3 Methodology

Dynasafe BACTEC Limited and FIND have compiled a geo-referenced database of potential sources of UXO risk within the UK. From this information a range of risk zones have been defined.

The weighting of these zones is based upon the influence of all relevant factors. A WWII-era RAF airfield, for example, has a far greater zone of influence than a single WWII-era Anti-Aircraft Battery, as it would have covered a larger area, housed a much greater quantity / variety of munitions, seen more domestic troop training activities and would have been a more likely target for enemy bombers.

An online Preliminary Automated UXO Threat Assessment will determine an indicative level of UXO risk relating to a site. Note that these risk levels could be subject to change following the completion of any Detailed Desktop Threat Assessment for the same site.

The assessment will list all factors contributing to this weighting and will also give appropriate recommendations for further action, if considered necessary.

4 Search Results

Dynasafe BACTEC Limited's UXO Source Database

Within 10km of the site the following potential sources of explosive ordnance have been recorded:

Source	*Number within 10km*
Military Airfield Sites	7
Bombing Decoy Sites	1
WWII Defence Related Positions & Pillboxes	25
Historic Army Camps	6
Prisoner of War Camps	7
Army Explosive Ordnance Clearance Tasks/Recces	5
Dynasafe BACTEC Desk-top Threat Assessments	3
Abandoned Bombs	None recorded
Press Articles regarding UXO Finds	None recorded
Military Training Areas and Firing Ranges	None recorded
Heavy Anti-Aircraft Batteries	None recorded
Pipe Mined WWII Airfields	None recorded
Miscellaneous WWII Pipe Mined Locations	None recorded
Sites Related to the Manufacture of Explosives and Explosive Ordnance	None recorded
Dynasafe BACTEC Unexploded Ordnance Finds	None recorded
Dynasafe BACTEC On-Site Support Services	None recorded

Of these sources, the following are deemed the most significant:

Military Airfield Sites

Facility Name	**Approximate distance (km) from site**
Bicester	0.3

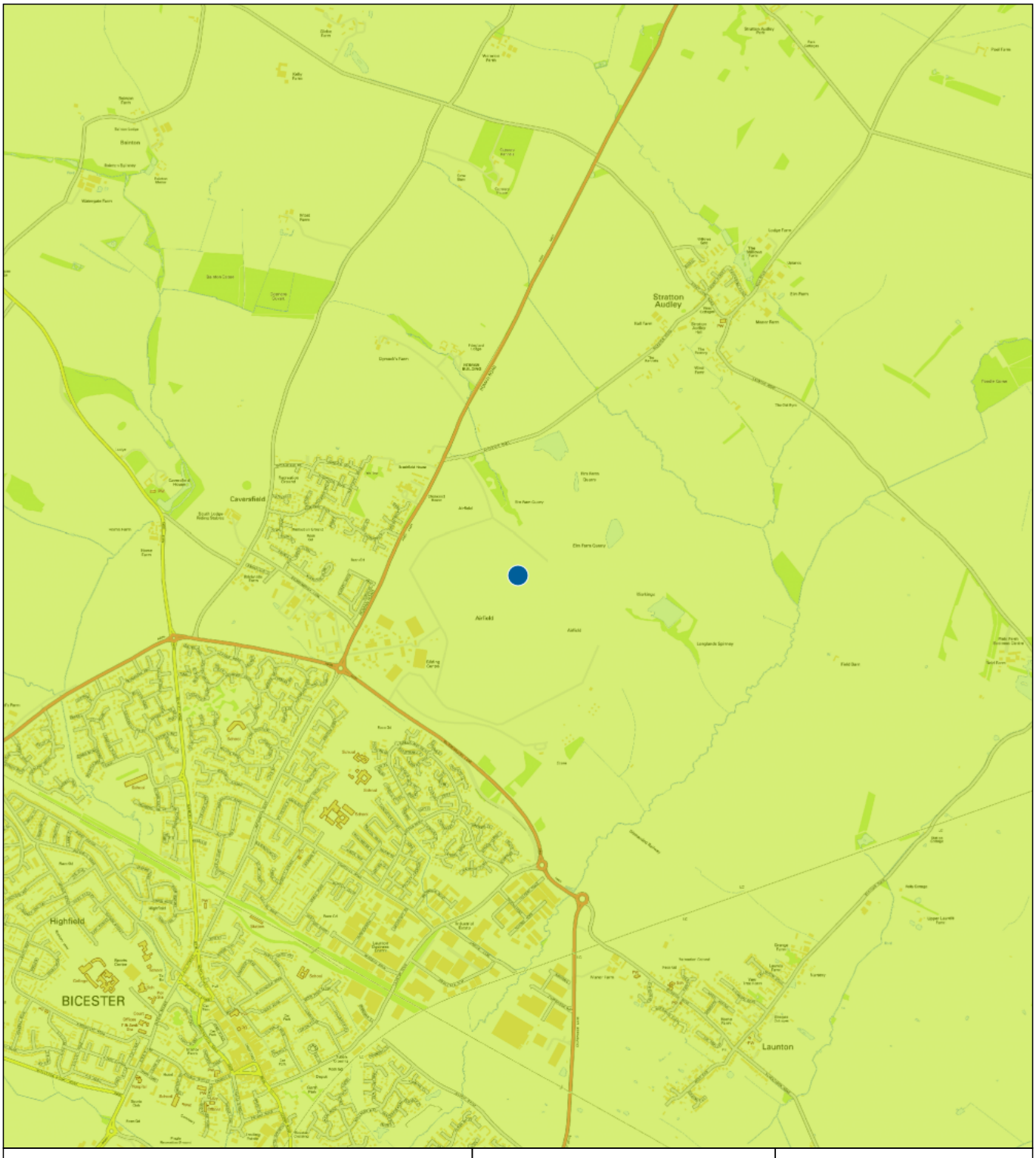
The risk of encountering UXO at the site of an airfield is highly dependent upon the history of the site. Factors to be considered include the type of airfield and its role before, during and after WWII. Additional factors affecting the site include records of aerial attacks, test firing butts, bomb stores, remote wooded training areas, practice bomb areas, ammunition storage locations, defensive positions, aircraft crash sites etc.

The 'housekeeping' of such sites, especially those which were active and operational during WWII, was

often poor. Experience has shown that on and around many such facilities, ordnance was lost, burnt, buried or otherwise discarded. Live and expended munitions are regularly encountered on such sites.

The proximity of the site to the recorded location of military airfield facilities increases the risk that there may be unexploded ordnance in the area. This should be more fully investigated.

5 Risk of UXO based on WWII German bombing density



BombRisk.com

Dynasafe BACTEC Limited

DYNASAFE Area Clearance

FIND PROFESSIONAL MAPPING INTELLIGENCE

Map data

NEGLIGIBLE
LOW
MEDIUM
HIGH

1:20000

N
W
E
S

0 400 800

Metres

6 Conclusions

Risk Levels and Recommendation

Indicative British / Allied UXO Risk

MEDIUM

There are potential sources of British / Allied UXO recorded in Dynasafe BACTEC's historical database in proximity to the site. It is recommended that further research is undertaken to determine more about these potential sources and how they may have affected the site. Given the proximity of these sources, the risk on site from UXO is considered to be Medium.

Indicative German UXO Risk

LOW

Historical records indicate that the area was subjected to a low level of bombing density. If there is empirical evidence of UXB risk (i.e. anecdotal evidence) then please contact Dynasafe BACTEC for further advice.

This preliminary assessment has identified a Low risk from German unexploded bombs at this site.

Conclusion

This preliminary assessment has resulted in an overall Medium risk from UXO. Dynasafe BACTEC would recommend that a Detailed UXO Threat Assessment Desk Top Study is undertaken for this site.

Detailed assessments are conducted offline by Dynasafe BACTEC's researchers and use information such as historical mapping, WWII-era aerial photography, written air-raid precaution records and where necessary local archive research to fully qualify the risk on site. Land use, changes to building layout during WWII and post war redevelopment will also have an impact on any remaining level of risk from UXO. It is often possible to 'zone' sites into different risk categories. The lead time for a detailed assessment will vary between 3-10 working days dependent upon the complexity of the site and the additional site specific information required.

For a quotation, or more information, please contact Dynasafe BACTEC on 01322 284 550.

www.bombrisk.com

DYNASAFE
Area Clearance

Dynasafe BACTEC Limited
9, Waterside Court, Galleon Boulevard
Crossways Business Park
Dartford, Kent, DA2 6NX
United Kingdom
Tel: +44 (0) 1322 284 550
Email: support@bombrisk.com

www.bactecuxo.com | www.dynasafe.com

UNEXPLODED BOMB RISK MAP

SITE LOCATION

Map Centre: 459318,224779

LEGEND

- **High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- **Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- **Low:** Areas indicated as having 15 bombs per 1000acre or less.

miltary | **industry** | **UXO find**
transport | **dock** | **Luftwaffe targets**
utilities | **Bombing decoy** | **other**

How to use your Unexploded Bomb (UXB) risk map?

The map indicates the potential for Unexploded Bombs (UXB) to be present as a result of World War Two (WWII) bombing.

You can incorporate the map into your preliminary risk assessment* for potential Unexploded Ordnance (UXO) for a site. Using this map, you can make an informed decision as to whether more in-depth detailed risk assessment* is necessary.

What do I do if my site is in a moderate or high risk area?

Generally, we recommend that a detailed UXO desk study and risk assessment is undertaken for sites in a moderate or high UXB risk area.

Similarly, if your site is near to a designated Luftwaffe target or bombing decoy then additional detailed research is recommended.

More often than not, this further detailed research will conclude that the potential for a significant UXO hazard to be present on your site is actually low.

Never plan site work or undertake a risk assessment using these maps alone. More detail is required, particularly where there may be a source of UXO from other military operations which are not reflected on these maps.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirms that there is a low potential for UXO to be present on your site then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

A low risk really means that there is no greater probability of encountering UXO than anywhere else in the UK.

If you are unsure whether other sources of UXO may be present, you can ask for one of our **pre-desk study assessments (PDSA)**

If I have any questions, who do I contact?

tel: **+44 (0) 1993 886682**

email: **uxo@zetica.com**

web: **www.zeticauxo.com**

The information in this UXB risk map is derived from a number of sources and should be used in conjunction with the accompanying notes on our website: **(https://zeticauxo.com/downloads-and-resources/risk-maps/)**

It is important to note that this map is not a UXO risk assessment and should not be reported as such when reproduced.

*Preliminary and detailed UXO risk assessments are advocated as good practice by industry guidance such as CIRIA C681 'Unexploded Ordnance (UXO), a guide for the construction industry'.

Appendix E Exploratory Hole Location Plan, Exploratory Hole Logs and Photographs

ID	Type	X (Easting)	Y (Northing)	Proposed Depth (m)	Installation	Soakaway
TP113	TP	459184.17	224676.66	3	N	N
TP114	TP	459181.27	224682.2	3	N	N
TP101	TP	459289.44	224900.72	3		
TP102	TP	459298.2	224848.02	3		
TP103	TP	459239.19	224819.54	3		Y
TP104	TP	459262.38	224776.11	3		
TP105	TP	459225.79	224745.96	3		
TP106	TP	459282.48	224727.41	3		Y
TP107	TP	459209.03	224709.37	3		
TP108	TP	459233.78	224680.76	3		
TP109	TP	459313.15	224670.58	3		
TP110	TP	459168.83	224656.53	3		Y
TP111	TP	459212.64	224647	3		
TP112	TP	459255.42	224601.77	3		
RO101	RO	459255.68	224714.39	3	Y	
RO102	RO	459218.05	224621.48	3	Y	
RO103	RO	459295.37	224612.33	3	Y	

KEY PLAN

Site Boundary

Proposed Locations [17]

- Trial Pit [14]
- Rotary Open [3]
- Soakaway [3]
- Installation [3]

NOTES

1. Contains OS data © Crown copyright and database right (2021)

REVISIONS

REV.	DRAWN BY INITIALS	CHECKED BY INITIALS	DATE	REVISION NOTES/COMMENTS
P01	MT	AB	09/02/22	First issue

Hydrock

TITLE: PROPOSED GROUND INVESTIGATION PLAN

HYDROCK PROJECT NO.: 22457

SCALE @ A3: 1:2,000

CLIENT: Bicester Motion

PURPOSE OF ISSUE: SUITABLE FOR INFORMATION

STATUS: S2

PROJECT: Bicester Heritage Hotel

DRAWING NO.: 22457-HYD-XX-XX-DR-GE-1001

REVISION: P02

Hydrock

Project: Bicester Heritage Hotel

Borehole No
RO101
Page No. 1 of 1

Method: Rotary Cored	Date(s): 14/02/2022	Logged By: JM	Drilled By: Dynamic Sampling UK Ltd
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459255.71, 224714.68	Checked By: CV	Flush: Water
Hydrock Project No: 22457	Ground Level: 83.02m OD		Scale: 1:50

Sample/Core Run (m)	Samples / Tests: Depth (m)	Type	Results	Mechanical Log: TCR	SCR	RQD	If: Min Mean Max	Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
	0.10	ES							Brown slightly clayey fine to medium SAND with frequent rootlets. (TOPSOIL)	0.20	(0.20)	82.82		
	0.30	D							Firm orangish brown slightly sandy slightly gravelly CLAY with occasional rootlets. Gravel is sub-angular fine to coarse of grey bioclastic limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI))	0.45	(0.25)	82.57		
0.45 - 1.50	0.30	ES												
	0.45 - 1.50	B					0 0 0							
	0.50	SPT	50/50mm (10,15,50)	10	0	0								
	0.50	D												
									Strong non-intact grey medium to coarse grained shelly LIMESTONE. (CORNBRASH FORMATION (Weathering; Completely weathered Grade V))		(1.71)			
1.50 - 3.00	1.50	SPT	50/75mm (4,19,50)				50 70 160							
	1.50	D												
	2.20 - 2.30	C		65	29	11			Very strong grey fine to coarse grained shelly LIMESTONE. Fractures are very close to closely spaced rough stepped clean horizontal to sub-horizontal. (CORNBRASH FORMATION (Weathering; Slightly weathered Grade II))	2.83	(0.67)	80.19		
	2.65 - 2.80	C												
	3.00	SPT	50/40mm (25,50)						Soft very thinly horizontally bedded light brown slightly sandy gravelly CLAY. Gravel is sub-angular to rounded fine to coarse of limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI))	3.00	(0.17)	80.02		
									End of Borehole at 3.00m					

Progress and Observations

Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)
Comacchio 205	14/02	0000	3.00		140		Water Water	

Chiselling

From (m)	To (m)	Duration (HH:MM)

General Remarks:
1) Inspection pit dug to 0.50m bgl. 2) Groundwater not encountered. 3) Gas and groundwater monitoring pipe installed to 3.00m bgl. Response zone between 1.00m bgl and 3.00m bgl.

