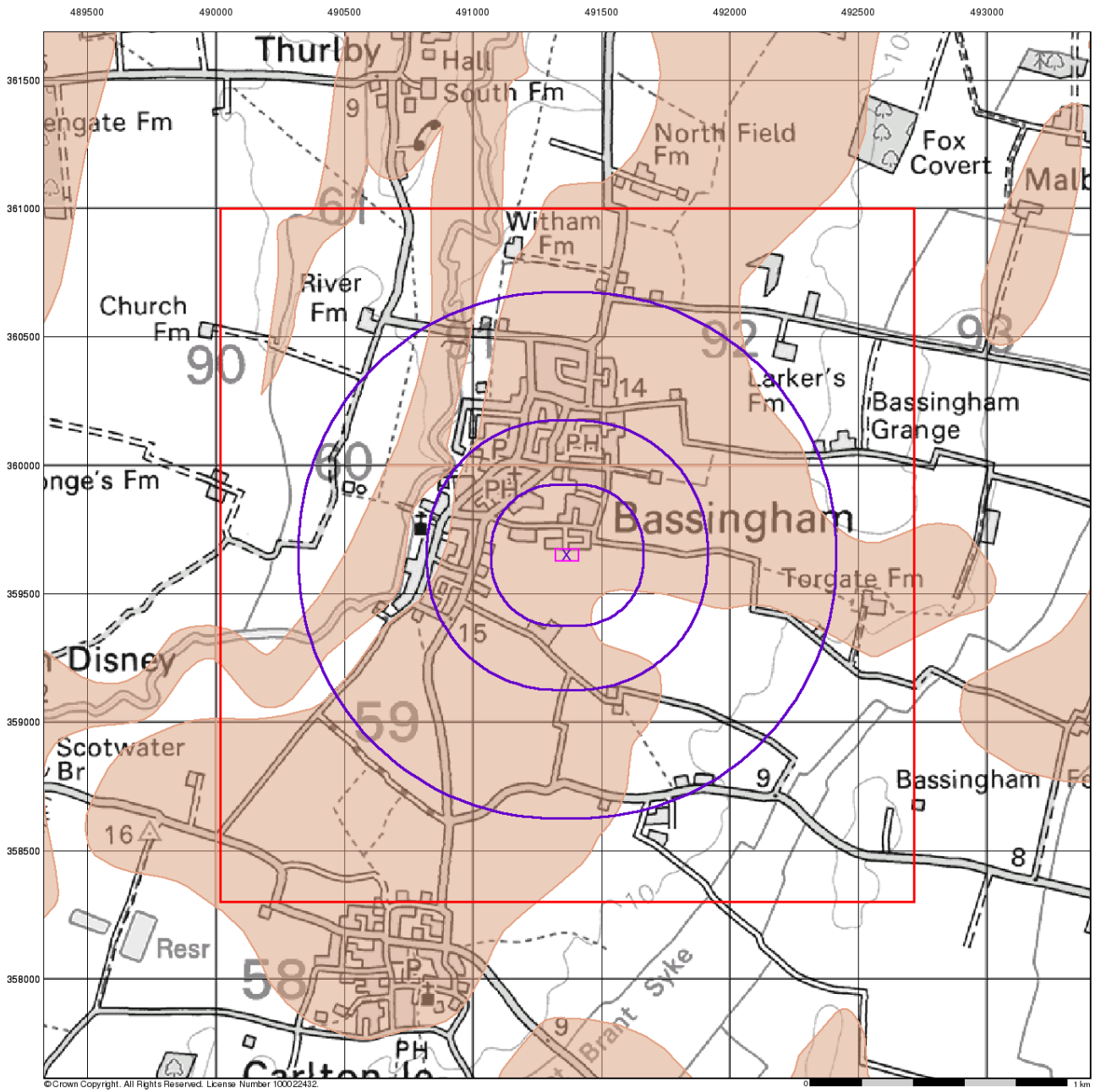

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Superficial Aquifer Designation

General

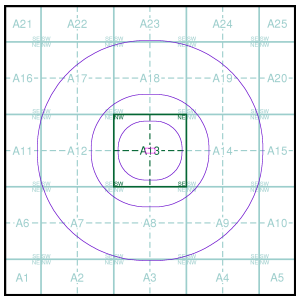
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

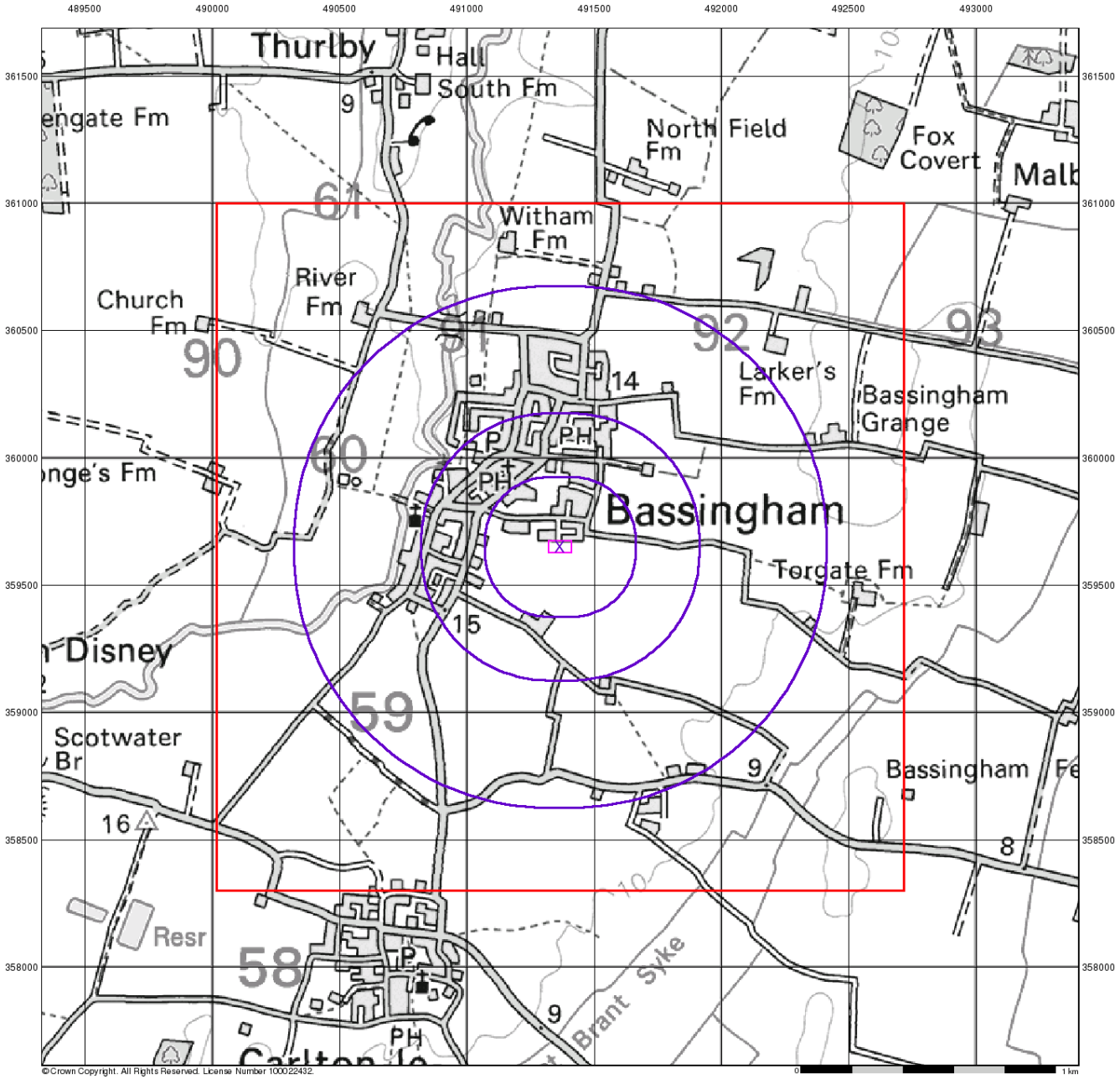
Order Number:	284310589_1_1
Customer Ref:	12-0310.03
National Grid Reference:	491370, 359650
Slice:	A
Site Area (Ha):	0.45
Search Buffer (m):	1000

Site Details

17, Vasey Close, Bassingham, LINCOLN, LN5 9FU

Landmark INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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Source Protection Zones

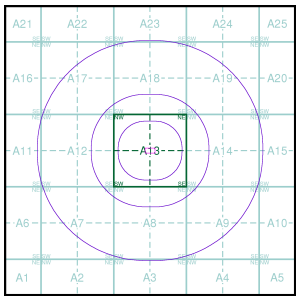
General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	284310589_1_1
Customer Ref:	12-0310.03
National Grid Reference:	491370, 359650
Slice:	A
Site Area (Ha):	0.45
Search Buffer (m):	1000

Site Details

17, Vasey Close, Bassingham, LINCOLN, LN5 9FU

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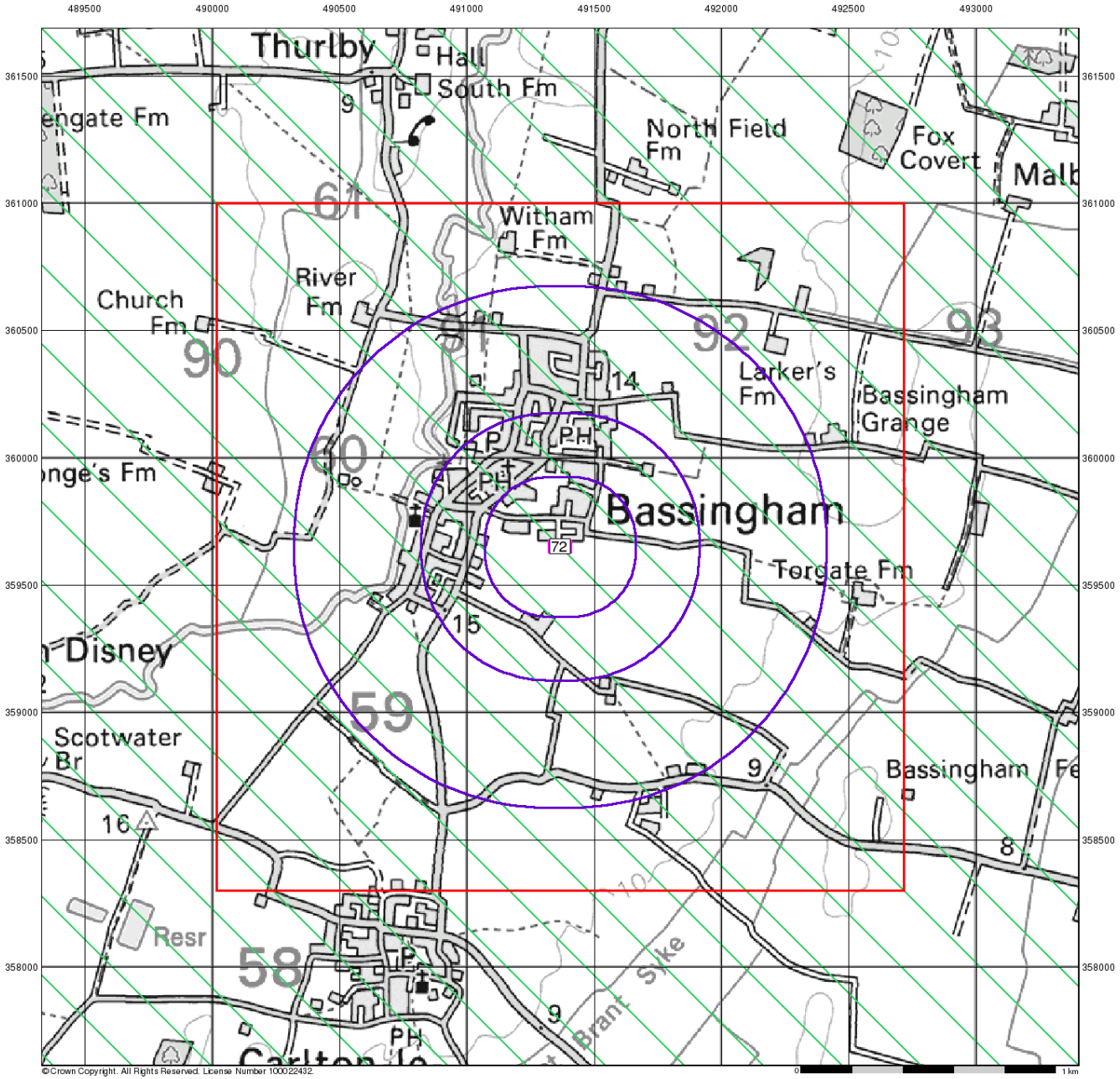

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Sensitive Land Uses

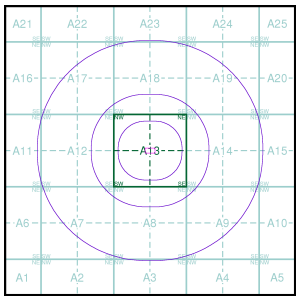
General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Sensitive Land Uses

- Ancient Woodland
- Area of Adopted Green Belt
- Area of Unadopted Green Belt
- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area
- World Heritage Sites

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	284310589_1_1
Customer Ref:	12-0310.03
National Grid Reference:	491370, 359650
Slice:	A
Site Area (Ha):	0.45
Search Buffer (m):	1000

Site Details

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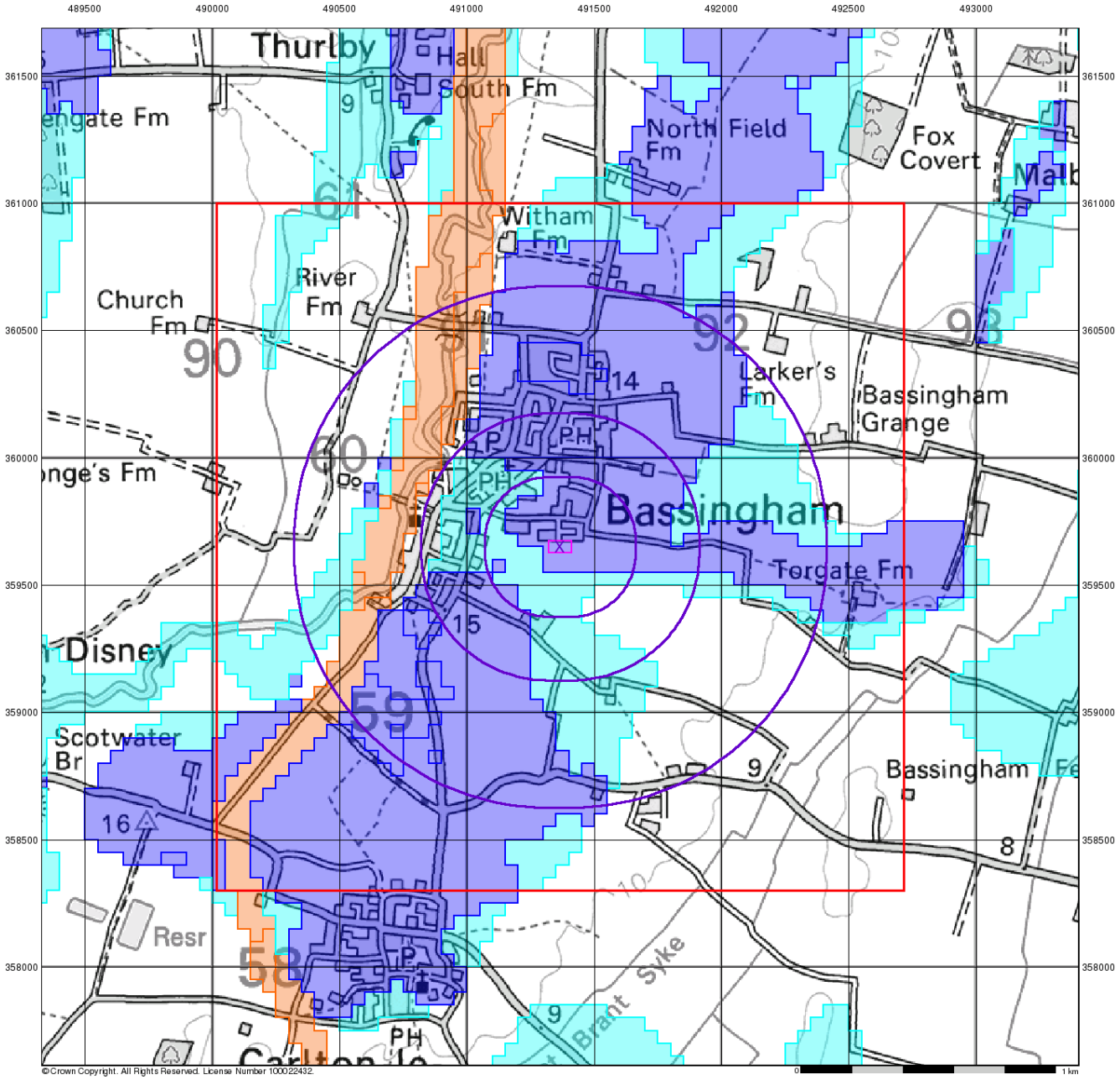

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BGS Flood GFS Data

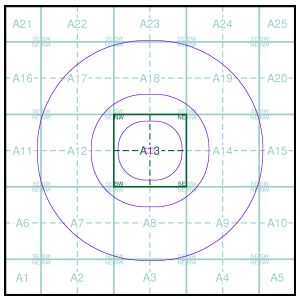
General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	284310589_1_1
Customer Ref:	12-0310.03
National Grid Reference:	491370, 359650
Slice:	A
Site Area (Ha):	0.45
Search Buffer (m):	1000

Site Details

17, Vasey Close, Bassingham, LINCOLN, LN5 9FU

Appendix D - Risk Definitions

Contaminated Land Risk Definitions

The following methodology is based on the methodology presented in CIRIA C552 Contaminated Land Risk Assessment: A Guide to Good Practice 2001. It requires the classification of the:

Magnitude of the potential consequence (severity) of the Risk occurring: and

Magnitude of the Probability (likelihood) of the Risk occurring.

