# **Intermodal Logistics Park North Ltd**

# **INTERMODAL LOGISTICS PARK NORTH (ILPN)**

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Intermodal Logistics Park North (ILPN) Strategic Rail Freight Interchange (SRFI)

**Project reference TR510001** 

**Preliminary Environmental Information Report (PEIR)** 

Appendix 15.4: Minerals Assessment (Part 02 of 02)

# October 2025

Planning Act 2008

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

# This document forms a part of a Preliminary Environmental Information Report (PEIR) for the Intermodal Logistics Park North (ILPN) project.

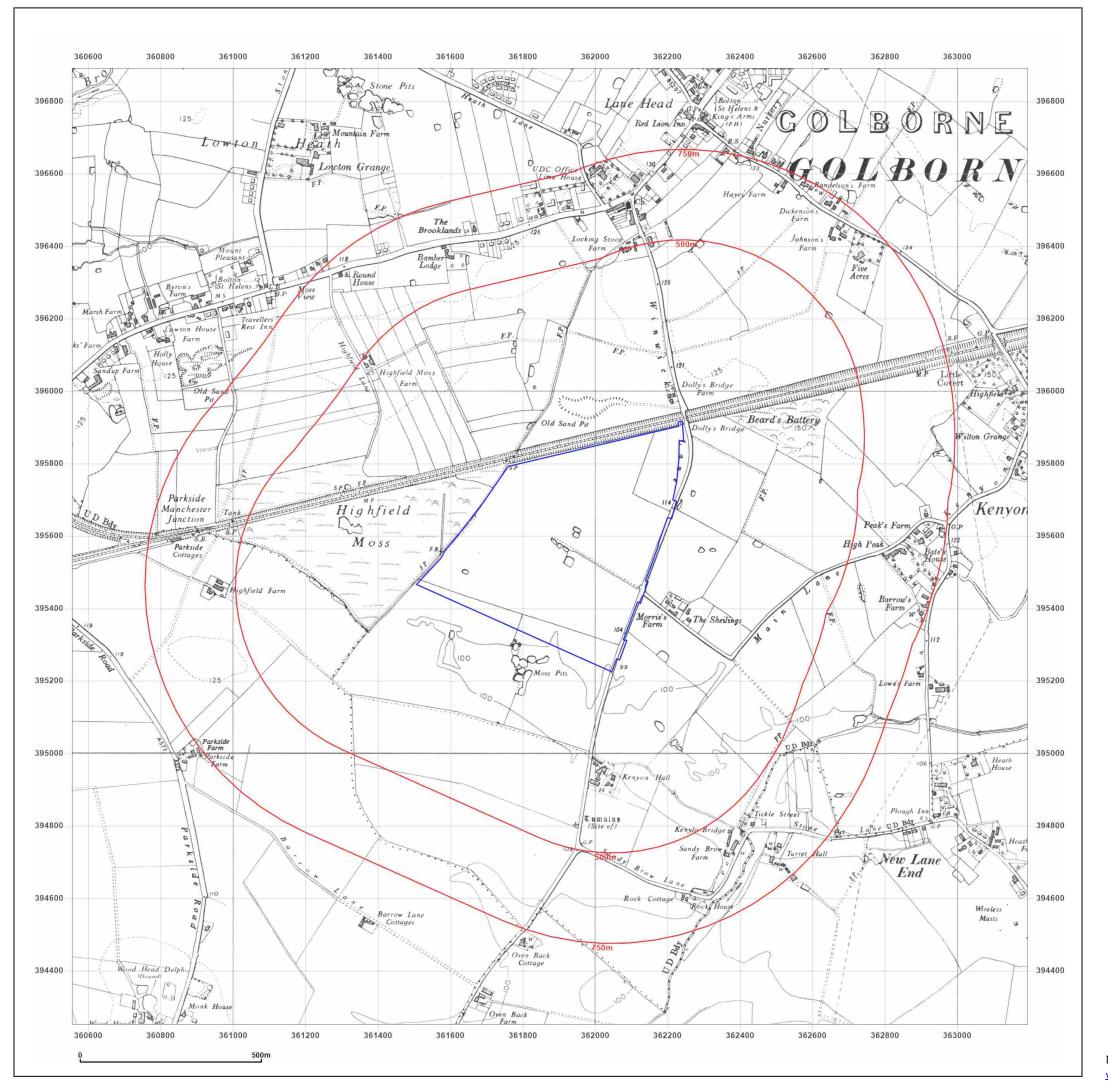
A PEIR presents environmental information to assist consultees to form an informed view of the likely significant environmental effects of a proposed development and provide feedback.

This PEIR has been prepared by the project promoter, Intermodal Logistics Park North Ltd. The Proposed Development is described in Chapter 3 of the PEIR and is the subject of a public consultation.

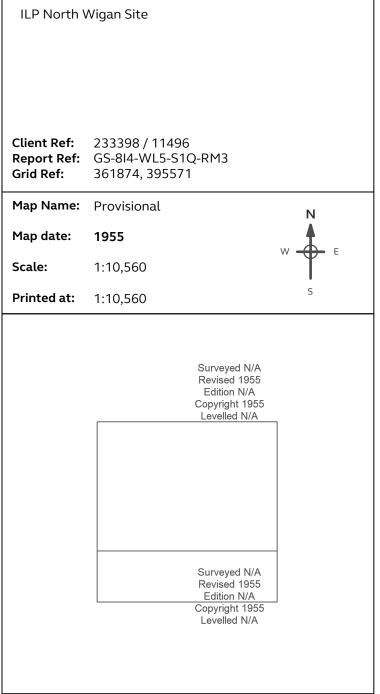
Details of how to respond to the public consultation are provided at the end of Chapter 1 of the PEIR and on the project website:

https://www.tritaxbigbox.co.uk/our-spaces/intermodal-logistics-park-north/

This feedback will be taken into account by Intermodal Logistics Park North Ltd in the preparation of its application for a Development Consent Order for the project.