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Borehole No
RO102
Page No. 1 of 1

Method: Rotary Cored	Date(s): 14/02/2022	Logged By: JM	Drilled By: Dynamic Sampling UK Ltd
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459219.41, 224622.14	Checked By: CV	Flush: Water
Hydrock Project No: 22457	Ground Level: 82.18m OD		Scale: 1:50

Sample/Core Run (m)	Samples / Tests: Depth (m)	Type	Results	Mechanical Log: TCR	SCR	RQD	If: Min Mean Max	Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
	0.05	ES							Soft brown sandy slightly gravelly CLAY with frequent rootlets with rare fine sand sized fragments of asphalt. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.10	(0.10)	82.08		
0.30 - 1.50	0.20	ES							Soft brown slightly sandy slightly gravelly CLAY with occassional rootlets and frequent gravel sized fragments of asphalt. Gravel is sub-angular fine to coarse of limestone and flint. (MADE GROUND)	0.30	(0.20)	81.88		
	0.40	D					0							
	0.40 - 1.50	B					0 0							
	0.50	SPT	50/70mm (5,18,50)	10	0	0								
									Strong non-intact grey medium to coarse grained shelly LIMESTONE. (CORNBRASH FORMATION (Weathering; Completely weathered Grade V))		(1.80)			
1.50 - 3.00	1.50	SPT	50/50mm (2,19,50)				40		*... From 0.40m: Becoming grey.*					
	1.50	D					60 140							
	2.05 - 2.20	C		60	51	27			Very strong grey partially weathered fine to coarse grained shelly LIMESTONE. Fractures are very close to closely spaced rough stepped clean to clay infill sub-horizontal. (CORNBRASH FORMATION (Weathering; Slightly weathered Grade II))	2.10	(0.80)	80.08		
	2.70 - 2.80	C							*... From 2.50 to 2.55m: Bed of sandy brown clay.*	2.90		79.28		
	3.00	SPT	50/60mm (25,50)						Soft very thinly horizontally bedded light brown slightly sandy gravelly CLAY. Gravel is sub-angular to rounded fine to coarse of limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI))	3.00	(0.10)	79.18		
									End of Borehole at 3.00m					

Progress and Observations

Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)
Comacchio 205	14/02	0000	3.00		140		Water	

Chiselling

From (m)	To (m)	Duration (HH:MM)

General Remarks:
1) Inspection pit dug to 0.50m bgl. 2) Groundwater not encountered. 3) Gas and groundwater monitoring pipe installed to 3.00m bgl. Response zone between 1.00m bgl and 3.00m bgl.

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Borehole No
RO103
Page No. 1 of 1

Method: Rotary Cored	Date(s): 14/02/2022	Logged By: JM	Drilled By: Dynamic Sampling UK Ltd
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459295.06, 224612.76	Checked By: CV	Flush: Water
Hydrock Project No: 22457	Ground Level: 81.97m OD		Scale: 1:50

Sample/Core Run (m)	Samples / Tests			Mechanical Log				Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
	Depth (m)	Type	Results	TCR	SCR	RQD	If: Min Mean Max							
	0.05	ES							Dark brown slightly sandy slightly gravelly CLAY with frequent rootlets and occassional gravel sized fragments of brick. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.10	(0.10)	81.87		
	0.20	ES								0.30	(0.20)	81.67		
	0.35	D								0.40	(0.10)	81.57		
0.40 - 1.50	0.50	SPT	50/125mm (5,10,22,28)				0		Orangish brown, light brown and dark grey mottled slightly sandy gravelly CLAY with gravel sized fragments of slag. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)					
	0.50	D					0							
				15	0	0	0							
									Firm orangish brown slightly sandy slightly gravelly CLAY with gravel sized fragments of slag. Gravel is sub-angular fine to coarse of grey bioclastic limestone. (MADE GROUND)		(1.78)			
1.50 - 3.00	1.50	SPT	50/40mm (25,50)				10		Strong non-intact light yellowish brown fine to coarse grained shelly LIMESTONE. (CORNBRASH FORMATION (Weathering; Completely weathered Grade V))					
	1.50	D					70							
							150			2.18		79.79		
				65	37	23			Very strong grey partially weathered medium to coarse grained shelly LIMESTONE. Fractures are extremely close to closely spaced rough stepped clean, orange staining and clay infill sub-horizontal. (CORNBRASH FORMATION (Weathering; Slightly weathered Grade II))		(0.45)			
	2.35 - 2.50	C								2.63		79.34		
									Soft light grey very gravelly CLAY. Gravel is sub-angular fine to coarse of limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI))	2.73	(0.10)	79.24		
	2.85 - 2.95	C							Very strong grey partially weathered medium to coarse grained shelly LIMESTONE. Fractures are extremely close to closely spaced undulating to rough clean, orange staining and clay infill sub-horizontal. (CORNBRASH FORMATION (Weathering; Slightly weathered Grade II))	2.95	(0.22)	79.02		
	3.00	SPT	50/40mm (25,50)						Soft very thinly horizontally bedded light brown slightly sandy gravelly CLAY. Gravel is sub-angular to rounded fine to coarse of limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI))	3.00	(0.05)	78.97		
									End of Borehole at 3.00m					

Progress and Observations

Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)
Comacchio 205	14/02	0000	3.00		140		Water	

Chiselling

From (m)	To (m)	Duration (HH:MM)

General Remarks:
1) Inspection pit dug to 0.50m bgl. 2) Groundwater not encountered. 3) Gas and groundwater monitoring pipe installed to 3.00m bgl. Response zone between 1.00m bgl and 3.00m bgl.

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Trialpit No
TP101
Page No. 1 of 1

Method: Trial Pit	Date(s): 15/02/2022	Logged By: JM	Checked By: CV
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459289.09, 224900.66	Stability: Stable.	Dimensions: m
Hydrock Project No: 22457	Ground Level: 84.05m OD	Plant: JCB 3CX.	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Soft brown slightly sandy slightly gravelly CLAY with frequent rootlets. Gravel is sub-angular fine to coarse of flint and limestone. (MADE GROUND)	0.20	(0.20)	83.85	
0.30	B			Light yellowish brown slightly clayey slightly sandy GRAVEL. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.25	(0.05)	83.80	
0.30	ES			Firm reddish brown slightly sandy slightly gravelly CLAY with occasional rootlets and one gravel sized fragment of brick. Gravel is sub-angular fine to coarse of limestone and flint. (MADE GROUND)	0.60	(0.35)	83.45	
0.65	B			Strong grey very closely to closely jointed thinly bedded medium to coarse grained shelly LIMESTONE. Joints are randomly oriented. (CORNBRASH FORMATION (Weathering; Completely weathered Grade V))	1.20	(0.60)	82.85	
1.20	B			Light yellowish brown gravelly fine to medium SAND. Gravel is sub-angular fine to coarse of grey shelly limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI)) *... At 1.50m bgl: Light grey and low cobble content of tabular grey shelly limestone.*	1.70	(0.50)	82.35	
1.80	B			Very strong thinly bedded grey medium to coarse grained shelly LIMESTONE. (CORNBRASH FORMATION (Weathering; Slightly weathered Grade II))	2.00	(0.30)	82.05	
				Base of Excavation at 2.00m				

General Remarks:
1)Trial pit terminated at 2.00m bgl on limestone. 2) Groundwater not encountered. 3) Ease of excavation from 0.60-1.20m bgl: Moderately difficult. 4) Excavator smooth bucket changed to toothed bucket at 0.80m bgl. 5) Ease of excavation from 1.70-2.00m bgl: Extremely difficult. 6) Backfilled with lightly compacted arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Trialpit No
TP102
Page No. 1 of 1

Method: Trial Pit	Date(s): 17/02/2022	Logged By: JM	Checked By: CV
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459298.24, 224848.07	Stability: Stable.	Dimensions: m / m
Hydrock Project No: 22457	Ground Level: 83.77m OD	Plant: JCB 3CX.	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.05	ES			Soft dark brown slightly sandy slightly clayey CLAY with frequent rootlets. Gravel is angular to sub-angular fine to medium of flint and limestone. (MADE GROUND)	0.10	(0.10)	83.67	
0.15	B			Firm brown slightly sandy slightly gravelly CLAY with gravel sized fragments of brick and asphalt. Gravel is sub-angular to angular fine to coarse of limestone. (MADE GROUND)	0.20	(0.10)	83.57	
0.15	ES			Light yellowish brown sandy GRAVEL. Gravel is sub-angular to angular fine to coarse of shelly limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI))	0.70	(0.50)	83.07	
0.75	B			Strong very closely to closely jointed thinly bedded medium to coarse grained light grey fine to coarse shelly LIMESTONE. Joints are randomly oriented. (CORNBRASH FORMATION (Weathering; Completely weathered Grade V))	1.20	(0.50)	82.57	
1.00	B			Light yellowish brown sandy GRAVEL with a moderate cobble content of sub-angular limestone. Gravel is sub-angular fine to coarse of limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI))	1.80	(0.60)	81.97	
				Base of Excavation at 1.80m				

General Remarks:
1)Trial pit terminated at 1.80m bgl on limestone. 2) Groundwater not encountered. 3) Ease of excavation from 0.70-1.20m bgl: Moderately difficult. 4) Excavator smooth bucket changed to toothed bucket at 0.80m bgl. 5) Backfilled with lightly compacted arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Trialpit No
TP103
Page No. 1 of 1

Method: Trial Pit	Date(s): 17/02/2022	Logged By: JM	Checked By: CV
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459239.68, 224819.53	Stability: Stable.	Dimensions: m / m
Hydrock Project No: 22457	Ground Level: 84.07m OD	Plant: JCB 3CX.	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Soft dark brown slightly sandy slightly gravelly CLAY with frequent rootlets. Gravel is sub-angular fine to coarse of flint and limestone. (MADE GROUND)	0.15	(0.15)	83.92	
0.20	ES							
0.30	B			Soft orangish brown slightly sandy slightly gravelly CLAY with one gravel sized fragment of glass and one cobble of brick. Gravel is sub-angular fine to coarse of limestone and flint . (MADE GROUND)	0.60	(0.45)	83.47	
0.70	B			Light greyish brown sandy GRAVEL with a low cobble content of sub-angular limestone. Gravel is sub-angular fine to coarse of limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI))	0.80	(0.20)	83.27	
				Strong very closely to closely jointed thinly bedded light grey fine to coarse grained shelly LIMESTONE. Joints are randomly oriented. (CORNBRASH FORMATION (Weathering; Completely weathered Grade V))	1.20	(0.40)	82.87	
1.30	B			Light yellowish brown sandy GRAVEL with a medium cobble content of sub-angular limestone. Gravel is sub-angular to angular fine to coarse of grey limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI)) *... At 1.50m bgl: Becoming light grey.*	1.70	(0.50)	82.37	
				Very strong thinly bedded grey fine to coarse grained shelly LIMESTONE. (CORNBRASH FORMATION (Weathering; Slightly weathered Grade II))	1.80	(0.10)	82.27	
				Base of Excavation at 1.80m				

General Remarks:
1)Trial pit terminated at 1.80m bgl on limestone. 2) Groundwater not encountered. 3) Ease of excavation from 0.80-1.20m bgl: Moderately difficult. 4) Excavator smooth bucket changed to toothed bucket at 1.00m bgl. 5) Ease of excavation from 1.70-1.80m bgl: Extremely difficult. 6) Backfilled with lightly compacted arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Trialpit No
TP104
Page No. 1 of 1

Method: Trial Pit	Date(s): 17/02/2022	Logged By: JM	Checked By: CV
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459262.55, 224776.02	Stability: Stable.	Dimensions: m
Hydrock Project No: 22457	Ground Level: 83.43m OD	Plant: JCB 3CX.	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Soft brown slightly sandy slightly gravelly CLAY with frequent rootlets and occasional cubic limestone blocks. Gravel is sub-angular fine to coarse of flint and limestone. (MADE GROUND)	0.15	(0.15)	83.28	
0.30	ES			*... From 0.05 to 0.10m bgl: Frequent cubic blocks of limestone.* *... From 0.10 to 0.15m bgl: Layer of asphalt.* Soft orangish brown slightly sandy slightly gravelly CLAY with rare gravel sized fragments of brick and a low cobble content of sub-angular limestone. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.40	(0.25)	83.03	
				Light yellowish brown sandy GRAVEL with a high cobble content and a low boulder content of sub-angular limestone. Gravel is sub-angular fine to coarse of limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI))	0.90	(0.50)	82.53	
0.90	B			Strong very closely to closely jointed thinly bedded grey fine to coarse grained shelly LIMESTONE. Joints are randomly oriented. (CORNBRASH FORMATION (Weathering; Completely weathered Grade V))	1.20	(0.30)	82.23	
				Light yellowish brown sandy GRAVEL with a high cobble content of sub-angular limestone. Gravel is sub-angular fine to coarse of limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI))	1.70	(0.50)	81.73	
				Very strong thinly bedded grey fine to coarse grained shelly LIMESTONE. (CORNBRASH FORMATION (Weathering; Slightly weathered Grade II))	1.80	(0.10)	81.63	
				Base of Excavation at 1.80m				