The classifications are then compared to indicate the risk presented by each pollutant linkage.

Consequence to Receptor Definition Matrix

	Human Health	Controlled Waters	Buildings/Services
Severe Consequence	Acute or chronic permanent impact on human health.	Sensitive controlled water pollution ongoing, or just about to occur.	Catastrophic collapse
Medium Consequence	Chronic permanent impact on human health	Gradual pollution of sensitive controlled water	Degradation of materials
Mild Consequence	Chronic temporary impact on human health	Gradual pollution of non-sensitive controlled water	Damage to building rendering it unsafe.to occupy (e.g. foundation damage resulting in instability).
Minor Consequence	Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc).	Slight discoloration of water	Easily repairable effects of damage to buildings, structures and services, i.e. discoloration of concrete

Probability Definitions

Probability	Definition in Context
Higher	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution. Positive evidence of source, pathway and receptor.
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term. Suspect source, pathway, and receptor
Low Likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term. No evidence of hazard, pathway, and receptor

Standard Risk Matrix

		Consequence/Magnitude of impact			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**High**	Very High	High	Moderate	Moderate/Low
	Likely	High	Moderate	Moderate/low	Low
	Low Likelihood	Moderate	Moderate/low	Low	Very Low
	Unlikely	Moderate/low	Low	Very Low	Very Low

Classified risks and likely action

Significance Level	**Definition/Comments**
Very High Risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required. Demonstrable contaminated land situation, highest threat & liability level, urgent action recommended.
High Risk	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term. Likely contaminated land situation, risk assessment and action recommended.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, if is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term. Plausible contaminated land situation, risk assessment and possible action recommended.
Low Risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild. Unlikely contaminated land situation, possible risk assessment and possible action.
Very Low Risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe. Negligible risk, no action recommended except vigilance for changes in conditions.

Geotechnical Risk Classification

The geohazards listed in the report within Section 4 follow guidance presented in Clayton, C.R.I. (2001) *Managing Geotechnical Risk*, Thomas Telford and the Highways Agency document CD622 '*Managing Geotechnical Risk*' (2008) which aims to identify and manage the geotechnical risks associated with a scheme throughout its lifespan, from planning to construction to maintenance.

For each geohazard the probability of the hazard occurring (P) has been considered together with the impact it would have (I) if it were to happen to calculate the risk rating between 1 and 25.

Risks that fall within Moderate, Significant and Severe categories below are considered to be ***substantial*** and are therefore listed within the report.

Probability	**(P)**
Very Likely (VLk)	5
Likely (Lk)	4
Plausible (P)	3
Unlikely (U)	2
Very Unlikely (VU)	1

X

Impact	**(I)**
Very High (VH)	5
High (H)	4
Medium (M)	3
Low (L)	2
Very Low (VL)	1

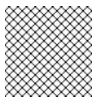
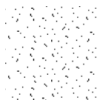
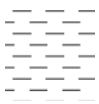
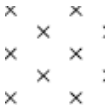
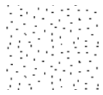
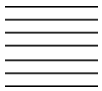
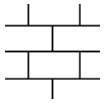
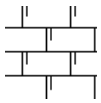
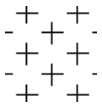
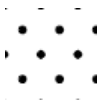
=

(R)	**Risk**
20 – 25	Severe
15 – 19	Substantial
10 – 14	Moderate
5 – 9	Minor
1 – 4	Negligible

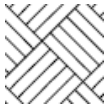
Appendix E – Exploratory Hole Logs and SPT Calibration Certificate

KEY TO BOREHOLE AND TRIAL PIT LOGS

MATERIAL LEGENDS

	Topsoil		Made Ground		Bituminous Material
	Concrete		Clay		Silt
	Sand		Gravel		Peat
	Cobbles		Boulders		Mudstone
	Siltstone		Sandstone		Limestone
	Chalk		Coal		Breccia
	Conglomerate		Igneous		Metamorphic
	Pyroclastic (volcanic ash)		Gypsum		Shale
	Ironstone		Bedrock (Unidentified)		Void

INSTALLATION/BACKFILL LEGENDS

	Sand		Gravel		Bentonite/Grout
	Arisings		Concrete		Plain Pipe
	Slotted Pipe				

Legend symbols in general accordance with BS 5930:2015+A1:2020 and standard industry practice.

SAMPLE TYPES

ACM	Asbestos Containing Material Sample
B	Bulk Disturbed Sample
BLK	Block Sample
C	Core Sample
CBR	Undisturbed Sample for California Bearing Ratio Test – 154mm diameter
D	Disturbed Sample - Tub
ES	Soil Sample for Environmental Testing
EW	Water Sample for Environmental Testing
G	Gas Sample
U	Undisturbed Driven Tube Sample – 70/102mm diameter, 450mm long
W	Water Sample

TEST TYPES

CPT	Cone Penetrometer Test (kN/m^2)
FID	Flame Ionisation Detector Test (ppm)
HV	In-Situ Hand Shear Vane Test (kN/m^2)
PID	Photoionisation Detector Test (ppm)
SPT (S)	Standard Penetration Test – Split Spoon Sampler
SPT (C)	Standard Penetration Test – Solid 60 Degree Cone

CORE DETAILS

If	Fracture Spacing (mm) – Minimum, Average, Maximum
NI	Non-Intact where >25 fracture spacings per metre
TCR	Total Core Recovery (%)
SCR	Solid Core Recovery (%)
RQD	Rock Quality Designation (%)
AF	Air Flush Return (%)
WF	Water Flush Return (%)
NIDD	Non-Intact - Drilling Disturbed
AZCL	Assessed Zone of Core Loss

WATER COLUMN DETAILS

	Water Strike
	Water Level

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Project No: 12-0310.03 | Hole ID: DS101 | Page: 1 of 1

Project: Torgate Lane, Bassingham

Dynamic Sampler Log

Date: 31/08/2021 | Client: Lindum Group

Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details: Depth (m)	Sample Details: Type & Ref	Test Details: Depth (m)	Test Details: Results	Backfill
TOPSOIL: Yellowish brown gravelly medium SAND with frequent fine rootlets. Gravel is sub-angular to rounded fine to medium flint.		0.50	(0.50)	13.82			0.40 - 0.45	ES1			
Brown fine to coarse SAND and sub-angular to rounded fine to coarse flint GRAVEL. (BALDERTON SAND AND GRAVEL MEMBER).		1.20	(0.70)	13.12			1.10 - 1.15	ES2	1.20	SPT(S) N=44 (7,8/9,11,11,13)	
Dense light brown mottled orange slightly clayey fine to medium SAND and sub-angular to rounded fine to medium flint GRAVEL. (BALDERTON SAND AND GRAVEL MEMBER).		1.40	(0.20)	12.92							
Dense orangish brown fine to medium SAND. (BALDERTON SAND AND GRAVEL MEMBER).		1.80	(0.40)	12.52							
Medium dense brown fine to coarse SAND and sub-angular to rounded fine to coarse flint GRAVEL. (BALDERTON SAND AND GRAVEL MEMBER).		2.70	(0.90)	11.62		2.00 ▼ 2.00 △			2.00	SPT(S) N=28 (6,6/8,7,6,7)	
Firm blueish grey slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine flint. (SCUNTHORPE MUDSTONE FORMATION).		3.00	(0.30)	11.32			2.80 - 2.85	D1	3.00	SPT(S) N=13 (1,2/2,2,4,5)	
Borehole complete at 3.00 m bgl.											

Remarks:
1) Engineer verified logged in general accordance to BS 5930:2015+A1:2020. 2) Area CAT scanned prior to excavation. 3) Groundwater encountered at 2.00 m bgl and remained at 2.00 m bgl after 20 minutes. 4) Borehole completed at 3.00 m bgl. 5) Installed with a 63 mm HDPE standpipe to 2.80 m bgl due to slightly collapsed well.

Water Strike			Water Level		Borehole Diameter	
Date	Depth (m)	Remarks	Duration (min)	Depth	Depth Base	Diameter
31/08/2021	2.00		20	2		

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale:
E491332.82 N359662.61	14.32	Delta-Drilling	Premier 110	JJR	LD	JR	1:32

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Project No: 12-0310.03 | Hole ID: DS102 | Page: 1 of 1

Project: Torgate Lane, Bassingham

Dynamic Sampler Log

Date: 31/08/2021 | Client: Lindum Group

Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details: Depth (m)	Sample Details: Type & Ref	Test Details: Depth (m)	Test Details: Results	Backfill
TOPSOIL: Dark brown gravelly fine to coarse SAND with frequent fine rootlets. Gravel is sub-angular to rounded fine to coarse flint.		0.50	(0.50)	13.66			0.20 - 0.25	ES1			
Brown clayey fine to medium SAND and sub-angular to sub-rounded fine to coarse flint GRAVEL. (BALDERTON SAND AND GRAVEL MEMBER).		1.20	(0.70)	12.96					1.20	SPT(S) N=9 (1,2/2,2,3,2)	
Loose light brownish grey slightly silty medium SAND and sub-angular to rounded fine to medium flint GRAVEL. (BALDERTON SAND AND GRAVEL MEMBER).		1.90	(0.70)	12.26					2.00	SPT(S) N=5 (2,1/1,1,2,1)	
Soft blueish grey gravelly CLAY. Gravel is angular to sub-rounded fine flint. (SCUNTHORPE MUDSTONE FORMATION).		2.50	(0.60)	11.66			2.60 - 2.70	D1			
Soft blueish grey gravelly sandy CLAY. Gravel is angular to sub-rounded fine flint. Sand is fine. (SCUNTHORPE MUDSTONE FORMATION).		3.00	(0.50)	11.16					3.00	SPT(S) N=20 (6,6/5,5,5,5)	
Borehole complete at 3.00 m bgl.											

Remarks:
1) Engineer verified logged in general accordance to BS 5930:2015+A1:2020. 2) Area CAT scanned prior to excavation. 3) Borehole remained dry upon completion. 4) Borehole completed at 3.00 m bgl. 5) Backfilled with arisings.

Water Strike			Water Level		Borehole Diameter	
Date	Depth (m)	Remarks	Duration (min)	Depth	Depth Base	Diameter

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale:
E491366.10 N359666.98	14.16	Delta-Drilling	Premier 110	JJR	LD	JR	1:32

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Project No: **12-0310.03**

Hole ID: **DS103**

Page: **1 of 1**

Project: **Torgate Lane, Bassingham**

Dynamic Sampler Log

Date: **31/08/2021**

Client: **Lindum Group**

Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details		Test Details		Backfill
							Depth (m)	Type & Ref	Depth (m)	Results	
TOPSOIL: Dark brown gravelly fine to coarse SAND with frequent fine rootlets. Gravel is sub-angular to rounded fine to coarse flint.		0.80	(0.80)	13.27			0.70 - 0.75	ES1			
Yellowish brown coarse SAND and sub-angular to rounded fine to coarse flint GRAVEL. (BALDERTON SAND AND GRAVEL MEMBER).		1.35	(0.55)	12.72					1.20	SPT(C) N=32 (5,5/7,8,8,9)	
Firm orangish brown gravelly clayey fine to coarse SAND. Gravel is sub-rounded to rounded fine to medium flint. (BALDERTON SAND AND GRAVEL MEMBER).		1.80	(0.45)	12.27		1.60 / 1.60	1.60 - 1.65	D1			
Loose brown medium SAND and sub-angular to rounded fine to medium flint GRAVEL. (BALDERTON SAND AND GRAVEL MEMBER).		2.50	(0.70)	11.57					2.00	SPT(C) N=5 (1,1/1,1,1,2)	
Very stiff blueish grey gravelly CLAY. Gravel is angular to sub-angular fine to medium flint. (SCUNTHORPE MUDSTONE FORMATION).		3.00	(0.50)	11.07					3.00	SPT(C) N=50 (15,10/50 for 280mm)	
Borehole complete at 3.00 m bgl.											

Remarks:
1) Engineer verified logged in general accordance to BS 5930:2015+A1:2020. 2) Area CAT scanned prior to excavation. 3) Groundwater encountered at 1.60 m bgl and remained at 1.60 m bgl after 20 minutes. 4) Borehole complete at 3.00 m bgl. 5) Backfilled with arisings.

Water Strike			Water Level		Borehole Diameter	
Date	Depth (m)	Remarks	Duration (min)	Depth	Depth Base	Diameter
31/08/2021	1.60		20	1.6		

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale:
E491412.16 N359662.89	**14.07**	**Delta-Drilling**	**Premier 110**	**JJR**	**LD**	**JR**	**1:32**

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Project No: 12-0310.03 | Hole ID: DS104 | Page: 1 of 1

Project: Torgate Lane, Bassingham

Dynamic Sampler Log

Date: 31/08/2021 | Client: Lindum Group

Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details: Depth (m)	Sample Details: Type & Ref	Test Details: Depth (m)	Test Details: Results	Backfill
TOPSOIL: Light brown slightly gravelly fine SAND with frequent fine rootlets. Gravel is sub-angular to sub-rounded fine to medium flint.		0.50	(0.50)	13.88			0.30 - 0.35	ES1			
Brown mottled orange medium SAND and sub-angular to sub-rounded fine to medium flint GRAVEL. (BALDERTON SAND AND GRAVEL MEMBER).		0.90	(0.40)	13.48							
Very stiff brown mottled orange sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to medium flint. Sand is medium. (BALDERTON SAND AND GRAVEL MEMBER).		1.10	(0.20)	13.28					1.20	SPT(C) N=41 (5,7/8,10,11,12)	
Dense brown medium SAND and sub-rounded to rounded fine to coarse flint GRAVEL. (BALDERTON SAND AND GRAVEL MEMBER).		1.70	(0.60)	12.68							
Firm brownish orange mottled grey slightly sandy gravelly CLAY. Gravel is sub-rounded to rounded fine to coarse flint. Sand is coarse. (BALDERTON SAND AND GRAVEL MEMBER).		2.00	(0.30)	12.38		1.80 ▼ 1.80 △			2.00	SPT(C) N=12 (2,4/4,4,2,2)	
Medium dense brown coarse SAND and sub-angular to sub-rounded fine to coarse flint GRAVEL. (BALDERTON SAND AND GRAVEL MEMBER).		2.60	(0.60)	11.78							
Firm blueish grey slightly sandy slightly silty gravelly CLAY. Gravel is sub-angular fine flint. Sand is fine. (SCUNTHORPE MUDSTONE FORMATION).		3.00	(0.40)	11.38			2.80 - 2.85	D1			
Borehole complete at 3.00 m bgl.									3.00	SPT(C) N=12 (1,1/2,2,4,4)	

Remarks:
1) Engineer verified logged in general accordance to BS 5930:2015+A1:2020. 2) Area CAT scanned prior to excavation. 3) Groundwater encountered at 1.80 m bgl and remained at 1.80 m bgl after 20 minutes. 4) Borehole completed at 3.00 m bgl. 5) Backfilled with arisings.

Water Strike			Water Level		Borehole Diameter	
Date	Depth (m)	Remarks	Duration (min)	Depth	Depth Base	Diameter
31/08/2021	1.80		20	1.8		

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale:
E491334.02 N359648.24	14.38	Delta-Drilling	Premier 110	JJR	LD	JR	1:32

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Project No: 12-0310.03 | Hole ID: DS105 | Page: 1 of 1

Project: Torgate Lane, Bassingham

Dynamic Sampler Log

Date: 31/08/2021 | Client: Lindum Group

Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details: Depth (m)	Sample Details: Type & Ref	Test Details: Depth (m)	Test Details: Results	Backfill
TOPSOIL: Dark brown gravelly fine to coarse SAND with frequent fine rootlets. Gravel is sub-angular to rounded fine to coarse flint.		0.40	(0.40)	13.60							
Yellowish brown medium SAND and sub-rounded to rounded fine to coarse flint GRAVEL. (BALDERTON SAND AND GRAVEL MEMBER).		0.80	(0.40)	13.20							
Firm light brown mottled dark brown slightly gravelly sandy CLAY. Gravel is sub-angular to sub-rounded fine flint. Sand is coarse. (BALDERTON SAND AND GRAVEL MEMBER).		1.40	(0.60)	12.60			1.00 - 1.05	ES1	1.20	SPT(S) N=16 (4,3/3,4,4,5)	
Light grey slightly gravelly medium SAND. Gravel is sub-angular to sub-rounded fine flint. (BALDERTON SAND AND GRAVEL MEMBER).		1.70	(0.30)	12.30							
Loose reddish brown gravelly fine to medium SAND. Gravel is sub-angular to sub-rounded fine to coarse flint. (BALDERTON SAND AND GRAVEL MEMBER).		2.40	(0.70)	11.60		1.90 / 1.90	2.10 - 2.15	D1	2.00	SPT(C) N=8 (1,1/2,1,2,3)	
Stiff blueish grey silty slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to medium flint. (SCUNTHORPE MUDSTONE FORMATION).		3.00	(0.60)	11.00					3.00	SPT(S) N=45 (22,3/20,12,8,5)	
Borehole complete at 3.00 m bgl.											