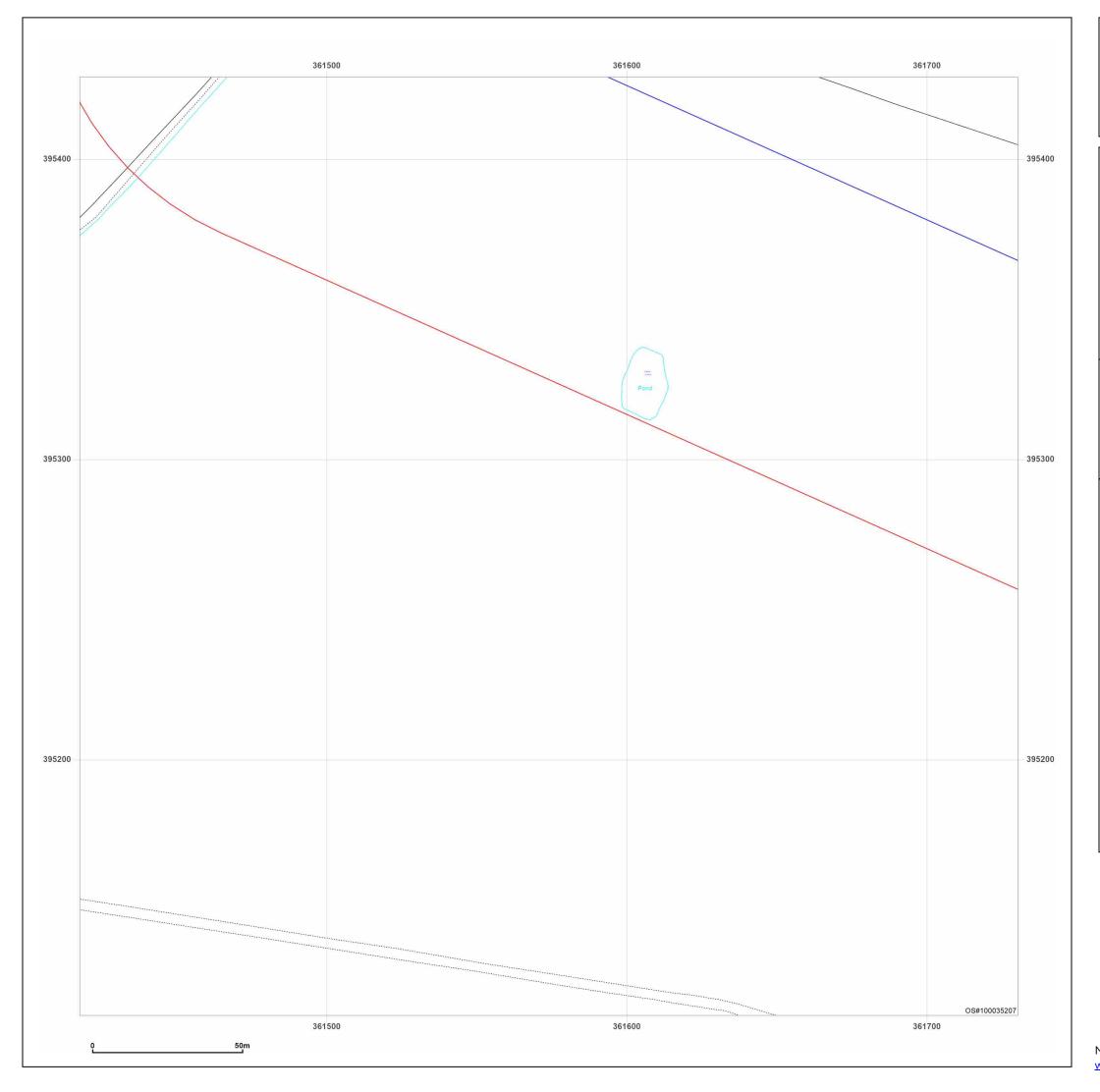


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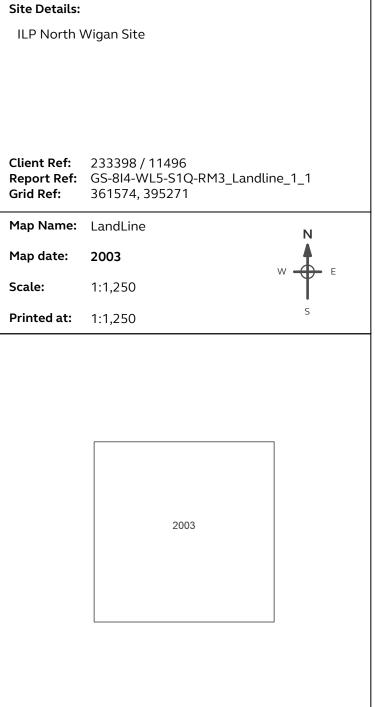
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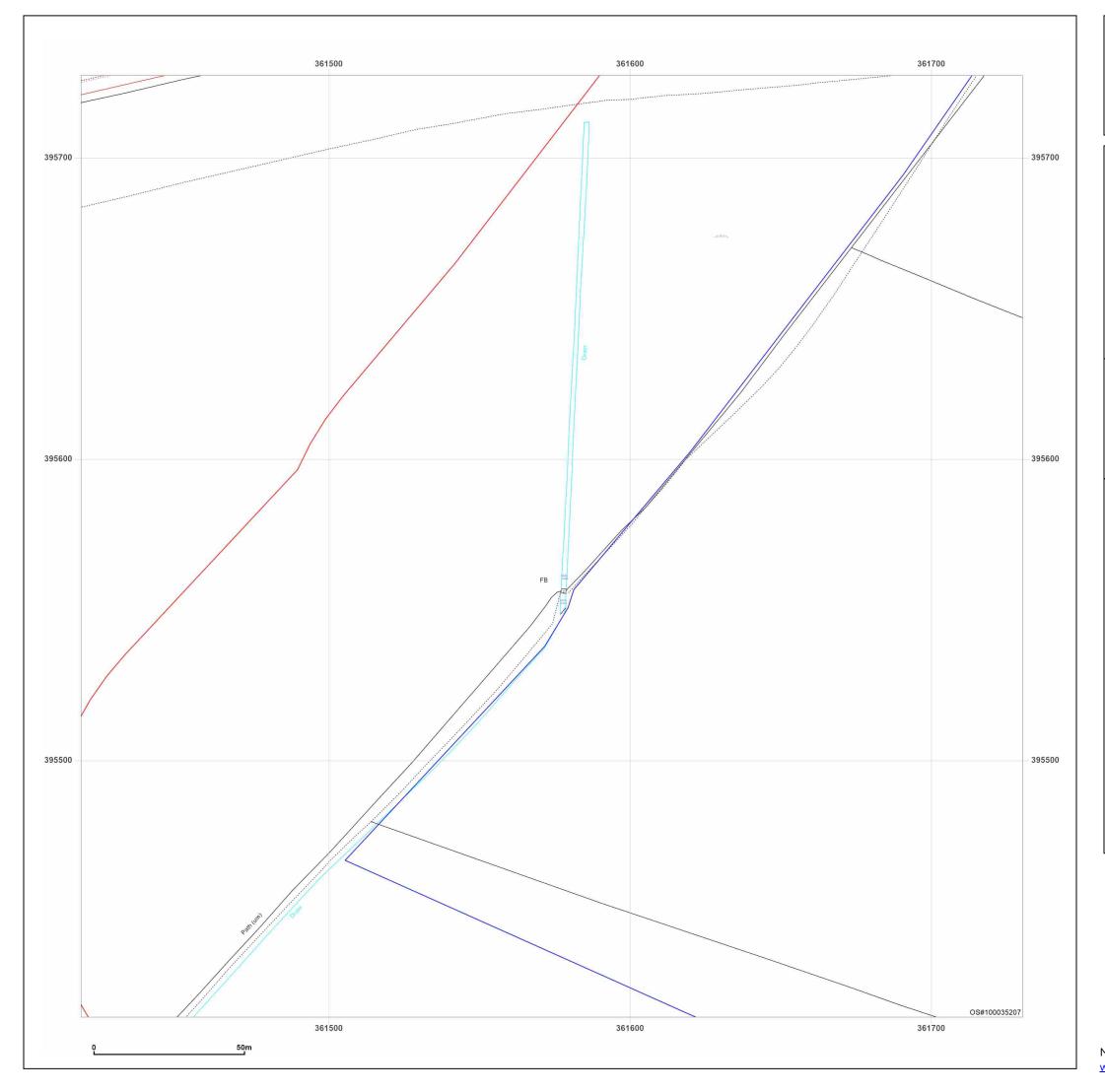




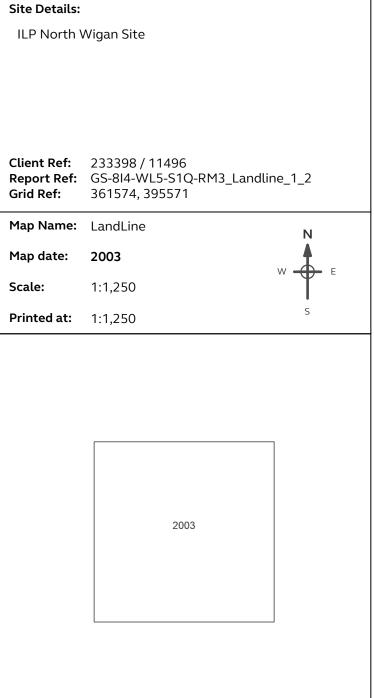
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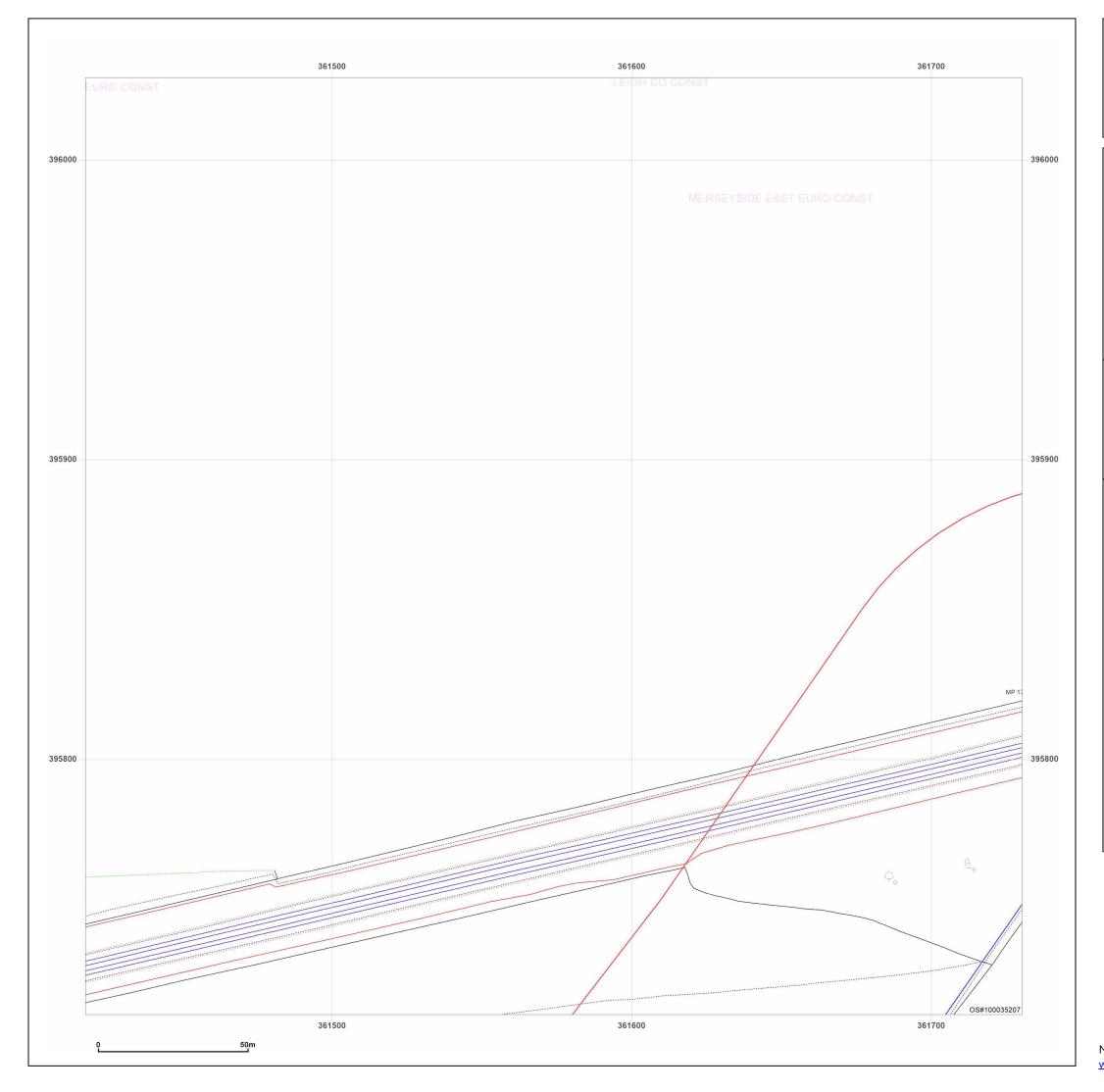