General Remarks:
1)Trial pit terminated at 1.80m bgl on limestone. 2) Groundwater not encountered. 3) Ease of excavation from 0.90-1.20m bgl: Moderately difficult. 4) Excavator smooth bucket changed to toothed bucket at 1.00m bgl. 5) Ease of excavation from 1.70-1.80m bgl: Extremely difficult. 6) Backfilled with lightly compacted arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Trialpit No
TP105
Page No. 1 of 1

Method: Trial Pit	Date(s): 15/02/2022	Logged By: JM	Checked By: CV
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459225.79, 224746.05	Stability: Stable.	Dimensions: m
Hydrock Project No: 22457	Ground Level: 83.46m OD	Plant: JCB 3CX.	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Soft brown slightly sandy slightly gravelly CLAY with frequent rootlets. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.15	(0.15)	83.31	
0.20	ES			Firm reddish brown slightly sandy slightly gravelly CLAY with occasional rootlets and pockets (30 cm average) of yellowish brown sandy gravel of sub-angular fine to coarse limestone. Occasional gravel sized fragment of brick. Gravel is sub-angular fine to coarse of grey shelly limestone. (MADE GROUND)	0.50	(0.35)	82.96	
0.30	B			Strong very closely to closely jointed thinly bedded fine to coarse grained LIMESTONE. Joints are randomly oriented. (CORNBRASH FORMATION (Weathering; Completely weathered Grade V))	1.00	(0.50)	82.46	
1.10	B			Light yellowish brown slightly clayey sandy GRAVEL. Gravel is sub-angular fine to coarse of grey shelly limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI)) *... At 1.40m bgl: Becoming Light grey.*	1.60	(0.60)	81.86	
				Very strong thinly bedded medium to coarse grained shelly LIMESTONE. (CORNBRASH FORMATION (Weathering; Slightly weathered Grade II)) Base of Excavation at 1.70m	1.70	(0.10)	81.76	

General Remarks:
1)Trial pit terminated at 1.70m bgl on limestone. 2) Groundwater not encountered. 3) Ease of excavation from 0.50-1.00m bgl: Moderately difficult. 4) Excavator smooth bucket changed to toothed bucket at 0.70m bgl. 5) Ease of excavation from 1.70-1.80m bgl: Extremely difficult. 6) Backfilled with lightly compacted arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Trialpit No
TP106
Page No. 1 of 1

Method: Trial Pit	Date(s): 17/02/2022	Logged By: JM	Checked By: CV
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459282.48, 224727.72	Stability: Stable.	Dimensions: m
Hydrock Project No: 22457	Ground Level: 82.98m OD	Plant: JCB 3CX.	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Soft brown slightly sandy slightly gravelly CLAY with frequent rootlets. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.15	(0.15)	82.83	
0.20	B			Soft orangish brown slightly sandy slightly gravelly CLAY with gravel sized fragments of concrete, brick, metal and slag. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)		(0.75)		
0.20	ES			*... At 0.90m bgl: Linear concrete feature with flint, possible service.*	0.90		82.08	
				Base of Excavation at 0.90m				

General Remarks:
1)Trial pit terminated at 0.90m bgl due to the presence of a linear concrete structure. 2) Groundwater not encountered. 3) Backfilled with lightly compacted arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Trialpit No
TP106(2)
Page No. 1 of 1

Method: Trial Pit	Date(s): 17/02/2022		
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459281.00, 224733.00	Dimensions: m	Scale: 1:25
Hydrock Project No: 22457	Ground Level: 82.98m OD	m	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
				Soft brown slightly sandy slightly gravelly CLAY with frequent rootlets. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.15	(0.15)	82.83	
				Soft orange brown slightly sandy slightly gravelly CLAY with occasional rootlets and gravel sized fragments of brick, asphalt and occasional cobbles of brick. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.45	(0.30)	82.53	
0.60	B			Strong very closely to closely jointed thinly bedded grey fine to coarse grained shelly LIMESTONE with occasional lenses of sub-angular gravel with cobbles of limestone. Joints are randomly oriented. (CORNBRASH FORMATION (Weathering; Completely weathered Grade V))	1.50	(1.05)	81.48	
1.60	B			Light yellowish brown sandy GRAVEL with a high cobble content of sub-angular limestone. Gravel is sub-angular fine to coarse of limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI))	1.70	(0.20)	81.28	
				Very strong thinly bedded grey fine to coarse grained shelly LIMESTONE. (CORNBRASH FORMATION (Weathering; Slightly weathered Grade II))	1.80	(0.10)	81.18	
				Base of Excavation at 1.80m				

General Remarks:
1)Trial pit terminated at 1.80m bgl on limestone. 2) Groundwater encountered at 1.80m bgl. Groundwater ingressed into the pit from the east at a slow rate. 3) Ease of excavation from 0.45-1.50m bgl: Moderately difficult. 4) Excavator smooth bucket changed to toothed bucket at 0.70m bgl. 5) Ease of excavation from 1.70-1.80m bgl: Extremely difficult. 6) Backfilled with lightly compacted arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Trialpit No
TP107
Page No. 1 of 1

Method: Trial Pit	Date(s): 15/02/2022	Logged By: JM	Checked By: CV
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459209.12, 224709.66	Stability: Stable.	Dimensions: m / m — Scale: 1:25
Hydrock Project No: 22457	Ground Level: 83.08m OD	Plant: JCB 3CX.	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Soft brown slightly sandy slightly gravelly CLAY with frequent rootlets and rare gravel sized fragments of brick. Gravel is sub-angular fine to coarse of flint and limestone. (MADE GROUND)	0.20	(0.20)	82.88	
0.30	B			Firm reddish brown slightly sandy slightly gravelly CLAY with occasional rootlets and gravel sized fragments of brick. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.25	(0.05)	82.83	
0.30	ES			Yellowish brown slightly clayey sandy GRAVEL with occasional gravel sized fragments of brick and a low cobble content of sub-angular limestone. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.60	(0.35)	82.48	
				Strong very closely to closely jointed thinly bedded grey medium to coarse grained shelly LIMESTONE. Joints are randomly oriented. (CORNBRASH FORMATION (Weathering; Completely weathered Grade V))	0.80	(0.20)	82.28	
1.10	B			Light yellowish brown slightly clayey sandy GRAVEL. Gravel is sub-angular fine to coarse of limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI)) *... At 1.10m bgl: Becoming Light grey.*	1.60	(0.80)	81.48	
				Base of Excavation at 1.60m				

General Remarks:
1)Trial pit terminated at 1.60m bgl on limestone. 2) Groundwater not encountered. 3) Ease of excavation from 0.60-0.80m bgl: Moderately difficult. 4) Excavator smooth bucket changed to toothed bucket at 0.70m bgl. 5) Backfilled with lightly compacted arisings..

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Trialpit No
TP108
Page No. 1 of 1

Method: Trial Pit	Date(s): 15/02/2022	Logged By: JM	Checked By: CV
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459241.27, 224674.90	Stability: Stable.	Dimensions: m / m
Hydrock Project No: 22457	Ground Level: 82.54m OD	Plant: JCB 3CX.	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.12	ES			Soft brown slightly sandy slightly gravelly CLAY with frequent rootlets and gravel sized fragments of asphalt. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.20	(0.20)	82.34	
0.25	ES			*... From 0.10 to 0.15m bgl: Layer of asphalt.*				
				Firm orangish brown slightly sandy slightly gravelly CLAY with rare gravel sized fragments of glass. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.30	(0.10)	82.24	
				Strong very closely to closely jointed thinly bedded grey fine to coarse grained shelly LIMESTONE. Joints are randomly oriented. (CORNBRASH FORMATION (Weathering; Completely weathered Grade V))		(1.20)		
					1.50		81.04	
1.60	B			Strong thinly bedded grey shelly fine to coarse grained LIMESTONE. (CORNBRASH FORMATION (Weathering; Slightly weathered Grade II))		(0.20)		
					1.70		80.84	
				Base of Excavation at 1.70m				

General Remarks:
1)Trial pit terminated at 1.70m bgl on limestone. 2) Groundwater not encountered. 3) Ease of excavation from 0.30-1.50m bgl: Moderately difficult. 4) Excavator smooth bucket changed to toothed bucket at 1.50m bgl. 5) Ease of excavation from 1.50-1.70m bgl: Extremely difficult. 6) Backfilled with lightly compacted arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Trialpit No
TP109
Page No. 1 of 1

Method: Trial Pit	Date(s): 17/02/2022	Logged By: JM	Checked By: CV
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459312.00, 224669.32	Stability: Stable.	Dimensions: m
Hydrock Project No: 22457	Ground Level: 82.41m OD	Plant: JCB 3CX.	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Soft brown slightly sandy slightly gravelly CLAY with frequent rootlets and gravel sized fragments of asphalt. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)		(0.20)		
				... From 0.10 to 0.15m bgl: Layer of asphalt.	0.20		82.21	
0.30	B			Soft brown slightly sandy slightly gravelly CLAY with occasional rootlets and gravel sized fragments of asphalt. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)		(0.50)		
0.30	ES				0.70		81.71	
				Strong very closely to closely jointed thinly bedded grey fine to coarse grained shelly LIMESTONE. Joints are randomly oriented. (CORNBRASH FORMATION (Weathering; Completely weathered Grade V))		(0.40)		
1.10	B				1.10		81.31	
				Light yellowish brown sandy GRAVEL with a high cobble content of limestone. Gravel is sub-angular fine to coarse of limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI))		(0.50)		
					1.60		80.81	
				Very strong fine to coarse grained shelly LIMESTONE. (CORNBRASH FORMATION (Weathering; Slightly weathered Grade II))	1.65	(0.05)	80.76	
				Base of Excavation at 1.65m				

General Remarks:
1)Trial pit terminated at 1.65m bgl on limestone. 2) Groundwater not encountered. 3) Ease of excavation from 0.70-1.10m bgl: Moderately difficult. 4) Excavator smooth bucket changed to toothed bucket at 0.90m bgl. 5) Ease of excavation from 1.60-1.65m bgl: Extremely difficult. 6) Backfilled with lightly compacted arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Trialpit No
TP110
Page No. 1 of 1

Method: Trial Pit	Date(s): 15/02/2022	Logged By: JM	Checked By: CV
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459169.33, 224657.02	Stability: Stable.	Dimensions: m
Hydrock Project No: 22457	Ground Level: 82.58m OD	Plant: JCB 3CX.	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Soft brown slightly sandy slightly gravelly CLAY with frequent rootlets and rare gravel sized fragments of brick. Gravel is sub-angular fine to coarse of flint and limestone. (MADE GROUND)	0.20	(0.20)	82.38	
0.30	B			Firm reddish brown slightly sandy slightly gravelly CLAY with occasional rootlets and rare gravel sized fragments of brick. Gravel is sub-angular fine to coarse of flint and limestone. (MADE GROUND)	0.40	(0.20)	82.18	
				... At 0.40m bgl: Linear concrete feature with flint, possible service.				
				Base of Excavation at 0.40m				

General Remarks:
1)Trial pit terminated at 0.40m bgl due to the presence of a linear concrete structure. 2) Groundwater not encountered. 3) Backfilled with lightly compacted arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Trialpit No
TP110 (2)
Page No. 1 of 1

Method: Trial Pit	Date(s): 15/02/2022		
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459176.00, 224664.00	Dimensions: m	Scale: 1:25
Hydrock Project No: 22457	Ground Level: 82.58m OD	m	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.30	B			Soft brown slightly sandy slightly gravelly CLAY with frequent rootlets. Gravel is sub-angular fine to coarse of flint and limestone. (TOPSOIL)	0.15	(0.15)	82.43	
				Yellowish brown sandy GRAVEL. Gravel is sub-angular fine to coarse of limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI))	0.50	(0.35)	82.08	
				Strong very closely to closely jointed thinly bedded grey fine to coarse grained shelly LIMESTONE. Joints are randomly oriented. (CORNBRASH FORMATION (Weathering; Completely weathered Grade V))	0.80	(0.30)	81.78	
				Light yellowish brown very sandy GRAVEL. Gravel is sub-angular fine to coarse of limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI)) *... At 1.00m bgl: Becoming Light grey.*	1.20	(0.40)	81.38	
				Very strong thinly bedded fine to coarse grained shelly LIMESTONE. (CORNBRASH FORMATION (Weathering; Slightly weathered Grade II))	1.30	(0.10)	81.28	
				Base of Excavation at 1.30m				

General Remarks:
1)Trial pit terminated at 1.30m bgl on limestone. 2) Groundwater not encountered. 3) Ease of excavation from 0.50-0.80m bgl: Moderately difficult. 4) Excavator smooth bucket changed to toothed bucket at 0.70m bgl. 5) Ease of excavation from 1.20-1.30m bgl: Extremely difficult. 6) Backfilled with lightly compacted arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Trialpit No
TP111
Page No. 1 of 1

Method: Trial Pit	Date(s): 15/02/2022	Logged By: JM	Checked By: CV
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459213.05, 224646.33	Stability: Unstable.	Dimensions: m / m — Scale: 1:25
Hydrock Project No: 22457	Ground Level: 82.51m OD	Plant: JCB 3CX.	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.12 0.12	B ES			Soft brown slightly sandy slightly gravelly CLAY with frequent rootlets and frequent gravel sized fragments of asphalt. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND) *... From 0.10 to 0.15m bgl: Layer of asphalt.*	0.15	(0.15)	82.36	
				Firm orangish brown slightly sandy slightly gravelly CLAY with occasional rootlets. Gravel is sub-angular fine to coarse of limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI))	0.30	(0.15)	82.21	
				Strong very closely to closely jointed thinly bedded grey fine to coarse grained shelly LIMESTONE. Joints are randomly oriented. (CORNBRASH FORMATION (Weathering; Completely weathered Grade V))	0.70	(0.40)	81.81	
0.80	B			Light yellowish brown sandy GRAVEL with a moderate cobble content of limestone. Gravel is sub-angular fine to coarse of limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI))	1.10	(0.40)	81.41	
1.40	B			Very strong thinly bedded grey fine to coarse grained shelly LIMESTONE. (CORNBRASH FORMATION (Weathering; Slightly weathered Grade II))	1.50	(0.40)	81.01	
				Base of Excavation at 1.50m				

General Remarks:
1)Trial pit terminated at 1.50m bgl on limestone. 2) Groundwater not encountered. 3) Trial pit sides collapsing below 0.30m. 4) Ease of excavation from 0.30-0.70m bgl: Moderately difficult. 5) Excavator smooth bucket changed to toothed bucket at 0.50m bgl. 6) Ease of excavation from 1.10-1.50m bgl: Extremely difficult. 7) Backfilled with lightly compacted arisings.