Remarks:
1) Engineer verified logged in general accordance to BS 5930:2015+A1:2020. 2) Area CAT scanned prior to excavation. 3) Groundwater encountered at 1.90 m bgl and remained at 1.90 m bgl after 20 minutes. 4) Borehole completed at 3.00 m bgl. 5) Installed with a 63 mm HDPE standpipe to 2.50 m bgl.

Water Strike			Water Level		Borehole Diameter	
Date	Depth (m)	Remarks	Duration (min)	Depth	Depth Base	Diameter
31/08/2021	1.90		20	1.9		

Coordinates:	Elevation (mAOD):	Drilled By:	Plant Used:	Logged:	Checked:	Approved:	Scale:
E491384.29 N359646.91	14.00	Delta-Drilling	Premier 110	JJR	LD	JR	1:32

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Project No: 12-0310.03

Hole ID: HP101/ CBR101

Project: Torgate Lane, Bassingham

Hand Pit Log

Date: 31/08/2021

Client: Lindum Group

Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details: Depth (m)	Sample Details: Type	Sample Details: Ref	Test Details: Depth (m)	Test Details: Results	Backfill
TOPSOIL: Dark brown gravelly fine to coarse SAND with frequent fine rootlets. Gravel is sub-angular to rounded fine to coarse flint.		0.35	(0.35)	13.86								
Yellowish brown medium SAND and sub-rounded to rounded fine to medium flint GRAVEL. (BALDERTON SAND AND GRAVEL MEMBER).		0.90	(0.55)	13.31			0.60 - 0.80	B	- CB R1			
Hand pit complete at 0.90 m bgl.												

Remarks:
1) Engineer verified logged in general accordance to BS 5930:2015+A1:2020. 3) Hand Pit remained dry and stable upon completion. 4) Hand pit completed at 0.90 m bgl. 5) Hand pit backfilled with arisings.

Water Level Observations					Pit Diameter	
Date	Time	Strike (m)	Duration	Standing	Depth (m)	Diameter (mm)

Coordinates:	Elevation (mAOD):	Excavated By:	Plant Used:	Logged:	Checked:	Approved:	Scale:
E491347.76 N359659.02	14.21	Delta-Simons	Hand Tools	JJR	LD	JR	1:30

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Project No: 12-0310.03

Hole ID: HP102/ CBR102

Page: 1 of 1

Project: Torgate Lane, Bassingham

Hand Pit Log

Date: 31/08/2021

Client: Lindum Group

Description of Strata	Legend	Strata Depth (m bgl)	Strata Thickness (m)	Reduced Level (mAOD)	Casing Diameter (mm)	Water	Sample Details: Depth (m)	Sample Details: Type	Sample Details: Ref	Test Details: Depth (m)	Test Details: Results	Backfill
TOPSOIL: Dark brown gravelly fine to coarse SAND with frequent fine rootlets. Gravel is sub-angular to rounded fine to coarse flint.		0.30	(0.30)	13.78								
Firm brown mottled orange sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to medium flint. Sand is medium. (BALDERTON SAND AND GRAVEL MEMBER).		0.80	(0.50)	13.28			0.50 - 0.70	B	- CB R1			
Hand pit complete at 0.80 m bgl.												

Remarks:
1) Engineer verified logged in general accordance to BS 5930:2015+A1:2020. 3) Hand Pit remained dry and stable upon completion. 4) Hand pit completed at 0.80 m bgl. 5) Hand pit backfilled with arisings.

Water Level Observations					Pit Diameter	
Date	Time	Strike (m)	Duration	Standing	Depth (m)	Diameter (mm)

Coordinates:	Elevation (mAOD):	Excavated By:	Plant Used:	Logged:	Checked:	Approved:	Scale:
E491401.91 N359653.91	14.08	Delta-Simons	Hand Tools	JJR	LD	JR	1:30

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Project No:	Hole ID:	Page:
12-0310.03	SA101	1 of 1

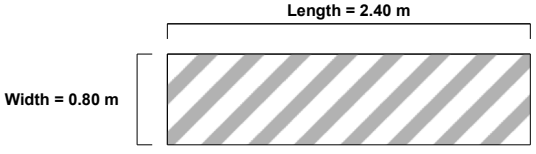
Project: **Torgate Lane, Bassingham**

Trial Pit Log

Date: **31/08/2021** | Client: **Lindum Group**

Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details: Depth (m)	Sample Details: Type & Ref	Test Details: Depth (m)	Test Details: Results
TOPSOIL: Dark brown clayey gravelly fine to coarse SAND. Gravel is sub-angular to rounded fine to coarse flint.		0.50	13.71					
Firm yellowish orange mottled grey sandy CLAY. Sand is fine to coarse. (BALDERTON SAND AND GRAVEL MEMBER).		1.65	12.56					
Trial pit complete at 1.65 m bgl.								

Dimensions and Orientation:



Orientation:

Inclination:

Remarks:
1) Engineer verified logged in general accordance to BS 5930:2015 +A1:2020. 2) Area CAT scanned prior to excavation. 3) Trial Pit remained dry upon completion. 4) Converted to a BRE365 Soakaway Infiltration Test.

Coordinates:	Elevation (mAOD):	Excavated By:	Plant Used:	Logged:	Checked:	Approved:	Scale:
E491358.77 N359668.71	14.21	Lindum Plant	JCB 3CX	JJR	LD	JR	1:30

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Project No: 12-0310.03 | Hole ID: SA102 | Page: 1 of 1

Project: Torgate Lane, Bassingham

Trial Pit Log

Date: 31/08/2021 | Client: Lindum Group

Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details: Depth (m)	Sample Details: Type & Ref	Test Details: Depth (m)	Test Details: Results
TOPSOIL: Dark brown clayey gravelly fine to coarse SAND. Gravel is sub-angular to rounded fine to coarse flint.		0.30	13.85					
Firm yellowish orange mottled grey sandy CLAY. Sand is fine to coarse. (BALDERTON SAND AND GRAVEL MEMBER).		0.90	13.25	0.70 ▼				
Orangish brown very clayey fine to coarse SAND and angular to rounded fine to coarse flint GRAVEL. (BALDERTON SAND AND GRAVEL MEMBER).		1.75	12.40					
Firm reddish brown sandy CLAY. Sand is fine. (BALDERTON SAND AND GRAVEL MEMBER).		1.85	12.30	1.80 △				
Trial pit complete at 1.85 m bgl.								

Dimensions and Orientation:

Length = 2.30 m

Width = 0.80 m

Orientation:

Inclination:

Remarks:
1) Engineer verified logged in general accordance to BS 5930:2015 +A1:2020. 2) Area CAT scanned prior to excavation. 3) Land drain struck at 0.70 m bgl causing water ingress at base of trial pit to 1.80 m bgl. 4) Trail pit terminated and relocated 5.00 m north to SA102a.

Coordinates:	Elevation (mAOD):	Excavated By:	Plant Used:	Logged:	Checked:	Approved:	Scale:
E491357.25 N359647.85	14.15	Lindum Plant	JCB 3CX	JJR	LD	JR	1:30

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Project No: 12-0310.03 | Hole ID: SA102a | Page: 1 of 1

Project: Torgate Lane, Bassingham

Trial Pit Log

Date: 31/08/2021 | Client: Lindum Group

Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details: Depth (m)	Sample Details: Type & Ref	Test Details: Depth (m)	Test Details: Results
TOPSOIL: Dark brown clayey gravelly fine to coarse SAND. Gravel is sub-angular to rounded fine to coarse flint.		0.25	13.80					
Firm yellowish orange mottled grey sandy CLAY. Sand is fine to medium. (BALDERTON SAND AND GRAVEL MEMBER).		0.90	13.15					
Orangish brown very clayey fine to coarse SAND and sub-angular to rounded fine to medium flint GRAVEL. (BALDERTON SAND AND GRAVEL MEMBER).		1.60	12.45					
Trial pit complete at 1.60 m bgl.								

Dimensions and Orientation:

Orientation:

Inclination:

Remarks:
1) Engineer verified logged in general accordance to BS 5930:2015 +A1:2020. 2) Area CAT scanned prior to excavation. 3) Trial Pit remained dry upon completion. 4) Converted to a BRE365 Soakaway Infiltration Test.

Coordinates:	Elevation (mAOD):	Excavated By:	Plant Used:	Logged:	Checked:	Approved:	Scale:
E491357.44 N359647.91	14.05	Lindum Plant	JCB 3CX	JJR	LD	JR	1:30

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Project No: 12-0310.03 | Hole ID: SA103 | Page: 1 of 1

Project: Torgate Lane, Bassingham

Trial Pit Log

Date: 31/08/2021 | Client: Lindum Group

Description of Strata	Legend	Strata Depth (m)	Reduced Level (mAOD)	Water Strike (m)	Sample Details: Depth (m)	Sample Details: Type & Ref	Test Details: Depth (m)	Test Details: Results
TOPSOIL: Dark brown clayey gravelly fine to coarse SAND. Gravel is sub-angular to rounded fine to coarse flint.		0.35	13.70					
Soft yellowish orange mottled grey sandy CLAY. Sand is fine to coarse. (BALDERTON SAND AND GRAVEL MEMBER).		0.70	13.35					
Reddish brown fine to coarse clayey SAND and sub-angular to rounded fine to coarse flint GRAVEL. (BALDERTON SAND AND GRAVEL MEMBER).		1.75	12.30					
Dark grey slightly sandy CLAY. Sand is fine. (BALDERTON SAND AND GRAVEL MEMBER).		1.80	12.25	1.80				
Trial pit complete at 1.80 m bgl.				1.80				

Dimensions and Orientation:

Length = 2.40 m

Width = 0.80 m

Orientation:

Inclination:

Remarks:
1) Engineer verified logged in general accordance to BS 5930:2015 +A1:2020. 2) Area CAT scanned prior to excavation. 3) Groundwater encountered at 1.80 m bgl. 4) Converted to a BRE365 Soakaway Infiltration Test.

Coordinates:	Elevation (mAOD):	Excavated By:	Plant Used:	Logged:	Checked:	Approved:	Scale:
E491392.09 N359660.15	14.05	Lindum Plant	JCB 3CX	JJR	LD	JR	1:30

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

SPT Hammer Ref:	DS 110.99
Test Date:	26/02/2021
Report Date:	
File Name:	DS 110.99.spt
Test Operator:	MC

Instrumented Rod Data

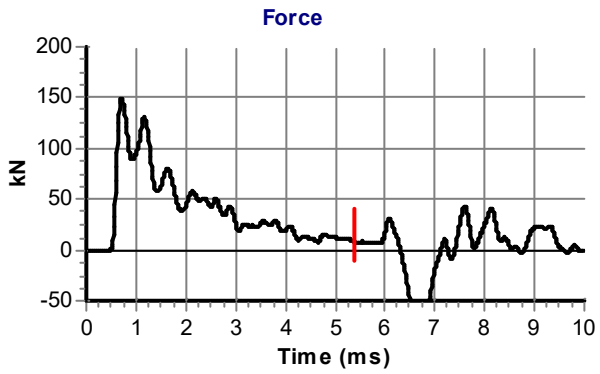
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.4
Assumed Modulus E_a (GPa):	208
Accelerometer No.1:	63177
Accelerometer No.2:	63178

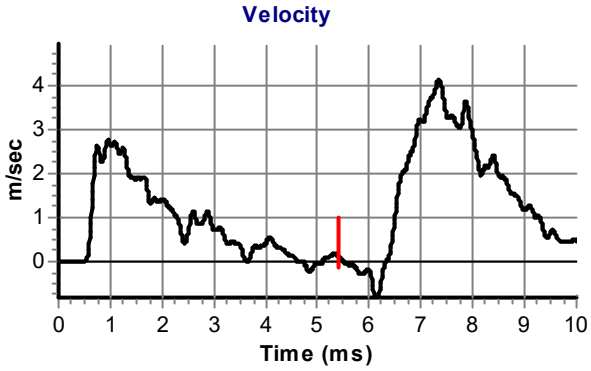
SPT Hammer Information

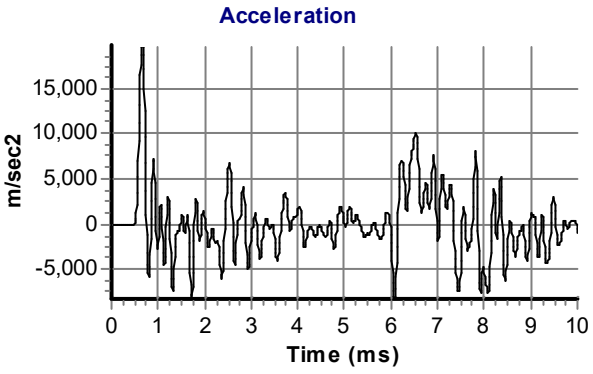
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	12.6

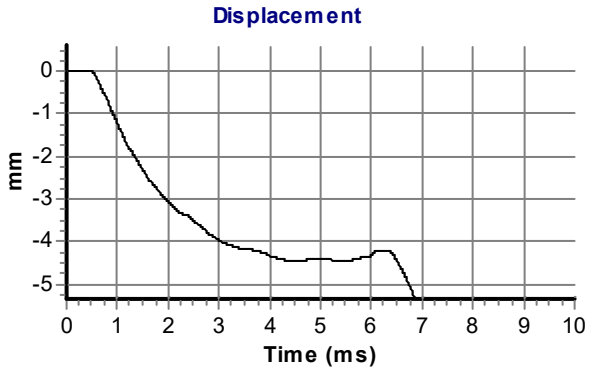
Comments / Location

JMD YARD









Calculations

Area of Rod A (mm2):	957
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	343

Energy Ratio E_r (%): 73

Signed: Richard Walter

Title: Drilling Manager

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Appendix F – Geotechnical Analysis 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

4041

Client:	Delta-Simons	Client Reference:	12-0310 03
Client Address:	Suite C1, Joseph's Well, Hanover Walk, Leeds, LS3 1AB	Job Number:	21-96469
		Date Sampled:	31/08/2021
		Date Received:	01/09/2021
Contact:	Luke Donovan	Date Tested:	09/09/2021
Site Address:	Torgate Lane, Bassingham	Sampled By:	Not Given

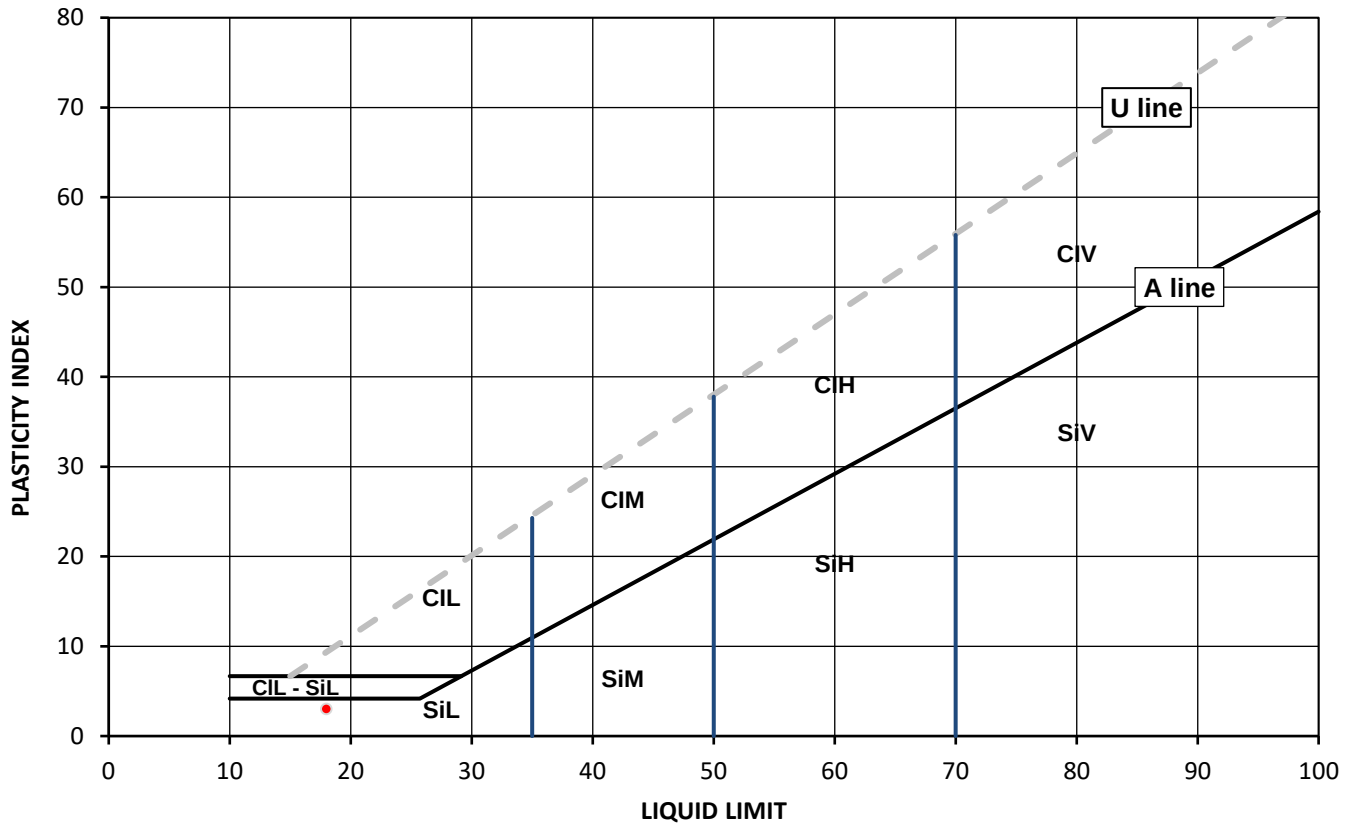
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1993623	Depth Top [m]:	2.10
Hole No.:	DS105	Depth Base [m]:	2.15
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Brown gravelly SAND		

Sample Preparation: Tested after washing to remove >425um

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
13	18	15	3	51



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

		Plasticity		Liquid Limit
Cl	Clay	L	Low	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 ClHO)

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

Remarks: Re-issue 1: Additional results of CBR Soak.

