19.6
<b>11.5.22</b>							
WS1	999	<0.1	<0.1	<0.0001	1.9	<0.0019	19.6
WS01	999	<0.1	<0.1	<0.0001	1.4	<0.0014	19.7
WS10	999	<0.1	<0.1	<0.0001	1.2	<0.0012	19.9

Gas monitoring was undertaken during return visits which has not recorded elevated concentrations of Methane or Carbon dioxide and no flow. Based on the gas monitoring undertaken the Gas Screening Value is less than 0.07l/hr and therefore falls within Characteristic Situation 1 (CS1).

We hope that we have correctly interpreted your requirements.

Yours sincerely,

For and on behalf of Enzygo



Steve Rhodes BSc(hon) MSc DIC CEng CGeol MIMMM MIEEnvSc FGS






**Director**

Enzygo Geoenvironmental Ltd

Drawing





- Key**
-  Site Boundary
  -  WAC Locations (WAC) (TP1)
  -  Window Sampler Location (WS) (WS1 & WS01 - WS10)
  -  Soakaway Locations (SA) (SA1 - SA8)
  -  CBR Locations (CBR) (CBR1 - CBR7)



Samuel House, 5 Fox Valley Way, Stocksbridge, Sheffield, S36 2AA

CLIENT:  
Hill Residential

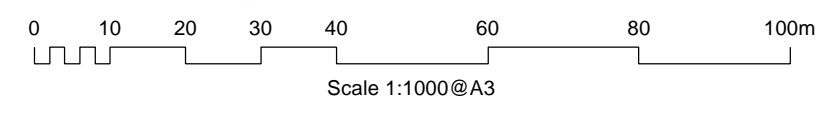
SCALE: 1:1000@A3 PROJECT REF: CRM.1027.113

DRAWN: MG CHECKED: SR DATE: April 2022

PROJECT:  
Bell Road, Bottisham

TITLE:  
Site Plan

DRAWING NO:  
CRM.1027.113.GE.D.001.A



< & / Z Q F S U L K V G E M I E D H L J K W L G D F H 6 X Y H

## Geotechnical Laboratory Results





# TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS  
Tested in Accordance with: BS 1377-2:1990: Clause 4.4 and 5

i2 Analytical Ltd  
Unit 8 Harrowden Road  
Brackmills Industrial Estate  
Northampton NN4 7EB



Environmental Science

4041

Client: Enzygo Geoenvironmental Ltd  
Client Address: The Byre, Woodend Lane,  
Cromhall, Gloucestershire,  
GL12 8AA  
Contact: Steve Rhodes  
Site Address: Bell Road Bottisham

Client Reference: CRM.1027.113  
Job Number: 22-49788  
Date Sampled: 31/03/2022  
Date Received: 01/04/2022  
Date Tested: 12/04/2022  
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

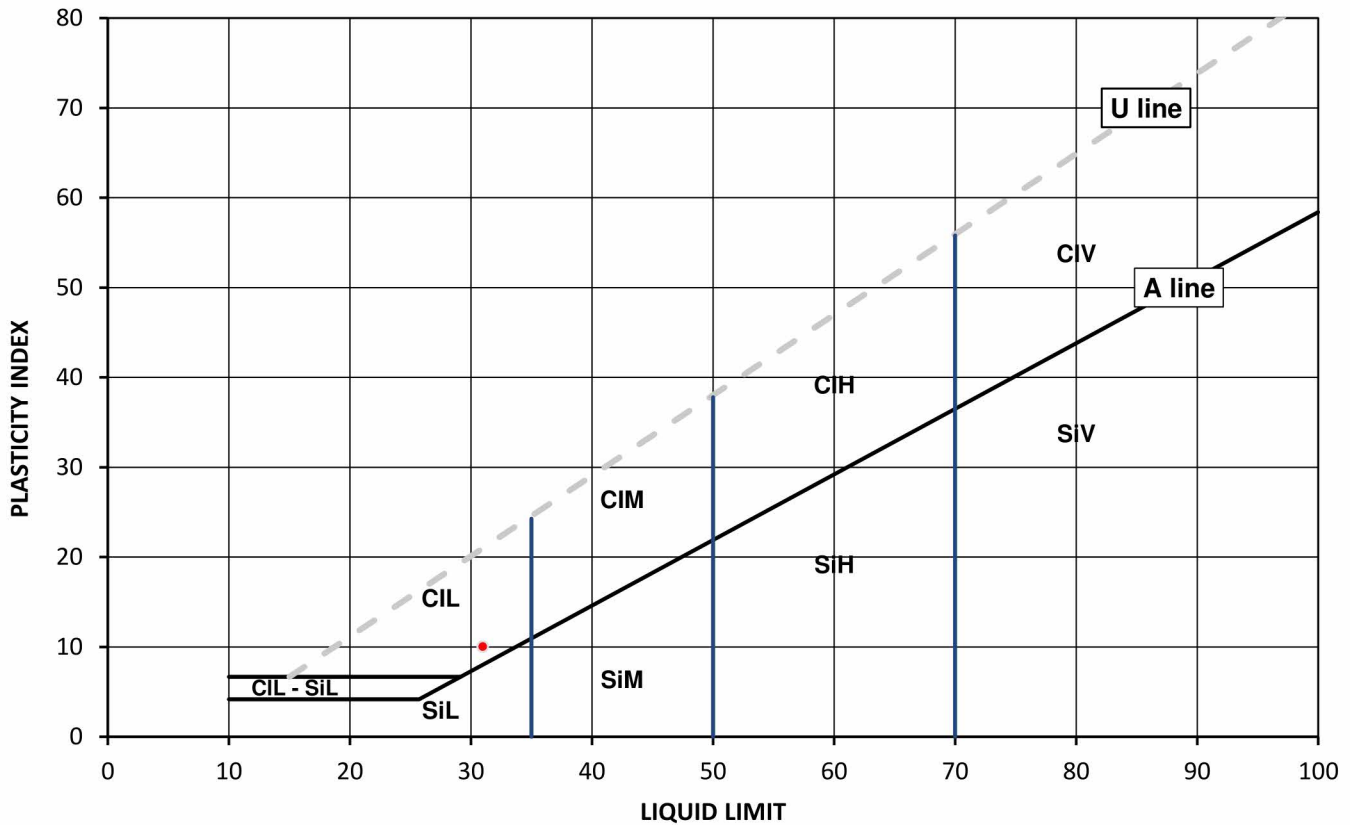
## Test Results:

Laboratory Reference: 2227504  
Hole No.: CBR1  
Sample Reference: Not Given  
Sample Description: Light grey sandy CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

Sample Preparation: Tested in natural condition

As Received Water Content [ W ] %	Liquid Limit [ WL ] %	Plastic Limit [ Wp ] %	Plasticity Index [ Ip ] %	% Passing 425µm BS Test Sieve
19	31	21	10	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

Cl	Clay	Plasticity	L	Low	Liquid Limit	below 35
Si	Silt		M	Medium		35 to 50
			H	High		50 to 70
			V	Very high		exceeding 70
			O	Organic		append to classification for organic material ( eg CIHO )

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:



Anna Dudzinska  
PL Deputy Head of Reporting Team  
for and on behalf of i2 Analytical Ltd

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Sampled By: Not Given

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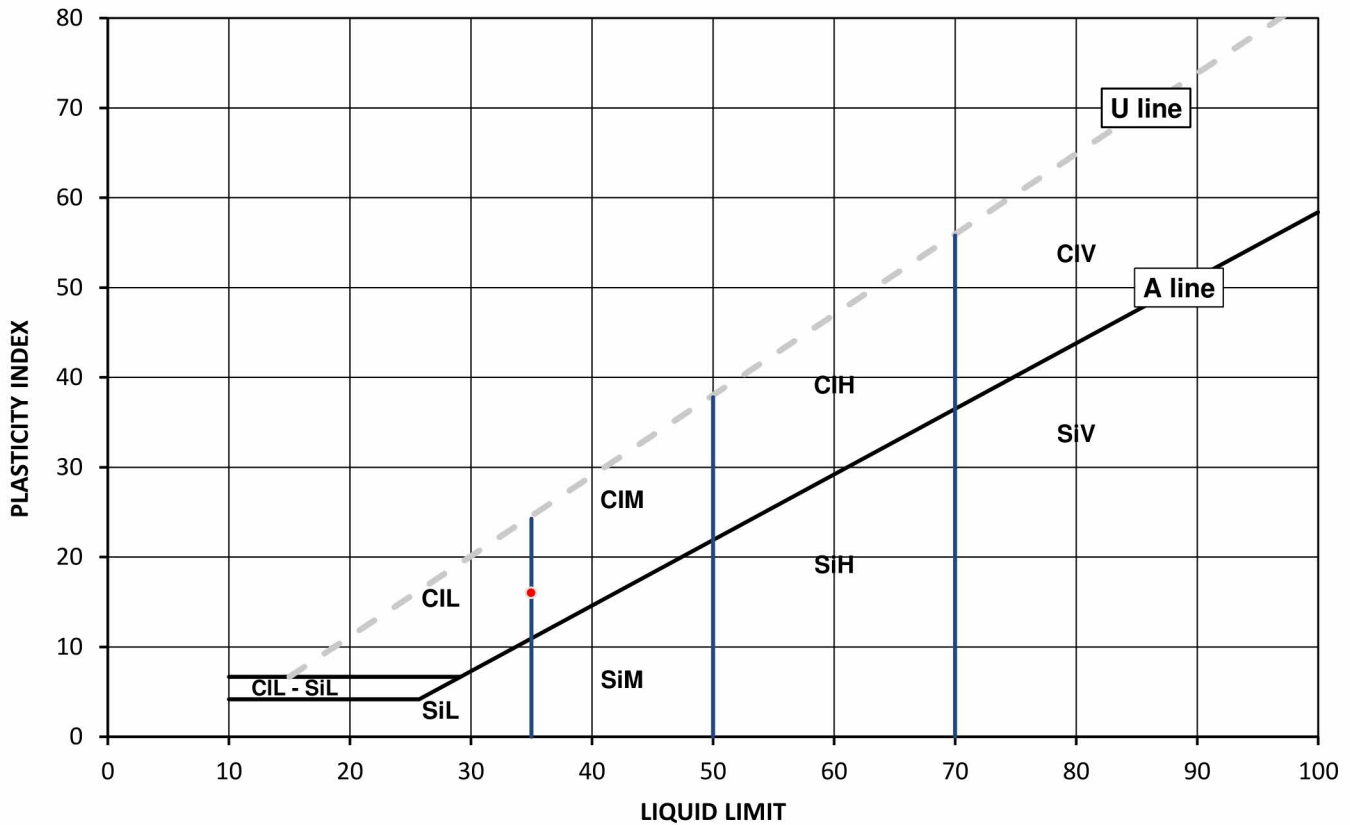
## Test Results:

Laboratory Reference: 2227505  
Hole No.: CBR2  
Sample Reference: Not Given  
Sample Description: Light grey sandy CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

Sample Preparation: Tested after >425um removed by hand

As Received Water Content [ W ] %	Liquid Limit [ WL ] %	Plastic Limit [ Wp ] %	Plasticity Index [ Ip ] %	% Passing 425µm BS Test Sieve
22	35	19	16	98



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

Cl	Clay	Plasticity	L	Low	Liquid Limit	below 35
Si	Silt		M	Medium		35 to 50
			H	High		50 to 70
			V	Very high		exceeding 70
			O	Organic		append to classification for organic material ( eg CIHO )

Note: Water Content by BS 1377-2: 1990: Clause 3.2

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Sampled By: Not Given

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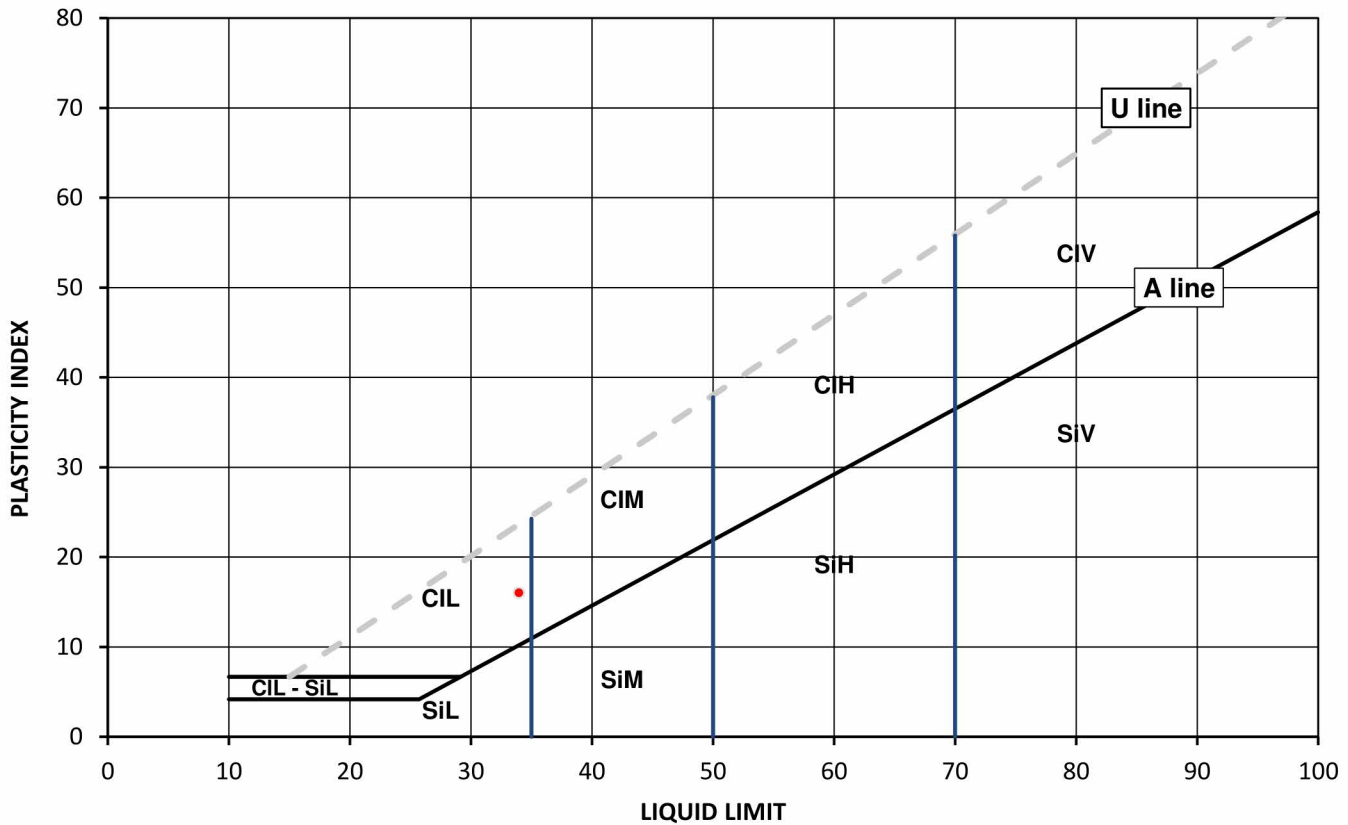
## Test Results:

Laboratory Reference: 2227506  
Hole No.: CBR3  
Sample Reference: Not Given  
Sample Description: Light grey sandy CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

Sample Preparation: Tested after >425um removed by hand

As Received Water Content [ W ] %	Liquid Limit [ WL ] %	Plastic Limit [ Wp ] %	Plasticity Index [ Ip ] %	% Passing 425µm BS Test Sieve
17	34	18	16	95



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
	L	Low
	M	Medium
	H	High
	V	Very high
	O	Organic
		append to classification for organic material ( eg CIHO )

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

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Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

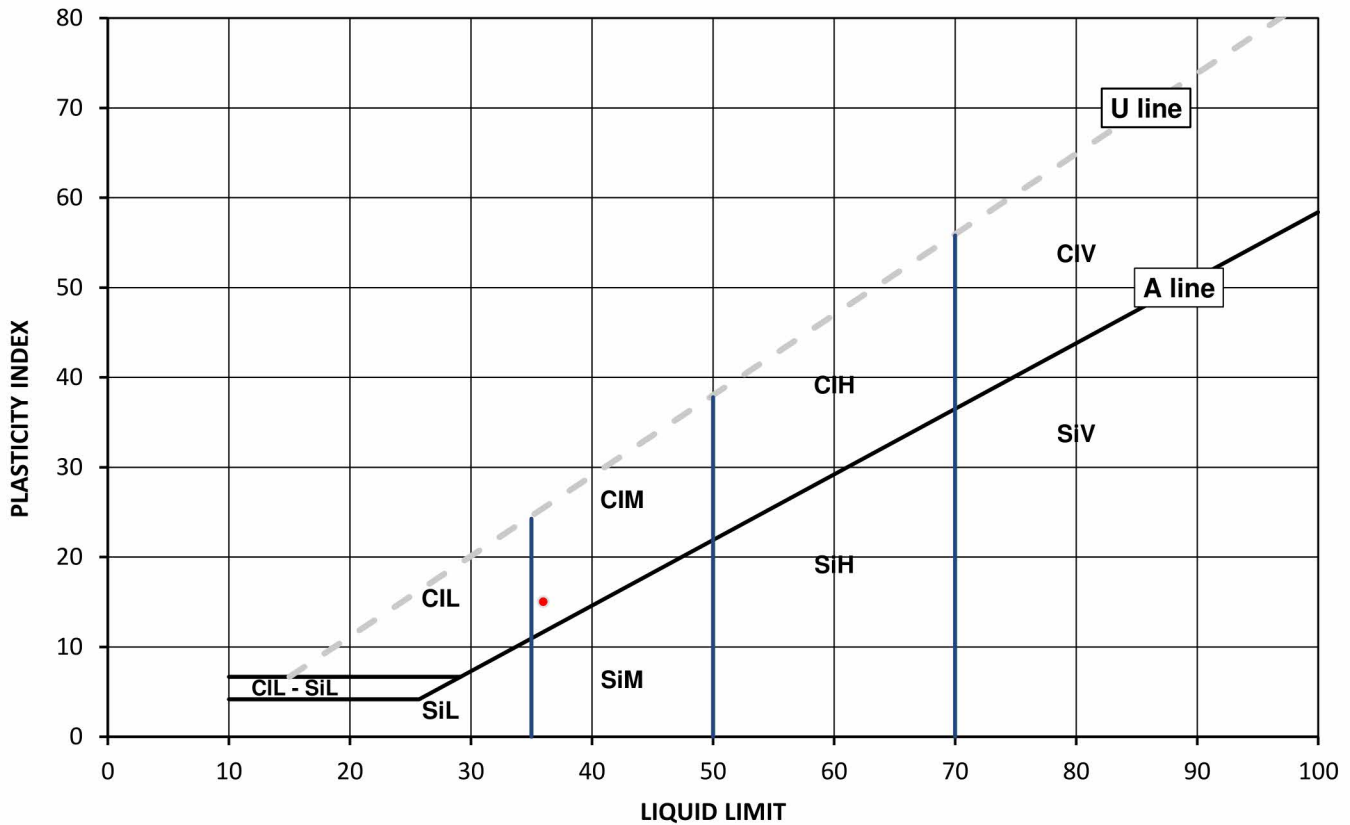
## Test Results:

Laboratory Reference: 2227507  
Hole No.: CBR4  
Sample Reference: Not Given  
Sample Description: Light grey sandy CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

Sample Preparation: Tested in natural condition

As Received Water Content [ W ] %	Liquid Limit [ WL ] %	Plastic Limit [ Wp ] %	Plasticity Index [ Ip ] %	% Passing 425µm BS Test Sieve
20	36	21	15	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

Cl	Clay	Plasticity	L	Low	Liquid Limit	below 35
Si	Silt		M	Medium		35 to 50
			H	High		50 to 70
			V	Very high		exceeding 70
			O	Organic		append to classification for organic material ( eg CIHO )

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

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Site Address: Bell Road Bottisham

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Date Sampled: 31/03/2022  
Date Received: 01/04/2022  
Date Tested: 12/04/2022  
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

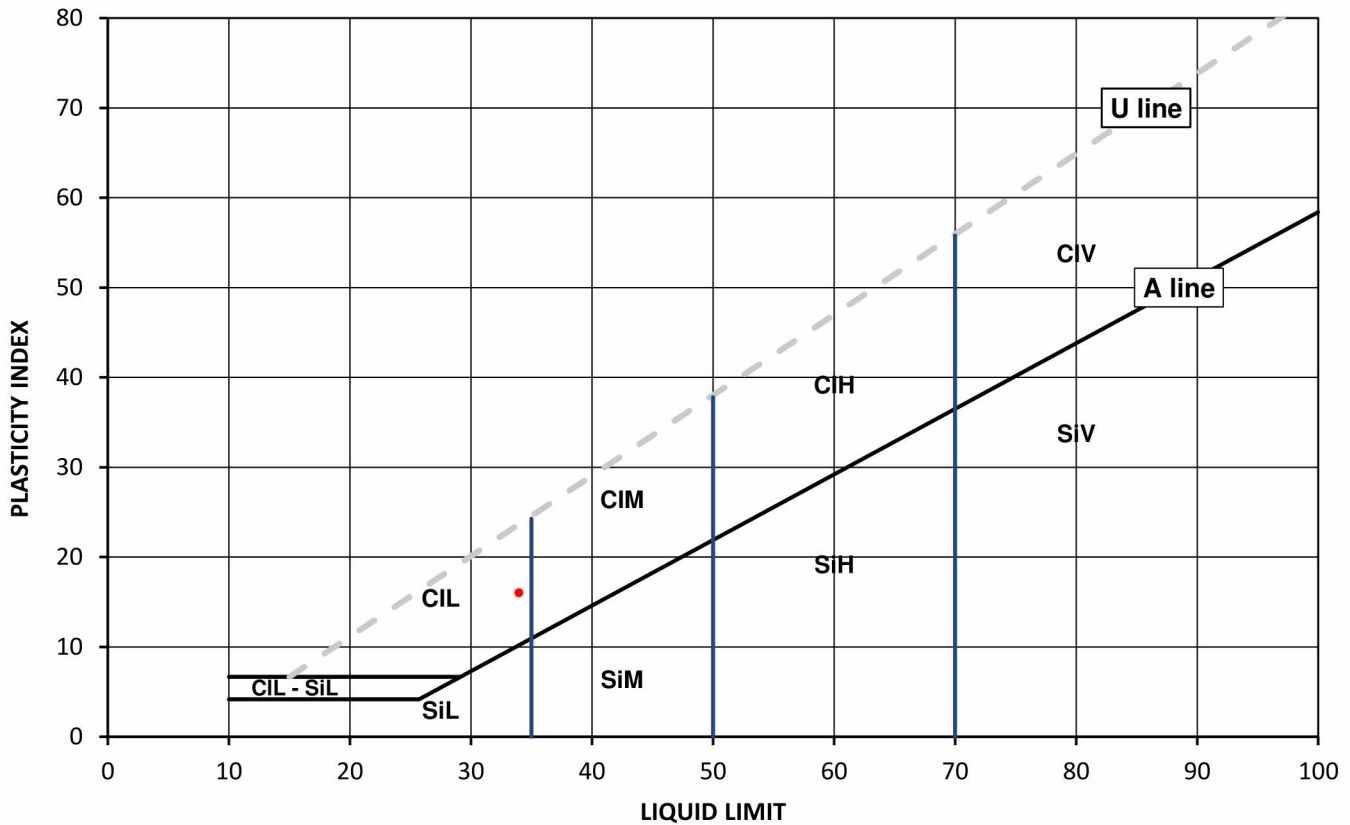
## Test Results:

Laboratory Reference: 2227508  
Hole No.: CBR5  
Sample Reference: Not Given  
Sample Description: Light grey sandy CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

Sample Preparation: Tested in natural condition

As Received Water Content [ W ] %	Liquid Limit [ WL ] %	Plastic Limit [ Wp ] %	Plasticity Index [ Ip ] %	% Passing 425µm BS Test Sieve
19	34	18	16	100



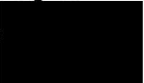
Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

Cl	Clay	Plasticity	L	Low	Liquid Limit	below 35
Si	Silt		M	Medium		35 to 50
			H	High		50 to 70
			V	Very high		exceeding 70
			O	Organic		append to classification for organic material ( eg CIHO )

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

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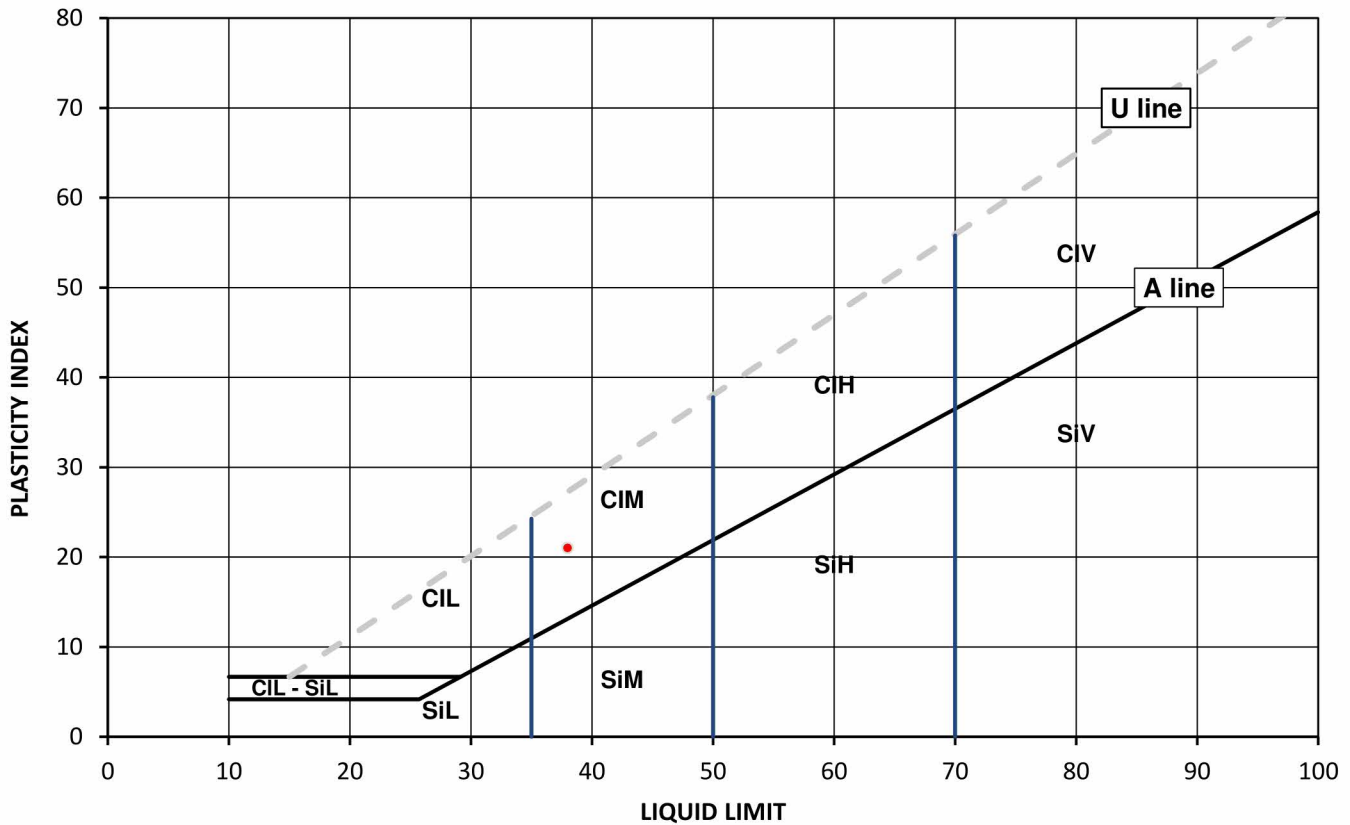
## Test Results:

Laboratory Reference: 2227509  
Hole No.: CBR6  
Sample Reference: Not Given  
Sample Description: Light grey sandy CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

Sample Preparation: Tested after >425um removed by hand

As Received Water Content [ W ] %	Liquid Limit [ WL ] %	Plastic Limit [ Wp ] %	Plasticity Index [ Ip ] %	% Passing 425µm BS Test Sieve
20	38	17	21	99



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

Cl	Clay	Plasticity	L	Low	Liquid Limit	below 35
Si	Silt		M	Medium		35 to 50
			H	High		50 to 70
			V	Very high		exceeding 70
			O	Organic		append to classification for organic material ( eg CIHO )

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

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Sampled By: Not Given

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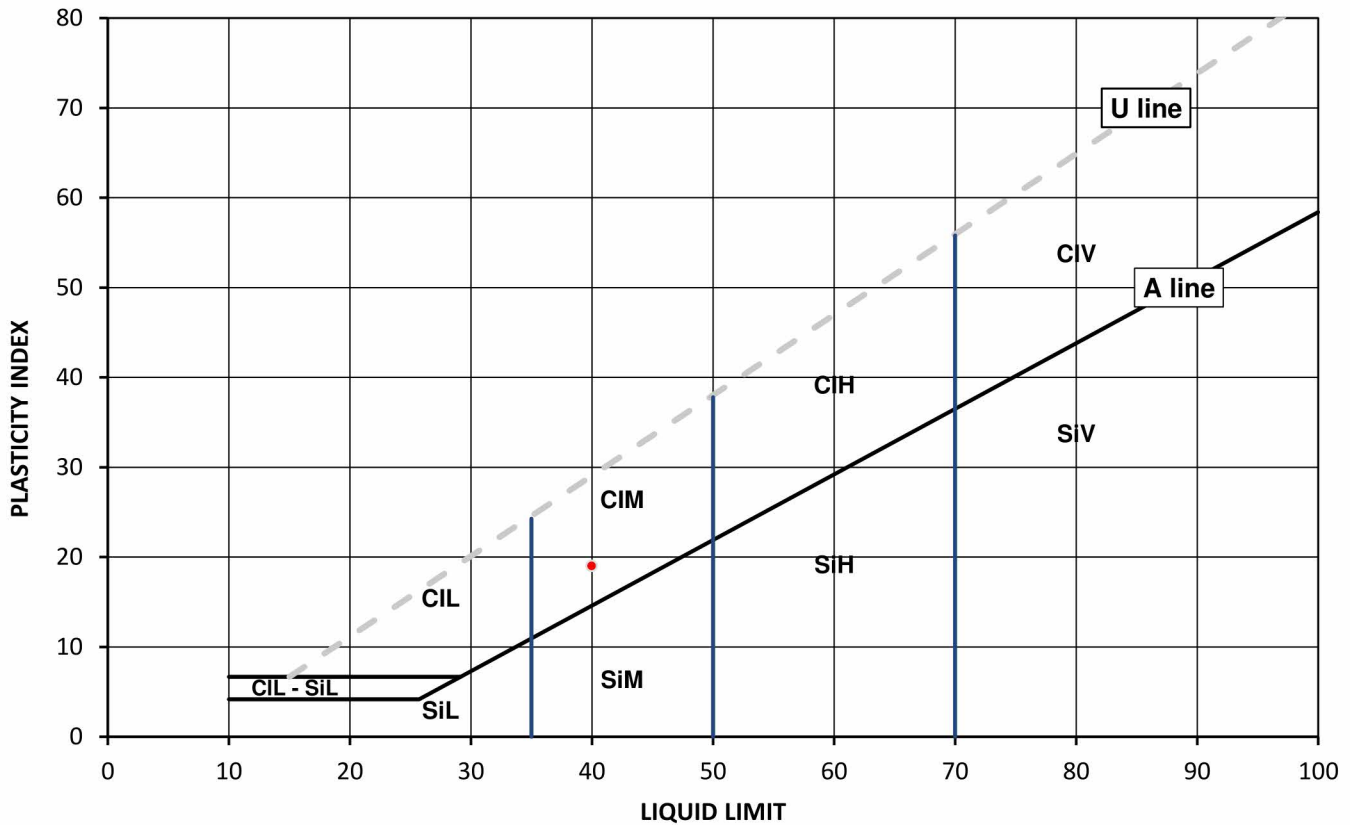
## Test Results:

Laboratory Reference: 2227510  
Hole No.: CBR7  
Sample Reference: Not Given  
Sample Description: Light grey sandy CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

Sample Preparation: Tested in natural condition

As Received Water Content [ W ] %	Liquid Limit [ WL ] %	Plastic Limit [ Wp ] %	Plasticity Index [ Ip ] %	% Passing 425µm BS Test Sieve
19	40	21	19	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

Cl	Clay	Plasticity	L	Low	Liquid Limit	below 35
Si	Silt		M	Medium		35 to 50
			H	High		50 to 70
			V	Very high		exceeding 70
			O	Organic		append to classification for organic material ( eg CIHO )

Note: Water Content by BS 1377-2: 1990: Clause 3.2

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 GL12 8AA  
 Contact: Steve Rhodes  
 Site Address: Bell Road Bottisham

## SUMMARY REPORT

### SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

Water Content by BS 1377-2:1990: Clause 3.2; Atterberg by BS 1377-2: 1990:  
 Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5; PD by BS 1377-2:  
 1990: Clause 8.2

i2 Analytical Ltd  
 Unit 8 Harrowden Road  
 Brackmills Industrial Estate  
 Northampton NN4 7EB



Environmental Science

Client Reference: CRM.1027.113  
 Job Number: 22-49788  
 Date Sampled: 31/03/2022  
 Date Received: 01/04/2022  
 Date Tested: 12/04/2022  
 Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

#### Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Water Content BS 1377-2 [ W ] %	Water Content BS EN ISO 17892-1 [ W ] %	Atterberg				Density			Total Porosity# %	
		Reference	Depth Top m	Depth Base m	Type					% Passing 425um	WL %	Wp %	Ip %	bulk Mg/m3	dry Mg/m3	PD Mg/m3		
2227504	CBR1	Not Given	0.50	Not Given	B	Light grey very sandy silty CLAY with crushed marly limestone	Atterberg 1 Point	19		100	31	21	10					
2227505	CBR2	Not Given	0.50	Not Given	B	Brownish grey slightly gravelly sandy silty CLAY with crushed marly limestone	Atterberg 1 Point	22		98	35	19	16					
2227506	CBR3	Not Given	0.50	Not Given	B	Brownish grey slightly gravelly very sandy CLAY with crushed marly limestone	Atterberg 1 Point	17		95	34	18	16					
2227507	CBR4	Not Given	0.50	Not Given	B	Light grey sandy silty CLAY with crushed marly limestone	Atterberg 1 Point	20		100	36	21	15					
2227508	CBR5	Not Given	0.50	Not Given	B	Light grey sandy CLAY with crushed marly limestone	Atterberg 1 Point	19		100	34	18	16					
2227509	CBR6	Not Given	0.50	Not Given	B	Light grey slightly gravelly sandy CLAY with crushed marly limestone	Atterberg 1 Point	20		99	38	17	21					
2227510	CBR7	Not Given	0.50	Not Given	B	Light grey sandy CLAY with crushed marly limestone	Atterberg 1 Point	19		100	40	21	19					

Note: # Non accredited; NP - Non plastic

Comments:

Signed:



Anna Dudzinska  
 PL Deputy Head of Reporting Team  
 for and on behalf of i2 Analytical Ltd

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4041

Client: Enzygo Geoenvironmental Ltd  
 Client Address: The Byre, Woodend Lane,  
 Cromhall, Gloucestershire,  
 GL12 8AA  
 Contact: Steve Rhodes  
 Site Address: Bell Road Bottisham

# SUMMARY REPORT

## DETERMINATION OF WATER CONTENT

Tested in Accordance with: BS 1377-2: 1990: Clause 3.2

i2 Analytical Ltd  
 Unit 8 Harrowden Road  
 Brackmills Industrial Estate  
 Northampton NN4 7EB



Environmental Science

Client Reference: CRM.1027.113  
 Job Number: 22-49788  
 Date Sampled: 31/03/2022  
 Date Received: 01/04/2022  
 Date Tested: 12/04/2022  
 Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

### Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC %	Sample preparation / Oven temperature at the time of testing			
		Reference	Depth Top m	Depth Base m	Type							
2227504	CBR1	Not Given	0.50	Not Given	B	Light grey very sandy silty CLAY with crushed marly limestone		19	Sample was quartered, oven dried at 109 °C			
2227505	CBR2	Not Given	0.50	Not Given	B	Brownish grey slightly gravelly sandy silty CLAY with crushed marly limestone		22	Sample was quartered, oven dried at 106.8 °C			
2227506	CBR3	Not Given	0.50	Not Given	B	Brownish grey slightly gravelly very sandy CLAY with crushed marly limestone		17	Sample was quartered, oven dried at 106.1 °C			
2227507	CBR4	Not Given	0.50	Not Given	B	Light grey sandy silty CLAY with crushed marly limestone		20	Sample was quartered, oven dried at 109 °C			
2227508	CBR5	Not Given	0.50	Not Given	B	Light grey sandy CLAY with crushed marly limestone		19	Sample was quartered, oven dried at 109 °C			
2227509	CBR6	Not Given	0.50	Not Given	B	Light grey slightly gravelly sandy CLAY with crushed marly limestone		20	Sample was quartered, oven dried at 109 °C			
2227510	CBR7	Not Given	0.50	Not Given	B	Light grey sandy CLAY with crushed marly limestone		19	Sample was quartered, oven dried at 109 °C			

Comments:

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Signed:



Anna Dudzinska  
 PL Deputy Head of Reporting Team  
 for and on behalf of i2 Analytical Ltd



# TEST CERTIFICATE

## DETERMINATION OF THE CALIFORNIA BEARING RATIO (CBR) SOAKED

Tested in Accordance with: BS 1377-4: 1990: Clause 7

i2 Analytical Ltd  
Unit 8 Harrowden Road  
Brackmills Industrial Estate  
Northampton NN4 7EB



Environmental Science

4041

Client: Enzygo Geoenvironmental Ltd  
Client Address: The Byre, Woodend Lane,  
Cromhall, Gloucestershire,  
GL12 8AA  
Contact: Steve Rhodes  
Site Address: Bell Road Bottisham

Client Reference: CRM.1027.113  
Job Number: 22-49788  
Date Sampled: 31/03/2022  
Date Received: 01/04/2022  
Date Tested: 14/04/2022  
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

### Test Results:

Laboratory Reference: 2227504  
Hole No.: CBR1  
Sample Reference: Not Given  
Sample Description: Light grey very sandy silty CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

### Specimen Preparation:

Condition Remoulded  
Details Recompacted with specified standard effort using 2.5kg rammer

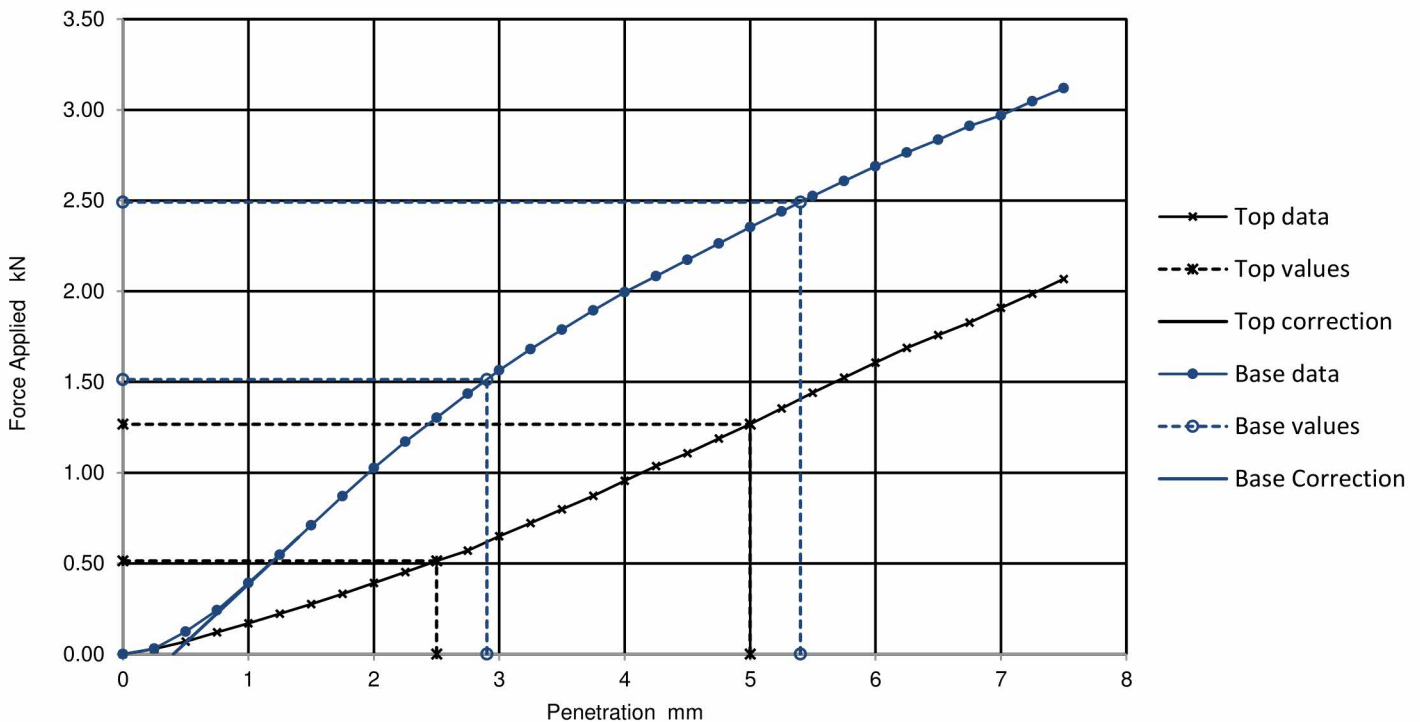
Soaking details  
Period of soaking 7 days  
Time to surface 5 days  
Amount of swell recorded 0.03 mm  
Dry density after soaking 1.69 Mg/m<sup>3</sup>

Material retained on 20mm sieve removed 39 %

Initial Specimen details  
Bulk density 2.03 Mg/m<sup>3</sup>  
Dry density 1.69 Mg/m<sup>3</sup>  
Moisture content 20 %

Surcharge applied 8 kg  
4.8 kPa

Force v Penetration Plots



### Results

TOP  
BASE

Curve correction applied	CBR Values, %			
	2.5mm	5mm	Highest	Average
No	3.9	6.3	6.3	
Yes	11.0	12.0	12.0	

Moisture Content %
20
20

Remarks: Test carried out with > 25 % retained on 20mm as per clause 7.2.1.2

Test/ Specimen specific remarks:

Signed:

Anna Dudzinska  
PL Deputy Head of Reporting Team  
for and on behalf of i2 Analytical Ltd

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Tested in Accordance with: BS 1377-4: 1990: Clause 7

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Environmental Science

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GL12 8AA  
Contact: Steve Rhodes  
Site Address: Bell Road Bottisham

Client Reference: CRM.1027.113  
Job Number: 22-49788  
Date Sampled: 31/03/2022  
Date Received: 01/04/2022  
Date Tested: 14/04/2022  
Sampled By: Not Given

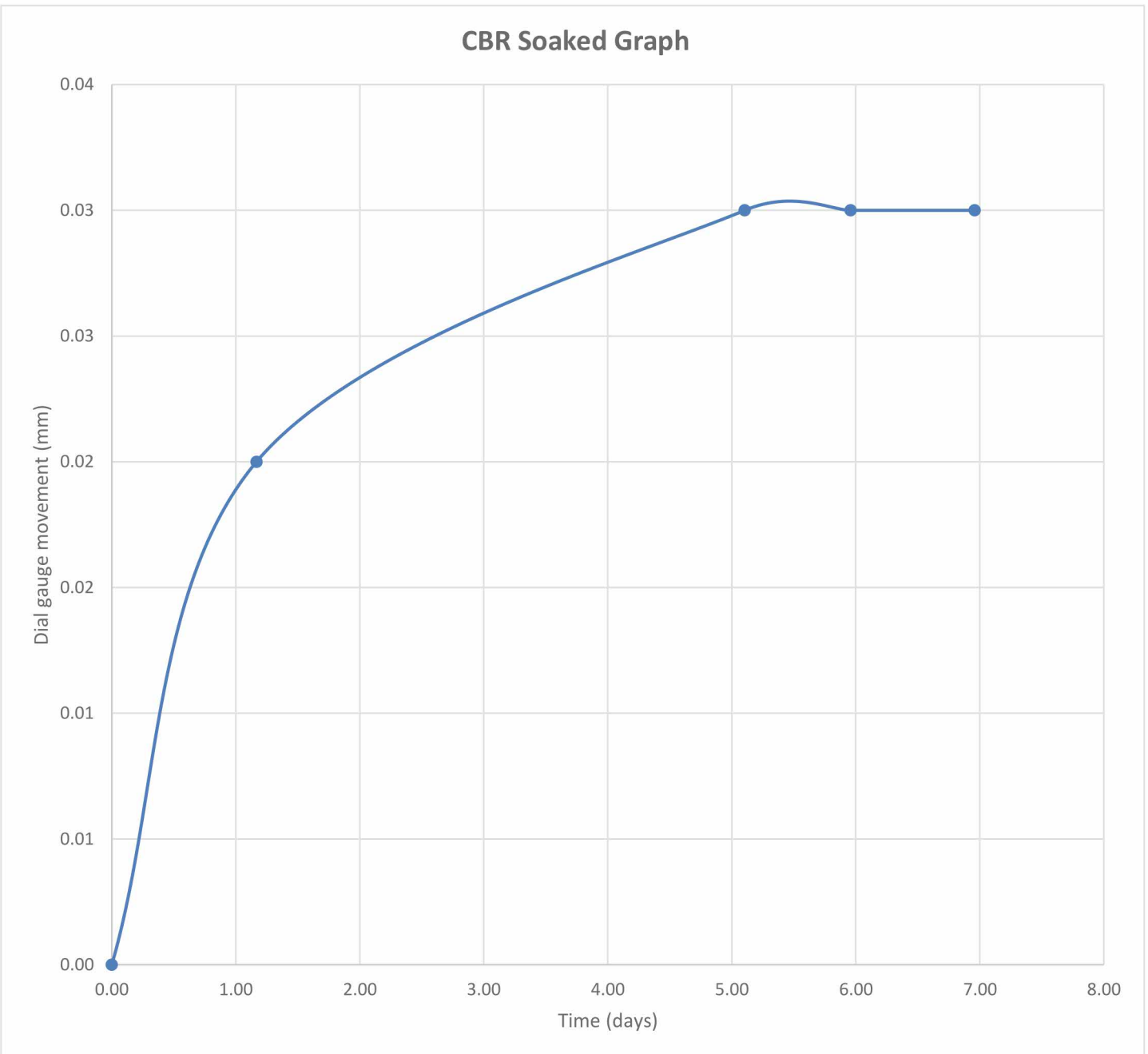
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

### Test Results:

Laboratory Reference: 2227504  
Hole No.: CBR1  
Sample Reference: Not Given  
Sample Description: Light grey very sandy silty CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

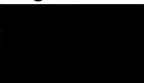
### CBR Soaked Graph



Remarks: Test carried out with > 25 % retained on 20mm as per clause 7.2.1.2

Test/ Specimen specific remarks:

Signed:



Anna Dudzinska  
PL Deputy Head of Reporting Team  
for and on behalf of i2 Analytical Ltd

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Tested in Accordance with: BS 1377-4: 1990: Clause 7

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Environmental Science

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Contact: Steve Rhodes  
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Job Number: 22-49788  
Date Sampled: 31/03/2022  
Date Received: 01/04/2022  
Date Tested: 13/04/2022  
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

### Test Results:

Laboratory Reference: 2227505  
Hole No.: CBR2  
Sample Reference: Not Given  
Sample Description: Brownish grey slightly gravelly sandy silty CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

### Specimen Preparation:

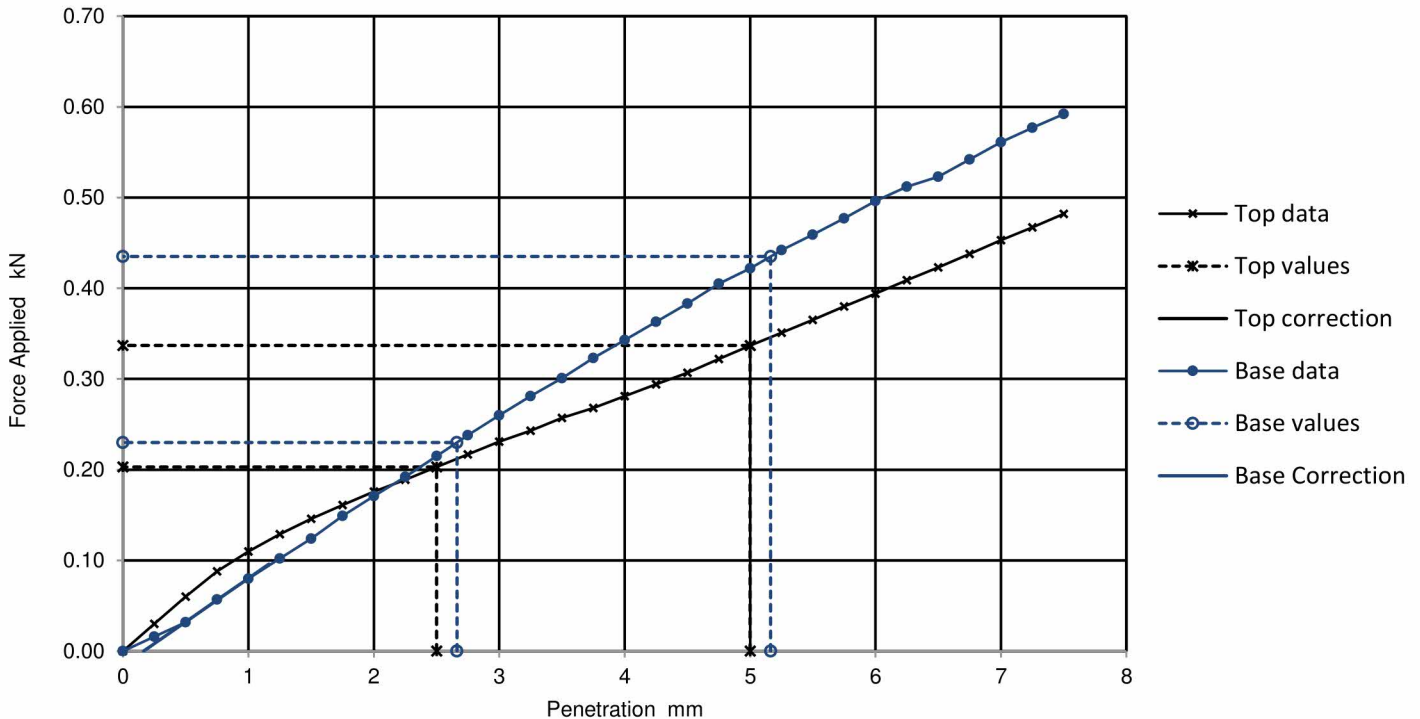
Condition Remoulded  
Details Recompacted with specified standard effort using 2.5kg rammer

Soaking details  
Period of soaking 11 days  
Time to surface 5 days  
Amount of swell recorded 0.03 mm  
Dry density after soaking 1.63 Mg/m<sup>3</sup>

Material retained on 20mm sieve removed 0 %

Initial Specimen details  
Bulk density 1.97 Mg/m<sup>3</sup>  
Dry density 1.63 Mg/m<sup>3</sup>  
Moisture content 21 %  
Surcharge applied 8 kg  
4.8 kPa

Force v Penetration Plots



### Results

TOP  
BASE

Curve correction applied	CBR Values, %			
	2.5mm	5mm	Highest	Average
No	1.5	1.7	1.7	
Yes	1.7	2.2	2.2	

Moisture Content %
23
21

### Remarks:

Test/ Specimen specific remarks:

Signed:

Anna Dudzinska  
PL Deputy Head of Reporting Team  
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4041

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Tested in Accordance with: BS 1377-4: 1990: Clause 7

i2 Analytical Ltd  
Unit 8 Harrowden Road  
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Northampton NN4 7EB



Environmental Science

Client: Enzygo Geoenvironmental Ltd  
Client Address: The Byre, Woodend Lane,  
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GL12 8AA  
Contact: Steve Rhodes  
Site Address: Bell Road Bottisham

Client Reference: CRM.1027.113  
Job Number: 22-49788  
Date Sampled: 31/03/2022  
Date Received: 01/04/2022  
Date Tested: 13/04/2022  
Sampled By: Not Given