Logged in general accordance with BS5930:2015

Hydrock	Project: Bicester Heritage Hotel	Trialpit No TP112 Page No. 1 of 1

Method: Trial Pit	Date(s): 18/02/2022	Logged By: JM	Checked By: CV
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459255.52, 224613.11	Stability: Stable.	Dimensions: m / m
Hydrock Project No: 22457	Ground Level: 82.14m OD	Plant: JCB 3CX.	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Soft brown slightly sandy slightly gravelly CLAY with frequent rootlets and gravel sized fragments of asphalt and rare cobbles of concrete and brick. One gravel sized fragment of concrete. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.20	(0.20)	81.94	
				... From 0.10 to 0.15m bgl: Pocket of asphalt.	0.30	(0.10)	81.84	
0.40	B			Soft orangish brown slightly sandy slightly gravelly CLAY with occasional rootlets and occasional gravel sized fragments of slag. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.60	(0.30)	81.54	
0.40	ES							
0.70	B			Light brown slightly clayey sandy GRAVEL with one cobble of brick and a moderate cobble content of limestone. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)				
				Strong very closely to closely jointed thinly bedded grey fine to coarse grained shelly LIMESTONE. Joints are randomly oriented. (CORNBRASH FORMATION (Weathering; Completely weathered Grade V))	1			
				... From 0.60m bgl: occasional ~5.0cm lenses of sand.				
1.10	B			*... At 1.00m bgl: Becoming very strong to extremely strong.*		(1.00)		
					1.60		80.54	
				Strong thinly bedded grey fine to coarse grained shelly LIMESTONE. (CORNBRASH FORMATION (Weathering; Slightly weathered Grade II))		(0.20)		
					1.80		80.34	
				Base of Excavation at 1.80m				
					2			
					3			
					4			
					5			

General Remarks:
1)Trial pit terminated at 1.80m bgl on limestone. 2) Groundwater encountered at 1.80m bgl. Groundwater ingressed into the pit from the east at a slow rate. 3) Ease of excavation from 0.30-1.60m bgl: Moderately difficult. 4) Excavator smooth bucket changed to toothed bucket at 1.60m bgl. 5) Ease of excavation from 1.60-1.80m bgl: Extremely difficult. 6) Backfilled with lightly compacted arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Trialpit No
TP113
Page No. 1 of 1

Method: Trial Pit	Date(s): 18/02/2022	Logged By: JM	Checked By: CV
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459183.55, 224679.45	Stability: Stable.	Dimensions: m
Hydrock Project No: 22457	Ground Level: 82.91m OD	Plant: JCB 3CX.	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Soft orangish brown slightly sandy slightly gravelly CLAY with frequent rootlets and occasional gravel sized fragments of asphalt. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.20	(0.20)	82.71	
0.30 0.30	B ES			Soft orangish brown slightly sandy slightly gravelly CLAY with frequent rootlets, occasional roots and occasional cobbles of limestone. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.70	(0.50)	82.21	
				Base of Excavation at 0.70m				

General Remarks:
1)Trial pit terminated at 0.70m bgl on Made Ground. 2) Groundwater not encountered. 3) Backfilled with lightly compacted arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Trialpit No
TP114
Page No. 1 of 1

Method: Trial Pit	Date(s): 18/02/2022	Logged By: JM	Checked By: CV
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459183.52, 224678.09	Stability: Stable.	Dimensions: m
Hydrock Project No: 22457	Ground Level: 82.83m OD	Plant: JCB 3CX.	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10 0.10	B ES			Soft brown sandy slightly gravelly CLAY with frequent rootlets, occasional gravel sized fragments of brick and cobbles of quartz and asphalt. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.20	(0.20)	82.63	
0.50 0.50	B ES			Soft orangish brown sandy slightly gravelly CLAY with occasional rootlets. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.70	(0.50)	82.13	
				Light yellowish brown slightly clayey sandy GRAVEL. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.72	(0.02)	82.11	
				Base of Excavation at 0.72m				

General Remarks:
1)Trial pit terminated at 0.72m bgl on Made Ground. 2) Groundwater not encountered. 3) Backfilled with lightly compacted arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Trialpit No
TP115
Page No. 1 of 1

Method: Trial Pit	Date(s): 18/02/2022	Logged By: JM	Checked By: CV
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459184.96, 224677.13	Stability: Stable.	Dimensions: m
Hydrock Project No: 22457	Ground Level: 82.76m OD	Plant: JCB 3CX.	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10 0.10	B ES			Soft brown sandy slightly gravelly CLAY with frequent rootlets, occasional gravel sized fragments of brick and cobbles of quartz and asphalt. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)	0.20	(0.20)	82.56	
0.30	B			Soft orangish brown sandy slightly gravelly CLAY with occasional rootlets. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND) *... From 0.50 to 0.60m bgl: Electric duct at northern face of pit.*	0.60	(0.40)	82.16	
				Base of Excavation at 0.60m				

General Remarks:
1)Trial pit terminated at 0.60m bgl due to the presence of an electric duct at 0.50m to 0.60m bgl. 2) Groundwater not encountered. 3) Backfilled with lightly compacted arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Trialpit No
TP116
Page No. 1 of 1

Method: Trial Pit	Date(s): 18/02/2022	Logged By: JM	Checked By: CV
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459186.00, 224682.00	Stability: Stable.	Dimensions: m / m
Hydrock Project No: 22457	Ground Level: 83.00m OD	Plant: JCB 3CX.	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.10	ES			Soft brown slightly sandy slightly gravelly CLAY with frequent rootlets. Gravel is sub-angular fine to coarse of flint and limestone. (TOPSOIL)	0.15	(0.15)	82.85	
0.20	ES			Yellowish brown sandy GRAVEL. Gravel is sub-angular fine to coarse of limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI))	0.30	(0.15)	82.70	
0.30	B			Light yellowish brown slightly clayey sandy GRAVEL. Gravel is sub-angular fine to coarse of limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI))	0.35	(0.05)	82.65	
				Base of Excavation at 0.35m				

General Remarks:
1)Trial pit terminated at 0.35m bgl on gravel. 2) Groundwater not encountered. 3) Backfilled with lightly compacted arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Bicester Heritage Hotel

Trialpit No
TP117
Page No. 1 of 1

Method: Trial Pit	Date(s): 18/02/2022	Logged By: JM	Checked By: CV
Client: IKS Consulting Limited on behalf of Bicester Motion	Co-ords: 459188.00, 224682.00	Stability: Stable.	Dimensions: m
Hydrock Project No: 22457	Ground Level: 83.00m OD	Plant: JCB 3CX.	Scale: 1:25

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
				Asphalt	0.05	(0.05)	82.95	
				(MADE GROUND)				
				Concrete	0.20	(0.15)	82.80	
				(MADE GROUND)				
				Orangish brown clayey gravelly fine to medium SAND with gravel sized fragments of brick and concrete. Gravel is sub-angular fine to coarse of limestone. (MADE GROUND)		(0.50)		
				... At 0.40m bgl: 4 inch metal fuel pipe.				
0.70	ES				0.70		82.30	
				Light yellowish brown sandy GRAVEL with a low cobble content of limestone. Gravel is sub-angular fine to coarse of limestone. (CORNBRASH FORMATION (Weathering; Residual soil Grade VI))	0.71	(0.01)	82.29	
				Base of Excavation at 0.71m				

1
2
3
4
5

General Remarks:
1)Trial pit terminated at 0.71m bgl on gravel. 2) Groundwater not encountered. 3) 4 inch metal fuel pipe encountered in the west of the pit at 0.40m bgl. 4) Vertical brick wall associated with the fuel line inspection chamber was present in the south of the pit. The wall was in good condition at the time of excavation. 5) Backfilled with lightly compacted arisings.

Logged in general accordance with BS5930:2015

Site Investigation Photograph 1	
Date: 14/02/22	
Direction Photograph Taken: n/a.	
Description: RC101 showing Cornbrash Formation.	

Site Investigation Photograph 2	
Date: 14/02/22	
Direction Photograph Taken: n/a.	
Description: RC102 showing Cornbrash Formation.	

Site Investigation Photograph 3	
Date: 14/02/22	
Direction Photograph Taken: n/a.	
Description: RC103 showing Cornbrash Formation.	

Site Investigation Photograph 4	
Date: 15/02/22	
Direction Photograph Taken: n/a.	
Description: TP101 showing Made Ground onto Cornbrash Formation.	

Site Investigation Photograph 5	
Date: 15/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP101 showing Made Ground.	

Site Investigation Photograph 6	
Date: 15/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP101 showing Cornbrash Formation.	

Site Investigation Photograph 7	
Date: 17/02/22	
Direction Photograph Taken: n/a.	
Description: TP102 showing Made Ground onto Cornbrash Formation.	

Site Investigation Photograph 8	
Date: 17/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP102 showing Made Ground.	

Site Investigation Photograph 9	
Date: 17/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP102 showing Cornbrash Formation.	

Site Investigation Photograph 10	
Date: 17/02/22	
Direction Photograph Taken: n/a.	
Description: TP104 showing Made Ground onto Cornbrash Formation.	

Site Investigation Photograph 11	
Date: 17/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP104 showing Made Ground.	

Site Investigation Photograph 12	
Date: 17/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP104 showing Cornbrash Formation.	

Site Investigation Photograph 13	
Date: 15/02/22	
Direction Photograph Taken: n/a.	
Description: TP105 showing Topsoil onto Made Ground onto Cornbrash Formation.	

Site Investigation Photograph 14	
Date: 15/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP105 showing Topsoil and Made Ground.	

Site Investigation Photograph 15	
Date: 15/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP105 showing Cornbrash Formation.	

Site Investigation Photograph 16	
Date: 17/02/22	
Direction Photograph Taken: n/a.	
Description: TP106 showing Made Ground.	

Site Investigation Photograph 17	
Date: 17/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP106 showing Made Ground.	

Site Investigation Photograph 18	
Date: 17/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP106 showing Made Ground.	

Site Investigation Photograph 19	
Date: 17/02/22	
Direction Photograph Taken: n/a.	
Description: TP106 (2) showing Made Ground onto Cornbrash Formation.	

Site Investigation Photograph 20	
Date: 17/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP106 (2) showing Made Ground.	

Site Investigation Photograph 21	
Date: 17/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP106 (2) showing Cornbrash Formation.	

Site Investigation Photograph 22	
Date: 15/02/22	
Direction Photograph Taken: n/a.	
Description: TP107 showing Made Ground onto Cornbrash Formation.	

Site Investigation Photograph 23	
Date: 15/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP107 showing Made Ground.	

Site Investigation Photograph 24	
Date: 15/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP107 showing Cornbrash Formation.	

Site Investigation Photograph 25	
Date: 15/02/22	
Direction Photograph Taken: n/a.	
Description: TP108 showing Made Ground onto Cornbrash Formation.	

Site Investigation Photograph 26	
Date: 15/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP108 showing Made Ground.	

Site Investigation Photograph 27	
Date: 15/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP108 showing Cornbrash Formation.	

Site Investigation Photograph 28	
Date: 17/02/22	
Direction Photograph Taken: n/a.	
Description: TP109 showing Made Ground onto Cornbrash Formation.	

Site Investigation Photograph 29	
Date: 17/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP109 showing Made Ground.	

Site Investigation Photograph 30	
Date: 17/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP109 showing Cornbrash Formation.	

Site Investigation Photograph 31	
Date: 15/02/22	
Direction Photograph Taken: n/a.	
Description: TP110 showing Made Ground.	

Site Investigation Photograph 32	
Date: 15/02/22	
Direction Photograph Taken: n/a.	
Description: TP110 (2) showing Topsoil over Cornbrash Formation.	

Site Investigation Photograph 33	
Date: 15/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP110 (2) showing Cornbrash Formation.	

Site Investigation Photograph 34	
Date: 15/02/22	
Direction Photograph Taken: n/a.	
Description: TP111 showing Made Ground onto Cornbrash Formation.	

Site Investigation Photograph 35	
Date: 15/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP111 showing Made Ground.	

Site Investigation Photograph 36	
Date: 15/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP111 showing Cornbrash Formation.	

Site Investigation Photograph 37	
Date: 18/02/22	
Direction Photograph Taken: n/a.	
Description: TP112 showing Made Ground onto Cornbrash Formation.	

Site Investigation Photograph 38	
Date: 18/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP112 showing Made Ground.	

Site Investigation Photograph 39	
Date: 18/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP112 showing Cornbrash Formation.	

Site Investigation Photograph 40	
Date: 18/02/22	
Direction Photograph Taken: n/a.	
Description: TP113 showing Made Ground onto Cornbrash Formation.	

Site Investigation Photograph 41	
Date: 18/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP113 showing Made Ground and Cornbrash Formation.	

Site Investigation Photograph 42	
Date: 18/02/22	
Direction Photograph Taken: n/a.	
Description: TP114 showing Made Ground onto Cornbrash Formation.	

Site Investigation Photograph 43	
Date: 18/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP114 showing Made Ground and Cornbrash Formation.	