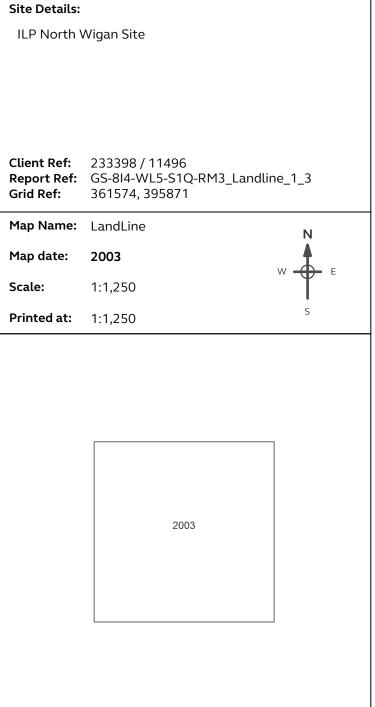
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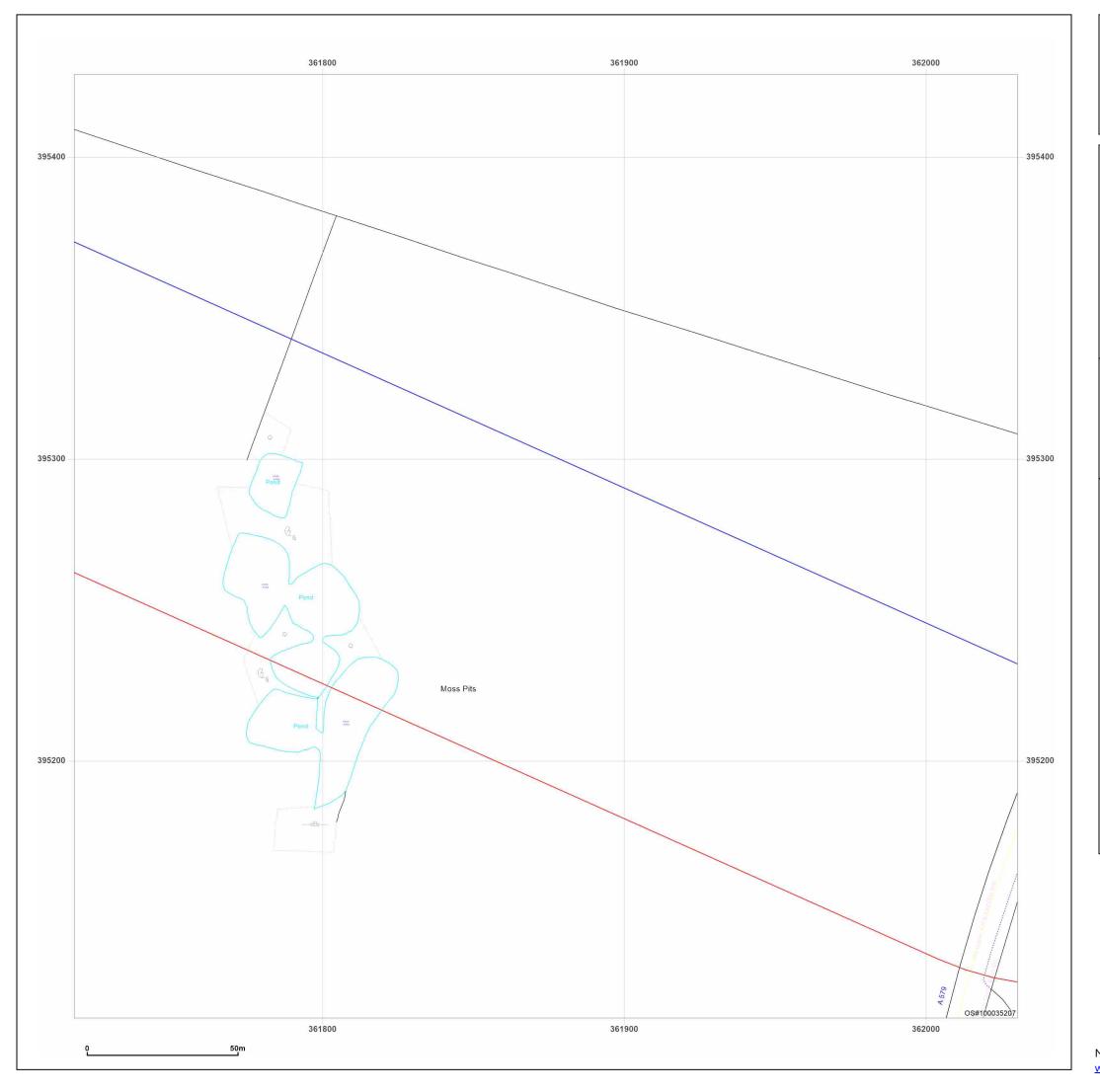




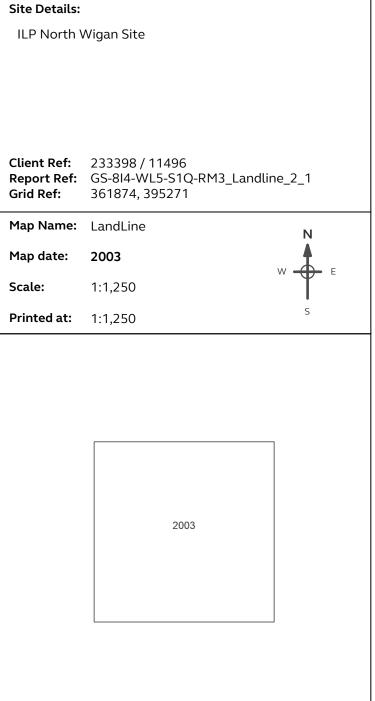
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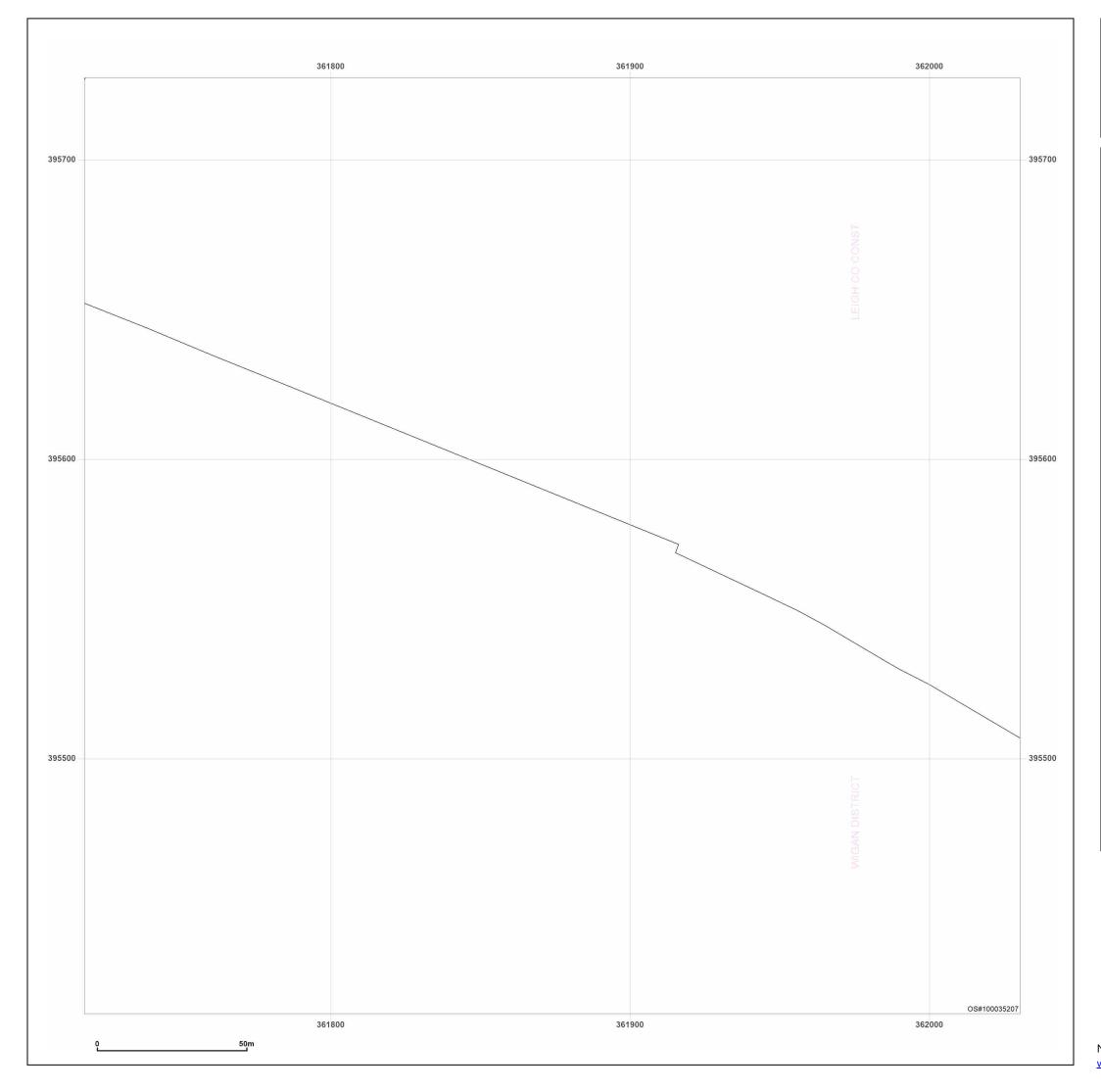