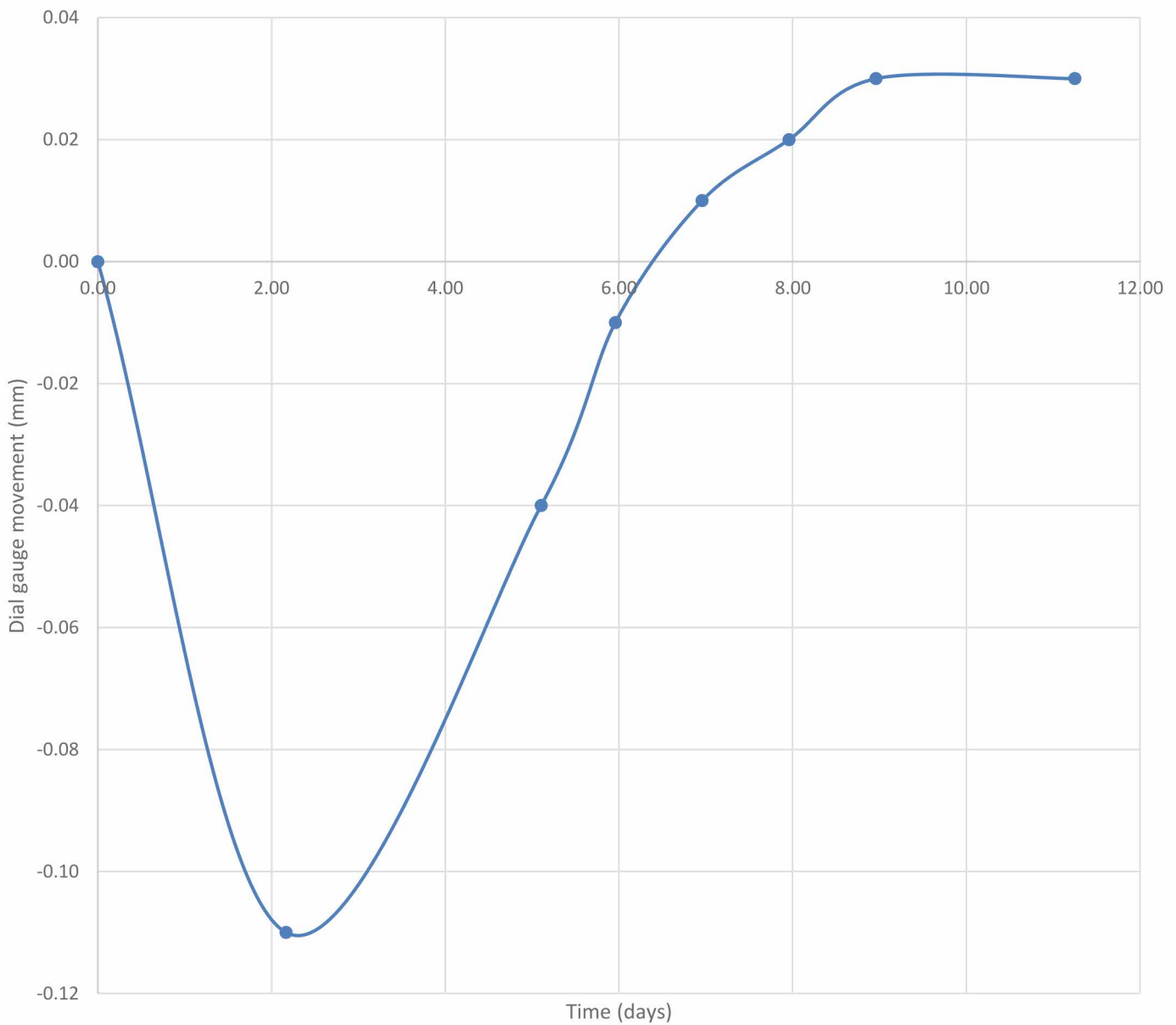
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

### Test Results:

Laboratory Reference: 2227505  
Hole No.: CBR2  
Sample Reference: Not Given  
Sample Description: Brownish grey slightly gravelly sandy silty CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

### CBR Soaked Graph



Remarks:

Test/ Specimen  
specific remarks:

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Environmental Science

4041

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Cromhall, Gloucestershire,  
GL12 8AA  
Contact: Steve Rhodes  
Site Address: Bell Road Bottisham

Client Reference: CRM.1027.113  
Job Number: 22-49788  
Date Sampled: 31/03/2022  
Date Received: 01/04/2022  
Date Tested: 14/04/2022  
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

### Test Results:

Laboratory Reference: 2227506  
Hole No.: CBR3  
Sample Reference: Not Given  
Sample Description: Brownish grey slightly gravelly very sandy CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

### Specimen Preparation:

Condition Remoulded  
Details Recompacted with specified standard effort using 2.5kg rammer

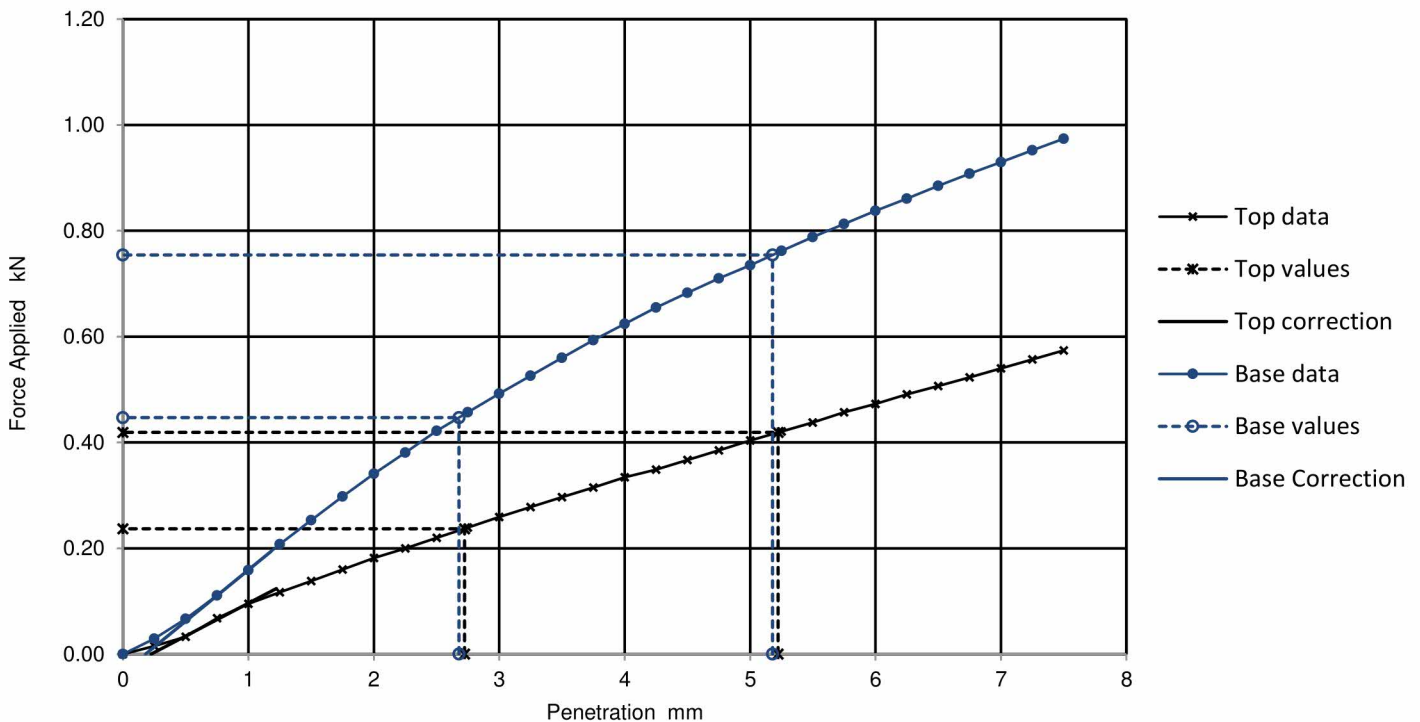
Soaking details  
Period of soaking 11 days  
Time to surface 5 days  
Amount of swell recorded -0.08 mm  
Dry density after soaking 1.69 Mg/m<sup>3</sup>

Material retained on 20mm sieve removed 3 %

Initial Specimen details  
Bulk density 2.03 Mg/m<sup>3</sup>  
Dry density 1.69 Mg/m<sup>3</sup>  
Moisture content 20 %

Surcharge applied 8 kg  
4.9 kPa

Force v Penetration Plots



Results

TOP  
BASE

Curve correction applied	CBR Values, %			
	2.5mm	5mm	Highest	Average
Yes	1.8	2.1	2.1	
Yes	3.4	3.8	3.8	

Moisture Content %
21
21

Remarks:

Test/ Specimen specific remarks:

Signed:

Anna Dudzinska  
PL Deputy Head of Reporting Team  
for and on behalf of i2 Analytical Ltd

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# TEST CERTIFICATE

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Tested in Accordance with: BS 1377-4: 1990: Clause 7

i2 Analytical Ltd  
Unit 8 Harrowden Road  
Brackmills Industrial Estate  
Northampton NN4 7EB



Environmental Science

4041

Client: Enzygo Geoenvironmental Ltd  
Client Address: The Byre, Woodend Lane,  
Cromhall, Gloucestershire,  
GL12 8AA  
Contact: Steve Rhodes  
Site Address: Bell Road Bottisham

Client Reference: CRM.1027.113  
Job Number: 22-49788  
Date Sampled: 31/03/2022  
Date Received: 01/04/2022  
Date Tested: 14/04/2022  
Sampled By: Not Given

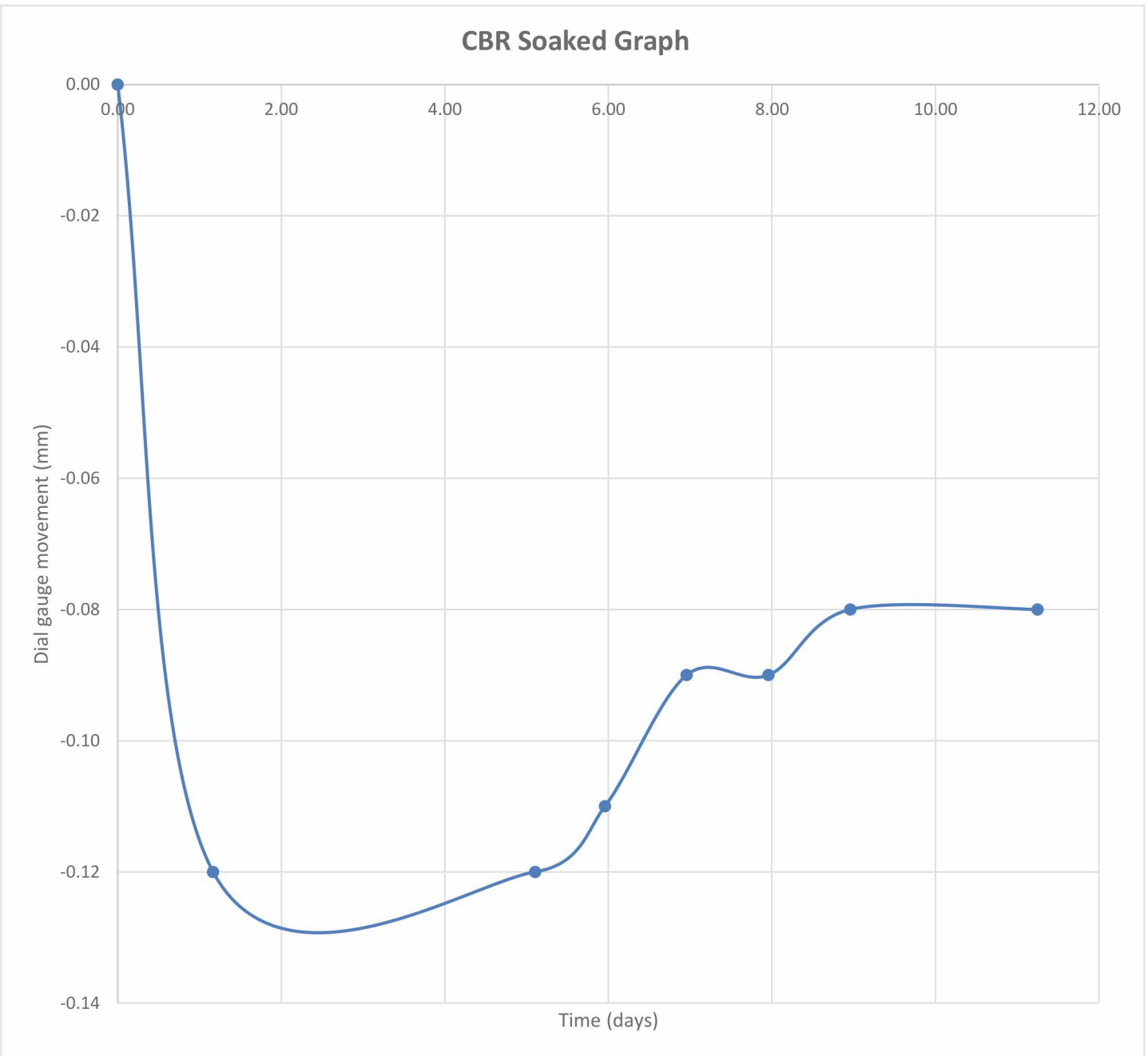
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

### Test Results:

Laboratory Reference: 2227506  
Hole No.: CBR3  
Sample Reference: Not Given  
Sample Description: Brownish grey slightly gravelly very sandy CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

### CBR Soaked Graph

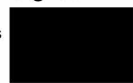


Remarks:

Test/ Specimen  
specific remarks:

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PL Deputy Head of Reporting Team  
for and on behalf of i2 Analytical Ltd



# TEST CERTIFICATE

## DETERMINATION OF THE CALIFORNIA BEARING RATIO (CBR) SOAKED

Tested in Accordance with: BS 1377-4: 1990: Clause 7

i2 Analytical Ltd  
Unit 8 Harrowden Road  
Brackmills Industrial Estate  
Northampton NN4 7EB



Environmental Science

4041

Client: Enzygo Geoenvironmental Ltd  
Client Address: The Byre, Woodend Lane,  
Cromhall, Gloucestershire,  
GL12 8AA  
Contact: Steve Rhodes  
Site Address: Bell Road Bottisham

Client Reference: CRM.1027.113  
Job Number: 22-49788  
Date Sampled: 31/03/2022  
Date Received: 01/04/2022  
Date Tested: 13/04/2022  
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

### Test Results:

Laboratory Reference: 2227507  
Hole No.: CBR4  
Sample Reference: Not Given  
Sample Description: Light grey sandy silty CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

### Specimen Preparation:

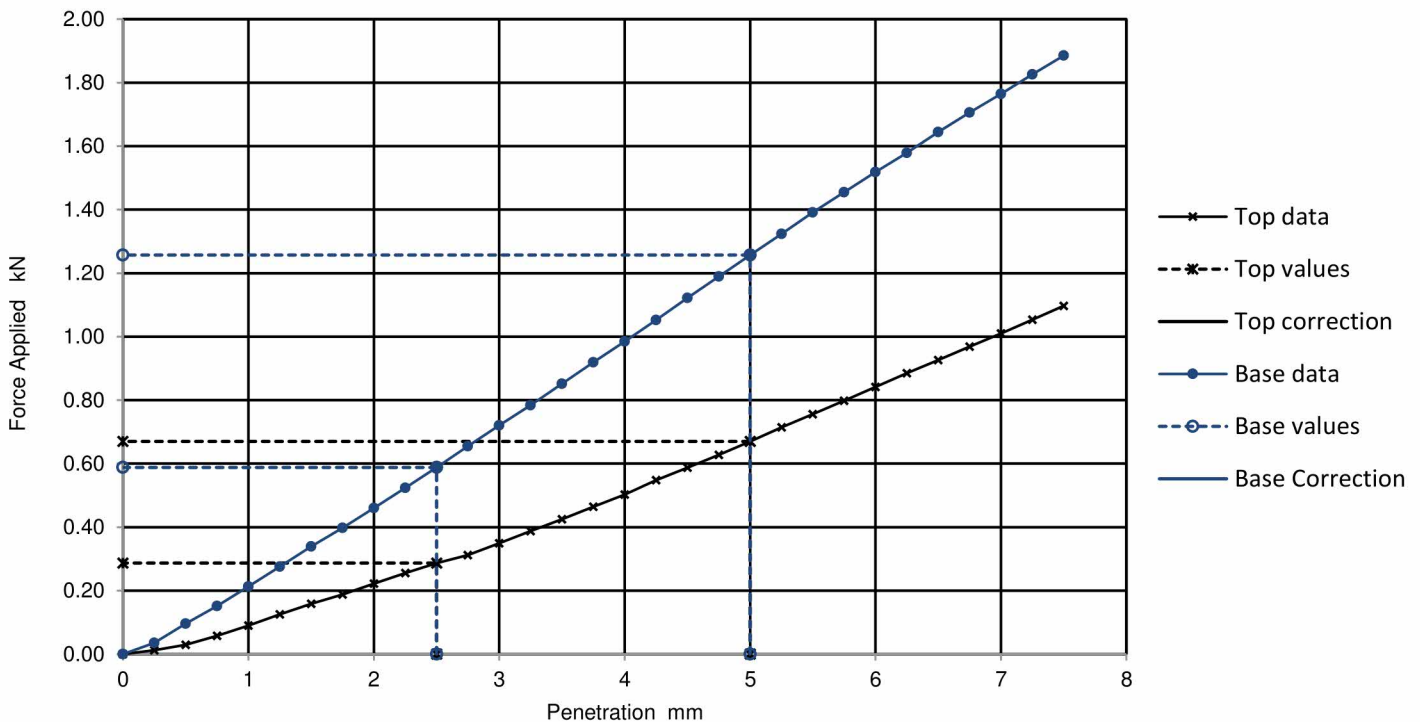
Condition Remoulded  
Details Recompacted with specified standard effort using 2.5kg rammer

Soaking details  
Period of soaking 9 days  
Time to surface 5 days  
Amount of swell recorded 0.08 mm  
Dry density after soaking 1.69 Mg/m<sup>3</sup>

Material retained on 20mm sieve removed 0 %

Initial Specimen details  
Bulk density 2.02 Mg/m<sup>3</sup>  
Dry density 1.69 Mg/m<sup>3</sup>  
Moisture content 19 %  
Surcharge applied 8 kg  
4.8 kPa

Force v Penetration Plots



Results

TOP  
BASE

Curve correction applied	CBR Values, %			
	2.5mm	5mm	Highest	Average
No	2.2	3.4	3.4	
No	4.5	6.3	6.3	

Moisture Content %
21
20

Remarks:

Test/ Specimen specific remarks:

Signed:



Anna Dudzinska  
PL Deputy Head of Reporting Team  
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Job Number: 22-49788  
Date Sampled: 31/03/2022  
Date Received: 01/04/2022  
Date Tested: 13/04/2022  
Sampled By: Not Given