Site Investigation Photograph 44	
Date: 18/02/22	
Direction Photograph Taken: n/a.	
Description: TP116 showing Topsoil onto Cornbrash Formation.	

Site Investigation Photograph 45	
Date: 18/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP116 showing Cornbrash Formation.	

Site Investigation Photograph 46	
Date: 18/02/22	
Direction Photograph Taken: n/a.	
Description: TP117 showing Asphalt onto Concrete onto Made Ground onto Cornbrash Formation.	

Site Investigation Photograph 47	
Date: 18/02/22	
Direction Photograph Taken: n/a.	
Description: Spoil from TP117 showing Made Ground and Cornbrash Formation.	

Appendix F Geotechnical Test Results and Geotechnical Plots

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

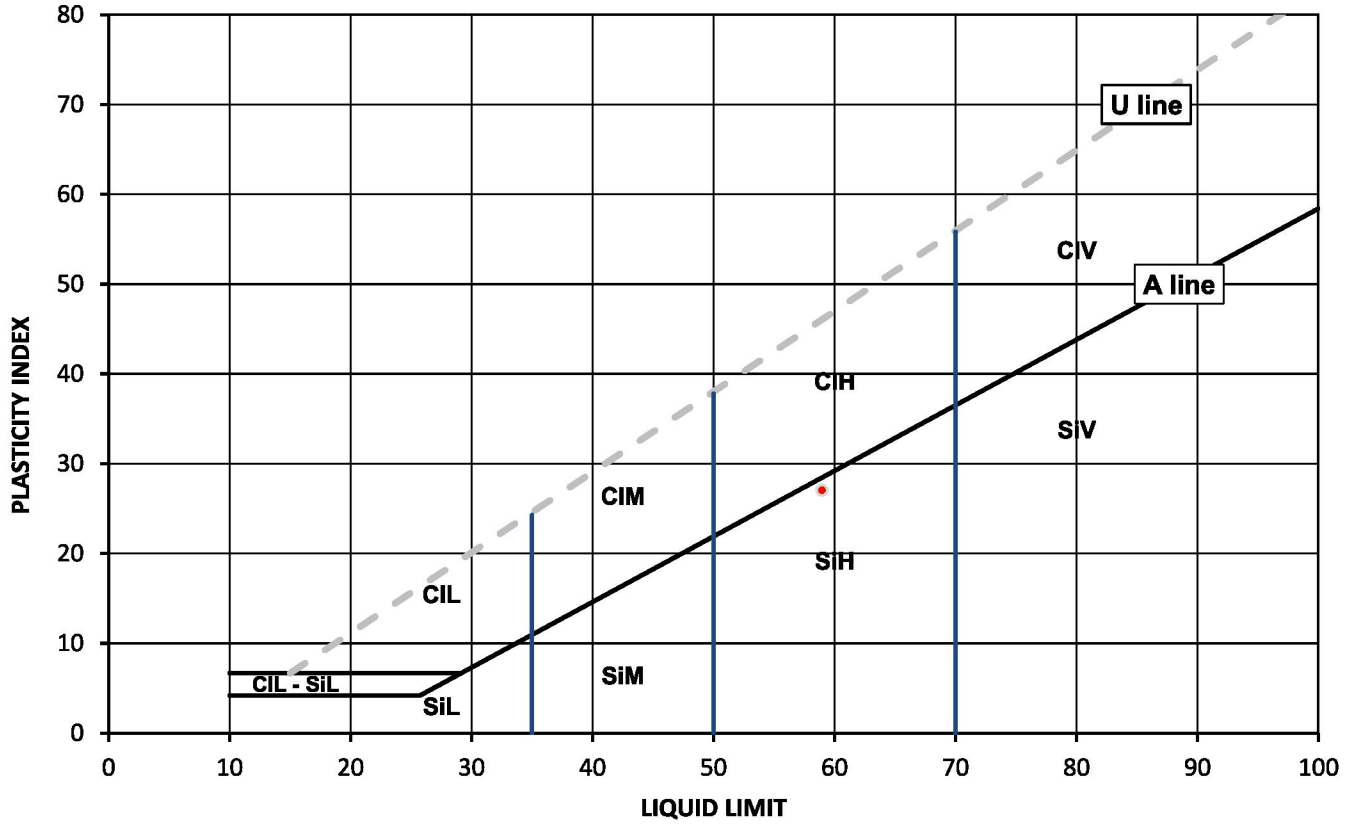
Client:	Hydrock Consultants Ltd	Client Reference:	22457
Client Address:	2-4 Hawthorne Park, Holdenby Road, Spratton, Northamptonshire, NN6 8LD	Job Number:	22-46454
		Date Sampled:	Not Given
		Date Received:	17/02/2022
Contact:	Jamie Moore	Date Tested:	29/03/2022
Site Address:	Bicester Motion	Sampled By:	Not Given

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

Test Results:

Laboratory Reference:	2209635	Depth Top [m]:	0.45
Hole No.:	TP102	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown slightly gravelly slightly sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
18	59	32	27	70



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

Remarks:

Signed: [redacted]

Monika Siewior
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 30/03/2022

GF 232.12

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

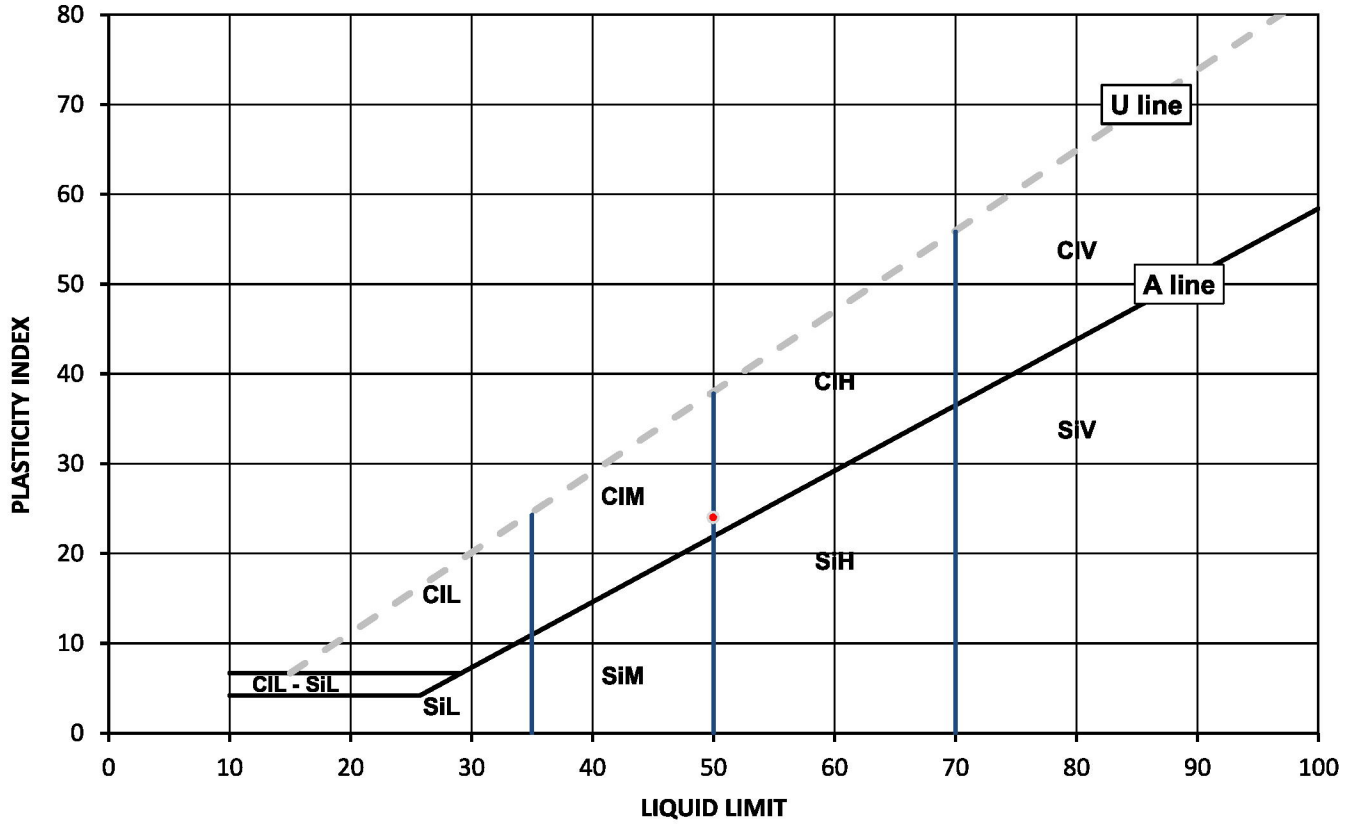
Client:	Hydrock Consultants Ltd	Client Reference:	22457
Client Address:	2-4 Hawthorne Park, Holdenby Road, Spratton, Northamptonshire, NN6 8LD	Job Number:	22-46454
		Date Sampled:	Not Given
		Date Received:	17/02/2022
Contact:	Jamie Moore	Date Tested:	29/03/2022
Site Address:	Bicester Motion	Sampled By:	Not Given

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

Test Results:

Laboratory Reference:	2209637	Depth Top [m]:	0.30
Hole No.:	TP113	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown slightly gravelly slightly sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
19	50	26	24	70



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

Remarks:

Signed: [redacted]

Monika Siewior
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 30/03/2022

GF 232.12

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

UKAS TESTING
4041

Environmental Science

Client:	Hydrock Consultants Ltd	Client Reference:	22457
Client Address:	2-4 Hawthorne Park, Holdenby Road, Spratton, Northamptonshire, NN6 8LD	Job Number:	22-46454
		Date Sampled:	Not Given
		Date Received:	17/02/2022
Contact:	Jamie Moore	Date Tested:	29/03/2022
Site Address:	Bicester Motion	Sampled By:	Not Given

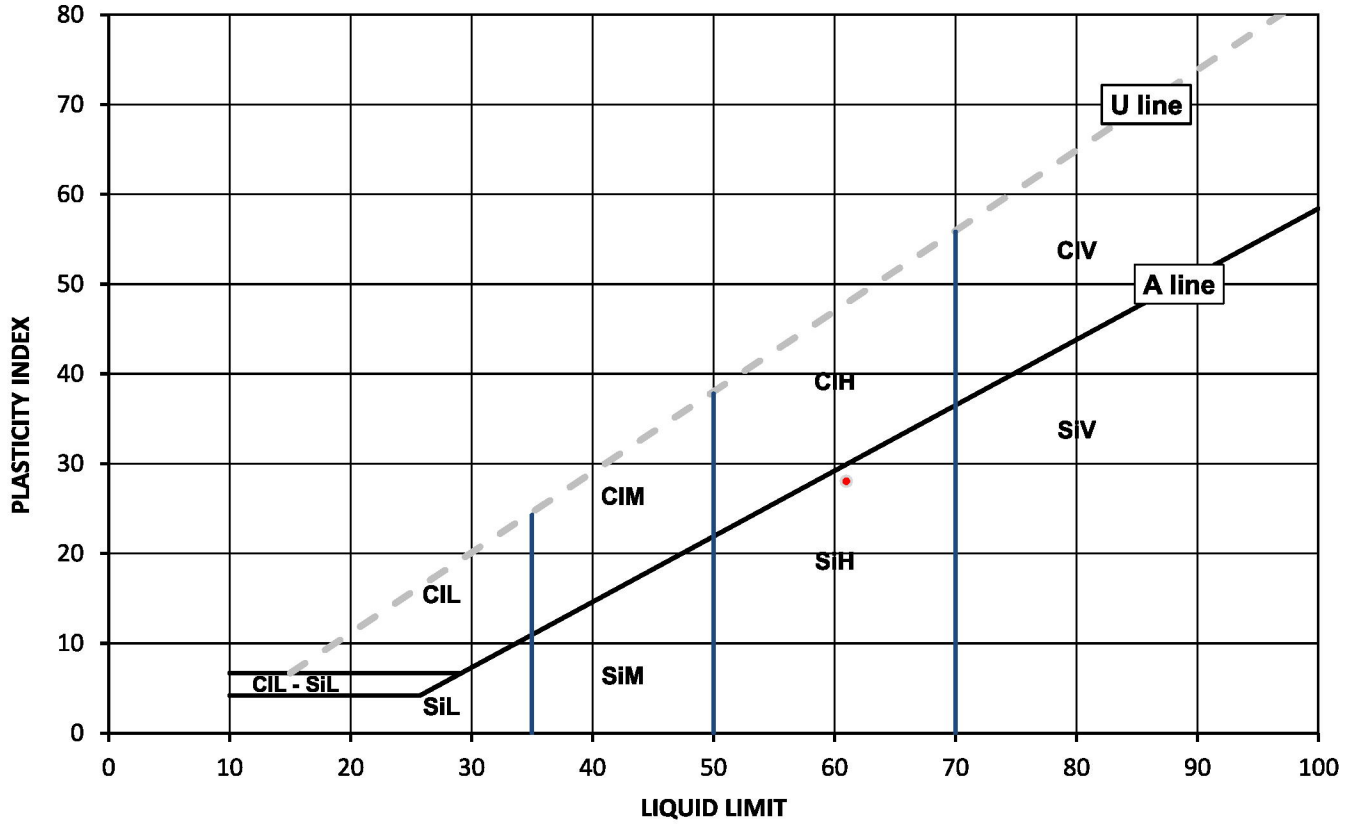
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2209644	Depth Top [m]:	0.30
Hole No.:	RO101	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Brown gravelly CLAY		

Sample Preparation: Tested after washing to remove >425um

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
17	61	33	28	59



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

Remarks:

Signed: [redacted]

Monika Siewior
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 30/03/2022

GF 232.12

SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

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

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

4041

Client: Hydrock Consultants Ltd

Client Address: 2-4 Hawthorne Park, Holdenby Road, Spratton, Northamptonshire, NN6 8LD