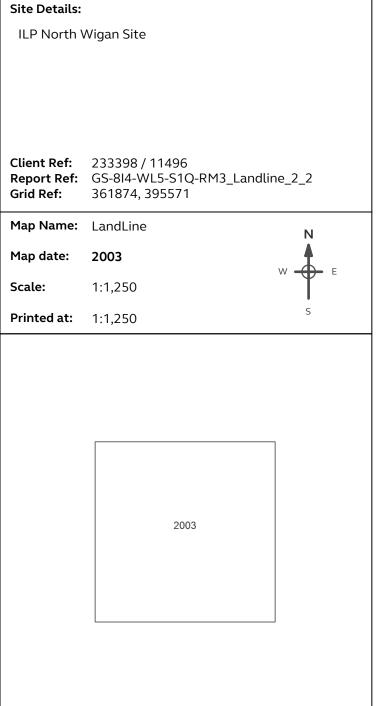
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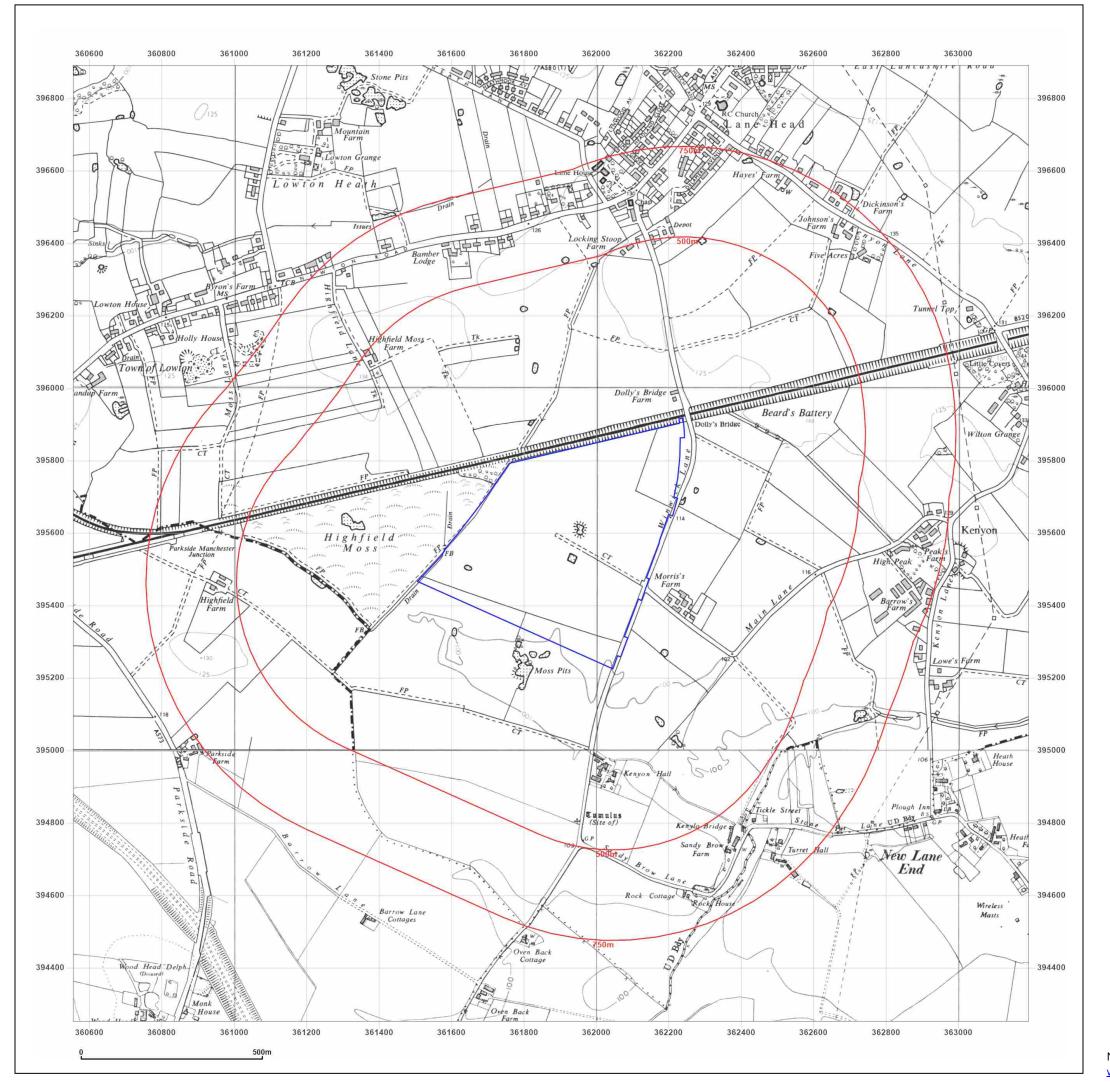




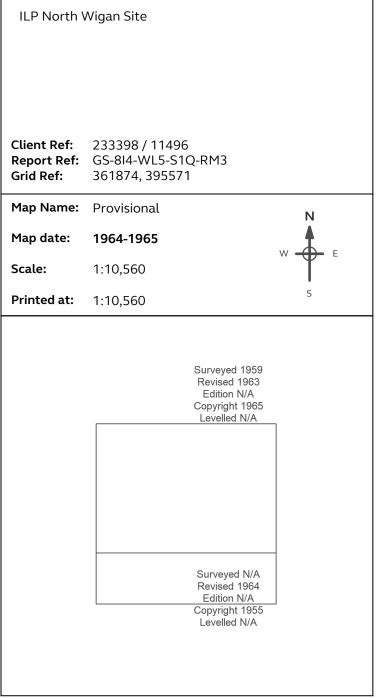
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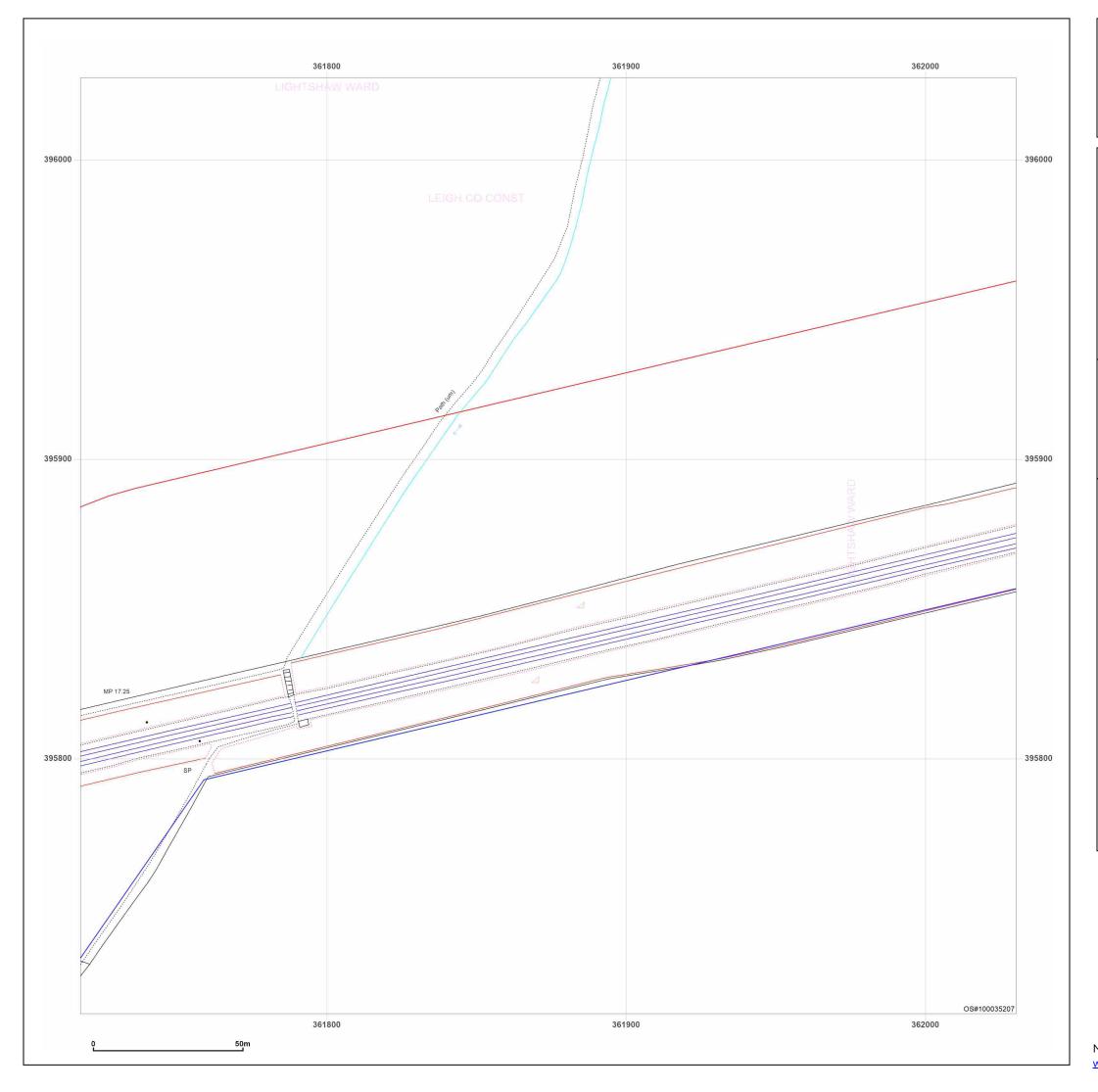