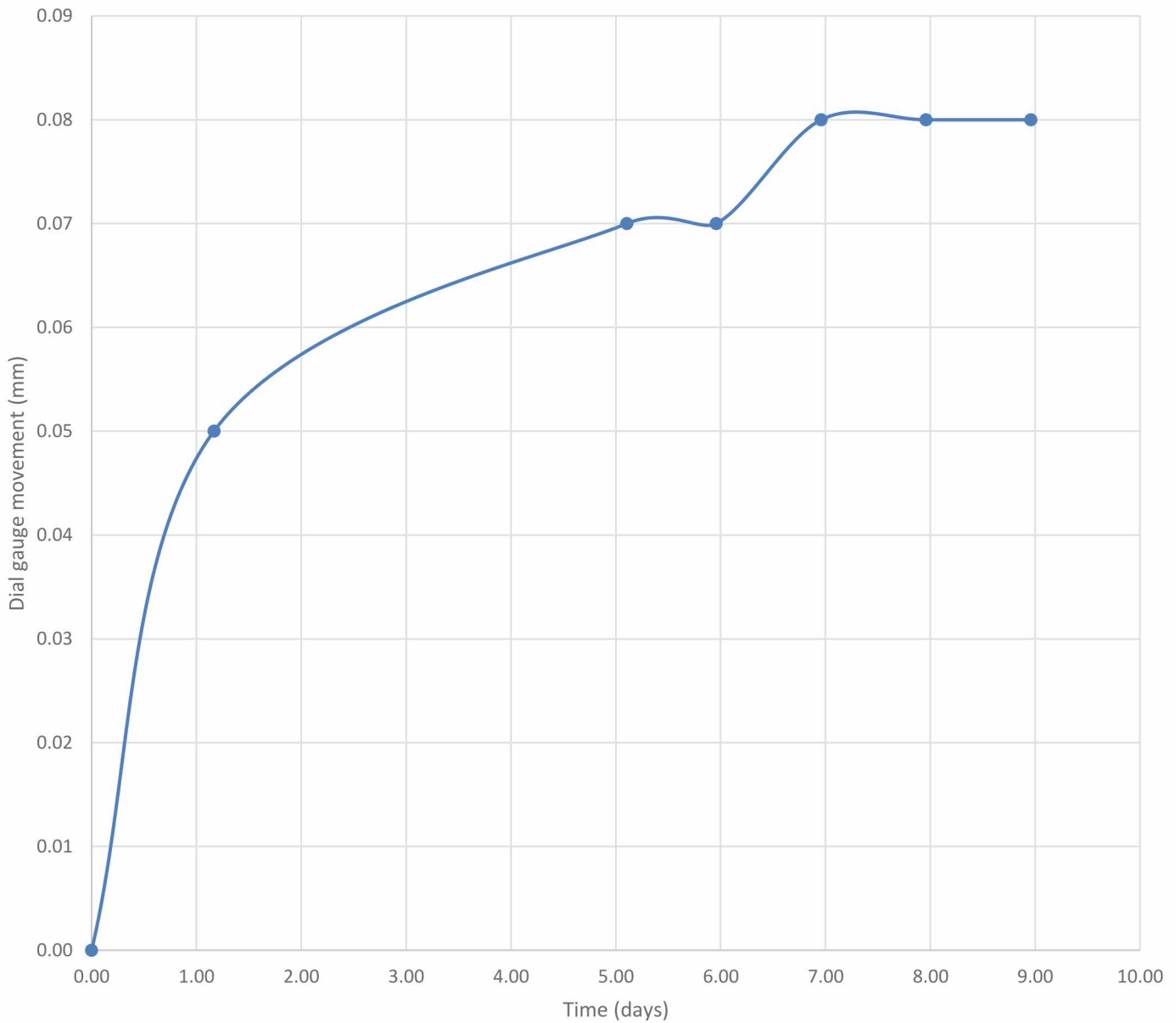
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

### Test Results:

Laboratory Reference: 2227507  
Hole No.: CBR4  
Sample Reference: Not Given  
Sample Description: Light grey sandy silty CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

### CBR Soaked Graph



Remarks:

Test/ Specimen  
specific remarks:

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# TEST CERTIFICATE

## DETERMINATION OF THE CALIFORNIA BEARING RATIO (CBR) SOAKED

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4041

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GL12 8AA  
Contact: Steve Rhodes  
Site Address: Bell Road Bottisham

Client Reference: CRM.1027.113  
Job Number: 22-49788  
Date Sampled: 31/03/2022  
Date Received: 01/04/2022  
Date Tested: 14/04/2022  
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

### Test Results:

Laboratory Reference: 2227508  
Hole No.: CBR5  
Sample Reference: Not Given  
Sample Description: Light grey sandy CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

### Specimen Preparation:

Condition Remoulded  
Details Recompacted with specified standard effort using 2.5kg rammer

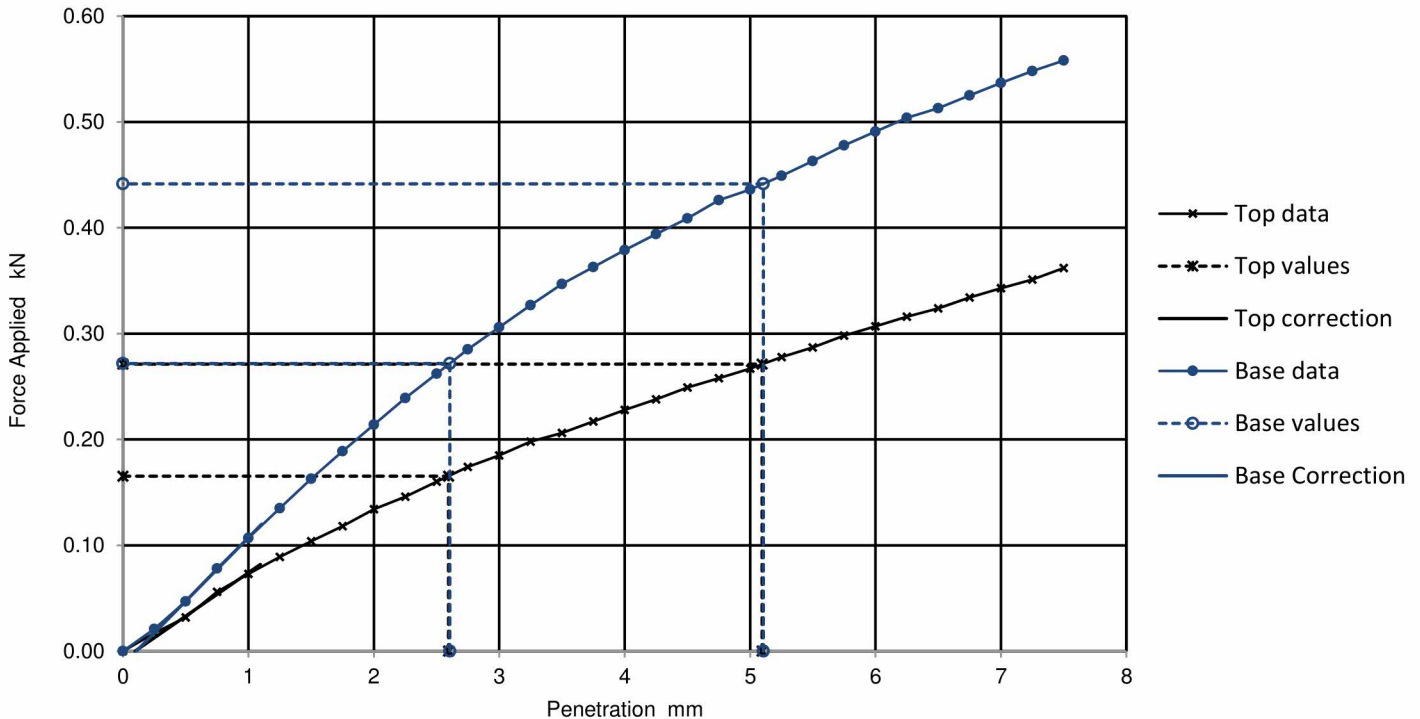
Soaking details  
Period of soaking 7 days  
Time to surface 5 days  
Amount of swell recorded -0.09 mm  
Dry density after soaking 1.68 Mg/m<sup>3</sup>

Material retained on 20mm sieve removed 28 %

Initial Specimen details  
Bulk density 2.03 Mg/m<sup>3</sup>  
Dry density 1.68 Mg/m<sup>3</sup>  
Moisture content 21 %

Surcharge applied 8 kg  
4.9 kPa

Force v Penetration Plots



### Results

TOP  
BASE

Curve correction applied	CBR Values, %			
	2.5mm	5mm	Highest	Average
Yes	1.3	1.4	1.4	
Yes	2.1	2.2	2.2	

Moisture Content %
22
21

Remarks: Test carried out with > 25 % retained on 20mm as per clause 7.2.1.2

Test/ Specimen specific remarks:

Signed:

Anna Dudzinska  
PL Deputy Head of Reporting Team  
for and on behalf of i2 Analytical Ltd

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# TEST CERTIFICATE

## DETERMINATION OF THE CALIFORNIA BEARING RATIO (CBR) SOAKED

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i2 Analytical Ltd  
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Environmental Science

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Client: Enzygo Geoenvironmental Ltd  
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Contact: Steve Rhodes  
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Client Reference: CRM.1027.113  
Job Number: 22-49788  
Date Sampled: 31/03/2022  
Date Received: 01/04/2022  
Date Tested: 14/04/2022  
Sampled By: Not Given

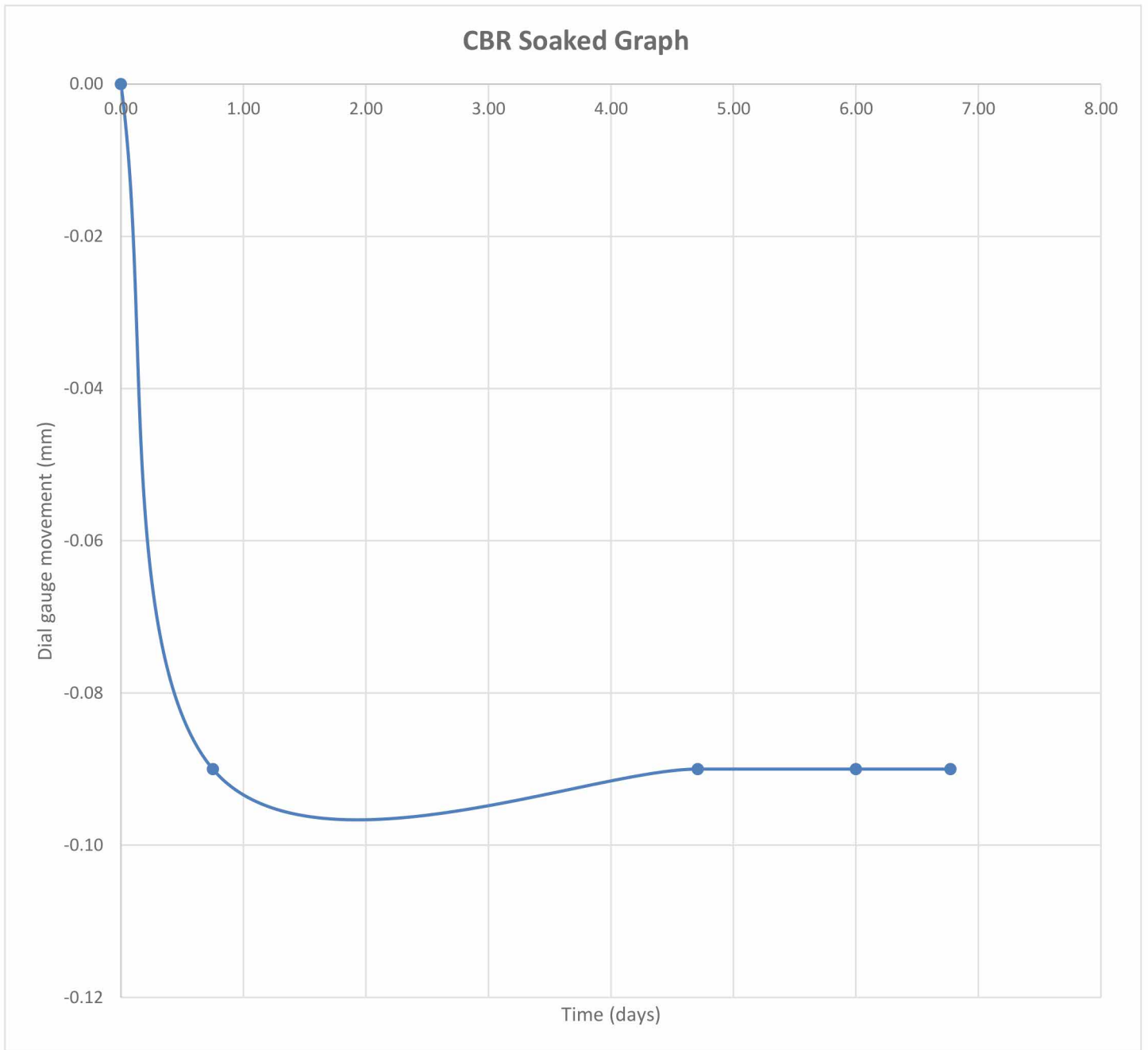
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

### Test Results:

Laboratory Reference: 2227508  
Hole No.: CBR5  
Sample Reference: Not Given  
Sample Description: Light grey sandy CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

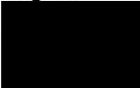
### CBR Soaked Graph



<b>Remarks:</b> Test carried out with > 25 % retained on 20mm as per clause 7.2.1.2	<b>Test/ Specimen specific remarks:</b>
---	---

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

Signed:



Anna Dudzinska  
PL Deputy Head of Reporting Team  
for and on behalf of i2 Analytical Ltd





4041

# TEST CERTIFICATE

## DETERMINATION OF THE CALIFORNIA BEARING RATIO (CBR) SOAKED

Tested in Accordance with: BS 1377-4: 1990: Clause 7

i2 Analytical Ltd  
Unit 8 Harrowden Road  
Brackmills Industrial Estate  
Northampton NN4 7EB



Environmental Science

Client: Enzygo Geoenvironmental Ltd  
Client Address: The Byre, Woodend Lane,  
Cromhall, Gloucestershire,  
GL12 8AA  
Contact: Steve Rhodes  
Site Address: Bell Road Bottisham

Client Reference: CRM.1027.113  
Job Number: 22-49788  
Date Sampled: 31/03/2022  
Date Received: 01/04/2022  
Date Tested: 14/04/2022  
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

### Test Results:

Laboratory Reference: 2227509  
Hole No.: CBR6  
Sample Reference: Not Given  
Sample Description: Light grey slightly gravelly sandy CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

### Specimen Preparation:

Condition Remoulded  
Details Recompacted with specified standard effort using 2.5kg rammer

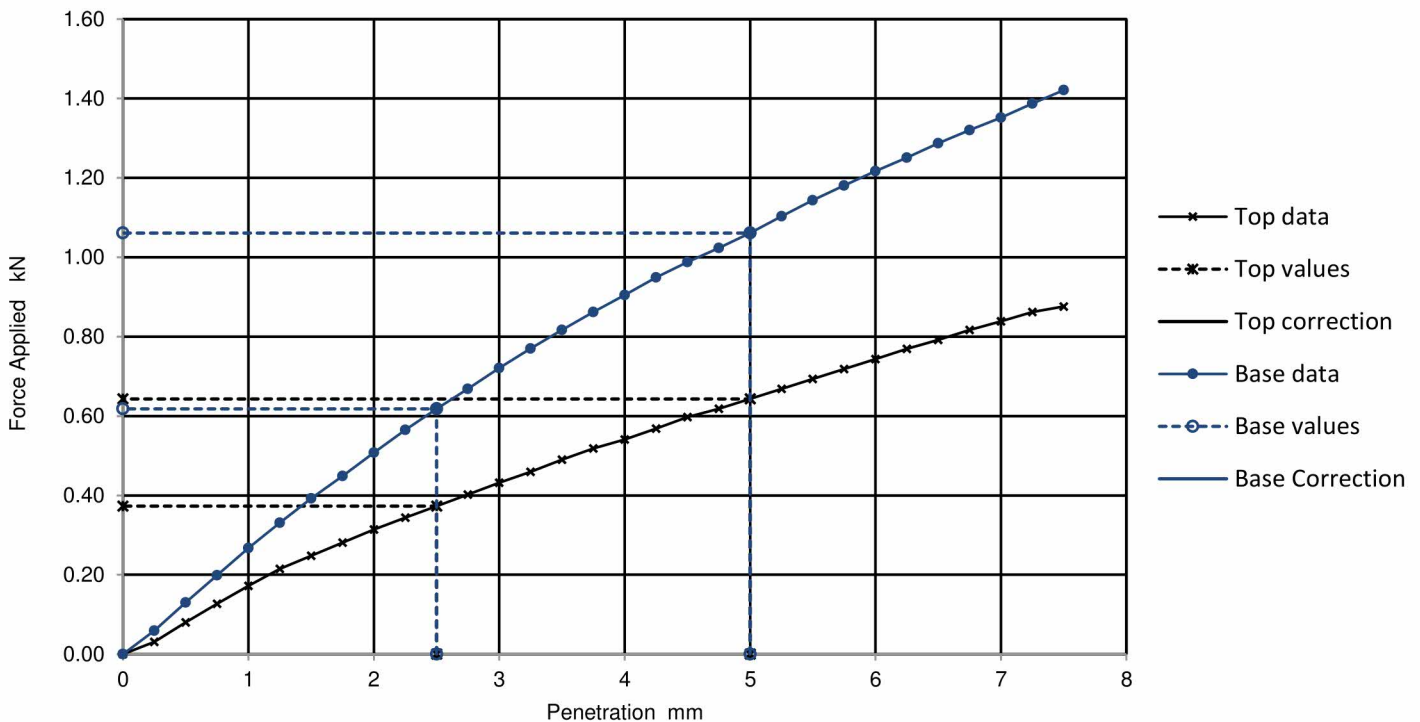
Soaking details  
Period of soaking 9 days  
Time to surface 5 days  
Amount of swell recorded 0.00 mm  
Dry density after soaking 1.70 Mg/m<sup>3</sup>

Material retained on 20mm sieve removed 51 %

Initial Specimen details  
Bulk density 2.04 Mg/m<sup>3</sup>  
Dry density 1.70 Mg/m<sup>3</sup>  
Moisture content 20 %

Surcharge applied 8 kg  
4.8 kPa

Force v Penetration Plots



### Results

TOP  
BASE

Curve correction applied	CBR Values, %			
	2.5mm	5mm	Highest	Average
No	2.8	3.2	3.2	
No	4.7	5.3	5.3	

Moisture Content %
20
20

Remarks: Test carried out with > 25 % retained on 20mm as per clause 7.2.1.2

Test/ Specimen specific remarks:

Signed:



Anna Dudzinska  
PL Deputy Head of Reporting Team  
for and on behalf of i2 Analytical Ltd

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# TEST CERTIFICATE

## DETERMINATION OF THE CALIFORNIA BEARING RATIO (CBR) SOAKED

Tested in Accordance with: BS 1377-4: 1990: Clause 7

i2 Analytical Ltd  
Unit 8 Harrowden Road  
Brackmills Industrial Estate  
Northampton NN4 7EB



Environmental Science

4041

Client: Enzygo Geoenvironmental Ltd  
Client Address: The Byre, Woodend Lane,  
Cromhall, Gloucestershire,  
GL12 8AA  
Contact: Steve Rhodes  
Site Address: Bell Road Bottisham

Client Reference: CRM.1027.113  
Job Number: 22-49788  
Date Sampled: 31/03/2022  
Date Received: 01/04/2022  
Date Tested: 14/04/2022  
Sampled By: Not Given

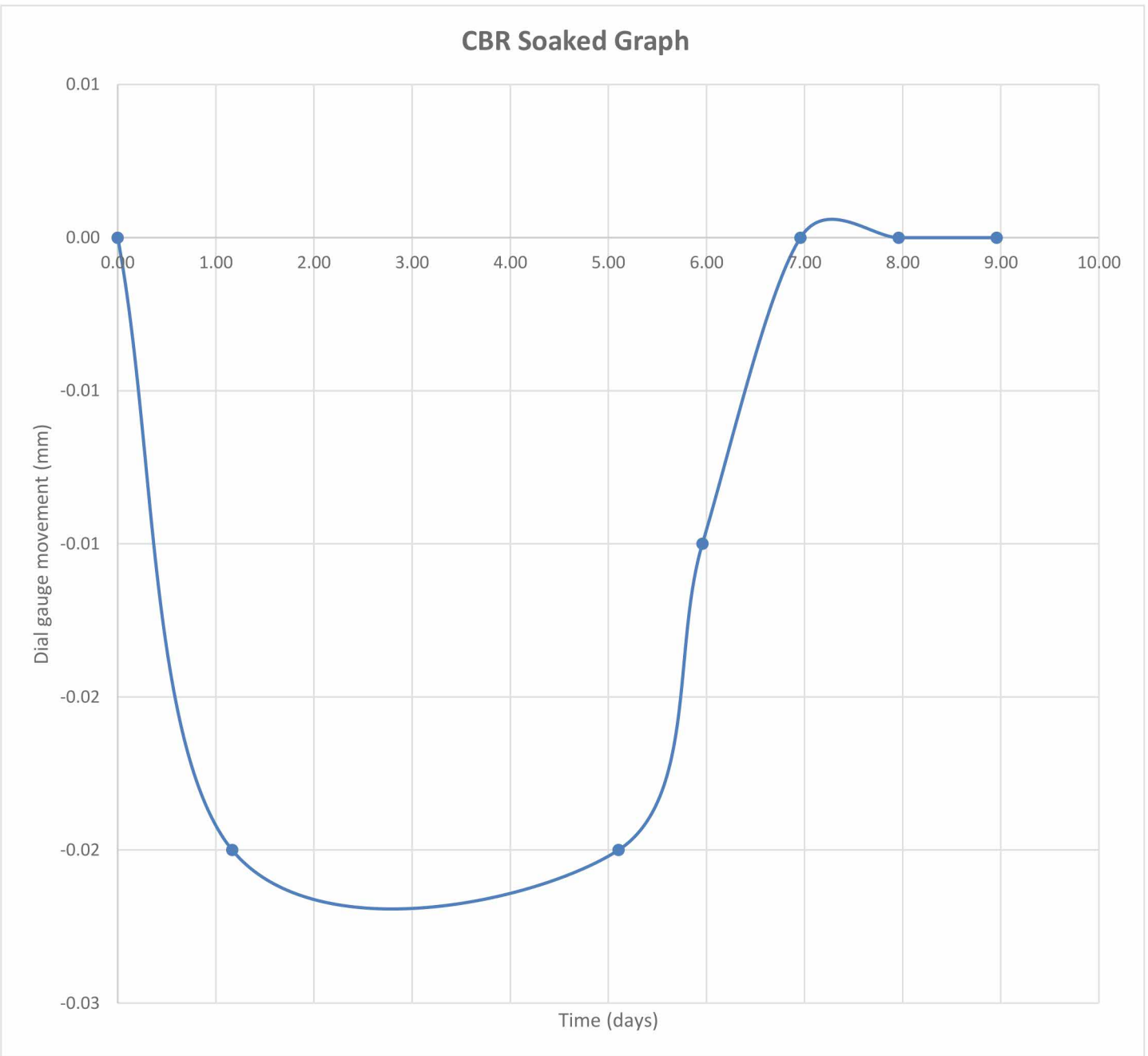
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

### Test Results:

Laboratory Reference: 2227509  
Hole No.: CBR6  
Sample Reference: Not Given  
Sample Description: Light grey slightly gravelly sandy CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

### CBR Soaked Graph



Remarks: Test carried out with > 25 % retained on 20mm as per clause 7.2.1.2	Test/ Specimen specific remarks:
--	----------------------------------

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Signed:

Anna Dudzinska  
PL Deputy Head of Reporting Team  
for and on behalf of i2 Analytical Ltd



# TEST CERTIFICATE

## DETERMINATION OF THE CALIFORNIA BEARING RATIO (CBR) SOAKED

Tested in Accordance with: BS 1377-4: 1990: Clause 7

i2 Analytical Ltd  
Unit 8 Harrowden Road  
Brackmills Industrial Estate  
Northampton NN4 7EB



Environmental Science

4041

Client: Enzygo Geoenvironmental Ltd  
Client Address: The Byre, Woodend Lane,  
Cromhall, Gloucestershire,  
GL12 8AA  
Contact: Steve Rhodes  
Site Address: Bell Road Bottisham

Client Reference: CRM.1027.113  
Job Number: 22-49788  
Date Sampled: 31/03/2022  
Date Received: 01/04/2022  
Date Tested: 13/04/2022  
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

### Test Results:

Laboratory Reference: 2227510  
Hole No.: CBR7  
Sample Reference: Not Given  
Sample Description: Light grey sandy CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

### Specimen Preparation:

Condition Remoulded  
Details Recompacted with specified standard effort using 2.5kg rammer

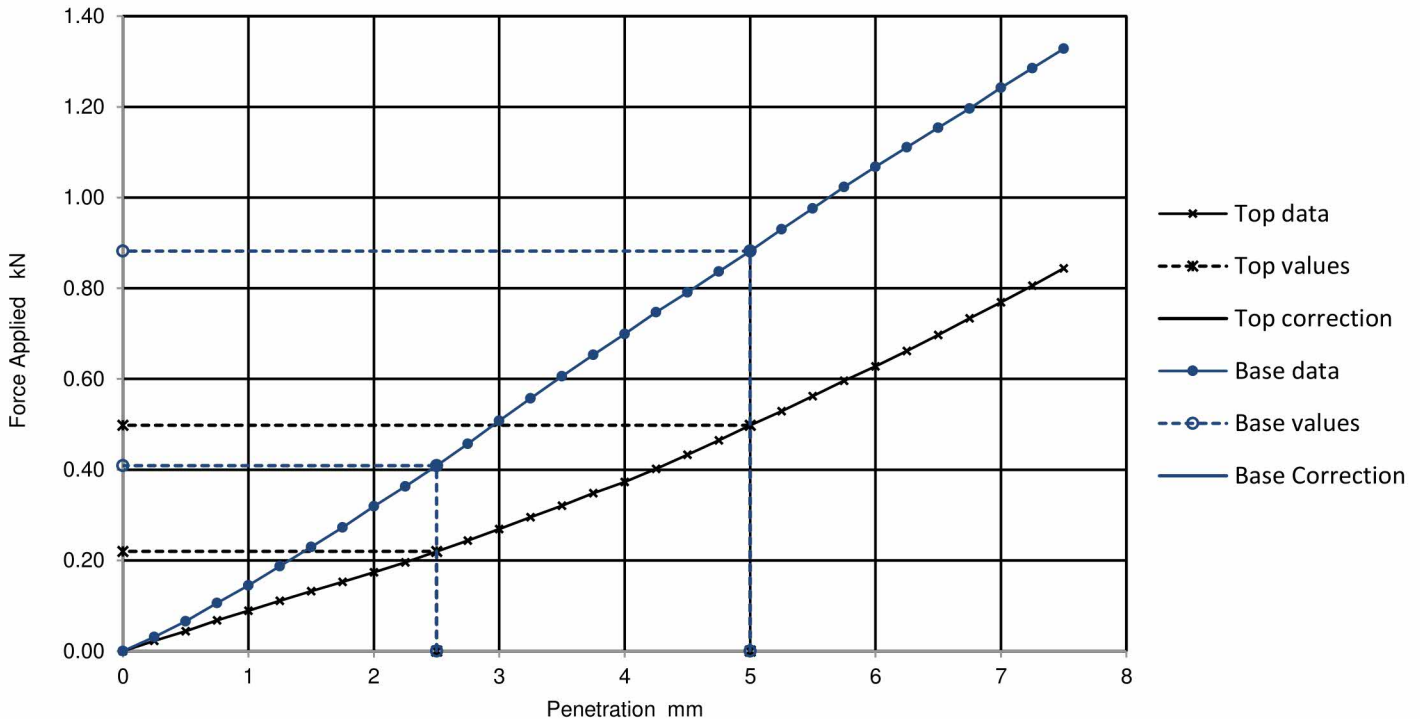
Soaking details  
Period of soaking 11 days  
Time to surface 5 days  
Amount of swell recorded 0.13 mm  
Dry density after soaking 1.68 Mg/m<sup>3</sup>

Material retained on 20mm sieve removed 0 %

Initial Specimen details  
Bulk density 2.02 Mg/m<sup>3</sup>  
Dry density 1.68 Mg/m<sup>3</sup>  
Moisture content 20 %

Surcharge applied 8 kg  
4.9 kPa

Force v Penetration Plots



### Results

TOP  
BASE

Curve correction applied	CBR Values, %			
	2.5mm	5mm	Highest	Average
No	1.7	2.5	2.5	
No	3.1	4.4	4.4	

Moisture Content %
22
20

### Remarks:

Test/ Specimen specific remarks:

Signed:



Anna Dudzinska  
PL Deputy Head of Reporting Team  
for and on behalf of i2 Analytical Ltd

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4041

# TEST CERTIFICATE

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Tested in Accordance with: BS 1377-4: 1990: Clause 7

i2 Analytical Ltd  
Unit 8 Harrowden Road  
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Northampton NN4 7EB



Environmental Science

Client: Enzygo Geoenvironmental Ltd  
Client Address: The Byre, Woodend Lane,  
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GL12 8AA  
Contact: Steve Rhodes  
Site Address: Bell Road Bottisham

Client Reference: CRM.1027.113  
Job Number: 22-49788  
Date Sampled: 31/03/2022  
Date Received: 01/04/2022  
Date Tested: 13/04/2022  
Sampled By: Not Given

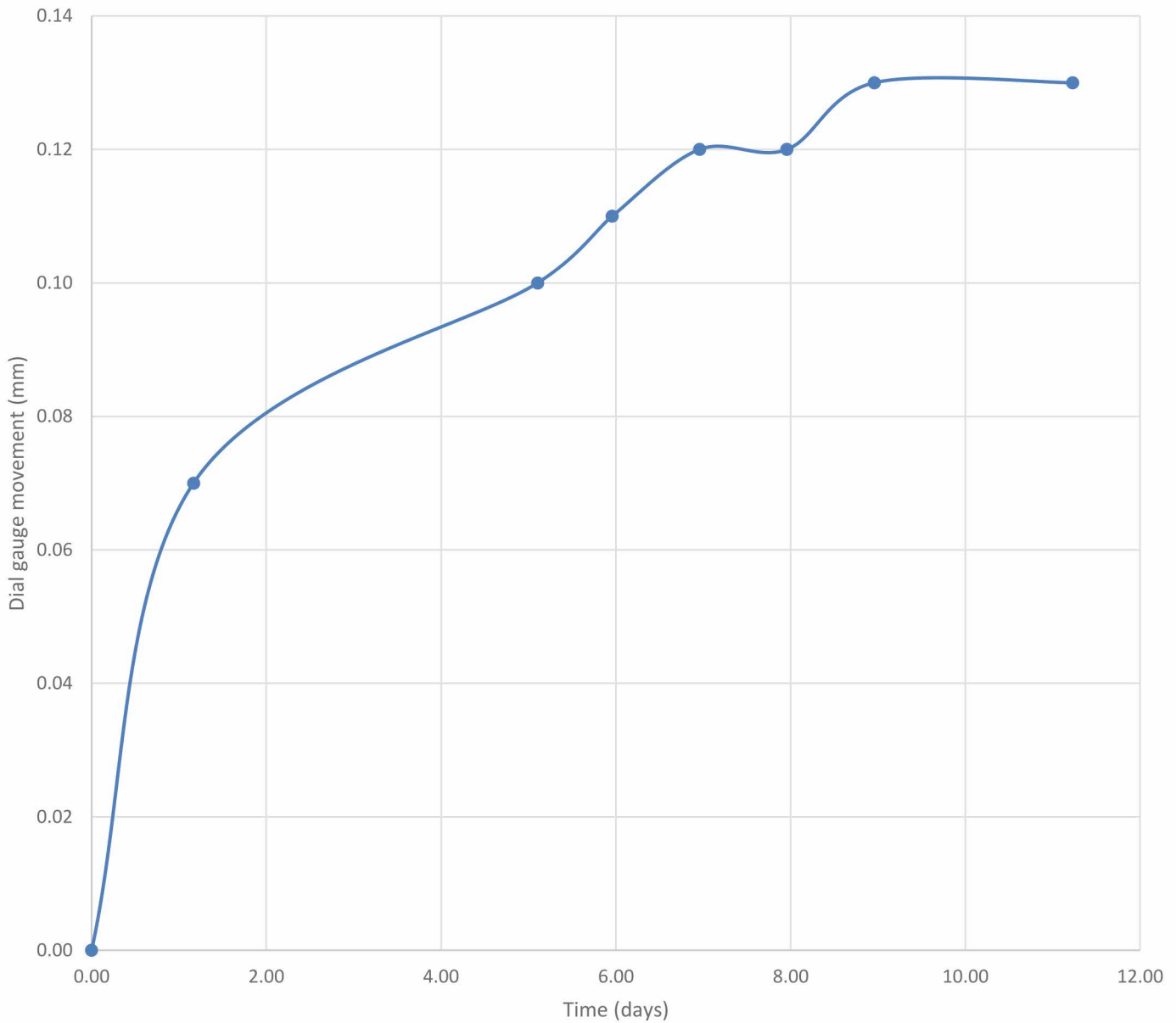
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

### Test Results:

Laboratory Reference: 2227510  
Hole No.: CBR7  
Sample Reference: Not Given  
Sample Description: Light grey sandy CLAY with crushed marly limestone

Depth Top [m]: 0.50  
Depth Base [m]: Not Given  
Sample Type: B

### CBR Soaked Graph

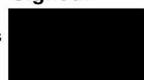


Remarks:

Test/ Specimen specific remarks:

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Signed:



Anna Dudzinska  
PL Deputy Head of Reporting Team  
for and on behalf of i2 Analytical Ltd

## Soakaway Sheets

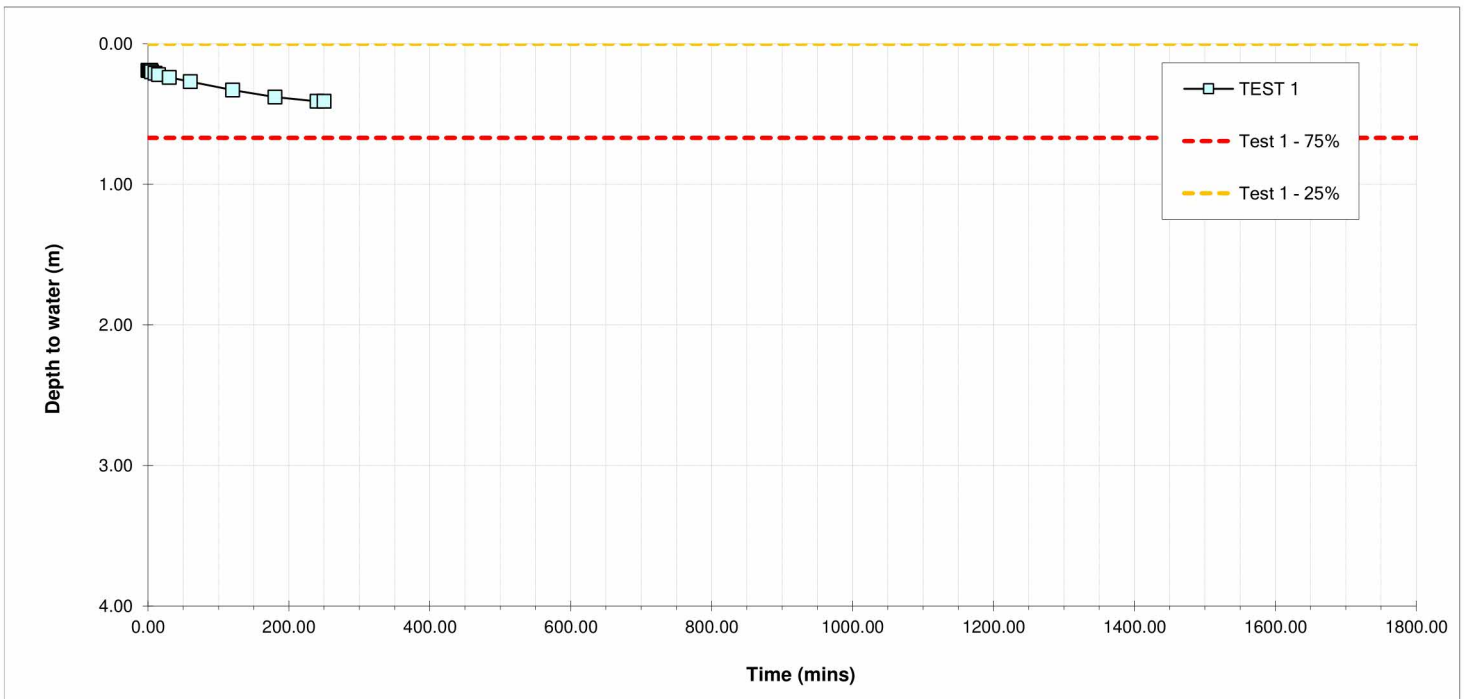


Site..... Bell Road, Cambridge  
 Job Number..... CRM.1027.113  
 Date of Test..... 29.03.22

Soakaway Number..... SA1  
 Length..... 2.00 m  
 Width..... 2.00 m  
 Depth..... 2.00 m  
 Groundwater Level..... Dry m

**SOIL INFILTRATION RATE TEST**  
 See B.R.E. Digest 365, 1991, Soakaway Design.

Remarks -	TEST 1		TEST 2		TEST 3	
	Time(min)	Depth to Water (m)	Time(min)	Depth to Water (m)	Time(min)	Depth to Water (m)
0.0 - 0.3: Grass over soft brown slightly gravelly CLAY with rootlets. Gravel is angular and subangular fine to coarse of flint.	0.0	0.19				
0.3 - 3.0: White slightly clayey structureless CHALK.	1.0	0.19				
	2.0	0.19				
	3.0	0.19				
	4.0	0.19				
	5.0	0.20				
	10.0	0.21				
	15.0	0.22				
	30.0	0.24				
	60.0	0.27				
	120.0	0.33				
	180.0	0.38				
	240.0	0.41				
	250.0	0.41				
	0.0	0.00				
	0.00	0.00				
	0.00	0.00				
F	.	10.70				
Ho	m	1.81				
H/Ho = 0.37	m	0.67				
D (h/Ho of 0.37)	m	0.86				
T	min					
T	seconds					
A	m <sup>2</sup>					
Permerability	m/s	#DIV/0!				