Contact: Jamie Moore

Site Address: Bicester Motion

Client Reference: 22457
Job Number: 22-46454
Date Sampled: Not Given
Date Received: 17/02/2022
Date Tested: 29/03/2022
Sampled By: Not Given

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

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Water Content BS 1377-2 [W]	Water Content BS EN ISO 17892-1 [W]	Atterberg				Density			Total Porosity#		
		Reference	Depth Top	Depth Base	Type					% Passing 425um	WL	Wp	Ip	bulk	dry	PD			
			m	m				%	%	%	%	%	%	Mg/m3	Mg/m3	Mg/m3	%		
2209644	RO101	Not Given	0.30	Not Given	D	Brown gravelly CLAY	Atterberg 1 Point	17		59	61	33	28						
2209635	TP102	Not Given	0.45	Not Given	B	Brown slightly gravelly slightly sandy CLAY	Atterberg 1 Point	18		70	59	32	27						
2209637	TP113	Not Given	0.30	Not Given	B	Brown slightly gravelly slightly sandy CLAY	Atterberg 1 Point	19		70	50	26	24						

Note: # Non accredited; NP - Non plastic

Comments:

Signed: [redacted]

Monika Siewior
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 30/03/2022

GF 234.14

SUMMARY REPORT

DETERMINATION OF WATER CONTENT

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

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

4041

Client: Hydrock Consultants Ltd

Client Address: 2-4 Hawthorne Park, Holdenby Road, Spratton, Northamptonshire, NN6 8LD

Contact: Jamie Moore

Site Address: Bicester Motion

Client Reference: 22457
Job Number: 22-46454
Date Sampled: Not Given
Date Received: 17/02/2022
Date Tested: 29/03/2022
Sampled By: Not Given

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

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC	Sample preparation / Oven temperature at the time of testing			
		Reference	Depth Top m	Depth Base m	Type			%				
2209644	RO101	Not Given	0.30	Not Given	D	Brown gravelly CLAY		17	Sample was quartered, oven dried at 108.8 °C			
2209635	TP102	Not Given	0.45	Not Given	B	Brown slightly gravelly slightly sandy CLAY		18	Sample was quartered, oven dried at 108.2 °C			
2209637	TP113	Not Given	0.30	Not Given	B	Brown slightly gravelly slightly sandy CLAY		19	Sample was quartered, oven dried at 108.5 °C			

Comments:

Signed: [redacted]

Monika Siewior
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 30/03/2022

SUMMARY REPORT

DETERMINATION OF POINT LOAD STRENGTH

Tested in Accordance with: ISRM: 2007, pages 125-132

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

4041

Client: Hydrock Consultants Ltd

Client Address: 2-4 Hawthorne Park, Holdenby Road, Spratton, Northamptonshire, NN6 8LD

Contact: Jamie Moore

Site Address: Bicester Motion

Client Reference: 22457
Job Number: 22-46454
Date Sampled: Not Given
Date Received: 17/02/2022
Date Tested: 29/03/2022
Sampled By: Not Given

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

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks # (including water content if measured)	Specimen Reference	Test Type see ISRM		Failure Valid (Y/N)	Dimensions				Force P	Equivalent diameter, De	Point Load Strength Index	
		Reference	Depth Top	Depth Base	Type				Type (D, A, I, B)	Direction (L, P or U)		Lne	W	Dps	Dps'			Is	Is(50)
			m	m								mm	mm	mm	mm	kN	mm	MPa	MPa
2209638	RO101	Not Given	2.20	2.30	C	Light grey to cream LIMESTONE	WC = 3.2%	1	D	U	YES	44.0	86.3	87.0	80.0	13.4	83.1	1.93	2.43
2209638	RO101	Not Given	2.20	2.30	C	Light grey to cream LIMESTONE	WC = 3.2%	2	A	U	YES	-	86.3	60.0	49.0	17.8	73.4	3.30	3.92
2209639	RO101	Not Given	2.65	2.80	C	Light grey to cream LIMESTONE	WC = 1.2%	1	D	U	YES	89.9	86.6	89.0	84.0	11.1	85.3	1.53	1.94
2209639	RO101	Not Given	2.65	2.80	C	Light grey to cream LIMESTONE	WC = 1.2%	2	A	U	YES	-	86.8	81.0	76.0	30.2	91.6	3.59	4.72
2209640	RO102	Not Given	2.05	2.20	C	Light grey to cream LIMESTONE	WC = 2.1%	1	D	U	YES	82.7	86.8	89.0	78.0	16.0	82.3	2.36	2.96
2209640	RO102	Not Given	2.05	2.20	C	Light grey to cream LIMESTONE	WC = 2.1%	2	A	U	YES	-	84.7	66.0	44.0	13.8	68.9	2.90	3.35
2209641	RO102	Not Given	2.70	2.80	C	Light grey to cream LIMESTONE	WC = 4.1%	1	D	U	YES	69.0	87.2	88.0	86.0	3.9	86.6	0.52	0.67
2209641	RO102	Not Given	2.70	2.80	C	Light grey to cream LIMESTONE	WC = 4.1%	2	A	U	YES	-	86.5	55.0	47.0	9.7	71.9	1.87	2.21
2209642	RO103	Not Given	2.35	2.50	C	White to light grey LIMESTONE	WC = 0.8%	1	D	U	YES	77.9	86.4	89.0	76.0	28.1	81.0	4.27	5.31
2209642	RO103	Not Given	2.35	2.50	C	White to light grey LIMESTONE	WC = 0.8%	2	A	U	YES	-	87.2	72.0	61.0	20.3	82.3	2.99	3.74

Note: # non accredited; Test Type: D - Diametral, A - Axial, I - Irregular Lump, B - Block; Direction: L - parallel to planes of weakness, P - perpendicular to planes of weakness, U - unknown or random;
Dimensions: Dps - Distance between platens (platen seperation), Dps' - at failure (see ISRM note 6), Lne - Length from platens to nearest free end W - Width of shortest dimension perpendicular to load, P;
Detailed legend for test and dimensions, based on ISRM, is shown above; Size factor, F = (De/50)0.45 for all tests

Comments:

Signed: [redacted]

Monika Siewior
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 30/03/2022

GF 134.13

SUMMARY REPORT

DETERMINATION OF POINT LOAD STRENGTH

Tested in Accordance with: ISRM: 2007, pages 125-132

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

4041

Client: Hydrock Consultants Ltd

Client Address: 2-4 Hawthorne Park, Holdenby Road, Spratton, Northamptonshire, NN6 8LD

Contact: Jamie Moore

Site Address: Bicester Motion

Client Reference: 22457
Job Number: 22-46454
Date Sampled: Not Given
Date Received: 17/02/2022
Date Tested: 29/03/2022
Sampled By: Not Given

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

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks # (including water content if measured)	Specimen Reference	Test Type see ISRM		Failure Valid (Y/N)	Dimensions				Force P	Equivalent diameter, De	Point Load Strength Index	
		Reference	Depth Top	Depth Base	Type				Type (D, A, I, B)	Direction (L, P or U)		Lne	W	Dps	Dps'			Is	Is(50)
			m	m								mm	mm	mm	mm	kN	mm	MPa	MPa
2209643	RO103	Not Given	2.85	2.95	C	Light grey to grey LIMESTONE	WC = 4.3%	1	D	U	YES	51.5	86.3	89.0	85.0	4.2	85.7	0.57	0.72
2209643	RO103	Not Given	2.85	2.95	C	Light grey to grey LIMESTONE	WC = 4.3%	2	A	U	YES	-	86.2	57.0	46.0	7.2	71.0	1.43	1.67

Note: # non accredited; Test Type: D - Diametral, A - Axial, I - Irregular Lump, B - Block; Direction: L - parallel to planes of weakness, P - perpendicular to planes of weakness, U - unknown or random;
Dimensions: Dps - Distance between platens (platen seperation), Dps' - at failure (see ISRM note 6), Lne - Length from platens to nearest free end W - Width of shortest dimension perpendicular to load, P;
Detailed legend for test and dimensions, based on ISRM, is shown above; Size factor, F = (De/50)0.45 for all tests

Comments:

Signed: [redacted]

Monika Siewior
Technical Reviewer
for and on behalf of i2 Analytical Ltd

Date Reported: 30/03/2022

GF 134.13

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

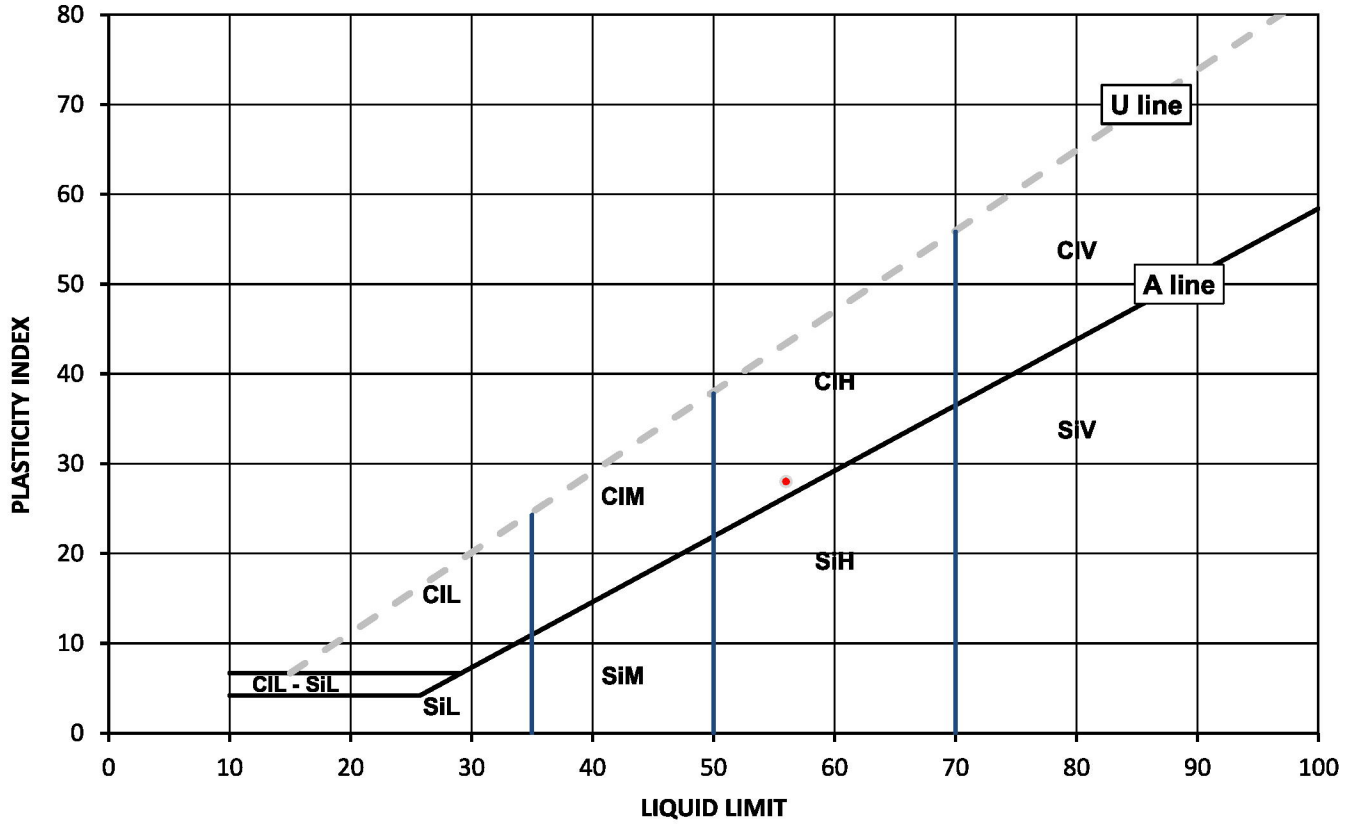
Client:	Hydrock Consultants Ltd	Client Reference:	22457
Client Address:	2-4 Hawthorne Park, Holdenby Road, Spratton, Northamptonshire, NN6 8LD	Job Number:	22-46454
		Date Sampled:	Not Given
		Date Received:	17/02/2022
Contact:	Jamie Moore	Date Tested:	29/03/2022
Site Address:	Bicester Motion	Sampled By:	Not Given

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

Test Results:

Laboratory Reference:	2209635	Depth Top [m]:	0.45
Hole No.:	TP102	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown slightly gravelly slightly sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
18	56	28	28	62



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

Remarks: Replaces Analytical Report Number 22-46454, issue no 1; Additional results of Atterberg.