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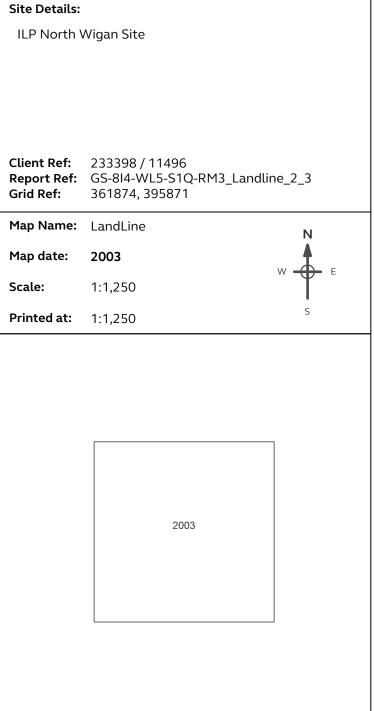
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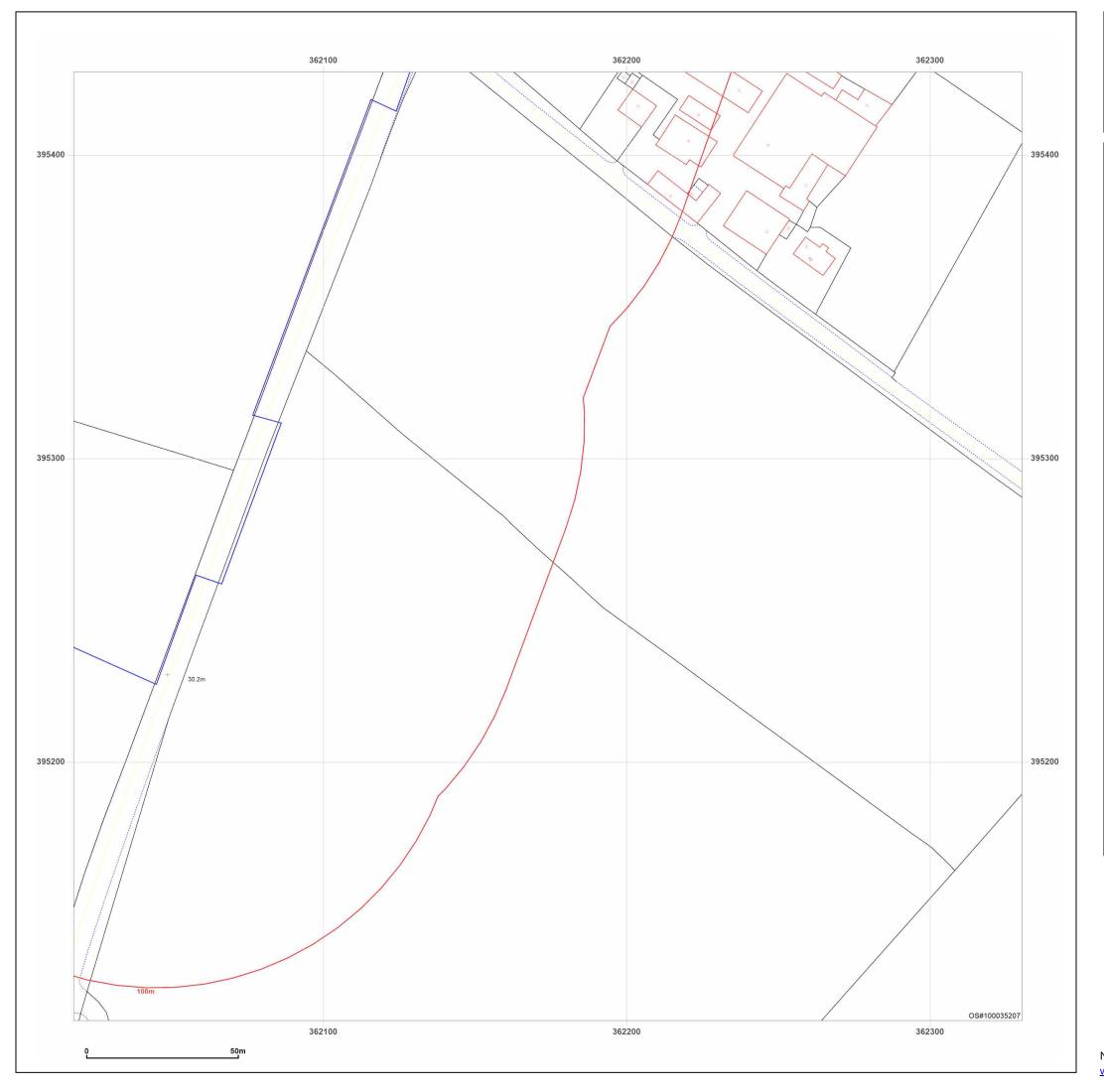




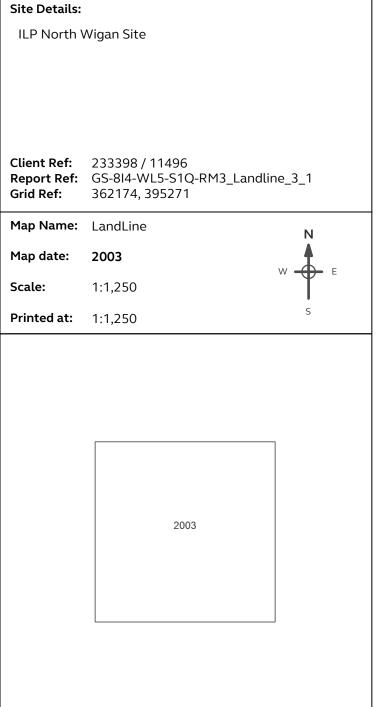
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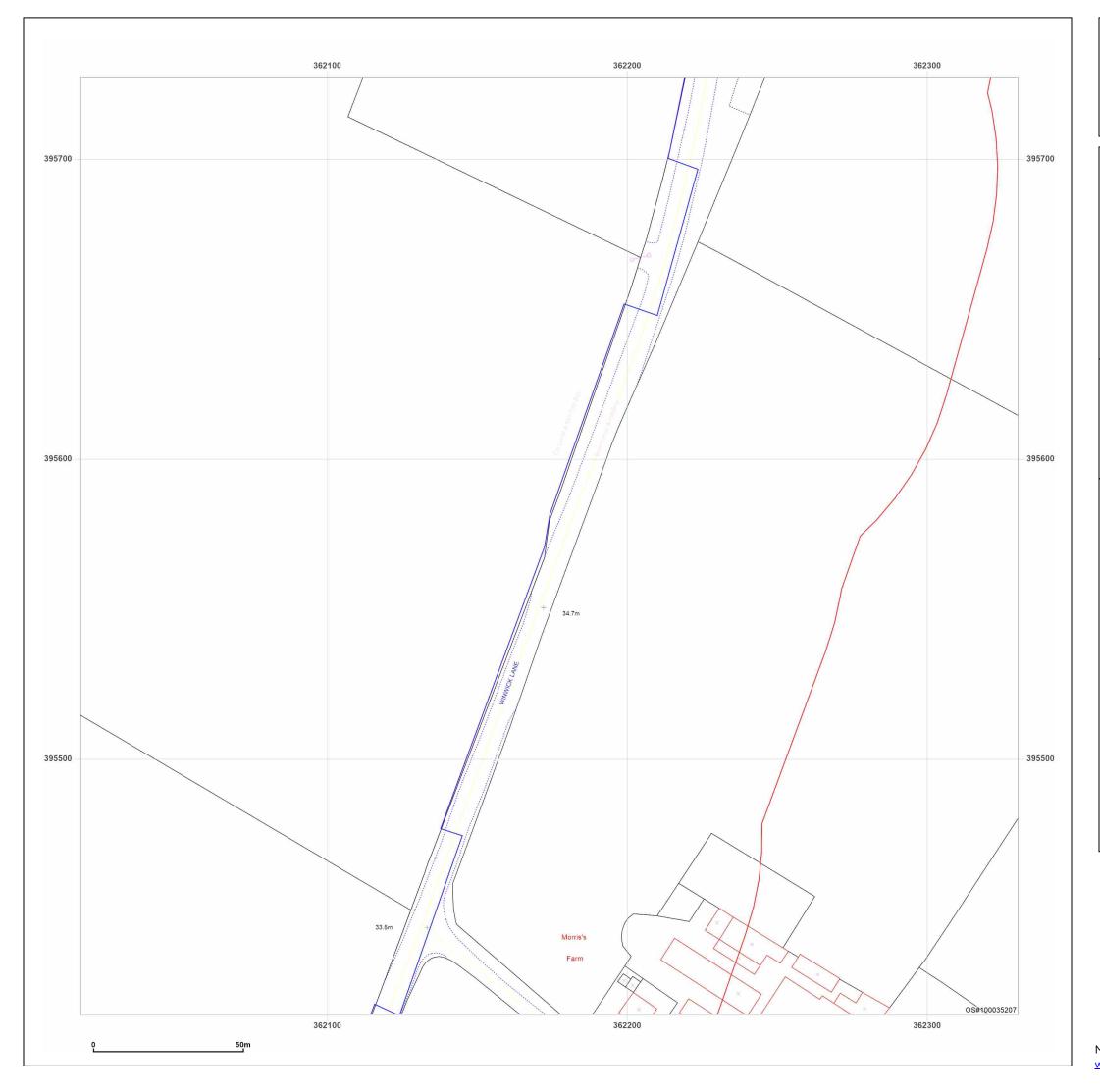