Compiled By:	Date:	Approved By:	Date:
G.Hart	01.04.22	S.Rhodes	01.04.22

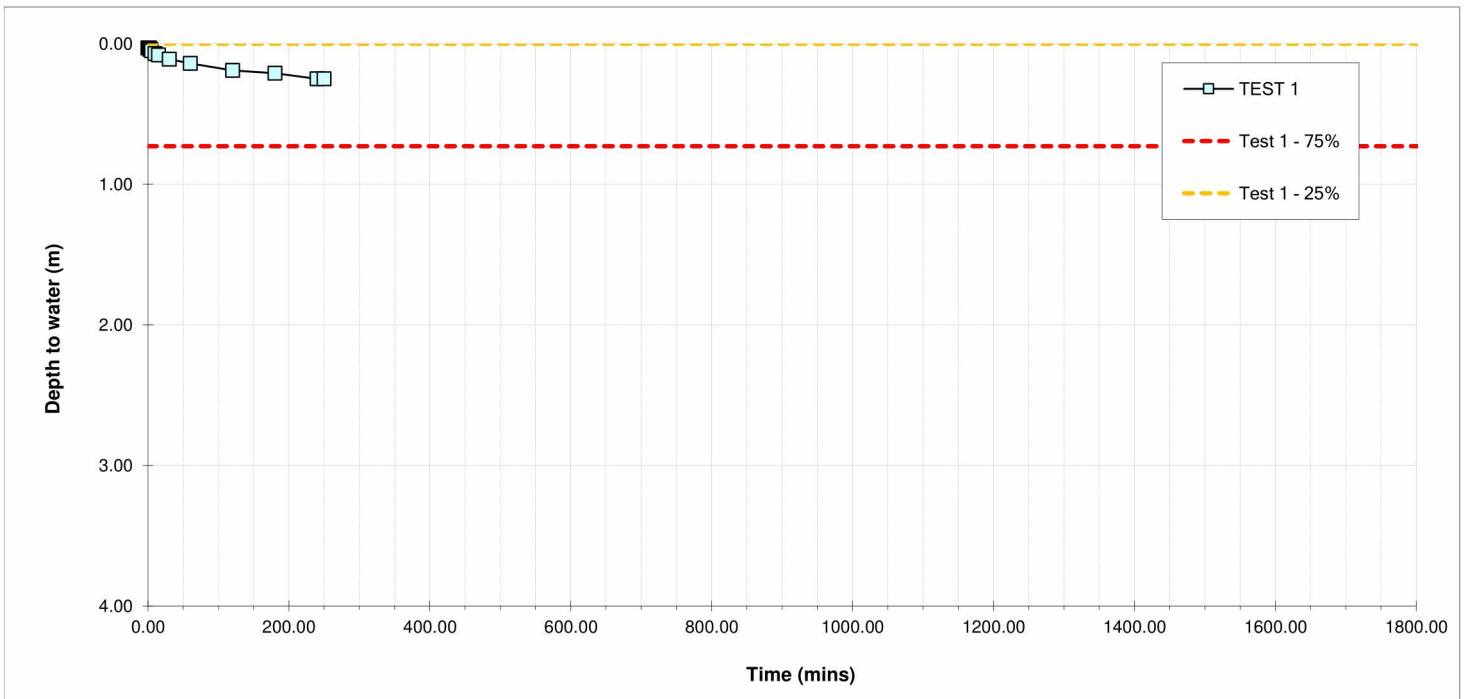


Site..... Bell Road, Cambridge  
 Job Number..... CRM.1027.113  
 Date of Test..... 29.03.22

Soakaway Number..... SA2  
 Length..... 2.00 m  
 Width..... 2.00 m  
 Depth..... 2.00 m  
 Groundwater Level..... Dry m

**SOIL INFILTRATION RATE TEST**  
 See B.R.E. Digest 365, 1991, Soakaway Design.

Remarks -	TEST 1		TEST 2		TEST 3	
	Time(min)	Depth to Water (m)	Time(min)	Depth to Water (m)	Time(min)	Depth to Water (m)
0.0 - 0.3: Grass over soft brown slightly gravelly CLAY with rootlets. Gravel is angular and subangular fine to coarse of flint.	0.0	0.03				
0.3 - 3.0: White slightly clayey structureless CHAL	1.0	0.03				
Test started at 1m bgl consistent with invert level.	2.0	0.03				
	3.0	0.04				
	4.0	0.04				
	5.0	0.05				
	10.0	0.07				
	15.0	0.08				
	30.0	0.11				
	60.0	0.14				
	120.0	0.19				
	180.0	0.21				
	240.0	0.25				
	250.00	0.25				
	0.00	0.00				
	0.00	0.00				
	0.00	0.00				
F	.	10.70				
Ho	m	1.97				
H/Ho = 0.37	m	0.73				
D (h/Ho of 0.37)	m	0.76				
T	min					
T	seconds					
A	m <sup>2</sup>					
Permerability	m/s	#DIV/0!				



Compiled By: G.Hart	Date: 01.04.22	Approved By: S.Rhodes	Date: 01.04.22
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Site..... Bell Road, Cambridge  
 Job Number..... CRM.1027.0113  
 Date of Test..... 19.04.22 - 21.04.22

Soakaway Number..... SA7  
 Length..... 1.50 m  
 Width..... 0.65 m  
 Depth..... 2.00 m  
 Groundwater Level..... 1.8 m

**SOIL INFILTRATION RATE TEST**  
 See B.R.E. Digest 365, 1991, Soakaway Design.

Remarks -  
 0.0 - 0.3: Grass over soft brown slightly gravelly CLAY with rootlets. Gravel is angular and subangular fine to coarse of flint.  
 0.3 - 2.0: White slightly clayey structureless CHALK.

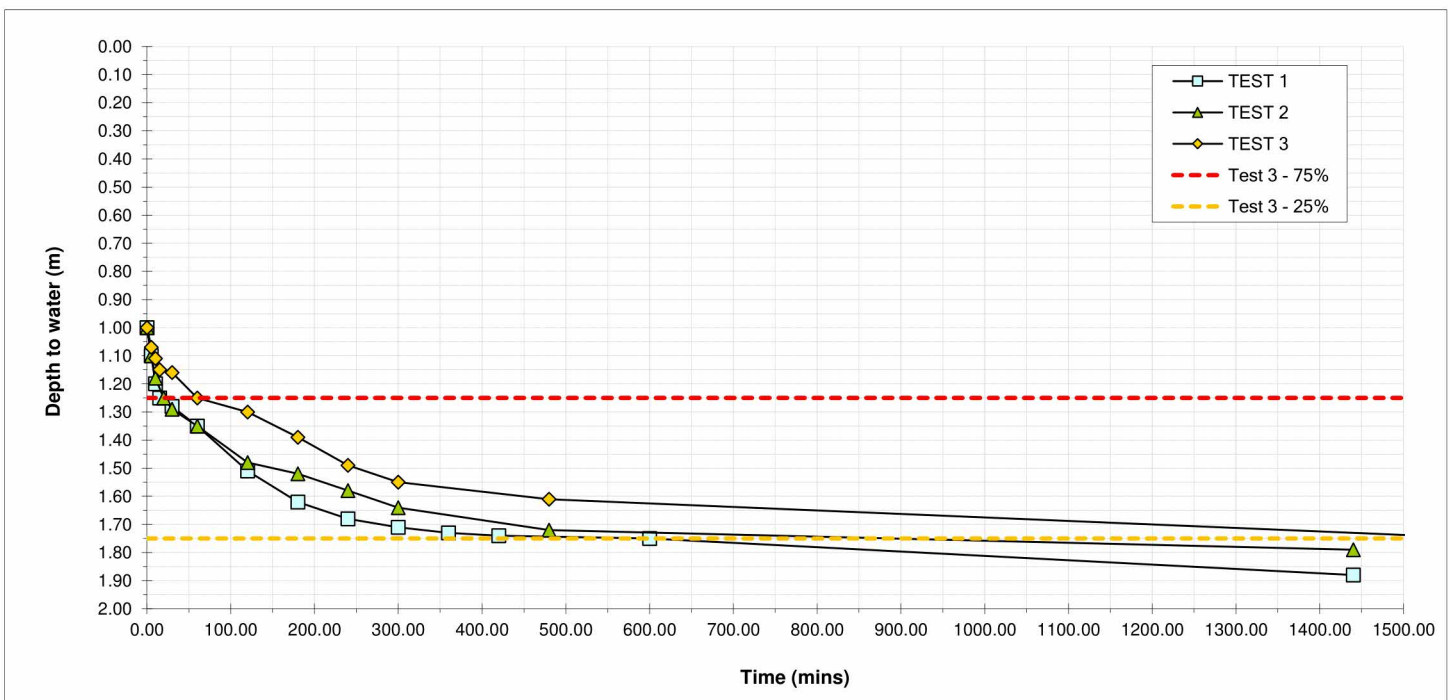
Test started at 1m bgl consistent with invert level.

Time(min)	TEST 1		TEST 2		TEST 3	
	Time(min)	Depth to Water (m)	Time(min)	Depth to Water (m)	Time(min)	Depth to Water (m)
0.0	0.0	1.00	0.0	1.00	0.0	1.00
5.0	5.0	1.10	5.0	1.10	5.0	1.07
10.0	10.0	1.20	10.0	1.18	10.0	1.11
15.0	15.0	1.25	20.0	1.25	15.0	1.15
30.0	30.0	1.28	30.0	1.29	30.0	1.16
60.0	60.0	1.35	60.0	1.35	60.0	1.25
120.0	120.0	1.51	120.0	1.48	120.0	1.30
180.0	180.0	1.62	180.0	1.52	180.0	1.39
240.0	240.0	1.68	240.0	1.58	240.0	1.49
300.0	300.0	1.71	300.0	1.64	300.0	1.55
360.0	360.0	1.73	480.0	1.72	480.0	1.61
420.0	420.0	1.74	1440.0	1.79	1600.0	1.75
600.0	600.0	1.75	0.0	0.00	0.0	0.00
1440.00	1440.00	1.88	0.0	0.00		
0.00	0.00	0.00	0.00	0.00		
0.00	0.00	0.00				
0.00	0.00	0.00				

Effective Storage Depth	m	1.00	1.00	1.00
75% Effective Storage Depth (i.e. depth below GL)	m	0.75	0.75	0.75
25% Effective Storage Depth (i.e. depth below GL)	m	<b>1.25</b>	<b>1.25</b>	<b>1.25</b>
Effective Storage Depth 75%-25%	m	0.25	0.25	0.25
	m	<b>1.75</b>	<b>1.75</b>	<b>1.75</b>
Effective Storage Depth 75%-25%	m	0.50	0.50	0.50
Time to fall to 75% effective depth	mins	15.00	20.00	60.00
Time to fall to 25% effective depth	mins	600.00	950.00	1600.00
V (75%-25%)	m3	0.49	0.49	0.49
a (50%)	m2	3.13	3.13	3.13
t (75%-25%)	mins	585.00	930.00	1540.00

<b>SOIL INFILTRATION RATE</b>	m/s	<b>4.44E-06</b>	<b>2.80E-06</b>	<b>1.69E-06</b>
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<b>DESIGN SOIL INFILTRATION RATE, f</b>	<b>1.69E-06</b>	m/s
---	-----------------	-----



Compiled By: G.Hart	Date: 2.04.22	Approved By: S.Rhodes	Date: 22.04.22
------------------------	------------------	--------------------------	-------------------



## Laboratory WAC Results



**Steve Rhodes**  
Enzygo Geoenvironmental Ltd  
The Byre  
Woodend Lane  
Cromhall  
Gloucestershire  
GL12 8AA

e: steve.rhodes@enzygo.com

i2 Analytical Ltd.  
7 Woodshots Meadow,  
Croxley Green  
Business Park,  
Watford,  
Herts,  
WD18 8YS

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

## **Analytical Report Number : 22-49345**

<b>Project / Site name:</b>	Bell Road Bottisham	<b>Samples received on:</b>	01/04/2022
<b>Your job number:</b>	CRM 1027 113	<b>Samples instructed on/ Analysis started on:</b>	01/04/2022
<b>Your order number:</b>		<b>Analysis completed by:</b>	12/04/2022
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	12/04/2022
<b>Samples Analysed:</b>	10 wac multi samples		

**Signed:**



Adam Fenwick  
Technical Reviewer

**For & on behalf of i2 Analytical Ltd.**

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

## i2 Analytical

7 Woodshots Meadow  
Croxley Green Business Park  
Watford, WD18 8YS

Telephone: 01923 225404  
Fax: 01923 237404  
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results							
Report No:	22-49345						
				Client: ENZYGOGEO			
Location	Bell Road Bottisham						
Lab Reference (Sample Number)	2224735			Landfill Waste Acceptance Criteria			
Sampling Date				Limits			
Sample ID	WAC 1			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Depth (m)	0.50-1.00						
Solid Waste Analysis							
TOC (%)**	0.4			3%	5%	6%	
Loss on Ignition (%) **	1.5			--	--	10%	
BTEX (µg/kg) **	< 10			6000	--	--	
Sum of PCBs (mg/kg) **	< 0.30			1	--	--	
Mineral Oil (mg/kg) <small>EH, 10, CU, AL #</small>	< 10			500	--	--	
Total PAH (WAC-17) (mg/kg)	< 0.85			100	--	--	
pH (units)**	8.4			--	>6	--	
Acid Neutralisation Capacity (mmol / kg)	21			--	To be evaluated	To be evaluated	
Eluate Analysis							
	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.0085	0.0052		0.055	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	< 0.0010	< 0.0010		0.0067	0.5	10	70
Copper *	0.0043	0.0038		0.039	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.0097	0.0048		0.053	0.5	10	30
Nickel *	0.0034	0.0043		0.043	0.4	10	40
Lead *	< 0.0050	< 0.0050		0.045	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.0055	0.0037		0.039	4	50	200
Chloride *	< 4.0	< 4.0		< 15	800	15000	25000
Fluoride	0.98	0.50		5.4	10	150	500
Sulphate *	5.1	2.1		24	1000	20000	50000
TDS*	79	42		450	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	7.4	19		180	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	85						
Moisture (%)	15						
Stage 1							
Volume Eluate L2 (litres)	0.32						
Filtered Eluate VE1 (litres)	0.16						
Results are expressed on a dry weight basis, after correction for moisture content where applicable. * = UKAS accredited (liquid eluate analysis only)							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation ** = MCERTS accredited							

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3. This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.