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:

Szczepan Bielatowicz
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 29/09/2021

GF 232.11

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

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

4041

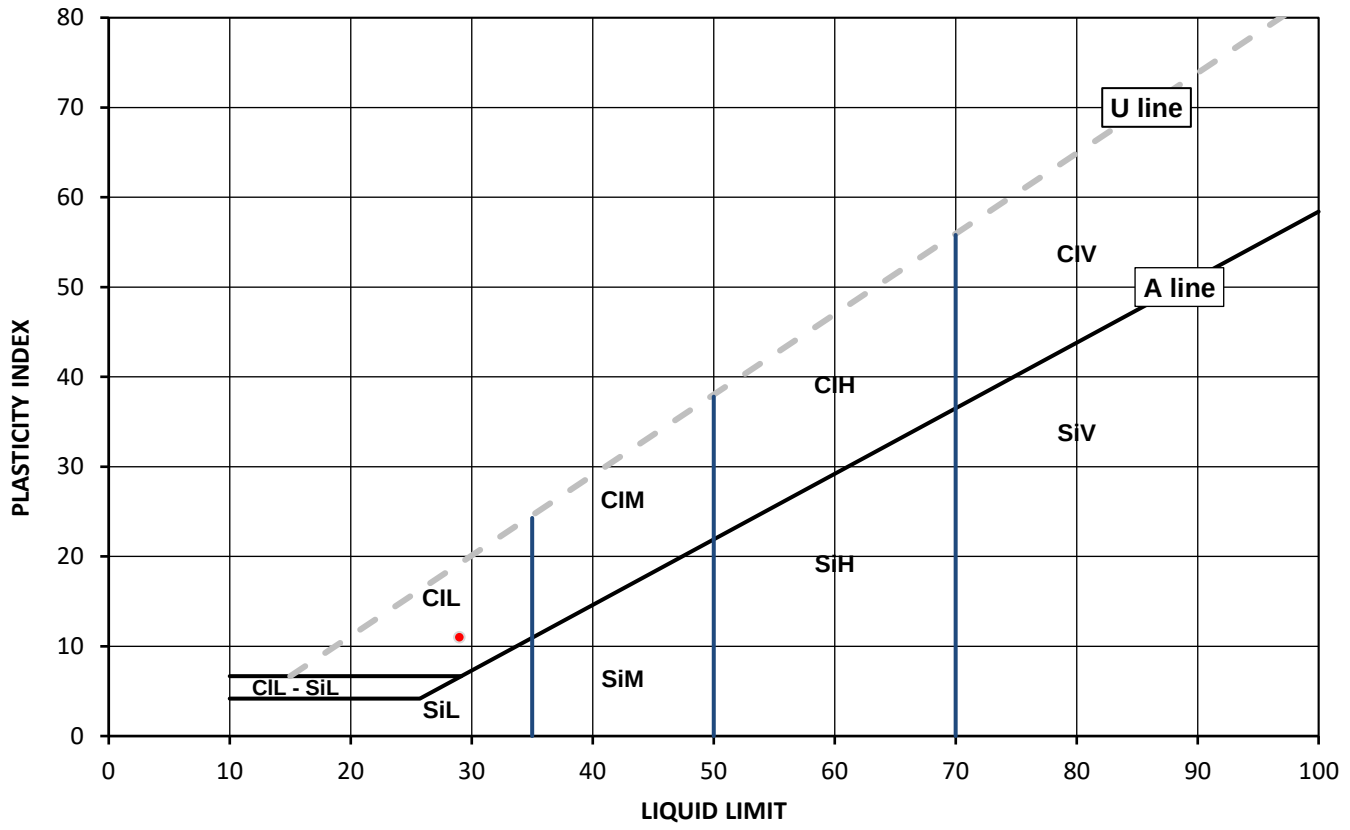
Client:	Delta-Simons	Client Reference:	12-0310 03
Client Address:	Suite C1, Joseph's Well, Hanover Walk, Leeds, LS3 1AB	Job Number:	21-96469
		Date Sampled:	31/08/2021
		Date Received:	01/09/2021
Contact:	Luke Donovan	Date Tested:	09/09/2021
Site Address:	Torgate Lane, Bassingham	Sampled By:	Not Given

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

Test Results:

Laboratory Reference:	1993619	Depth Top [m]:	2.80
Hole No.:	DS101	Depth Base [m]:	2.85
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Grey slightly gravelly slightly very sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
13	29	18	11	83



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

		Plasticity		Liquid Limit
Cl	Clay	L	Low	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 ClHO)

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

Remarks: Re-issue 1: Additional results of CBR Soak.

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:

Szczepan Bielatowicz
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 29/09/2021

GF 236.11

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

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

UKAS TESTING
4041

Environmental Science

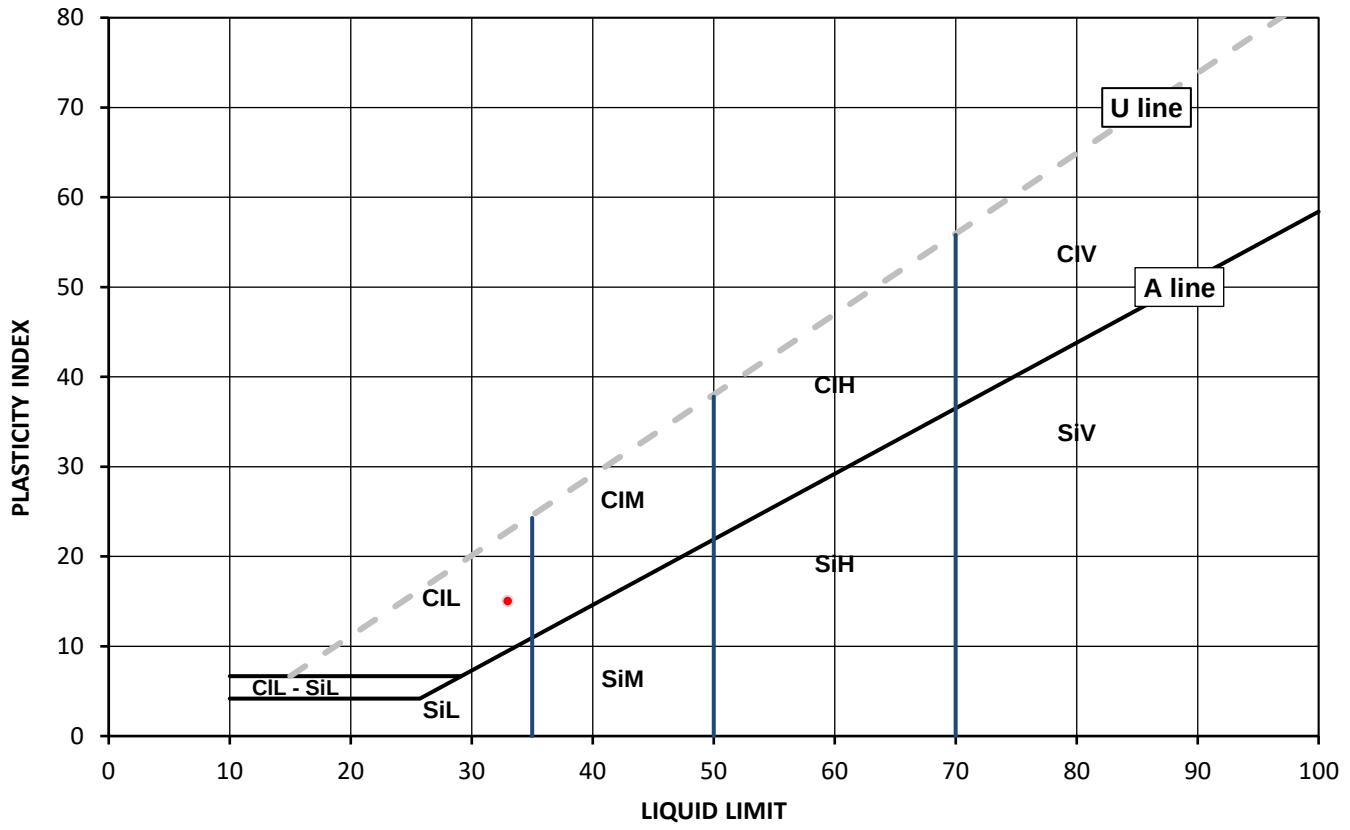
Client:	Delta-Simons	Client Reference:	12-0310 03
Client Address:	Suite C1, Joseph's Well, Hanover Walk, Leeds, LS3 1AB	Job Number:	21-96469
		Date Sampled:	31/08/2021
		Date Received:	01/09/2021
Contact:	Luke Donovan	Date Tested:	09/09/2021
Site Address:	Torgate Lane, Bassingham	Sampled By:	Not Given

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

Test Results:

Laboratory Reference:	1993620	Depth Top [m]:	2.60
Hole No.:	DS102	Depth Base [m]:	2.70
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Grey very sandy CLAY		
Sample Preparation:	Tested in natural condition		

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
18	33	18	15	100



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

		Plasticity		Liquid Limit
Cl	Clay	L	Low	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 ClHO)

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

Remarks: Re-issue 1: Additional results of CBR Soak.

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:

Szczepan Bielatowicz
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 29/09/2021

GF 236.11

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.3 and 5

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

UKAS TESTING
4041

Environmental Science

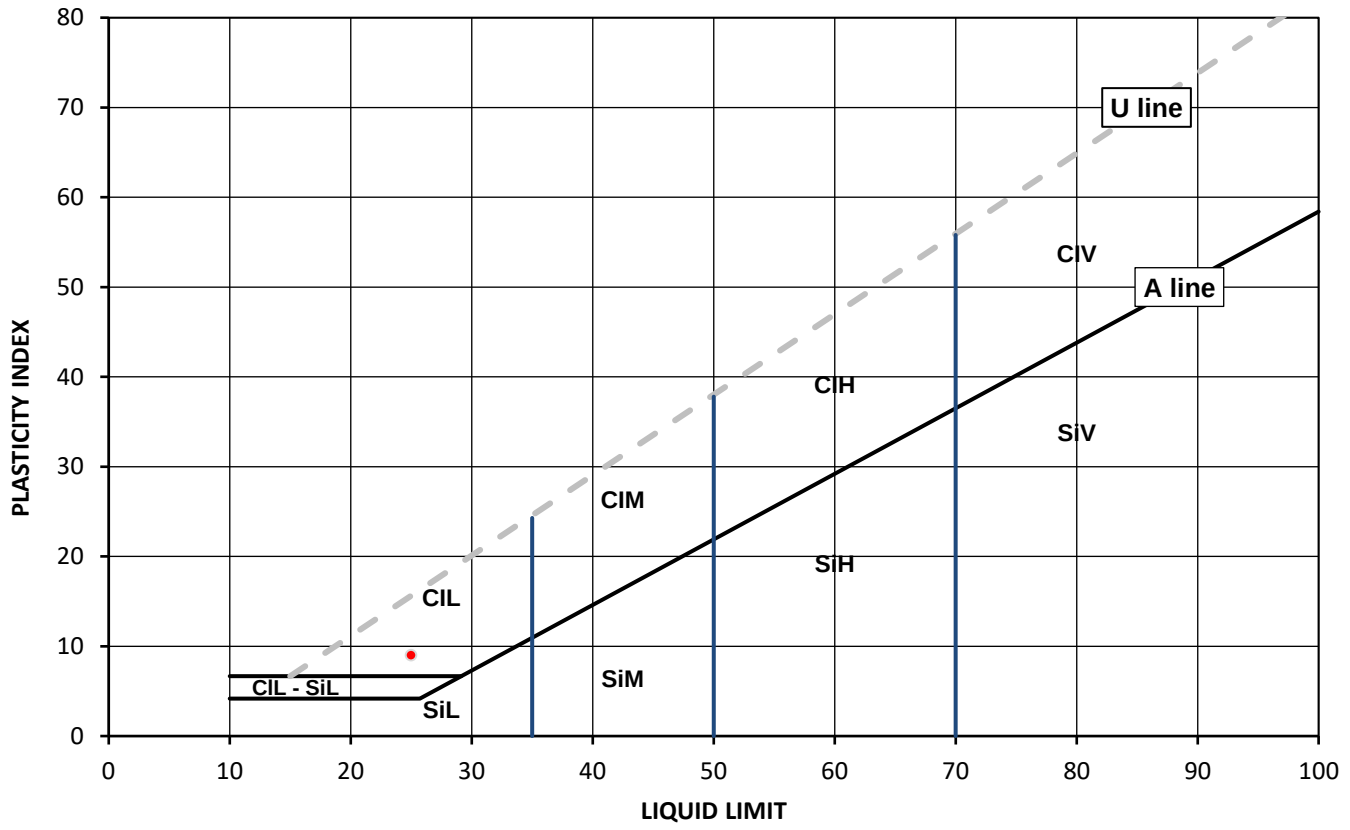
Client:	Delta-Simons	Client Reference:	12-0310 03
Client Address:	Suite C1, Joseph's Well, Hanover Walk, Leeds, LS3 1AB	Job Number:	21-96469
		Date Sampled:	31/08/2021
		Date Received:	01/09/2021
Contact:	Luke Donovan	Date Tested:	09/09/2021
Site Address:	Torgate Lane, Bassingham	Sampled By:	Not Given

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

Test Results:

Laboratory Reference:	1993621	Depth Top [m]:	1.60
Hole No.:	DS103	Depth Base [m]:	1.65
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Orangish brown gravelly clayey SAND		
Sample Preparation:	Tested after washing to remove >425um		

As Received Moisture Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
11	25	16	9	57



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

		Plasticity		Liquid Limit
Cl	Clay	L	Low	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 ClHO)

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

Remarks: Re-issue 1: Additional results of CBR Soak.

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Signed:

Szczepan Bielatowicz
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 29/09/2021

GF 236.11

SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

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

4041

Client: Delta-Simons

Client Address: Suite C1, Joseph's Well, Hanover Walk, Leeds, LS3 1AB

Contact: Luke Donovan

Site Address: Torgate Lane, Bassingham

Moisture Content by BS 1377-2: 1990: Clause 3.2; Water Content by BS EN 17892-1: 2014; 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

Client Reference: 12-0310 03
Job Number: 21-96469
Date Sampled: 31/08/2021
Date Received: 01/09/2021
Date Tested: 09/09/2021
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	Moisture Content [W]	Water Content [W]	Atterberg				Density			Total Porosity#		
		Reference	Depth Top	Depth Base	Type					% Passing 425um	WL	Wp	Ip	bulk	dry	PD			
			m	m				%	%	%	%	%	%	Mg/m3	Mg/m3	Mg/m3	%		
1993619	DS101	Not Given	2.80	2.85	D	Grey slightly gravelly slightly very sandy CLAY	Atterberg 4 Point	13		83	29	18	11						
1993620	DS102	Not Given	2.60	2.70	D	Grey very sandy CLAY	Atterberg 4 Point	18		100	33	18	15						
1993621	DS103	Not Given	1.60	1.65	D	Orangish brown gravelly clayey SAND	Atterberg 4 Point	11		57	25	16	9						
1993622	DS104	Not Given	2.80	2.85	D	Brownish grey very gravelly very sandy CLAY		11											
1993623	DS105	Not Given	2.10	2.15	D	Brown gravelly SAND	Atterberg 1 Point	13		51	18	15	3						

Note: # Non accredited; NP - Non plastic

Comments: Re-issue 1: Additional results of CBR Soak.