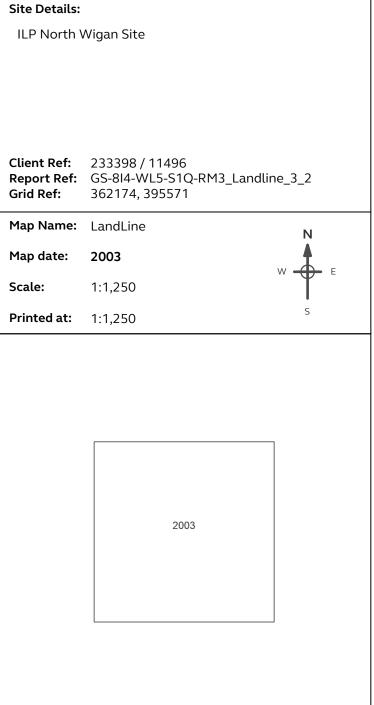
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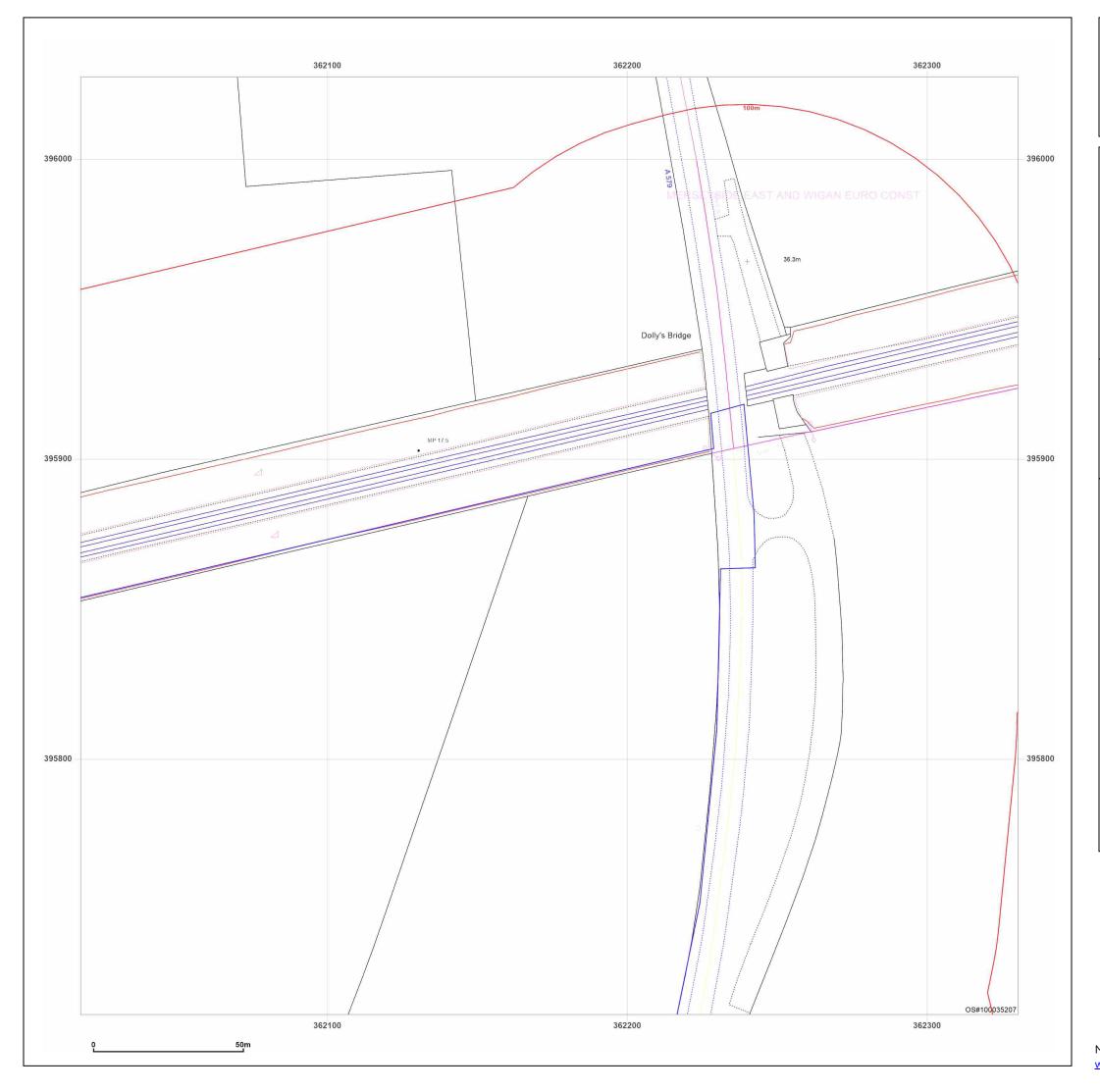




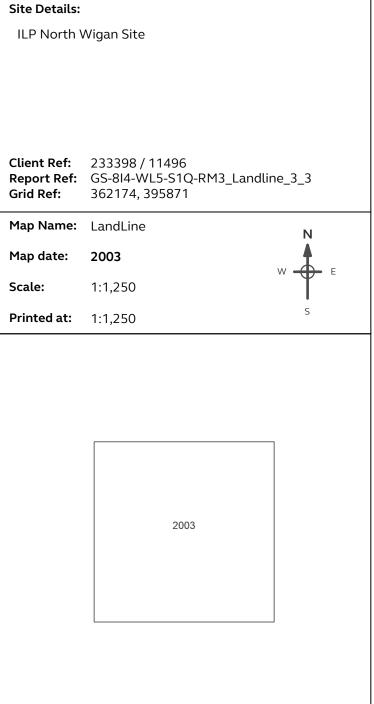
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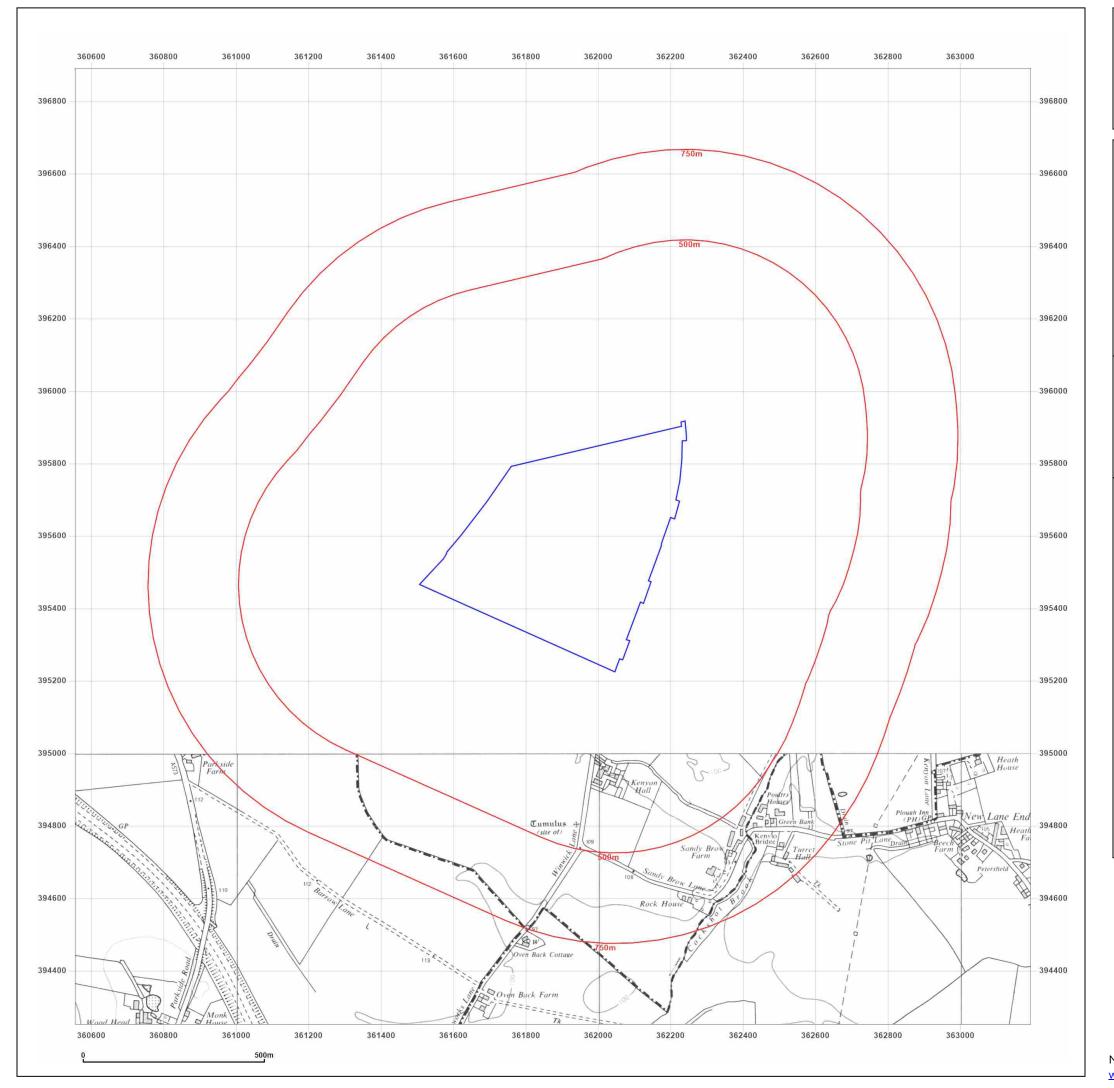