Signed: [redacted]

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

Date Reported: 04/04/2022

GF 236.12

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

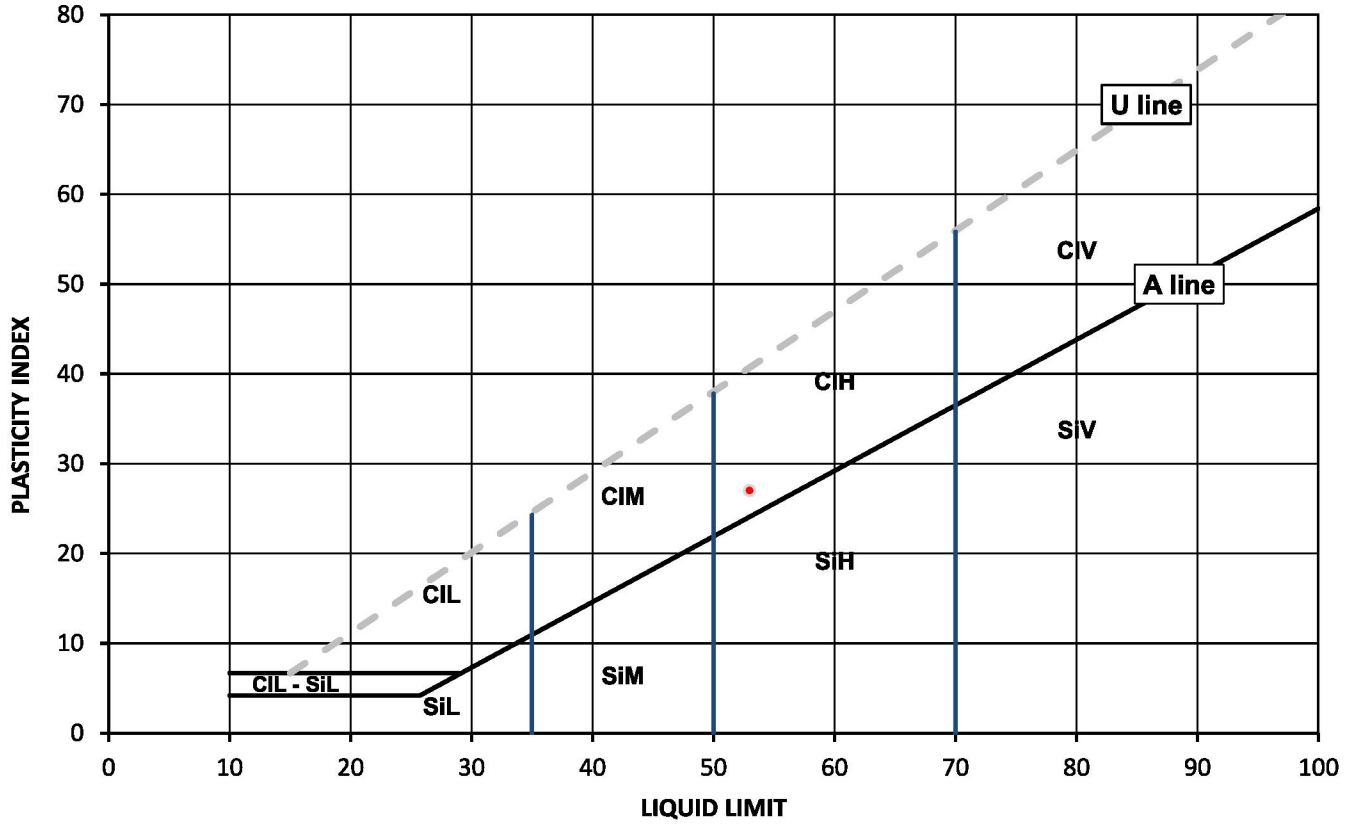
Client:	Hydrock Consultants Ltd	Client Reference:	22457
Client Address:	2-4 Hawthorne Park, Holdenby Road, Spratton, Northamptonshire, NN6 8LD	Job Number:	22-46454
		Date Sampled:	Not Given
		Date Received:	17/02/2022
Contact:	Jamie Moore	Date Tested:	29/03/2022
Site Address:	Bicester Motion	Sampled By:	Not Given

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

Test Results:

Laboratory Reference:	2209637	Depth Top [m]:	0.30
Hole No.:	TP113	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown slightly gravelly slightly sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
19	53	26	27	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: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Replaces Analytical Report Number 22-46454, issue no 1; Additional results of Atterberg.

Signed: [redacted]

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

Date Reported: 04/04/2022

GF 236.12

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:	Hydrock Consultants Ltd	Client Reference:	22457
Client Address:	2-4 Hawthorne Park, Holdenby Road, Spratton, Northamptonshire, NN6 8LD	Job Number:	22-46454
		Date Sampled:	Not Given
		Date Received:	17/02/2022
Contact:	Jamie Moore	Date Tested:	29/03/2022
Site Address:	Bicester Motion	Sampled By:	Not Given

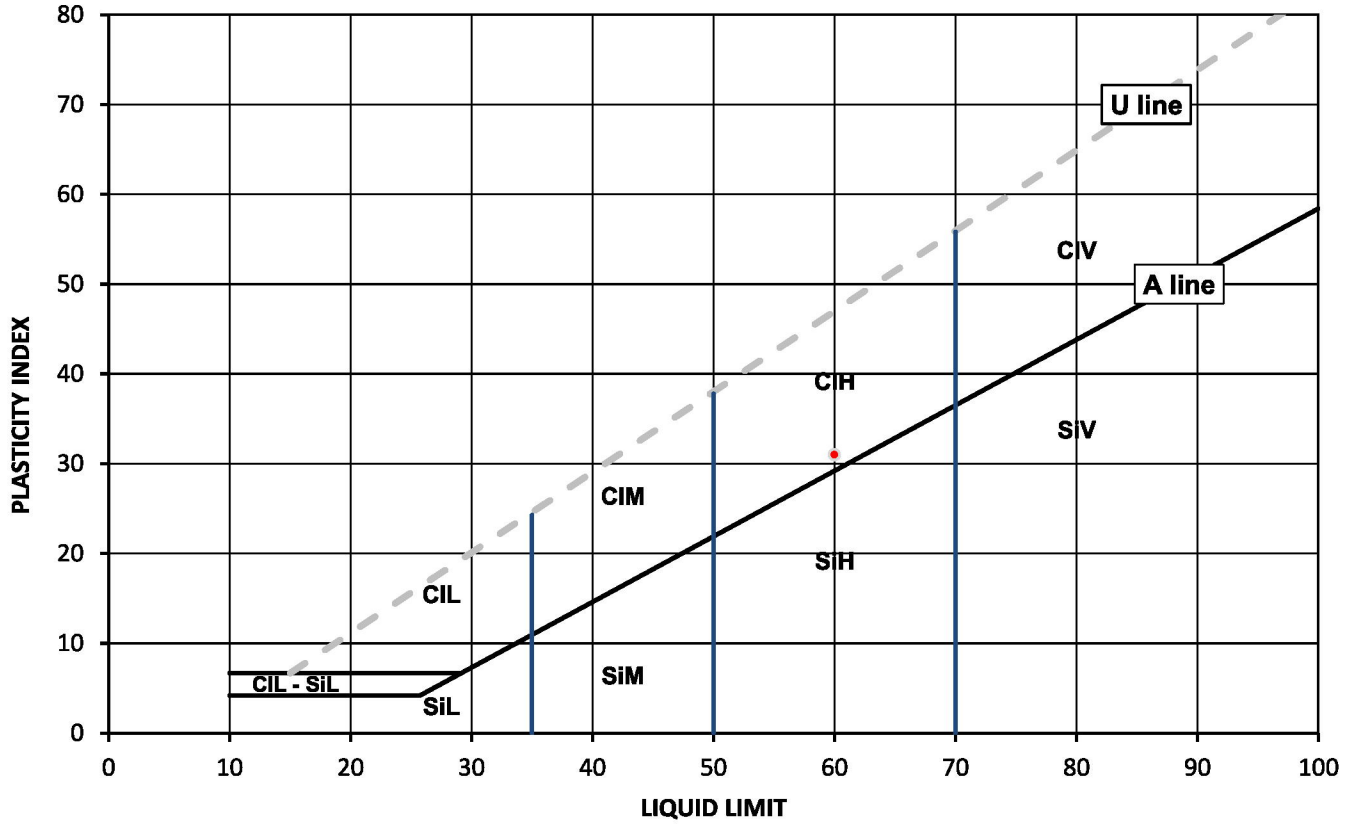
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2209644	Depth Top [m]:	0.30
Hole No.:	RO101	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Brown gravelly CLAY		

Sample Preparation: Tested after washing to remove >425um

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
17	60	29	31	61



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

Remarks: Replaces Analytical Report Number 22-46454, issue no 1; Additional results of Atterberg.

Signed: [redacted]

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

Date Reported: 04/04/2022

GF 236.12

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: Hydrock Consultants Ltd

Client Address: 2-4 Hawthorne Park, Holdenby Road, Spratton, Northamptonshire, NN6 8LD

Contact: Jamie Moore

Site Address: Bicester Motion

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

Client Reference: 22457
Job Number: 22-46454
Date Sampled: Not Given
Date Received: 17/02/2022
Date Tested: 29/03/2022
Sampled By: Not Given

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

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Water Content BS 1377-2 [W]	Water Content BS EN ISO 17892-2 [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	%		
2209644	RO101	Not Given	0.30	Not Given	D	Brown gravelly CLAY	Atterberg 4 Point	17		61	60	29	31						
2209635	TP102	Not Given	0.45	Not Given	B	Brown slightly gravelly slightly sandy CLAY	Atterberg 4 Point	18		62	56	28	28						
2209637	TP113	Not Given	0.30	Not Given	B	Brown slightly gravelly slightly sandy CLAY	Atterberg 4 Point	19		57	53	26	27						

Note: # Non accredited; NP - Non plastic

Comments: Replaces Analytical Report Number 22-46454, issue no 1;

Signed:

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

Date Reported: 04/04/2022

GF 238.14

SUMMARY REPORT

DETERMINATION OF WATER CONTENT

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

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

4041

Client: Hydrock Consultants Ltd

Client Address: 2-4 Hawthorne Park, Holdenby Road, Spratton, Northamptonshire, NN6 8LD

Contact: Jamie Moore

Site Address: Bicester Motion

Client Reference: 22457
Job Number: 22-46454
Date Sampled: Not Given
Date Received: 17/02/2022
Date Tested: 29/03/2022
Sampled By: Not Given

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

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC	Sample preparation / Oven temperature at the time of testing			
		Reference	Depth Top m	Depth Base m	Type			%				
2209644	RO101	Not Given	0.30	Not Given	D	Brown gravelly CLAY		17	Sample was quartered, oven dried at 108.8 °C			
2209635	TP102	Not Given	0.45	Not Given	B	Brown slightly gravelly slightly sandy CLAY		18	Sample was quartered, oven dried at 108.2 °C			
2209637	TP113	Not Given	0.30	Not Given	B	Brown slightly gravelly slightly sandy CLAY		19	Sample was quartered, oven dried at 108.5 °C			

Comments: Replaces Analytical Report Number 22-46454, issue no 1;

Signed: [redacted]

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

Date Reported: 04/04/2022

SUMMARY REPORT

DETERMINATION OF POINT LOAD STRENGTH

Tested in Accordance with: ISRM: 2007, pages 125-132

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

4041

Client: Hydrock Consultants Ltd

Client Address: 2-4 Hawthorne Park, Holdenby Road, Spratton, Northamptonshire, NN6 8LD

Contact: Jamie Moore

Site Address: Bicester Motion

Client Reference: 22457
Job Number: 22-46454
Date Sampled: Not Given
Date Received: 17/02/2022
Date Tested: 29/03/2022
Sampled By: Not Given

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

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks # (including water content if measured)	Specimen Reference	Test Type see ISRM		Failure Valid (Y/N)	Dimensions				Force P	Equivalent diameter, De	Point Load Strength Index	
		Reference	Depth Top	Depth Base	Type				Type (D, A, I, B)	Direction (L, P or U)		Lne	W	Dps	Dps'			Is	Is(50)
			m	m								mm	mm	mm	mm	kN	mm	MPa	MPa
2209638	RO101	Not Given	2.20	2.30	C	Light grey to cream LIMESTONE	WC = 3.2%	1	D	U	YES	44.0	86.3	87.0	80.0	13.4	83.1	1.93	2.43
2209638	RO101	Not Given	2.20	2.30	C	Light grey to cream LIMESTONE	WC = 3.2%	2	A	U	YES	-	86.3	60.0	49.0	17.8	73.4	3.30	3.92
2209639	RO101	Not Given	2.65	2.80	C	Light grey to cream LIMESTONE	WC = 1.2%	1	D	U	YES	89.9	86.6	89.0	84.0	11.1	85.3	1.53	1.94
2209639	RO101	Not Given	2.65	2.80	C	Light grey to cream LIMESTONE	WC = 1.2%	2	A	U	YES	-	86.8	81.0	76.0	30.2	91.6	3.59	4.72
2209640	RO102	Not Given	2.05	2.20	C	Light grey to cream LIMESTONE	WC = 2.1%	1	D	U	YES	82.7	86.8	89.0	78.0	16.0	82.3	2.36	2.96
2209640	RO102	Not Given	2.05	2.20	C	Light grey to cream LIMESTONE	WC = 2.1%	2	A	U	YES	-	84.7	66.0	44.0	13.8	68.9	2.90	3.35
2209641	RO102	Not Given	2.70	2.80	C	Light grey to cream LIMESTONE	WC = 4.1%	1	D	U	YES	69.0	87.2	88.0	86.0	3.9	86.6	0.52	0.67
2209641	RO102	Not Given	2.70	2.80	C	Light grey to cream LIMESTONE	WC = 4.1%	2	A	U	YES	-	86.5	55.0	47.0	9.7	71.9	1.87	2.21
2209642	RO103	Not Given	2.35	2.50	C	White to light grey LIMESTONE	WC = 0.8%	1	D	U	YES	77.9	86.4	89.0	76.0	28.1	81.0	4.27	5.31
2209642	RO103	Not Given	2.35	2.50	C	White to light grey LIMESTONE	WC = 0.8%	2	A	U	YES	-	87.2	72.0	61.0	20.3	82.3	2.99	3.74

Note: # non accredited; Test Type: D - Diametral, A - Axial, I - Irregular Lump, B - Block; Direction: L - parallel to planes of weakness, P - perpendicular to planes of weakness, U - unknown or random;
Dimensions: Dps - Distance between platens (platen seperation), Dps' - at failure (see ISRM note 6), Lne - Length from platens to nearest free end W - Width of shortest dimension perpendicular to load, P;
Detailed legend for test and dimensions, based on ISRM, is shown above; Size factor, F = (De/50)0.45 for all tests

Comments: Replaces Analytical Report Number 22-46454, issue no 1;

Signed: [redacted]

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

Date Reported: 04/04/2022

GF 134.13

SUMMARY REPORT

DETERMINATION OF POINT LOAD STRENGTH

Tested in Accordance with: ISRM: 2007, pages 125-132

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

4041

Client: Hydrock Consultants Ltd

Client Address: 2-4 Hawthorne Park, Holdenby Road, Spratton, Northamptonshire, NN6 8LD