Signed:

Szczepan Bielatowicz
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

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Date Reported: 29/09/2021

GF 234.13

TEST CERTIFICATE

Particle Size Distribution

Tested in Accordance with: BS 1377-2: 1990

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

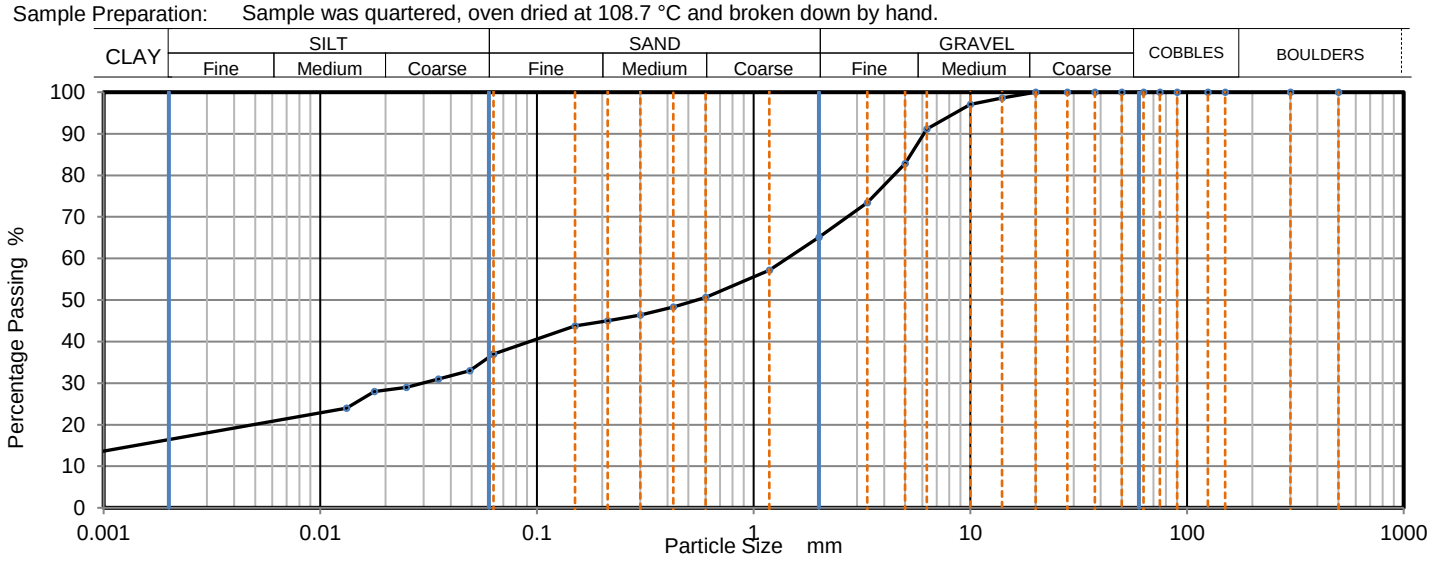
4041

Client:	Delta-Simons	Client Reference:	12-0310 03
Client Address:	Suite C1, Joseph's Well, Hanover Walk, Leeds, LS3 1AB	Job Number:	21-96469
		Date Sampled:	31/08/2021
		Date Received:	01/09/2021
Contact:	Luke Donovan	Date Tested:	09/09/2021
Site Address:	Torgate Lane, Bassingham	Sampled By:	Not Given

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

Test Results:

Laboratory Reference:	1993622	Depth Top [m]:	2.80
Hole No.:	DS104	Depth Base [m]:	2.85
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Brownish grey very gravelly very sandy CLAY		
Sample Preparation:	Sample was quartered, oven dried at 108.7 °C and broken down by hand.		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0630	37
300	100	0.0489	33
150	100	0.0351	31
125	100	0.0250	29
90	100	0.0178	28
75	100	0.0132	24
63	100	0.0009	13
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	97		
6.3	91		
5	83		
3.35	73	Particle density	(assumed)
2	65	2.65	Mg/m3
1.18	57		
0.6	51		
0.425	48		
0.3	46		
0.212	45		
0.15	44		
0.063	37		

Sample Proportions	% dry mass
Very coarse	0
Gravel	35
Sand	28
Silt	20
Clay	17

Grading Analysis		
D100	mm	20
D60	mm	1.42
D30	mm	0.0298
D10	mm	
Uniformity Coefficient		> 1700
Curvature Coefficient		

Uniformity Coefficient and Coefficient of Curvature calculated in accordance with BS EN ISO 14688-2: 2004 + A1: 2013

Note: Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Remarks: Re-issue 1: Additional results of CBR Soak.

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Signed:

Szczepan Bielatowicz
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 29/09/2021

GF 100.20

TEST CERTIFICATE

Determination of California Bearing Ratio

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

4041

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

Client:	Delta-Simons	Client Reference:	12-0310 03
Client Address:	Suite C1, Joseph's Well, Hanover Walk, Leeds, LS3 1AB	Job Number:	21-96469
		Date Sampled:	31/08/2021
		Date Received:	01/09/2021
Contact:	Luke Donovan	Date Tested:	14/09/2021
Site Address:	Torgate Lane, Bassingham	Sampled By:	Not Given

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

Test Results:

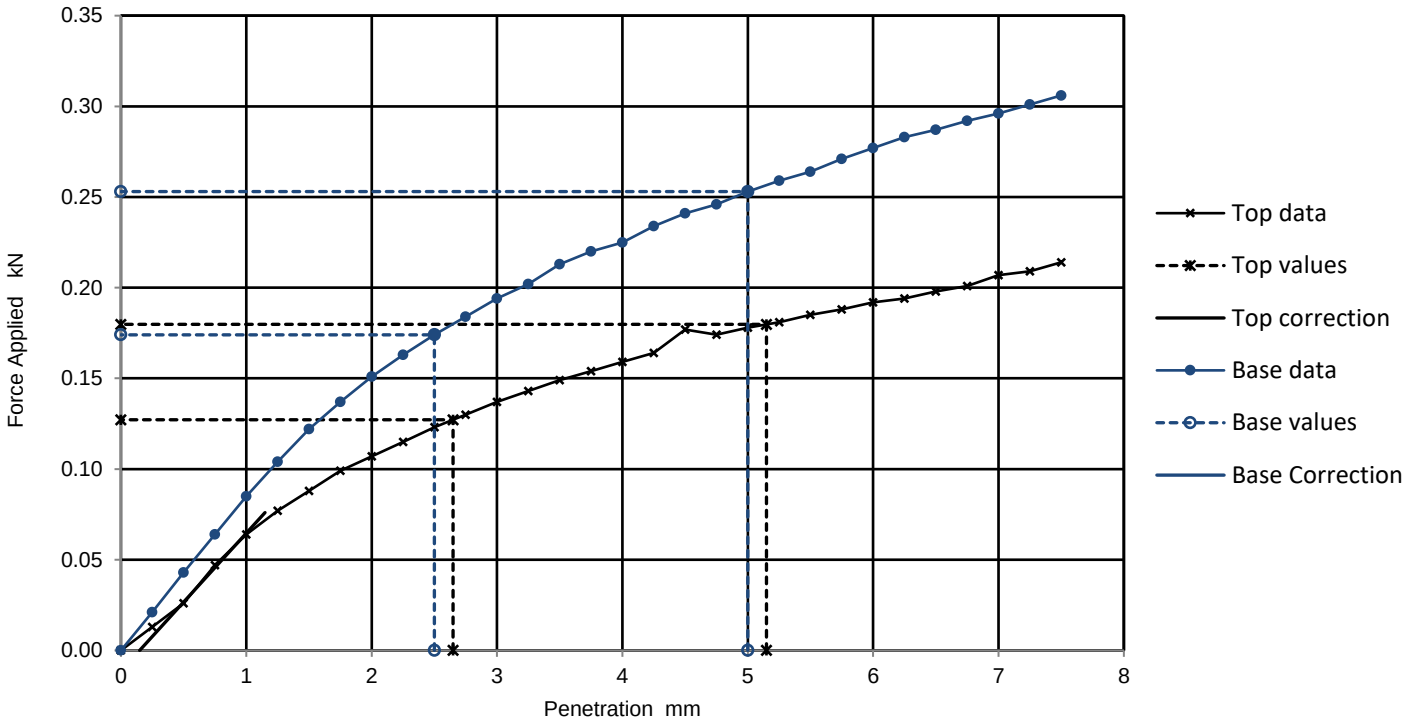
Laboratory Reference:	1993624	Depth Top [m]:	0.60
Hole No.:	CBR101	Depth Base [m]:	0.80
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Light brown to yellowish brown very sandy CLAY		

Specimen Preparation:

Condition	Remoulded	Soaking details	Not soaked
Details	Recompacted with specified standard effort using 2.5kg rammer	Period of soaking	days
		Time to surface	days
		Amount of swell recorded	mm
Material retained on 20mm sieve removed	0 %	Dry density after soaking	Mg/m3

Initial Specimen details	Bulk density	2.03	Mg/m3	Surcharge applied	8 kg
	Dry density	1.68	Mg/m3		4.9 kPa
	Moisture content	21	%		

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	Yes	1.0	0.9	1.0		21
BASE	No	1.3	1.3	1.3		21

Remarks: Re-issue 1: Additional results of CBR Soak.

Test/ Specimen specific remarks:

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Signed:

Szczepan Bielatowicz
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 29/09/2021

GF 108.15

TEST CERTIFICATE

Determination of California Bearing Ratio

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

4041

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

Client:	Delta-Simons	Client Reference:	12-0310 03
Client Address:	Suite C1, Joseph's Well, Hanover Walk, Leeds, LS3 1AB	Job Number:	21-96469
		Date Sampled:	31/08/2021
		Date Received:	01/09/2021
Contact:	Luke Donovan	Date Tested:	14/09/2021
Site Address:	Torgate Lane, Bassingham	Sampled By:	Not Given

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

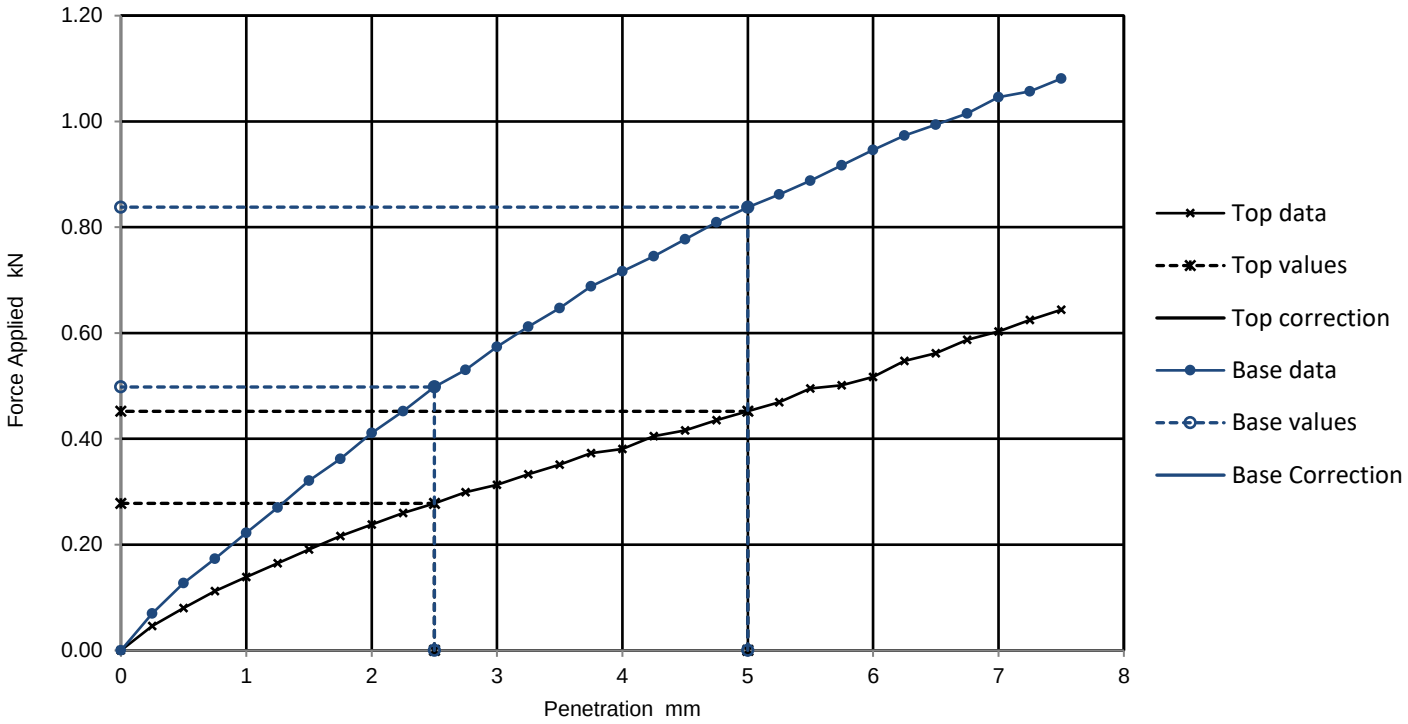
Test Results:

Laboratory Reference:	1993625	Depth Top [m]:	0.50
Hole No.:	CBR102	Depth Base [m]:	0.70
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Light brown to yellowish brown very sandy CLAY		

Specimen Preparation:

Condition	Remoulded			Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 2.5kg rammer			Period of soaking		days
				Time to surface		days
				Amount of swell recorded		mm
Material retained on 20mm sieve removed		0	%	Dry density after soaking		Mg/m3
Initial Specimen details	Bulk density	2.11	Mg/m3	Surcharge applied	8	kg
	Dry density	1.88	Mg/m3		4.9	kPa
	Moisture content	13	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	2.1	2.3	2.3		13
BASE	No	3.8	4.2	4.2		13

Remarks: Re-issue 1: Additional results of CBR Soak.

Test/ Specimen specific remarks:

Signed:

Szczepan Bielatowicz
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

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Date Reported: 29/09/2021

GF 108.15

TEST CERTIFICATE

California Bearing Ratio Soaked

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

4041

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

Client:	Delta-Simons	Client Reference:	12-0310 03
Client Address:	Suite C1, Joseph's Well, Hanover Walk, Leeds, LS3 1AB	Job Number:	21-96469
		Date Sampled:	31/08/2021
		Date Received:	01/09/2021
Contact:	Luke Donovan	Date Tested:	20/09/2021
Site Address:	Torgate Lane, Bassingham	Sampled By:	Not Given

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

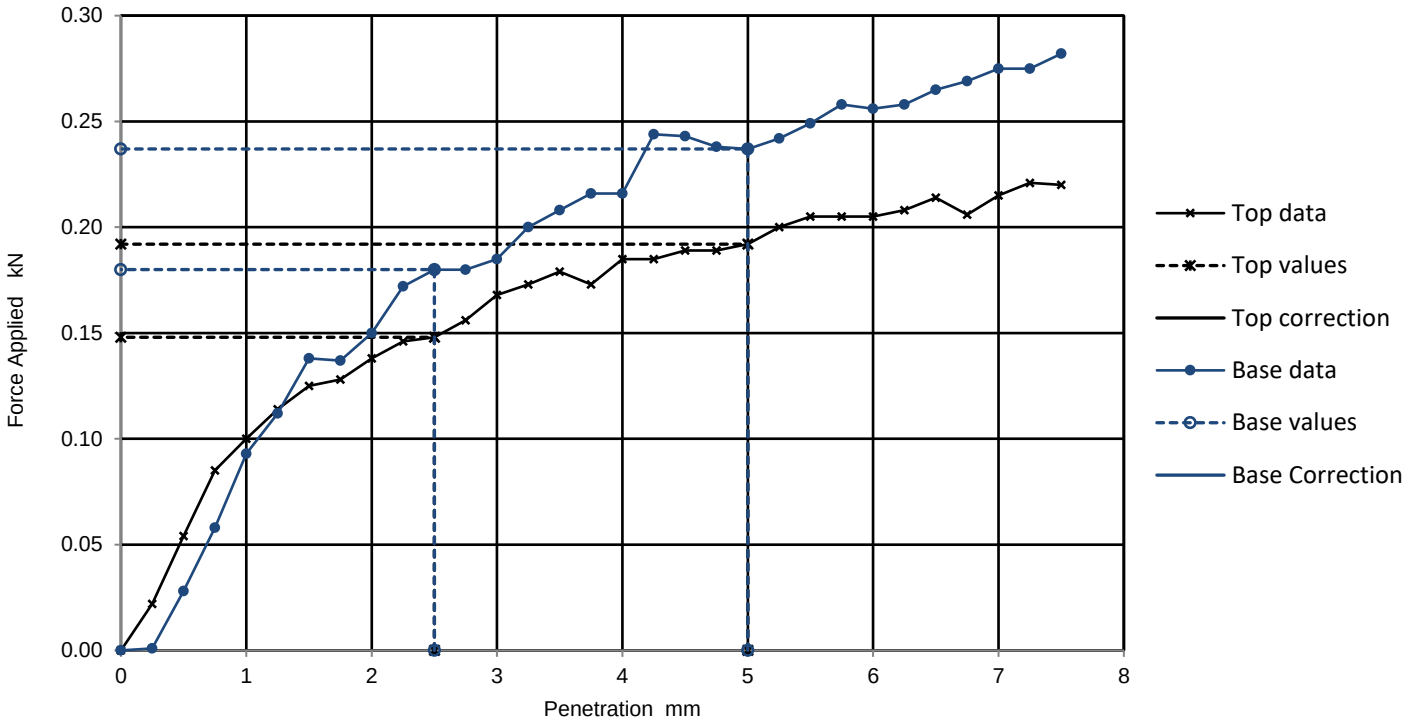
Test Results:

Laboratory Reference:	1993624	Depth Top [m]:	0.60
Hole No.:	CBR101	Depth Base [m]:	0.80
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Light brown to yellowish brown very sandy CLAY		

Specimen Preparation:

Condition	Remoulded			Soaking details		
Details	Recompacted with specified standard effort using 2.5kg rammer			Period of soaking	7	days
				Time to surface	1	days
				Amount of swell recorded	-0.02	mm
Material retained on 20mm sieve removed		0	%	Dry density after soaking	1.67	Mg/m3
Initial Specimen details	Bulk density	2.02	Mg/m3	Surcharge applied	8	kg
	Dry density	1.67	Mg/m3		4.9	kPa
	Moisture content	21	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	1.1	1.0	1.1	1.2	21
BASE	No	1.4	1.2	1.4		21

Remarks: Re-issue 1: Additional results of CBR Soak.