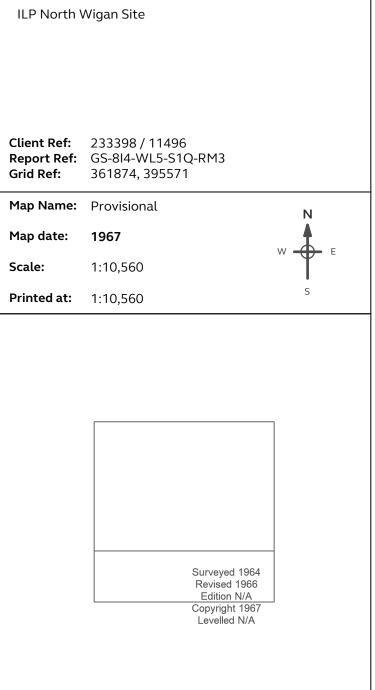
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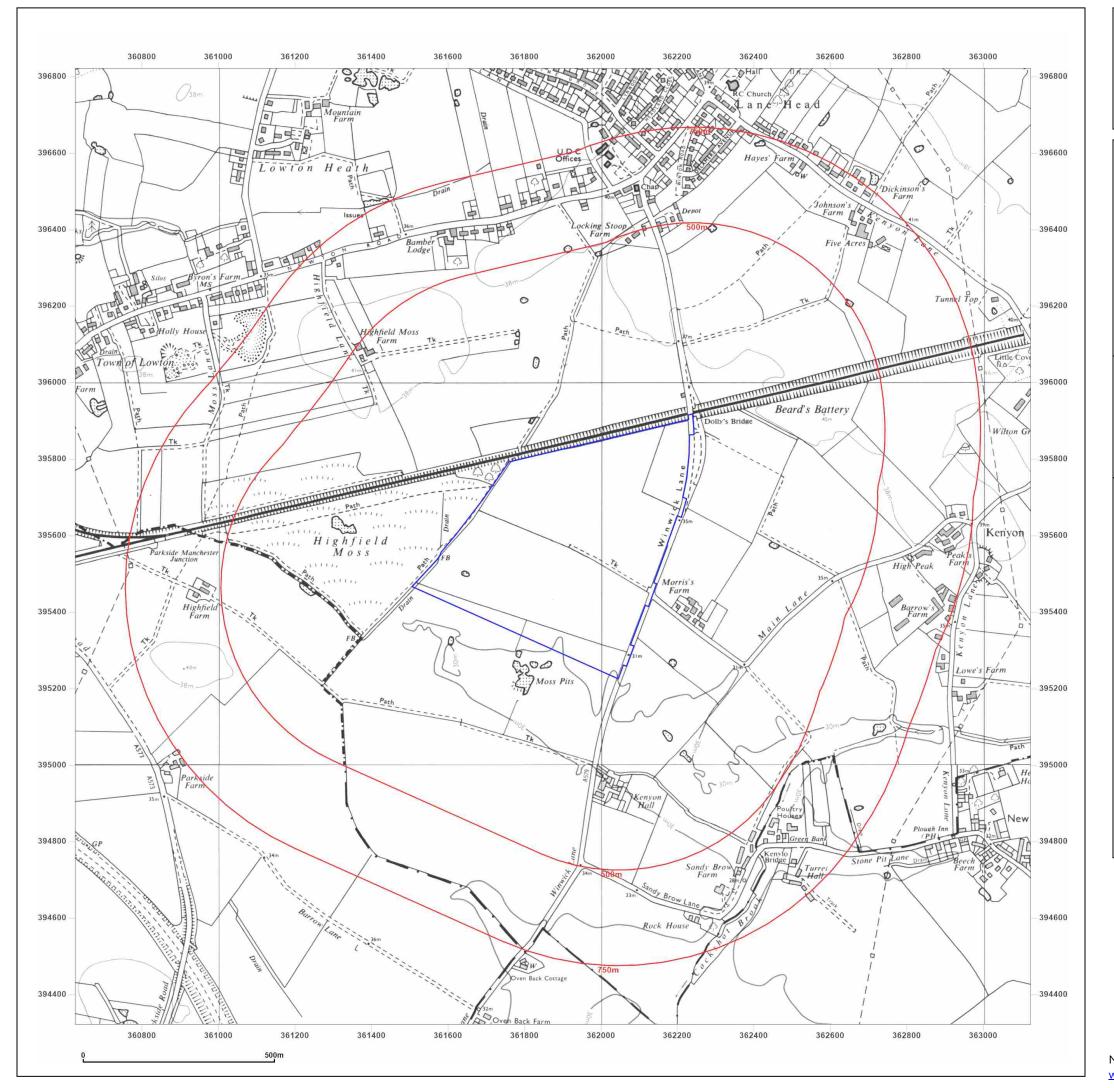


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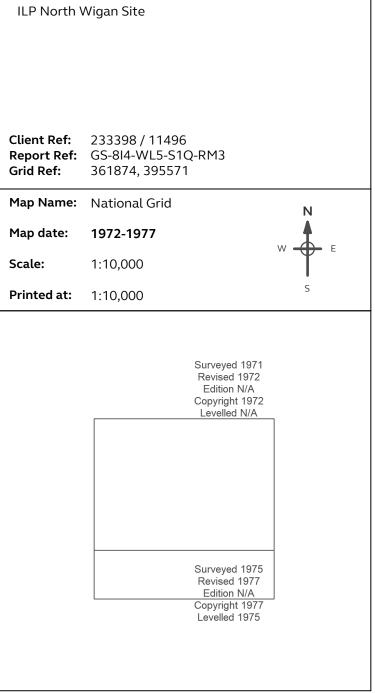
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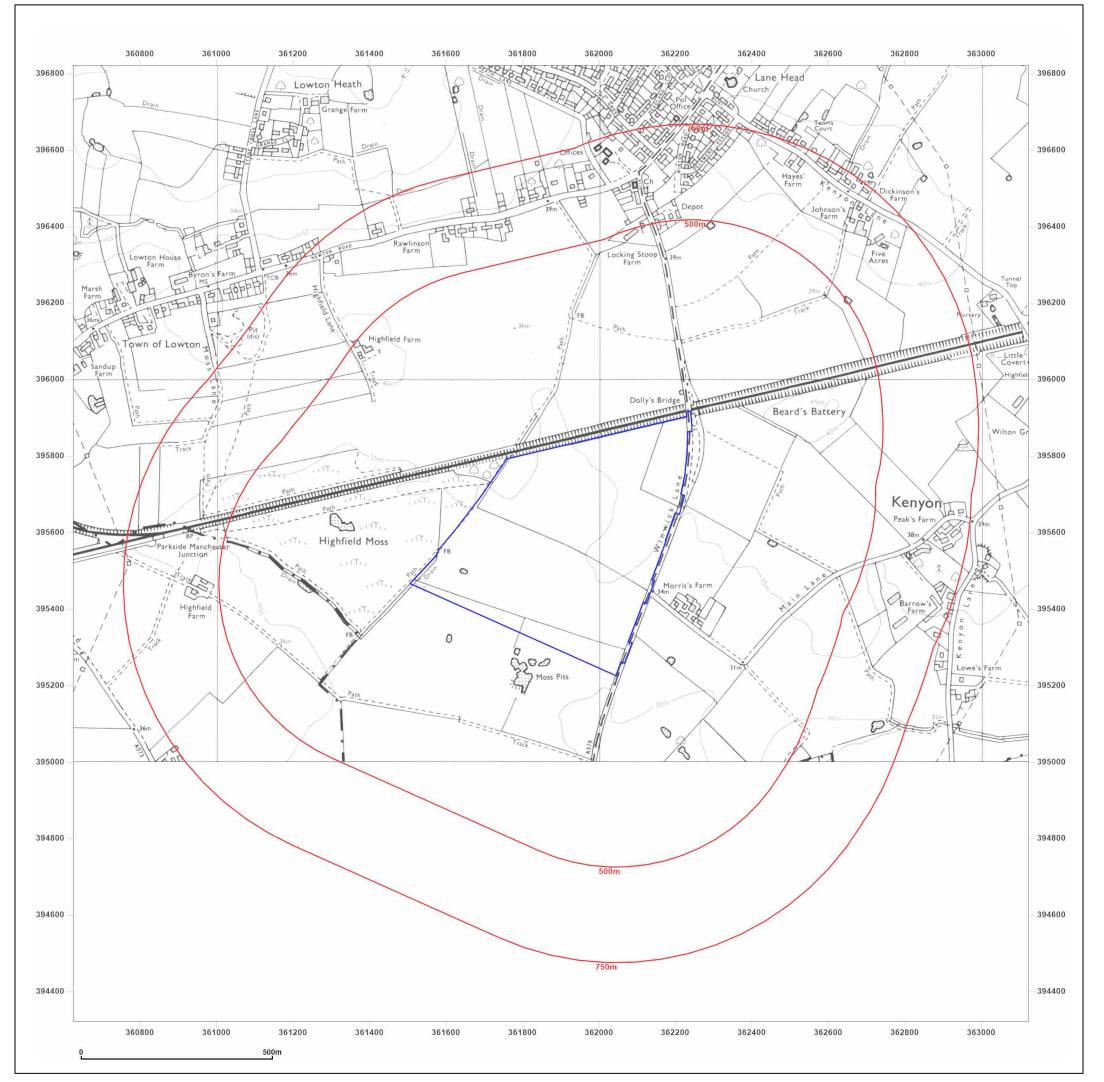