**i2 Analytical**

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Watford, WD18 8YS

Telephone: 01923 225404  
Fax: 01923 237404  
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results							
Report No:	22-49345						
				Client: ENZYGOGEO			
Location	Bell Road Bottisham						
Lab Reference (Sample Number)	2224736			Landfill Waste Acceptance Criteria			
Sampling Date				Limits			
Sample ID	WAC 2			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Depth (m)	0.50-1.00						
Solid Waste Analysis							
TOC (%)**	0.5			3%	5%	6%	
Loss on Ignition (%) **	1.6			--	--	10%	
BTEX (µg/kg) **	< 10			6000	--	--	
Sum of PCBs (mg/kg) **	< 0.30			1	--	--	
Mineral Oil (mg/kg) <small>EH, 10, CU, AL #</small>	< 10			500	--	--	
Total PAH (WAC-17) (mg/kg)	< 0.85			100	--	--	
pH (units)**	8.3			--	>6	--	
Acid Neutralisation Capacity (mmol / kg)	13			--	To be evaluated	To be evaluated	
Eluate Analysis							
	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		0.055	0.5	2	25
Barium *	0.0087	0.0075		0.076	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.0011	0.0013		0.013	0.5	10	70
Copper *	0.0064	0.0039		0.042	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.015	0.0041		0.053	0.5	10	30
Nickel *	0.0047	0.0050		0.050	0.4	10	40
Lead *	< 0.0050	< 0.0050		< 0.020	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.016	0.0060		0.071	4	50	200
Chloride *	< 4.0	< 4.0		< 15	800	15000	25000
Fluoride	1.4	0.78		8.4	10	150	500
Sulphate *	3.8	2.1		23	1000	20000	50000
TDS*	83	49		530	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	8.6	21		190	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	85						
Moisture (%)	15						
Stage 1							
Volume Eluate L2 (litres)	0.32						
Filtered Eluate VE1 (litres)	0.18						
Results are expressed on a dry weight basis, after correction for moisture content where applicable. * = UKAS accredited (liquid eluate analysis only)							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation ** = MCERTS accredited							
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## i2 Analytical

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Waste Acceptance Criteria Analytical Results							
Report No:	22-49345						
				Client: ENZYGOGEO			
Location	Bell Road Bottisham						
Lab Reference (Sample Number)	2224737			Landfill Waste Acceptance Criteria			
Sampling Date				Limits			
Sample ID	WAC 3			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Depth (m)	0.50-1.00						
Solid Waste Analysis							
TOC (%)**	1.0			3%	5%	6%	
Loss on Ignition (%) **	2.9			--	--	10%	
BTEX (µg/kg) **	< 10			6000	--	--	
Sum of PCBs (mg/kg) **	< 0.30			1	--	--	
Mineral Oil (mg/kg) <small>EH, 10, CU, AL #</small>	< 10			500	--	--	
Total PAH (WAC-17) (mg/kg)	< 0.85			100	--	--	
pH (units)**	8.4			--	>6	--	
Acid Neutralisation Capacity (mmol / kg)	17			--	To be evaluated	To be evaluated	
Eluate Analysis							
	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.0081	0.0069		0.070	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	< 0.0010	< 0.0010		0.0076	0.5	10	70
Copper *	0.0054	0.0031		0.033	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.0076	0.0038		0.042	0.5	10	30
Nickel *	0.0015	0.0028		0.027	0.4	10	40
Lead *	< 0.0050	< 0.0050		0.037	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.010	0.0067		0.071	4	50	200
Chloride *	< 4.0	< 4.0		< 15	800	15000	25000
Fluoride	0.72	0.58		5.9	10	150	500
Sulphate *	4.8	2.1		23	1000	20000	50000
TDS*	84	48		510	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	7.5	15		140	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	82						
Moisture (%)	18						
Stage 1							
Volume Eluate L2 (litres)	0.31						
Filtered Eluate VE1 (litres)	0.18						
Results are expressed on a dry weight basis, after correction for moisture content where applicable. * = UKAS accredited (liquid eluate analysis only)							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation ** = MCERTS accredited							
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Waste Acceptance Criteria Analytical Results							
Report No:	22-49345						
				Client: ENZYGOGEO			
Location	Bell Road Bottisham						
Lab Reference (Sample Number)	2224738			Landfill Waste Acceptance Criteria			
Sampling Date				Limits			
Sample ID	WAC 4			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Depth (m)	0.50-1.00						
Solid Waste Analysis							
TOC (%)**	0.4			3%	5%	6%	
Loss on Ignition (%) **	1.7			--	--	10%	
BTEX (µg/kg) **	< 10			6000	--	--	
Sum of PCBs (mg/kg) **	< 0.30			1	--	--	
Mineral Oil (mg/kg) <small>EH, 10, CU, AL #</small>	< 10			500	--	--	
Total PAH (WAC-17) (mg/kg)	< 0.85			100	--	--	
pH (units)**	8.4			--	>6	--	
Acid Neutralisation Capacity (mmol / kg)	17			--	To be evaluated	To be evaluated	
Eluate Analysis							
	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.0081	0.0063		0.065	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	< 0.0010	< 0.0010		0.0091	0.5	10	70
Copper *	0.0059	< 0.0030		0.031	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.0069	0.0049		0.052	0.5	10	30
Nickel *	0.0024	0.0043		0.041	0.4	10	40
Lead *	< 0.0050	< 0.0050		0.042	0.5	10	50
Antimony *	< 0.0050	< 0.0050		0.043	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.0078	0.0028		0.034	4	50	200
Chloride *	< 4.0	< 4.0		< 15	800	15000	25000
Fluoride	0.70	0.51		5.3	10	150	500
Sulphate *	4.5	2.0		23	1000	20000	50000
TDS*	83	47		510	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	8.7	15		150	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	84						
Moisture (%)	16						
Stage 1							
Volume Eluate L2 (litres)	0.31						
Filtered Eluate VE1 (litres)	0.20						
Results are expressed on a dry weight basis, after correction for moisture content where applicable. * = UKAS accredited (liquid eluate analysis only)							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation ** = MCERTS accredited							

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3. This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Waste Acceptance Criteria Analytical Results							
Report No:	22-49345						
				Client: ENZYGOGEO			
Location	Bell Road Bottisham						
Lab Reference (Sample Number)	2224739			Landfill Waste Acceptance Criteria			
Sampling Date				Limits			
Sample ID	WAC 5			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Depth (m)	0.50-1.00						
Solid Waste Analysis							
TOC (%)**	0.4			3%	5%	6%	
Loss on Ignition (%) **	1.7			--	--	10%	
BTEX (µg/kg) **	< 10			6000	--	--	
Sum of PCBs (mg/kg) **	< 0.30			1	--	--	
Mineral Oil (mg/kg) <small>EH, 10, CU, AL #</small>	< 10			500	--	--	
Total PAH (WAC-17) (mg/kg)	< 0.85			100	--	--	
pH (units)**	8.5			--	>6	--	
Acid Neutralisation Capacity (mmol / kg)	24			--	To be evaluated	To be evaluated	
Eluate Analysis							
	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.0088	0.0065		0.068	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	< 0.0010	< 0.0010		0.0066	0.5	10	70
Copper *	0.0067	0.0038		0.042	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.0055	0.0030		0.033	0.5	10	30
Nickel *	0.0020	0.0040		0.037	0.4	10	40
Lead *	< 0.0050	< 0.0050		0.037	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.0098	0.0040		0.047	4	50	200
Chloride *	< 4.0	< 4.0		< 15	800	15000	25000
Fluoride	0.95	0.66		6.9	10	150	500
Sulphate *	4.7	2.0		24	1000	20000	50000
TDS*	77	44		480	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	8.9	15		140	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	84						
Moisture (%)	16						
Stage 1							
Volume Eluate L2 (litres)	0.31						
Filtered Eluate VE1 (litres)	0.22						
Results are expressed on a dry weight basis, after correction for moisture content where applicable. * = UKAS accredited (liquid eluate analysis only)							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation ** = MCERTS accredited							
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Waste Acceptance Criteria Analytical Results							
Report No:	22-49345						
				Client: ENZYGOGEO			
Location	Bell Road Bottisham						
Lab Reference (Sample Number)	2224740			Landfill Waste Acceptance Criteria			
Sampling Date				Limits			
Sample ID	WAC 6			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Depth (m)	0.50-1.00						
<b>Solid Waste Analysis</b>							
TOC (%)**	0.4			3%	5%	6%	
Loss on Ignition (%) **	1.2			--	--	10%	
BTEX (µg/kg) **	< 10			6000	--	--	
Sum of PCBs (mg/kg) **	< 0.30			1	--	--	
Mineral Oil (mg/kg) <small>EH, 10, CU, AL #</small>	< 10			500	--	--	
Total PAH (WAC-17) (mg/kg)	< 0.85			100	--	--	
pH (units)**	8.4			--	>6	--	
Acid Neutralisation Capacity (mmol / kg)	17			--	To be evaluated	To be evaluated	
<b>Eluate Analysis</b>							
	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.0065	0.0062		0.062	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	< 0.0010	< 0.0010		0.0062	0.5	10	70
Copper *	0.0057	0.0038		0.040	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.0062	< 0.0030		0.033	0.5	10	30
Nickel *	0.0034	0.0041		0.040	0.4	10	40
Lead *	< 0.0050	< 0.0050		0.039	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.0075	0.0039		0.043	4	50	200
Chloride *	< 4.0	< 4.0		< 15	800	15000	25000
Fluoride	1.0	0.63		6.7	10	150	500
Sulphate *	3.5	2.0		22	1000	20000	50000
TDS*	77	47		500	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	9.0	18		170	500	800	1000
<b>Leach Test Information</b>							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	87						
Moisture (%)	13						
<b>Stage 1</b>							
Volume Eluate L2 (litres)	0.33						
Filtered Eluate VE1 (litres)	0.20						
Results are expressed on a dry weight basis, after correction for moisture content where applicable. * = UKAS accredited (liquid eluate analysis only)							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation ** = MCERTS accredited							
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Waste Acceptance Criteria Analytical Results							
Report No:	22-49345						
				Client: ENZYGOGEO			
Location	Bell Road Bottisham						
Lab Reference (Sample Number)	2224741			Landfill Waste Acceptance Criteria			
Sampling Date				Limits			
Sample ID	WAC 7			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Depth (m)	0.50-1.00						
Solid Waste Analysis							
TOC (%)**	0.2			3%	5%	6%	
Loss on Ignition (%) **	1.0			--	--	10%	
BTEX (µg/kg) **	< 10			6000	--	--	
Sum of PCBs (mg/kg) **	< 0.30			1	--	--	
Mineral Oil (mg/kg) <small>EH, 10, CU, AL #</small>	< 10			500	--	--	
Total PAH (WAC-17) (mg/kg)	< 0.85			100	--	--	
pH (units)**	8.6			--	>6	--	
Acid Neutralisation Capacity (mmol / kg)	20			--	To be evaluated	To be evaluated	
Eluate Analysis							
	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.0088	0.0061		0.064	20	100	300
Cadmium *	< 0.0005	0.0008		0.0067	0.04	1	5
Chromium *	< 0.0010	< 0.0010		0.0074	0.5	10	70
Copper *	0.0047	< 0.0030		0.025	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.0049	< 0.0030		0.026	0.5	10	30
Nickel *	0.0032	0.0032		0.032	0.4	10	40
Lead *	< 0.0050	< 0.0050		0.032	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.0085	0.0063		0.066	4	50	200
Chloride *	< 4.0	< 4.0		< 15	800	15000	25000
Fluoride	0.51	0.38		4.0	10	150	500
Sulphate *	8.6	2.3		30	1000	20000	50000
TDS*	84	41		460	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	7.4	9.4		92	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	85						
Moisture (%)	15						
Stage 1							
Volume Eluate L2 (litres)	0.32						
Filtered Eluate VE1 (litres)	0.20						
Results are expressed on a dry weight basis, after correction for moisture content where applicable. * = UKAS accredited (liquid eluate analysis only)							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation ** = MCERTS accredited							

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Waste Acceptance Criteria Analytical Results							
Report No:	22-49345						
				Client: ENZYGOGEO			
Location	Bell Road Bottisham						
Lab Reference (Sample Number)	2224742			Landfill Waste Acceptance Criteria			
Sampling Date				Limits			
Sample ID	WAC 8			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Depth (m)	0.50-1.00						
<b>Solid Waste Analysis</b>							
TOC (%)**	0.2			3%	5%	6%	
Loss on Ignition (%) **	1.2			--	--	10%	
BTEX (µg/kg) **	< 10			6000	--	--	
Sum of PCBs (mg/kg) **	< 0.30			1	--	--	
Mineral Oil (mg/kg) <small>EH, 10, CU, AL #</small>	< 10			500	--	--	
Total PAH (WAC-17) (mg/kg)	< 0.85			100	--	--	
pH (units)**	8.4			--	>6	--	
Acid Neutralisation Capacity (mmol / kg)	17			--	To be evaluated	To be evaluated	
<b>Eluate Analysis</b>							
	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.011	0.0068		0.071	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.0012	< 0.0010		0.010	0.5	10	70
Copper *	< 0.0010	< 0.0030		< 0.020	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.0047	0.0038		0.039	0.5	10	30
Nickel *	0.0027	0.0034		0.033	0.4	10	40
Lead *	< 0.0050	< 0.0050		0.030	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.0085	0.0026		0.031	4	50	200
Chloride *	< 4.0	< 4.0		< 15	800	15000	25000
Fluoride	0.47	0.38		3.8	10	150	500
Sulphate *	12	2.7		34	1000	20000	50000
TDS*	87	39		430	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	7.1	8.5		83	500	800	1000
<b>Leach Test Information</b>							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	85						
Moisture (%)	15						
<b>Stage 1</b>							
Volume Eluate L2 (litres)	0.32						
Filtered Eluate VE1 (litres)	0.14						
Results are expressed on a dry weight basis, after correction for moisture content where applicable. * = UKAS accredited (liquid eluate analysis only)							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation ** = MCERTS accredited							
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Waste Acceptance Criteria Analytical Results							
Report No:	22-49345						
				Client: ENZYGOGEO			
Location	Bell Road Bottisham						
Lab Reference (Sample Number)	2224743			Landfill Waste Acceptance Criteria			
Sampling Date				Limits			
Sample ID	WAC 9			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Depth (m)	0.50-1.00						
Solid Waste Analysis							
TOC (%)**	0.2			3%	5%	6%	
Loss on Ignition (%) **	1.2			--	--	10%	
BTEX (µg/kg) **	< 10			6000	--	--	
Sum of PCBs (mg/kg) **	< 0.30			1	--	--	
Mineral Oil (mg/kg) <small>EH, 10, CU, AL #</small>	< 10			500	--	--	
Total PAH (WAC-17) (mg/kg)	< 0.85			100	--	--	
pH (units)**	8.5			--	>6	--	
Acid Neutralisation Capacity (mmol / kg)	18			--	To be evaluated	To be evaluated	
Eluate Analysis							
	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.0096	0.0057		0.061	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.0013	< 0.0010		0.0065	0.5	10	70
Copper *	0.0038	< 0.0030		0.027	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.0044	< 0.0030		0.026	0.5	10	30
Nickel *	0.0032	0.0032		0.032	0.4	10	40
Lead *	< 0.0050	< 0.0050		0.041	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.0071	0.0032		0.036	4	50	200
Chloride *	< 4.0	< 4.0		< 15	800	15000	25000
Fluoride	0.43	0.35		3.6	10	150	500
Sulphate *	12	2.9		38	1000	20000	50000
TDS*	83	38		430	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	7.5	9.3		91	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	85						
Moisture (%)	15						
Stage 1							
Volume Eluate L2 (litres)	0.31						
Filtered Eluate VE1 (litres)	0.18						
Results are expressed on a dry weight basis, after correction for moisture content where applicable. * = UKAS accredited (liquid eluate analysis only)							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation ** = MCERTS accredited							

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3. This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

## i2 Analytical

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Waste Acceptance Criteria Analytical Results							
Report No:	22-49345						
				Client: ENZYGOGEO			
Location	Bell Road Bottisham						
Lab Reference (Sample Number)	2224744			Landfill Waste Acceptance Criteria			
Sampling Date				Limits			
Sample ID	WAC 10			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Depth (m)	0.50-1.00						
Solid Waste Analysis							
TOC (%)**	0.6			3%	5%	6%	
Loss on Ignition (%) **	2.1			--	--	10%	
BTEX (µg/kg) **	< 10			6000	--	--	
Sum of PCBs (mg/kg) **	< 0.30			1	--	--	
Mineral Oil (mg/kg) <small>EH, 10, CU, AL #</small>	< 10			500	--	--	
Total PAH (WAC-17) (mg/kg)	< 0.85			100	--	--	
pH (units)**	8.5			--	>6	--	
Acid Neutralisation Capacity (mmol / kg)	18			--	To be evaluated	To be evaluated	
Eluate Analysis							
	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.0084	0.0081		0.081	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	< 0.0010	0.0011		0.011	0.5	10	70
Copper *	0.0064	0.0043		0.045	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.0039	0.0031		0.032	0.5	10	30
Nickel *	0.0030	0.0044		0.043	0.4	10	40
Lead *	< 0.0050	< 0.0050		0.038	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.0063	0.0049		0.051	4	50	200
Chloride *	< 4.0	< 4.0		< 15	800	15000	25000
Fluoride	0.95	0.69		7.1	10	150	500
Sulphate *	5.6	2.3		26	1000	20000	50000
TDS*	83	52		550	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	8.2	20		190	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	85						
Moisture (%)	15						
Stage 1							
Volume Eluate L2 (litres)	0.31						
Filtered Eluate VE1 (litres)	0.16						
Results are expressed on a dry weight basis, after correction for moisture content where applicable. * = UKAS accredited (liquid eluate analysis only)							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation ** = MCERTS accredited							

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3. This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.



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\* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2224735	WAC 1	None Supplied	0.50-1.00	Light brown clay and sand.
2224736	WAC 2	None Supplied	0.50-1.00	Light brown clay and sand with gravel.
2224737	WAC 3	None Supplied	0.50-1.00	Brown clay and sand with gravel and vegetation.
2224738	WAC 4	None Supplied	0.50-1.00	Light brown clay and sand with gravel and chalk.
2224739	WAC 5	None Supplied	0.50-1.00	Light brown clay and sand with gravel.
2224740	WAC 6	None Supplied	0.50-1.00	Light brown clay and sand with gravel.
2224741	WAC 7	None Supplied	0.50-1.00	Light brown clay and sand.
2224742	WAC 8	None Supplied	0.50-1.00	Light brown clay and sand.
2224743	WAC 9	None Supplied	0.50-1.00	Light brown clay and sand.
2224744	WAC 10	None Supplied	0.50-1.00	Brown clay and sand with gravel and vegetation.



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Project / Site name: Bell Road Bottisham

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Preparation WAC leachate		In-house method	L043-PL	W	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270. MCERTS accredited except Coronene.	L064-PL	D	MCERTS
Chloride in WAC leachate (BS EN 12457-3 Prep)	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride in WAC leachate (BS EN 12457-3 Prep)	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033-PL	W	ISO 17025
Phenol Index in WAC leachate (BS EN 12457-3 Prep)	Determination of monohydric phenols in leachate by continuous flow analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Sulphate in WAC leachate (BS EN 12457-3 Prep)	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
TDS in WAC leachate (BS EN 12457-3 Prep)	Determination of total dissolved solids in leachate by electrometric measurement.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L031-PL	W	NONE
DOC in WAC leachate (BS EN 12457-3 Prep)	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037-PL	W	ISO 17025
PCB's by GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
BTEX (Sum of BTEX compounds) in soil	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046-PL	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Mineral Oil in Soil C10 - C40	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method based on USEPA 8270	L076-PL	D	NONE
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS



Analytical Report Number : 22-49345  
 Project / Site name: Bell Road Bottisham

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in WAC leachate (BS EN 12457-3 Prep)	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.