Test/ Specimen specific remarks:

Signed:

Szczepan Bielatowicz
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

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Date Reported: 29/09/2021

GF 330.7

TEST CERTIFICATE

California Bearing Ratio Soaked

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

4041

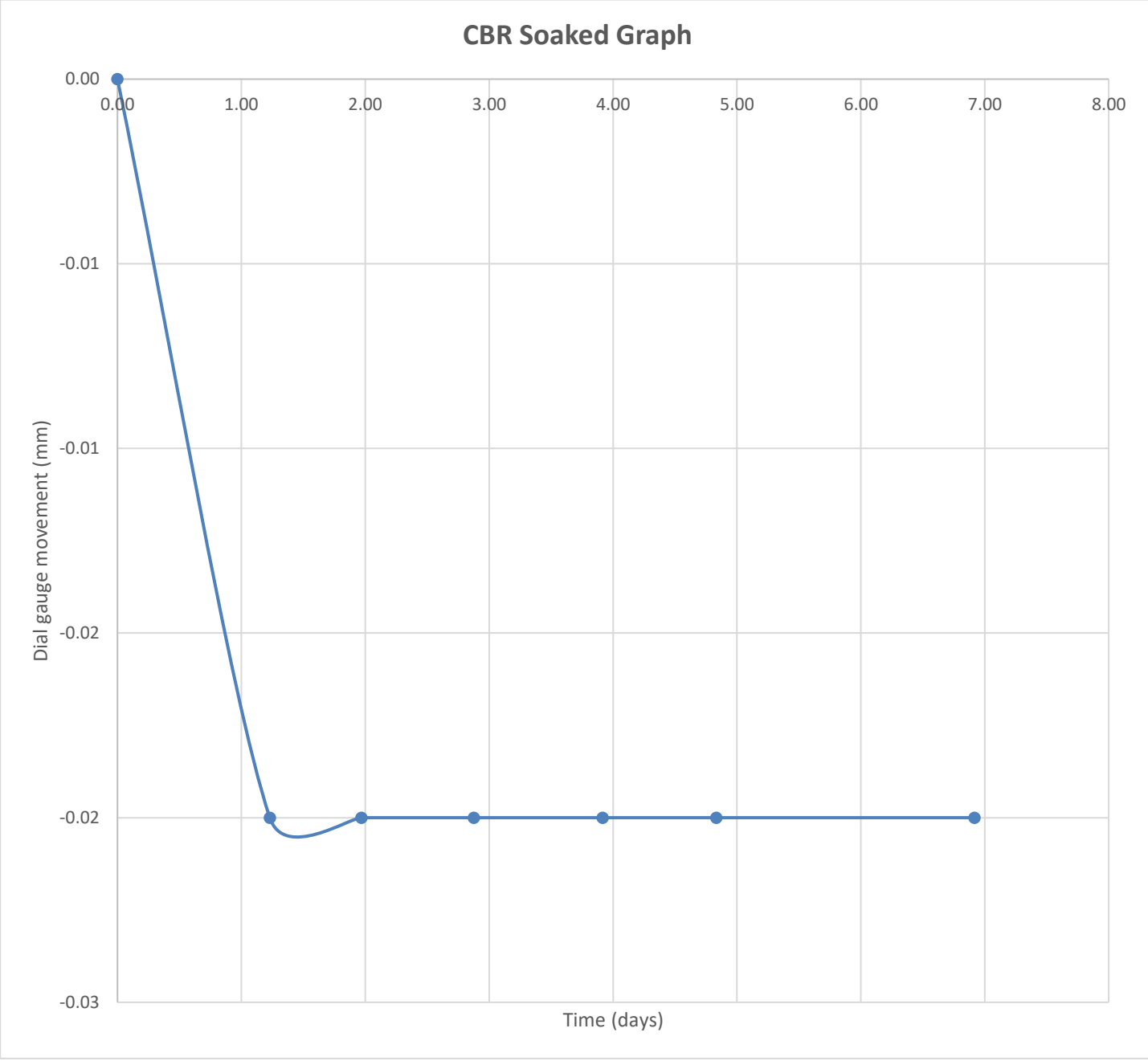
Tested in Accordance with: BS 1377-4: 1990: Clause 7

Client:	Delta-Simons	Client Reference:	12-0310 03
Client Address:	Suite C1, Joseph's Well, Hanover Walk, Leeds, LS3 1AB	Job Number:	21-96469
		Date Sampled:	31/08/2021
		Date Received:	01/09/2021
Contact:	Luke Donovan	Date Tested:	20/09/2021
Site Address:	Torgate Lane, Bassingham	Sampled By:	Not Given

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

Test Results:

Laboratory Reference:	1993624	Depth Top [m]:	0.60
Hole No.:	CBR101	Depth Base [m]:	0.80
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Light brown to yellowish brown very sandy CLAY		



Remarks: Re-issue 1: Additional results of CBR Soak.

Test/ Specimen specific remarks:

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Signed:

Szczepan Bielatowicz
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 29/09/2021

GF 330.7

TEST CERTIFICATE

California Bearing Ratio Soaked

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

4041

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

Client:	Delta-Simons	Client Reference:	12-0310 03
Client Address:	Suite C1, Joseph's Well, Hanover Walk, Leeds, LS3 1AB	Job Number:	21-96469
		Date Sampled:	31/08/2021
		Date Received:	01/09/2021
Contact:	Luke Donovan	Date Tested:	20/09/2021
Site Address:	Torgate Lane, Bassingham	Sampled By:	Not Given

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

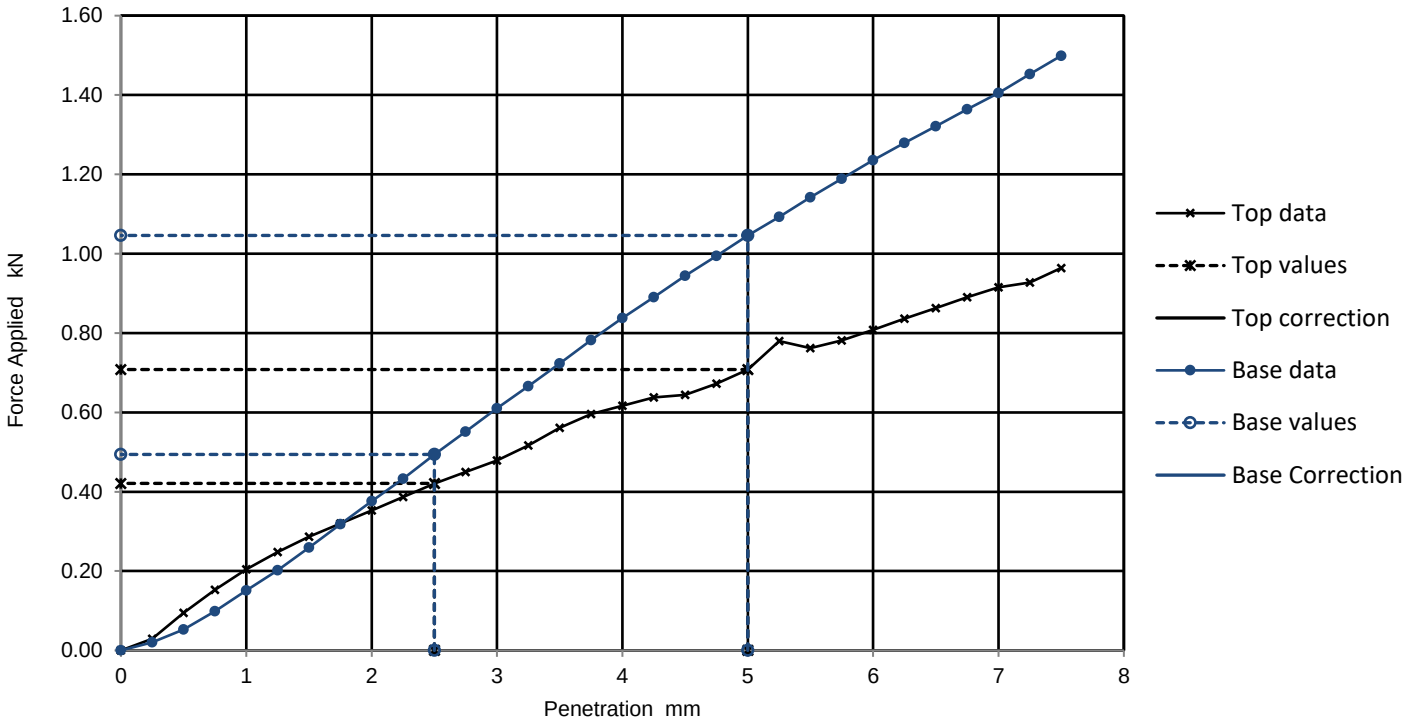
Test Results:

Laboratory Reference:	1993625	Depth Top [m]:	0.50
Hole No.:	CBR102	Depth Base [m]:	0.70
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Light brown to yellowish brown slightly gravelly very sandy CLAY		

Specimen Preparation:

Condition	Remoulded			Soaking details		
Details	Recompacted with specified standard effort using 2.5kg rammer			Period of soaking	7	days
				Time to surface	1	days
				Amount of swell recorded	-0.05	mm
Material retained on 20mm sieve removed		2	%	Dry density after soaking	1.96	Mg/m3
Initial Specimen details	Bulk density	2.19	Mg/m3	Surcharge applied	8	kg
	Dry density	1.96	Mg/m3		4.9	kPa
	Moisture content	12	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	3.2	3.5	3.5		12
BASE	No	3.7	5.2	5.2		12

Remarks: Re-issue 1: Additional results of CBR Soak.

Test/ Specimen specific remarks:

Signed:

Szczepan Bielatowicz
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

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Date Reported: 29/09/2021

GF 330.7

TEST CERTIFICATE

California Bearing Ratio Soaked

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

4041

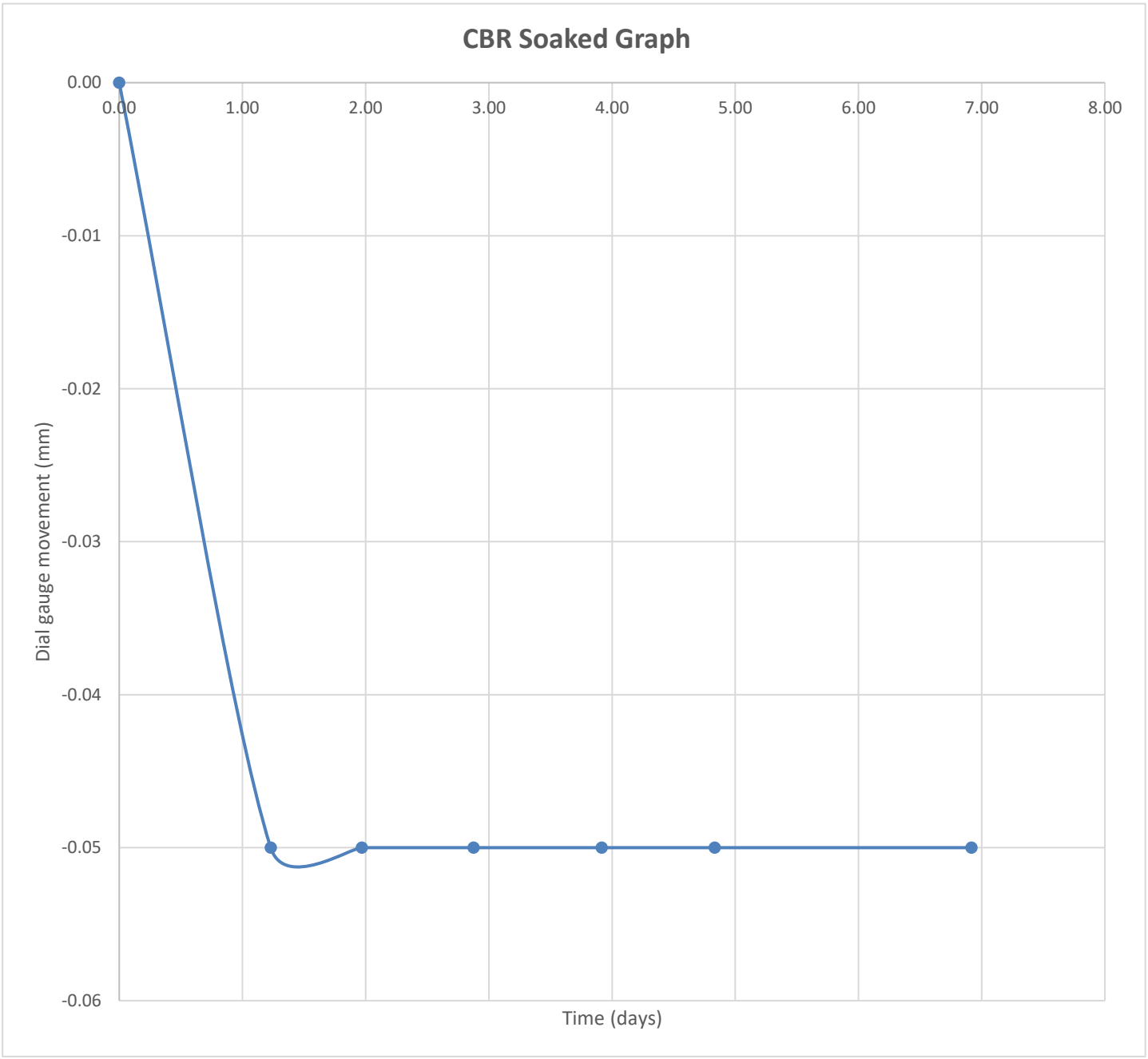
Tested in Accordance with: BS 1377-4: 1990: Clause 7

Client:	Delta-Simons	Client Reference:	12-0310 03
Client Address:	Suite C1, Joseph's Well, Hanover Walk, Leeds, LS3 1AB	Job Number:	21-96469
		Date Sampled:	31/08/2021
		Date Received:	01/09/2021
Contact:	Luke Donovan	Date Tested:	20/09/2021
Site Address:	Torgate Lane, Bassingham	Sampled By:	Not Given

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

Test Results:

Laboratory Reference:	1993625	Depth Top [m]:	0.50
Hole No.:	CBR102	Depth Base [m]:	0.70
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Light brown to yellowish brown slightly gravelly very sandy CLAY		



Remarks: Re-issue 1: Additional results of CBR Soak.

Test/ Specimen specific remarks:

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Signed:

Szczepan Bielatowicz
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 29/09/2021

GF 330.7

Appendix G – Soil Chemical Analysis Results

Luke Donovan
Delta-Simons
Suite C1
Joseph's Well
Hanover Walk
Leeds
LS3 1AB

e: Luke.Donovan@deltasimons.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 : 21-96473

Project / Site name:	Torgate Lane, Bassingham	**Samples received on:**	01/09/2021
Your job number:	12-0310 03	**Samples instructed on/ Analysis started on:**	01/09/2021
Your order number:	DS63191	**Analysis completed by:**	14/09/2021
Report Issue Number:	1	**Report issued on:**	14/09/2021
Samples Analysed:	4 soil samples		

Signed: Izabela Wójcik

Izabela Wójcik
Technical Reviewer (Reporting Team)
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

Excel copies of reports are only valid when accompanied by this PDF certificate.

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.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 21-96473
Project / Site name: Torgate Lane, Bassingham
Your Order No: DS63191

Lab Sample Number				1993635	1993636	1993637	1993638
Sample Reference				DS101	DS102	DS103	DS105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.80-2.85	2.60-2.70	1.60-1.65	2.10-2.15
Date Sampled				31/08/2021	31/08/2021	31/08/2021	31/08/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	11	12	9.9	11
Total mass of sample received	kg	0.001	NONE	0.20	0.20	0.20	0.20

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.7	8.2	8.8	8.4
Total Sulphate as SO4	%	0.005	MCERTS	0.052	0.055	0.029	0.031
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	60	73	22	19
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.030	0.037	0.011	0.0097
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	29.8	36.7	11.2	9.7
Total Sulphur	%	0.005	MCERTS	0.093	0.084	< 0.005	< 0.005

U/S = Unsuitable Sample I/S = Insufficient Sample

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 21-96473
Project / Site name: Torgate Lane, Bassingham

* 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 *
1993635	DS101	None Supplied	2.80-2.85	Grey clay and sand with gravel and vegetation.
1993636	DS102	None Supplied	2.60-2.70	Grey clay and gravel.
1993637	DS103	None Supplied	1.60-1.65	Brown sandy clay with gravel.
1993638	DS105	None Supplied	2.10-2.15	Brown sand with gravel and vegetation.

Analytical Report Number : 21-96473
Project / Site name: Torgate Lane, Bassingham

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
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
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

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.