Contact: Jamie Moore

Site Address: Bicester Motion

Client Reference: 22457
Job Number: 22-46454
Date Sampled: Not Given
Date Received: 17/02/2022
Date Tested: 29/03/2022
Sampled By: Not Given

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

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks # (including water content if measured)	Specimen Reference	Test Type see ISRM		Failure Valid (Y/N)	Dimensions				Force P	Equivalent diameter, De	Point Load Strength Index	
		Reference	Depth Top m	Depth Base m	Type				Type (D, A, I, B)	Direction (L, P or U)		Lne mm	W mm	Dps mm	Dps' mm	kN	mm	Is MPa	Is(50) MPa
2209643	RO103	Not Given	2.85	2.95	C	Light grey to grey LIMESTONE	WC = 4.3%	1	D	U	YES	51.5	86.3	89.0	85.0	4.2	85.7	0.57	0.72
2209643	RO103	Not Given	2.85	2.95	C	Light grey to grey LIMESTONE	WC = 4.3%	2	A	U	YES	-	86.2	57.0	46.0	7.2	71.0	1.43	1.67

Note: # non accredited; Test Type: D - Diametral, A - Axial, I - Irregular Lump, B - Block; Direction: L - parallel to planes of weakness, P - perpendicular to planes of weakness, U - unknown or random;
Dimensions: Dps - Distance between platens (platen seperation), Dps' - at failure (see ISRM note 6), Lne - Length from platens to nearest free end W - Width of shortest dimension perpendicular to load, P;
Detailed legend for test and dimensions, based on ISRM, is shown above; Size factor, F = (De/50)0.45 for all tests

Comments: Replaces Analytical Report Number 22-46454, issue no 1;

Signed: [redacted]

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

Date Reported: 04/04/2022

GF 134.13

Jamie Moore
Hydrock Consultants Ltd
2-4 Hawthorne Park
Holdenby Road
Spratton
Northamptonshire
NN6 8LD

t: 01604842888
f: 01604842666
e: jamiemoore@hydrock.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

Preliminary Report Number : 22-46462

Project / Site name:	Bicester Motion	**Samples received on:**	17/03/2022
Your job number:	22457	**Samples instructed on/ Analysis started on:**	17/03/2022
Your order number:	PO014844	**Analysis completed by:**	22/03/2022
Report Issue Number:	0	**Report issued on:**	30/03/2022
Samples Analysed:	9 soil samples		

Signed: [redacted]

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.
Preliminary reports provided at the request of the client should be considered as incomplete and have not been through the complete quality control procedure.
Results contained in preliminary reports may be subject to change and therefore should not be used as a basis for decision making, except at the risk of the client.
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.

Analytical Report Number: 22-46462
Project / Site name: Bicester Motion
Your Order No: PO014844

Lab Sample Number				2209678	2209679	2209680	2209681	2209682
Sample Reference				TP102	TP103	TP105	TP108	TP109
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.75	1.30	0.30	1.60	0.30
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	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	< 0.1
Moisture Content	%	0.01	NONE	7.7	9.5	15	11	12
Total mass of sample received	kg	0.001	NONE	1	1	1	1	1

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.4	8.4	8.2	8.5	8.3
Total Sulphate as SO4	mg/kg	50	MCERTS	920	1400	870	1000	960
Total Sulphate as SO4	%	0.005	MCERTS	0.092	0.138	0.087	0.1	0.096
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	To follow	To follow	To follow	To follow	To follow
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	To follow	To follow	To follow	To follow	To follow
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	5.1	3.9	5.7	3.3	3.9
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	2.6	2	2.9	1.6	1.9
Total Sulphur	mg/kg	50	MCERTS	460	440	470	400	400
Total Sulphur	%	0.005	MCERTS	0.046	0.044	0.047	0.04	0.04
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ammonium as NH4 (10:1 leachate equivalent)	mg/l	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Water Soluble Nitrate (2:1) as NO3	mg/kg	2	NONE	2	6.2	< 2.0	< 2.0	4.6
Water Soluble Nitrate (2:1) as NO3 (leachate equivalent)	mg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Heavy Metals / Metalloids

Magnesium (water soluble)	mg/kg	5	NONE	To follow	To follow	To follow	To follow	To follow
Magnesium (leachate equivalent)	mg/l	2.5	NONE	To follow	To follow	To follow	To follow	To follow

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

Analytical Report Number: 22-46462
Project / Site name: Bicester Motion
Your Order No: PO014844

Lab Sample Number				2209683	2209684	2209685	2209686
Sample Reference				TP109	TP110 (2)	TP111	TP112
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.10	0.30	0.80	0.70
Date Sampled				Deviating	Deviating	Deviating	Deviating
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	71	73
Moisture Content	%	0.01	NONE	9.9	19	8.7	9.2
Total mass of sample received	kg	0.001	NONE	1	1	1	1

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.4	8.1	8.5	8.5
Total Sulphate as SO4	mg/kg	50	MCERTS	1100	910	1000	840
Total Sulphate as SO4	%	0.005	MCERTS	0.112	0.091	0.103	0.084
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	To follow	To follow	To follow	To follow
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	To follow	To follow	To follow	To follow
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	4.3	4.6	4.3	5.5
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	2.1	2.3	2.2	2.8
Total Sulphur	mg/kg	50	MCERTS	430	390	430	460
Total Sulphur	%	0.005	MCERTS	0.043	0.039	0.043	0.046
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5	< 0.5
Ammonium as NH4 (10:1 leachate equivalent)	mg/l	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Water Soluble Nitrate (2:1) as NO3	mg/kg	2	NONE	11	12	< 2.0	2.8
Water Soluble Nitrate (2:1) as NO3 (leachate equivalent)	mg/l	5	NONE	5.4	6.1	< 5.0	< 5.0

Heavy Metals / Metalloids

Magnesium (water soluble)	mg/kg	5	NONE	To follow	To follow	To follow	To follow
Magnesium (leachate equivalent)	mg/l	2.5	NONE	To follow	To follow	To follow	To follow

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

Analytical Report Number : 22-46462
Project / Site name: Bicester Motion

* 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 *
2209678	TP102	None Supplied	0.75	Brown clay with vegetation and gravel
2209679	TP103	None Supplied	1.3	Brown clay with vegetation and gravel
2209680	TP105	None Supplied	0.3	Brown clay and loam with vegetation and gravel
2209681	TP108	None Supplied	1.6	Brown clay and sand with gravel.
2209682	TP109	None Supplied	0.3	Brown clay and loam with vegetation and gravel
2209683	TP109	None Supplied	1.1	Brown clay and sand with vegetation and gravel
2209684	TP110 (2)	None Supplied	0.3	Brown clay and loam with vegetation and gravel
2209685	TP111	None Supplied	0.8	Brown clay and sand with stones and gravel
2209686	TP112	None Supplied	0.7	Brown clay and loam with stones and gravel

Analytical Report Number : 22-46462
Project / Site name: Bicester Motion

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Nitrate, water soluble, in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	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
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-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 Sulphur in soil	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
Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
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
Water Soluble Nitrate (leachate equivalent)	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
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.

Sample Deviation Report

Analytical Report Number : 22-46462
Project / Site name: Bicester Motion

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP102	None Supplied	S	2209678	a	None Supplied	None Supplied	None Supplied
TP103	None Supplied	S	2209679	a	None Supplied	None Supplied	None Supplied
TP105	None Supplied	S	2209680	a	None Supplied	None Supplied	None Supplied
TP108	None Supplied	S	2209681	a	None Supplied	None Supplied	None Supplied
TP109	None Supplied	S	2209682	a	None Supplied	None Supplied	None Supplied
TP109	None Supplied	S	2209683	a	None Supplied	None Supplied	None Supplied
TP110 (2)	None Supplied	S	2209684	a	None Supplied	None Supplied	None Supplied
TP111	None Supplied	S	2209685	a	None Supplied	None Supplied	None Supplied
TP112	None Supplied	S	2209686	a	None Supplied	None Supplied	None Supplied

Key: **a** - No sampling date **b** - Incorrect container
c - Holding time **d** - Headspace **e** - Temperature

Jamie Moore
Hydrock Consultants Ltd
2-4 Hawthorne Park
Holdenby Road
Spratton
Northamptonshire
NN6 8LD

t: 01604842888
f: 01604842666
e: jamiemoore@hydrock.com

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

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 22-46462

Project / Site name:	Bicester Motion	**Samples received on:**	17/03/2022
Your job number:	22457	**Samples instructed on/ Analysis started on:**	17/03/2022
Your order number:	PO014844	**Analysis completed by:**	31/03/2022
Report Issue Number:	1	**Report issued on:**	31/03/2022
Samples Analysed:	9 soil samples		

Signed: [redacted]

Anna Goc
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.

Analytical Report Number: 22-46462
Project / Site name: Bicester Motion
Your Order No: PO014844

Lab Sample Number				2209678	2209679	2209680	2209681	2209682
Sample Reference				TP102	TP103	TP105	TP108	TP109
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.75	1.30	0.30	1.60	0.30
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	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	< 0.1
Moisture Content	%	0.01	NONE	7.7	9.5	15	11	12
Total mass of sample received	kg	0.001	NONE	1	1	1	1	1

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.4	8.4	8.2	8.5	8.3
Total Sulphate as SO4	mg/kg	50	MCERTS	920	1400	870	1000	960
Total Sulphate as SO4	%	0.005	MCERTS	0.092	0.138	0.087	0.1	0.096
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0099	0.0079	0.0091	0.0075	0.01
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	9.9	7.9	9.1	7.5	10.3
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	5.1	3.9	5.7	3.3	3.9
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	2.6	2	2.9	1.6	1.9
Total Sulphur	mg/kg	50	MCERTS	460	440	470	400	400
Total Sulphur	%	0.005	MCERTS	0.046	0.044	0.047	0.04	0.04
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ammonium as NH4 (10:1 leachate equivalent)	mg/l	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Water Soluble Nitrate (2:1) as NO3	mg/kg	2	NONE	2	6.2	< 2.0	< 2.0	4.6
Water Soluble Nitrate (2:1) as NO3 (leachate equivalent)	mg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Heavy Metals / Metalloids

Magnesium (water soluble)	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Magnesium (leachate equivalent)	mg/l	2.5	NONE	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5

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

Analytical Report Number: 22-46462
Project / Site name: Bicester Motion
Your Order No: PO014844

Lab Sample Number				2209683	2209684	2209685	2209686
Sample Reference				TP109	TP110 (2)	TP111	TP112
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.10	0.30	0.80	0.70
Date Sampled				Deviating	Deviating	Deviating	Deviating
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	71	73
Moisture Content	%	0.01	NONE	9.9	19	8.7	9.2
Total mass of sample received	kg	0.001	NONE	1	1	1	1

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.4	8.1	8.5	8.5
Total Sulphate as SO4	mg/kg	50	MCERTS	1100	910	1000	840
Total Sulphate as SO4	%	0.005	MCERTS	0.112	0.091	0.103	0.084
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0085	0.0097	0.013	0.015
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	8.5	9.7	13.1	14.6
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	4.3	4.6	4.3	5.5
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	2.1	2.3	2.2	2.8
Total Sulphur	mg/kg	50	MCERTS	430	390	430	460
Total Sulphur	%	0.005	MCERTS	0.043	0.039	0.043	0.046
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5	< 0.5
Ammonium as NH4 (10:1 leachate equivalent)	mg/l	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Water Soluble Nitrate (2:1) as NO3	mg/kg	2	NONE	11	12	< 2.0	2.8
Water Soluble Nitrate (2:1) as NO3 (leachate equivalent)	mg/l	5	NONE	5.4	6.1	< 5.0	< 5.0

Heavy Metals / Metalloids

Magnesium (water soluble)	mg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Magnesium (leachate equivalent)	mg/l	2.5	NONE	< 2.5	< 2.5	< 2.5	< 2.5

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

Analytical Report Number : 22-46462
Project / Site name: Bicester Motion

* 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 *
2209678	TP102	None Supplied	0.75	Brown clay with vegetation and gravel
2209679	TP103	None Supplied	1.3	Brown clay with vegetation and gravel
2209680	TP105	None Supplied	0.3	Brown clay and loam with vegetation and gravel
2209681	TP108	None Supplied	1.6	Brown clay and sand with gravel.
2209682	TP109	None Supplied	0.3	Brown clay and loam with vegetation and gravel
2209683	TP109	None Supplied	1.1	Brown clay and sand with vegetation and gravel
2209684	TP110 (2)	None Supplied	0.3	Brown clay and loam with vegetation and gravel
2209685	TP111	None Supplied	0.8	Brown clay and sand with stones and gravel
2209686	TP112	None Supplied	0.7	Brown clay and loam with stones and gravel

Analytical Report Number : 22-46462
Project / Site name: Bicester Motion

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Nitrate, water soluble, in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	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
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-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 Sulphur in soil	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
Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
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

Analytical Report Number : 22-46462
Project / Site name: Bicester Motion

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Water Soluble Nitrate (leachate equivalent)	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
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.

Analytical Report Number : 22-46462
Project / Site name: Bicester Motion

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP102	None Supplied	S	2209678	a	None Supplied	None Supplied	None Supplied
TP103	None Supplied	S	2209679	a	None Supplied	None Supplied	None Supplied
TP105	None Supplied	S	2209680	a	None Supplied	None Supplied	None Supplied
TP108	None Supplied	S	2209681	a	None Supplied	None Supplied	None Supplied
TP109	None Supplied	S	2209682	a	None Supplied	None Supplied	None Supplied
TP109	None Supplied	S	2209683	a	None Supplied	None Supplied	None Supplied
TP110 (2)	None Supplied	S	2209684	a	None Supplied	None Supplied	None Supplied
TP111	None Supplied	S	2209685	a	None Supplied	None Supplied	None Supplied
TP112	None Supplied	S	2209686	a	None Supplied	None Supplied	None Supplied

Hydrock

Cu vs Depth

Site:	Client:	Contract No. 22457
Bicester Heritage	IKS Consulting on behalf of Bicester Motion