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Analytical Report Number : 21-96596

Project / Site name:	Torgate Lane, Bassingham	**Samples received on:**	01/09/2021
Your job number:	12-0310.03	**Samples instructed on/ Analysis started on:**	01/09/2021
Your order number:	DS63191	**Analysis completed by:**	08/09/2021
Report Issue Number:	1	**Report issued on:**	08/09/2021
Samples Analysed:	3 soil samples		

Signed: Karolina Marek

Karolina Marek
PL Head of Reporting Team
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.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 21-96596
Project / Site name: Torgate Lane, Bassingham
Your Order No: DS63191

Lab Sample Number				1994513	1994514	1994515
Sample Reference				DS101	DS103	DS105
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.40-0.45	0.70-0.75	1.00-1.05
Date Sampled				31/08/2021	31/08/2021	31/08/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	5.4	11	9.1
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.0
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
General Inorganics						
pH - Automated	pH Units	N/A	MCERTS	6.7	6.8	7.0
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	18	36	13
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0091	0.018	0.0063
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	9.1	17.9	6.3
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.2	5.9	5.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	10	8.2	9.4
Copper (aqua regia extractable)	mg/kg	1	MCERTS	7.6	8.7	5.9
Lead (aqua regia extractable)	mg/kg	1	MCERTS	13	23	12
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	7.8	6.1	5.1
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	18	19	12
Monoaromatics & Oxygenates						
Benzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
Toluene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
Ethylbenzene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
p & m-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
o-xylene	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001

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Analytical Report Number: 21-96596
Project / Site name: Torgate Lane, Bassingham
Your Order No: DS63191

Lab Sample Number				1994513	1994514	1994515
Sample Reference				DS101	DS103	DS105
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.40-0.45	0.70-0.75	1.00-1.05
Date Sampled				31/08/2021	31/08/2021	31/08/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Petroleum Hydrocarbons						
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC35 - EC40	mg/kg	10	NONE	< 10	< 10	< 10
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10
TPH-CWG - Aromatic >EC35 - EC40	mg/kg	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10
TPH (C35 - C40)	mg/kg	10	MCERTS	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

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Analytical Report Number : 21-96596
Project / Site name: Torgate Lane, Bassingham

* 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 *
1994513	DS101	None Supplied	0.40-0.45	Brown clay and sand with gravel.
1994514	DS103	None Supplied	0.70-0.75	Brown clay and sand with gravel and vegetation.
1994515	DS105	None Supplied	1.00-1.05	Brown clay and sand with gravel.

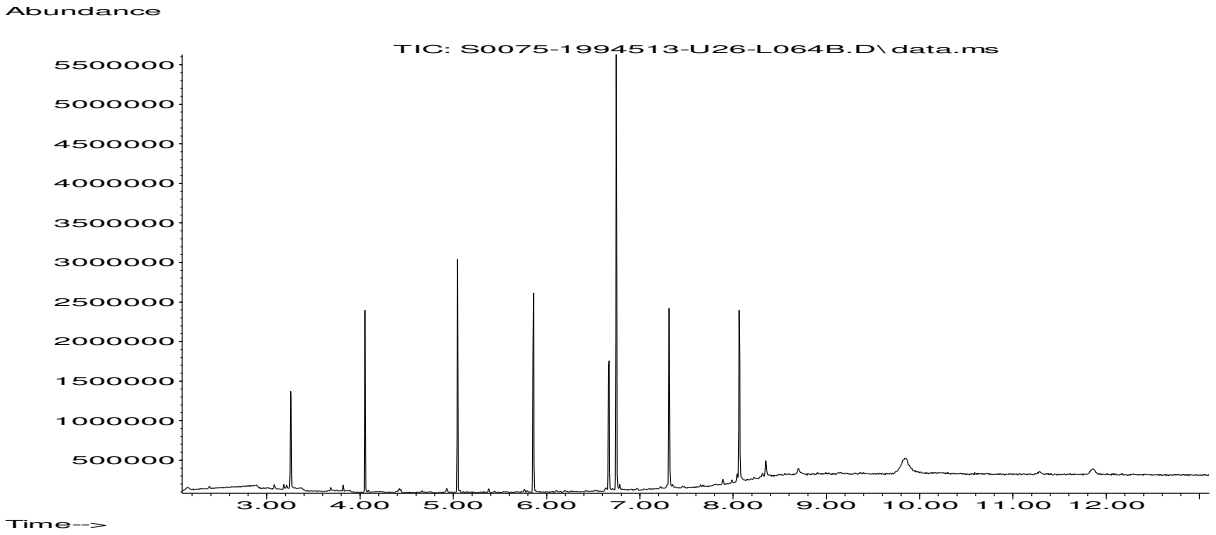
Analytical Report Number : 21-96596
Project / Site name: Torgate Lane, Bassingham

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 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	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
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
TPH Chromatogram in Soil	TPH Chromatogram in Soil.	In-house method	L064-PL	D	NONE
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

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.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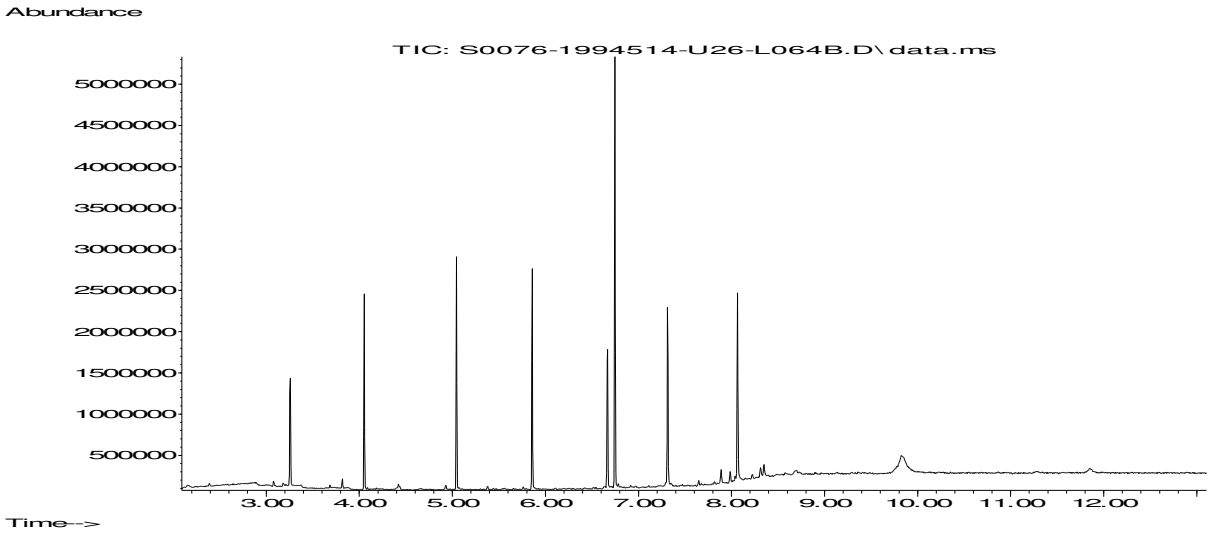
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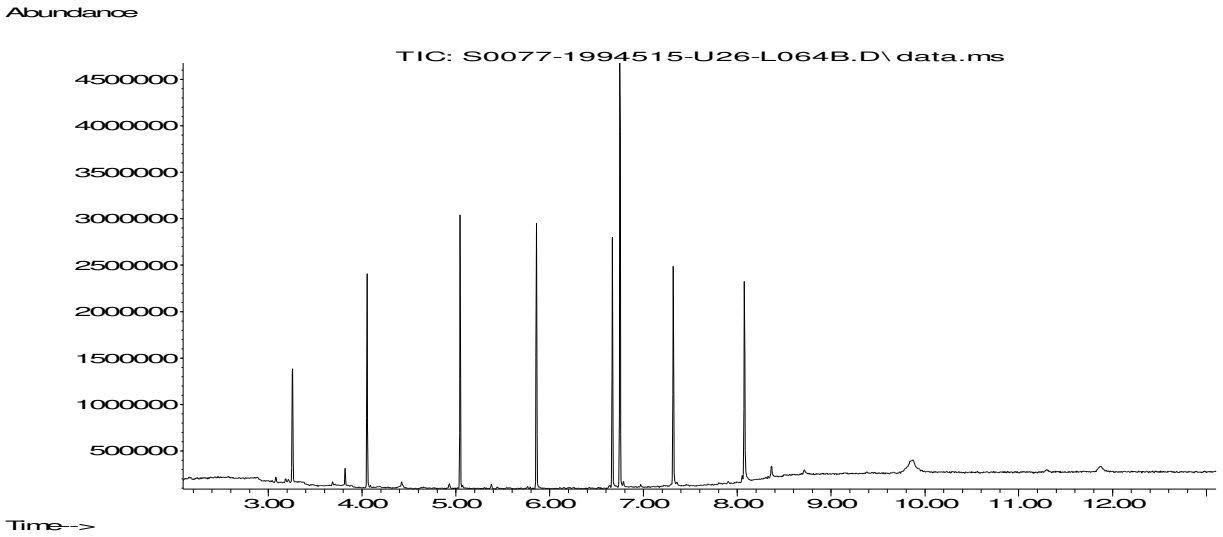
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10.00
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Analytical Report Number : 21-96598

Project / Site name:	Torgate Lane, Bassingham	**Samples received on:**	01/09/2021
Your job number:	12-0310.03	**Samples instructed on/ Analysis started on:**	01/09/2021
Your order number:	DS63191	**Analysis completed by:**	08/09/2021
Report Issue Number:	1	**Report issued on:**	08/09/2021
Samples Analysed:	2 10:1 WAC Samples		

Signed: Karolina Marek

Karolina Marek
PL Head of Reporting Team
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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Application of uncertainty of measurement would provide a range within which the true result lies.
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Waste Acceptance Criteria Analytical Results

Report No:	**21-96598**						
					Client:	**DELTASIM**	
Location	**Torgate Lane, Bassingham**						
Lab Reference (Sample Number)	1994529 / 1994530				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	31/08/2021				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	DS101						
Depth (m)	1.10-0.45						
Solid Waste Analysis							
TOC (%)**	1.1				3%	5%	6%
Loss on Ignition (%) **	2.6				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--
pH (units)**	6.9				--	>6	--
Acid Neutralisation Capacity (mol / kg)	-0.86				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0051			0.0468	0.5	2	25
Barium *	0.0105			0.0975	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0019			0.017	0.5	10	70
Copper *	0.012			0.11	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	< 0.0004			< 0.0040	0.5	10	30
Nickel *	0.0059			0.055	0.4	10	40
Lead *	0.0059			0.055	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.031			0.28	4	50	200
Chloride *	1.7			15	800	15000	25000
Fluoride	0.31			2.9	10	150	500
Sulphate *	3.4			32	1000	20000	50000
TDS*	30			280	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	24.6			228	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	93						
Moisture (%)	6.6						

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:	**21-96598**						
					Client:	**DELTASIM**	
Location	**Torgate Lane, Bassingham**						
Lab Reference (Sample Number)	1994531 / 1994532				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	31/08/2021				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	DS104						
Depth (m)	0.30-0.35						
Solid Waste Analysis							
TOC (%)**	1.1				3%	5%	6%
Loss on Ignition (%) **	2.5				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--	--
pH (units)**	6.5				--	>6	--
Acid Neutralisation Capacity (mol / kg)	-1.1				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.0010			< 0.0100	0.5	2	25
Barium *	0.0147			0.136	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0018			0.017	0.5	10	70
Copper *	0.013			0.12	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	< 0.0004			< 0.0040	0.5	10	30
Nickel *	0.0062			0.057	0.4	10	40
Lead *	0.0039			0.036	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.012			0.11	4	50	200
Chloride *	1.5			14	800	15000	25000
Fluoride	0.25			2.3	10	150	500
Sulphate *	3.7			34	1000	20000	50000
TDS*	26			240	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	23.8			220	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	93						
Moisture (%)	7.2						

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 discrepencies 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.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 21-96598
Project / Site name: Torgate Lane, Bassingham

* 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 *
1994529	DS101	None Supplied	1.10-0.45	Brown loam and sand with gravel.
1994531	DS104	None Supplied	0.30-0.35	Brown loam and sand with gravel.

Analytical Report Number : 21-96598
Project / Site name: Torgate Lane, Bassingham

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
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 (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/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	NONE
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
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
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
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Total BTEX in soil (Poland)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073-PL	W	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by EC probe using a factor of 0.6.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025

Analytical Report Number : 21-96598
Project / Site name: Torgate Lane, Bassingham

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE

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.

Appendix H – Gas Monitoring Data

Site Name	Torgate Lane, Bassingham	Job number	12-0310.03	WEATHER	Start	End
				Time	11.00	12.00
Client	Lindum Group	Recorded by	JB	Weather (dry/rain/snow/ice)	DRY	DRY
				Pressure (mb)	1023.00	1023.00
Date (DD/MM/YYYY)	06/09/2021			Risking/Falling Trend	Rising	
Gas Analyser	GFM435 (Gas Kit 1-GCEN-LIN) - 12787	Visit Number	1	Wind Speed (m/s)	3.00	3.00
Readings at start	CH_4 (% v/v) <0.1	CO_2 (% v/v) <0.1	O_2 (% v/v) 21.0	H_2S (ppm) 0		Wind Dir. (From)	SW	SW
General comments						Temperature °C	27.00	
						SWL Measured from	Ground Level	

Ref	GROUND GAS													GROUNDWATER			Notes
	Flow		CH_4		CO_2		O_2		H_2S	CO	VOC	Differential (Relative) Pressure	Atmos. Pressure	Depth to free product	Depth to water	Depth to base	(e.g. water colour, sheen, odour, damage to well or gas tap, flooded ground etc.) $ For **Depth to water** state **Depth to water or Dry or NR (= Not Recorded - provide reason if monitoring was intended)** # **For Depth to Product state** **ND (= Not detected - product looked for but absent) or NR (= Not Recorded - instrument used unable to detect product)**
	l/hr		% v/v		% v/v		% v/v		ppm								
	Max	Steady	Max	Steady	Max	Steady	Min	Steady	Max	Max	Max	mb	mb	m	m	m	
	The formulae require that only numbers, "<0.1" for ground gas and flow or "DRY" for groundwater are entered in the sheet																
DS101	<0.1	<0.1	<0.1	<0.1	0.6	0.6	20.6	20.6	0.0	0.0	NR	0.0	1021	NR	1.50	2.62	Clear water, no aroma.
DS105	<0.1	<0.1	<0.1	<0.1	0.5	0.5	20.7	20.7	0.0	0.0	NR	0.0	1022.0	NR	1.25	2.30	Clear water, no aroma.

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Site Name	Torgate Lane, Bassingham	Job number	12-0310.03	WEATHER	Start	End
				Time	9:36	9:49
Client	Lindum Group	Recorded by	JJR	Weather (dry/rain/snow/ice)	Dry	Dry
				Pressure (mb)	1014.00	1014.00
Date (DD/MM/YYYY)	15/09/2021			Risking/Falling Trend	Falling	
Gas Analyser	GFM435 (Gas Kit 5-GCEN-LIN) - 12233	Visit Number	2	Wind Speed (m/s)	2.68	2.68
Readings at start	CH_4 (% v/v) <0.1	CO_2 (% v/v) <0.1	O_2 (% v/v) 20.9	H_2S (ppm) <0.1	Wind Dir. (From)	NW	NW
General comments	No comments.				Temperature °C	15.00	
					SWL Measured from	Ground Level	

Ref	GROUND GAS													GROUNDWATER			Notes
	Flow		CH_4		CO_2		O_2		H_2S	CO	VOC	Differential (Relative) Pressure	Atmos. Pressure	Depth to free product	Depth to water	Depth to base	(e.g. water colour, sheen, odour, damage to well or gas tap, flooded ground etc.) $ For **Depth to water** state **Depth to water or Dry or NR (= Not Recorded - provide reason if monitoring was intended)** # **For Depth to Product state** **ND (= Not detected - product looked for but absent) or NR (= Not Recorded - instrument used unable to detect product)**
	l/hr		% v/v		% v/v		% v/v		ppm			mb	mb	m	m	m	
	Max	Steady	Max	Steady	Max	Steady	Min	Steady	Max	Max	Max						
	The formulae require that only numbers, "<0.1" for ground gas and flow or "DRY" for groundwater are entered in the sheet																
DS101	<0.1	<0.1	<0.1	<0.1	0.6	0.6	20.5	20.5	<0.1	<0.1	2.6	0.0	1011	NR	1.43	2.57	Light brown sludge on probe. No aroma.
DS105	<0.1	<0.1	<0.1	<0.1	0.6	0.6	20.5	20.5	<0.1	<0.1	1.1	0.0	1011.0	NR	1.18	2.09	Light brown sludge on probe. No aroma.

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Site Name	Torgate Lane, Bassingham	Job number	12-0310.03	WEATHER	Start	End
				Time	9:56	10:03
Client	Lindum Group	Recorded by	JJR	Weather (dry/rain/snow/ice)	Dry	Dry
				Pressure (mb)	1027.00	1027.00
Date (DD/MM/YYYY)	22/09/2021			Risking/Falling Trend	Rising	
Gas Analyser	GFM435 (Gas Kit 5-GCEN-LIN) - 12233	Visit Number	3	Wind Speed (m/s)	4.02	4.47
Readings at start	CH_4 (% v/v) <0.1	CO_2 (% v/v) <0.1	O_2 (% v/v) 20.8	H_2S (ppm) <0.1	Wind Dir. (From)	WSW	WSW
General comments	No comment.				Temperature °C	14.00	
					SWL Measured from	Ground Level	

Ref	GROUND GAS													GROUNDWATER			Notes
	Flow		CH_4		CO_2		O_2		H_2S	CO	VOC	Differential (Relative) Pressure	Atmos. Pressure	Depth to free product	Depth to water	Depth to base	(e.g. water colour, sheen, odour, damage to well or gas tap, flooded ground etc.) $ For **Depth to water** state **Depth to water or Dry or NR (= Not Recorded - provide reason if monitoring was intended)** # **For Depth to Product state** **ND (= Not detected - product looked for but absent) or NR (= Not Recorded - instrument used unable to detect product)**
	l/hr		% v/v		% v/v		% v/v		ppm			mb	mb	m	m	m	
	Max	Steady	Max	Steady	Max	Steady	Min	Steady	Max	Max	Max						
	The formulae require that only numbers, "<0.1" for ground gas and flow or "DRY" for groundwater are entered in the sheet																
DS101	<0.1	<0.1	<0.1	<0.1	0.6	0.6	20.4	20.4	<0.1	<0.1	NR	0.0	1025	NR	1.48	2.56	Water is clear
DS105	<0.1	<0.1	<0.1	<0.1	0.5	0.5	20.5	20.5	<0.1	<0.1	NR	0.0	1025.0	NR	1.18	2.08	Water is clear. Brown sludge on probe.

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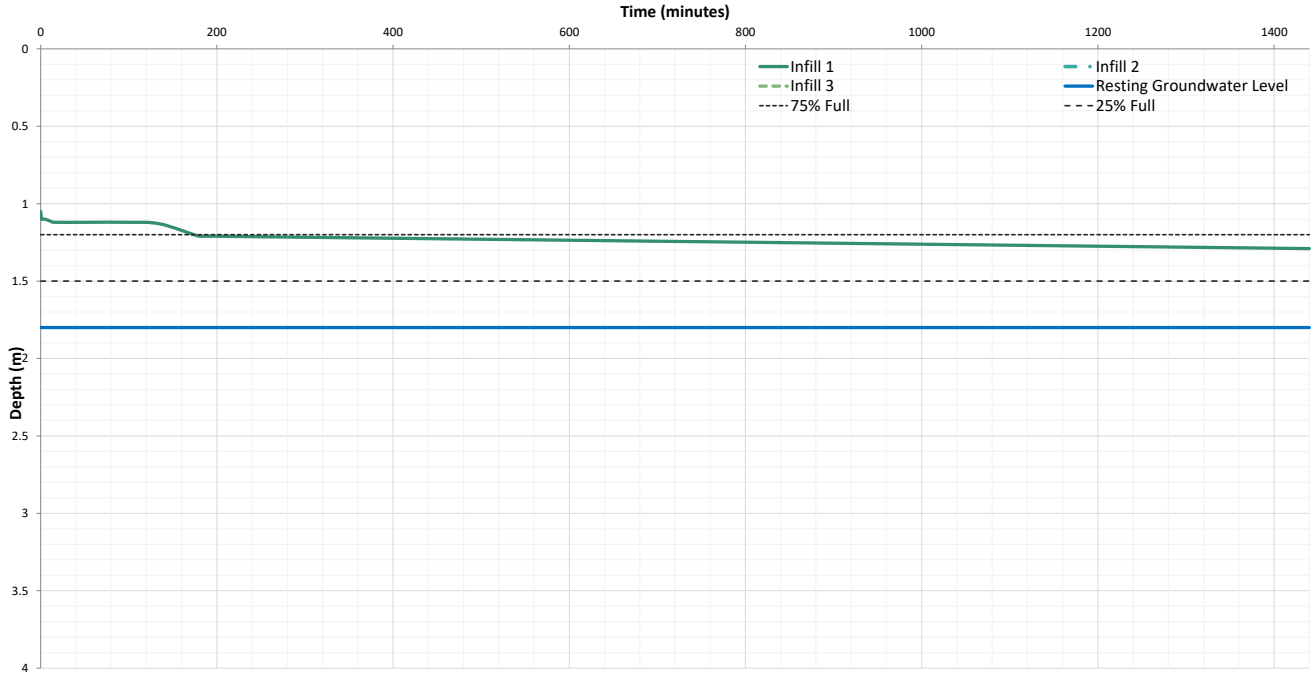
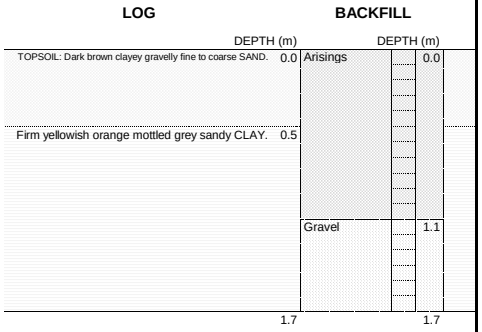
Appendix I – BRE365 Soakaway Results

	units	Infill 1	Infill 2	Infill 3
Length	m		2.40	
Width	m		0.80	
Depth	m		1.65	
Gravel type			20mm single size	
Voids ratio			0.40	
Resting groundwater level at time of testing	m		1.80	
Depth of first reading	m	1.05	0.00	0.00
Depth of final reading	m	1.29	0.00	0.00
Did soakage test reach 25% of maximum fill depth?		No	No	No
Did soakage test reach near empty?		No	No	No
Depth at 75% full/effective depth	m	1.11	0.00	0.00
Depth at 25% full/effective depth	m	1.23	0.00	0.00
Time at 75% full/effective depth	mins	10.00	#N/A	#N/A
Time at 25% full/effective depth	mins	506.25	#N/A	#N/A
Vp75 - 25 (volume outflowing between 75% and 25% full/effective depth)	m^3	0.09	0.00	0.00
Mean surface area for outflow (50% full/effective depth)	m^2	2.69	1.92	1.92
tp75 (time for the water level to fall from 75% to 25% full/effective depth)	mins	496.25	#N/A	#N/A
Soil infiltration rate, f =	m/s	Failed Test	Failed Test	Failed Test
or	m/s	Failed Test	Failed Test	Failed Test

Recommended soil infiltration rate	
Failed Test	m/s

Note:
Where water level reaches nearly empty (5% full), soil infiltration based on 'Full' depth. Where water level did not reach nearly empty (5% full), soil infiltration rate is based on 'Effective' drainage achieved only. Where water level did not fall below 25% of the maximum fill level, this is considered to be a 'Failed' test.





deltasimons

TITLE: Soakaway Test Results
Torgate Lane, Bassingham
Lindum Group

In accordance with BRE Digest 365 (2016)

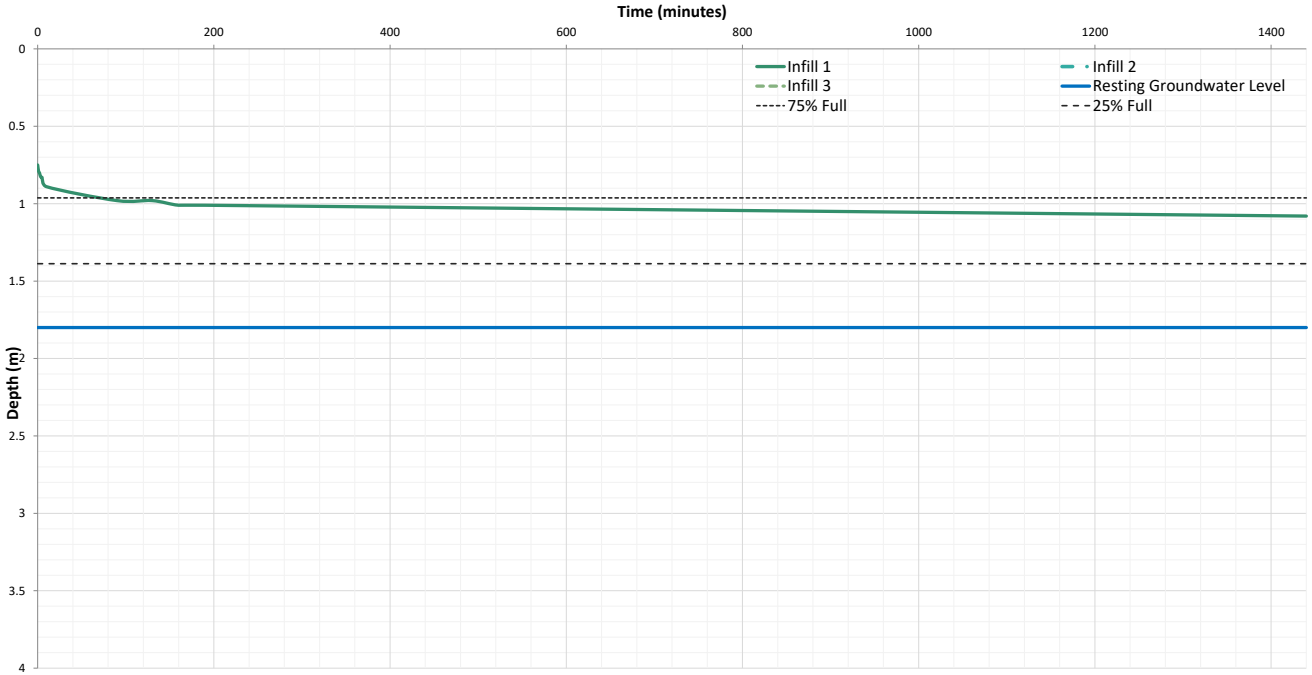
DRAWN BY: JJR	SCALE: Not to Scale	PROJECT NUMBER: 12-0310.03
CHECKED BY: JR	REVISION: 1	
DATE: 01/09/2021		SOAKAWAY NUMBER: SA101

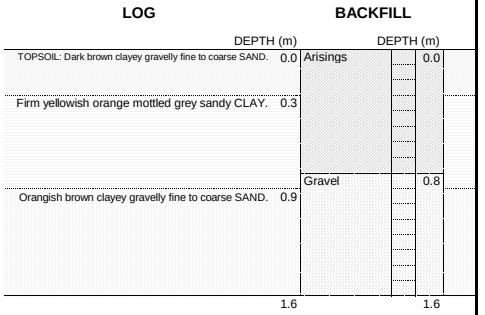
	units	Infill 1	Infill 2	Infill 3
Length	m		2.30	
Width	m		0.80	
Depth	m		1.60	
Gravel type			20mm single size	
Voids ratio			0.40	
Resting groundwater level at time of testing	m		1.80	
Depth of first reading	m	0.75	0.00	0.00
Depth of final reading	m	1.08	0.00	0.00
Did soakage test reach 25% of maximum fill depth?		No	No	No
Did soakage test reach near empty?		No	No	No
Depth at 75% full/effective depth	m	0.83	0.00	0.00
Depth at 25% full/effective depth	m	1.00	0.00	0.00
Time at 75% full/effective depth	mins	5.21	#N/A	#N/A
Time at 25% full/effective depth	mins	147.50	#N/A	#N/A
Vp75 - 25 (volume outflowing between 75% and 25% full/effective depth)	m^3	0.12	0.00	0.00
Mean surface area for outflow (50% full/effective depth)	m^2	2.86	1.84	1.84
tp75 (time for the water level to fall from 75% to 25% full/effective depth)	mins	142.29	#N/A	#N/A
Soil infiltration rate, f =	m/s	Failed Test	Failed Test	Failed Test
or	m/s	Failed Test	Failed Test	Failed Test

Recommended soil infiltration rate

Failed Test	m/s

Note:
Where water level reaches nearly empty (5% full), soil infiltration based on 'Full' depth. Where water level did not reach nearly empty (5% full), soil infiltration rate is based on 'Effective' drainage achieved only. Where water level did not fall below 25% of the maximum fill level, this is considered to be a 'Failed' test.





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TITLE: Soakaway Test Results
Torgate Lane, Bassingham
Lindum Group

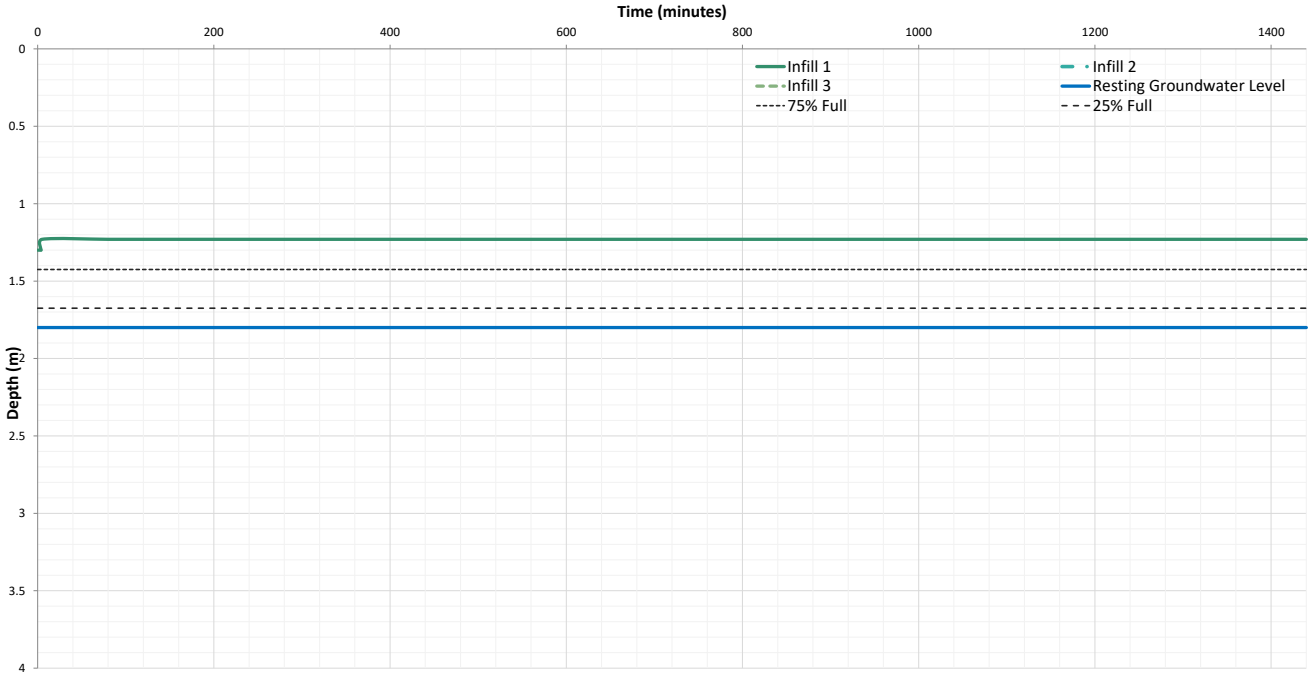
In accordance with BRE Digest 365 (2016)

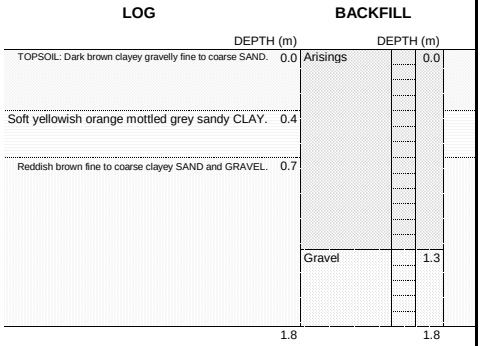
DRAWN BY: JJR	SCALE: Not to Scale	PROJECT NUMBER: 12-0310.03
CHECKED BY: JR	REVISION: 1	SOAKAWAY NUMBER: SA102a
DATE: 01/09/2021		

	units	Infill 1	Infill 2	Infill 3
Length	m		2.40	
Width	m		0.80	
Depth	m		1.80	
Gravel type			20mm single size	
Voids ratio			0.40	
Resting groundwater level at time of testing	m		1.80	
Depth of first reading	m	1.30	0.00	0.00
Depth of final reading	m	1.30	0.00	0.00
Did soakage test reach 25% of maximum fill depth?		No	No	No
Did soakage test reach near empty?		No	No	No
Depth at 75% full/effective depth	m	1.30	0.00	0.00
Depth at 25% full/effective depth	m	1.30	0.00	0.00
Time at 75% full/effective depth	mins	#DIV/0!	#N/A	#N/A
Time at 25% full/effective depth	mins	#DIV/0!	#N/A	#N/A
Vp75 - 25 (volume outflowing between 75% and 25% full/effective depth)	m^3	0.00	0.00	0.00
Mean surface area for outflow (50% full/effective depth)	m^2	1.92	1.92	1.92
tp75 (time for the water level to fall from 75% to 25% full/effective depth)	mins	#DIV/0!	#N/A	#N/A
Soil infiltration rate, f =	m/s	Failed Test	Failed Test	Failed Test
or	m/s	Failed Test	Failed Test	Failed Test

Recommended soil infiltration rate	
Failed Test	m/s

Note:
Where water level reaches nearly empty (5% full), soil infiltration based on 'Full' depth. Where water level did not reach nearly empty (5% full), soil infiltration rate is based on 'Effective' drainage achieved only. Where water level did not fall below 25% of the maximum fill level, this is considered to be a 'Failed' test.





deltasimons

TITLE: Soakaway Test Results
Torgate Lane, Bassingham
Lindum Group

In accordance with BRE Digest 365 (2016)

DRAWN BY: JJR	SCALE: Not to Scale	PROJECT NUMBER: 12-0310.03
CHECKED BY: JR	REVISION: 1	
DATE: 01/09/2021		SOAKAWAY NUMBER: SA103