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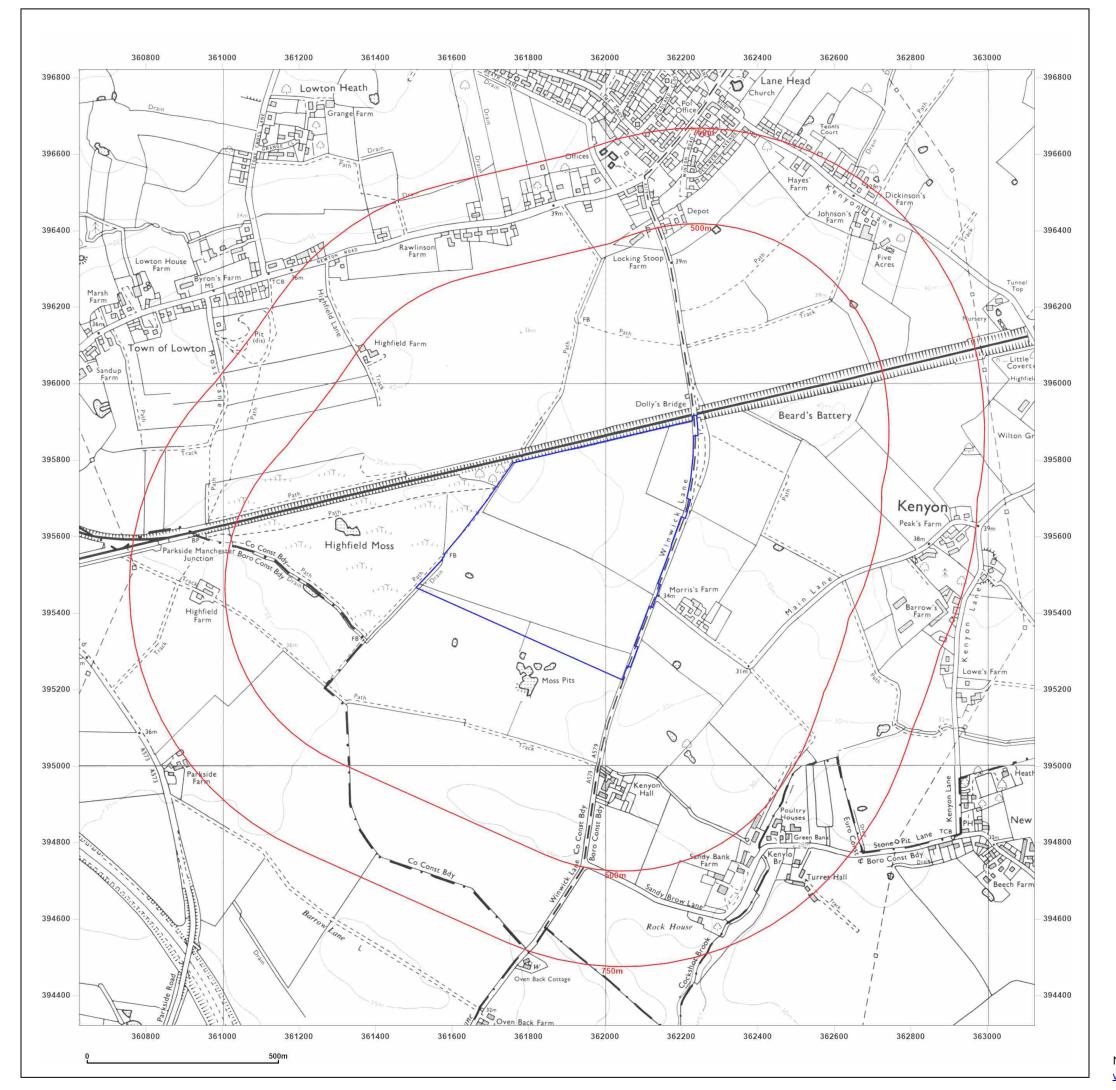


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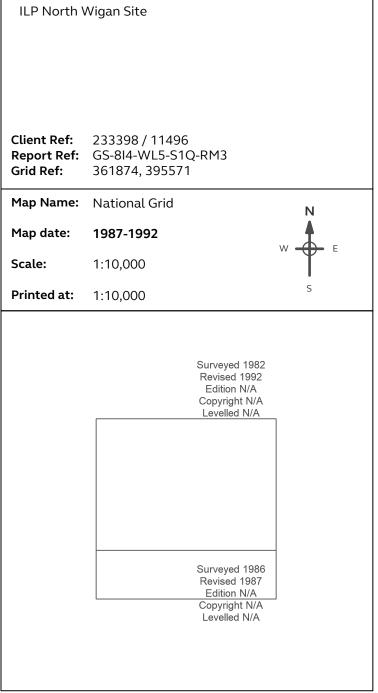
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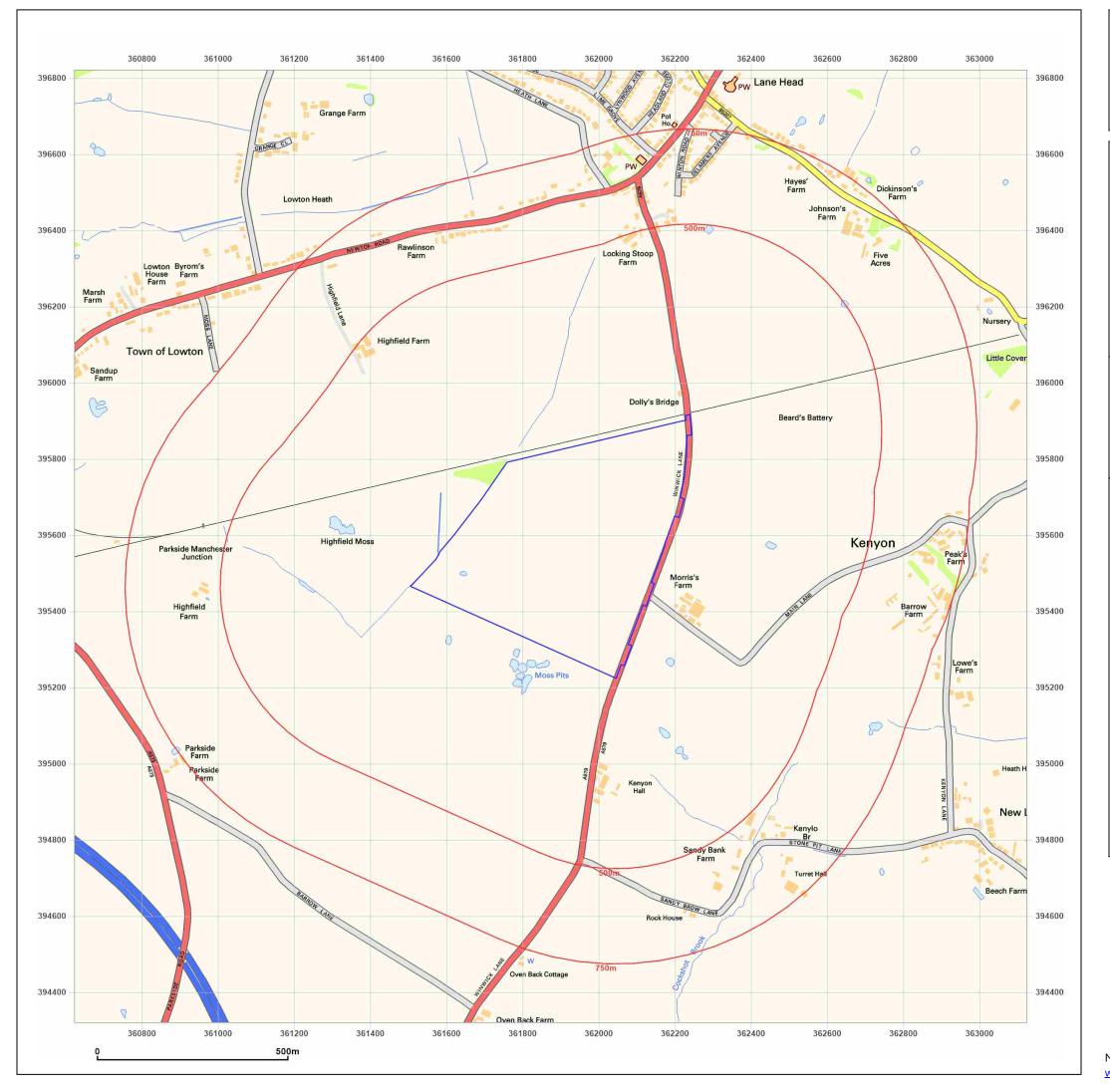


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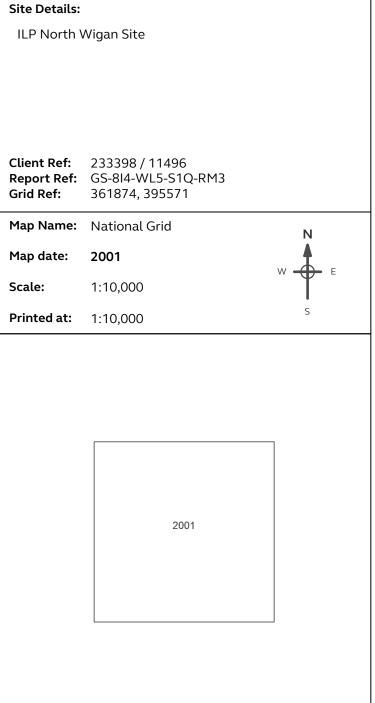
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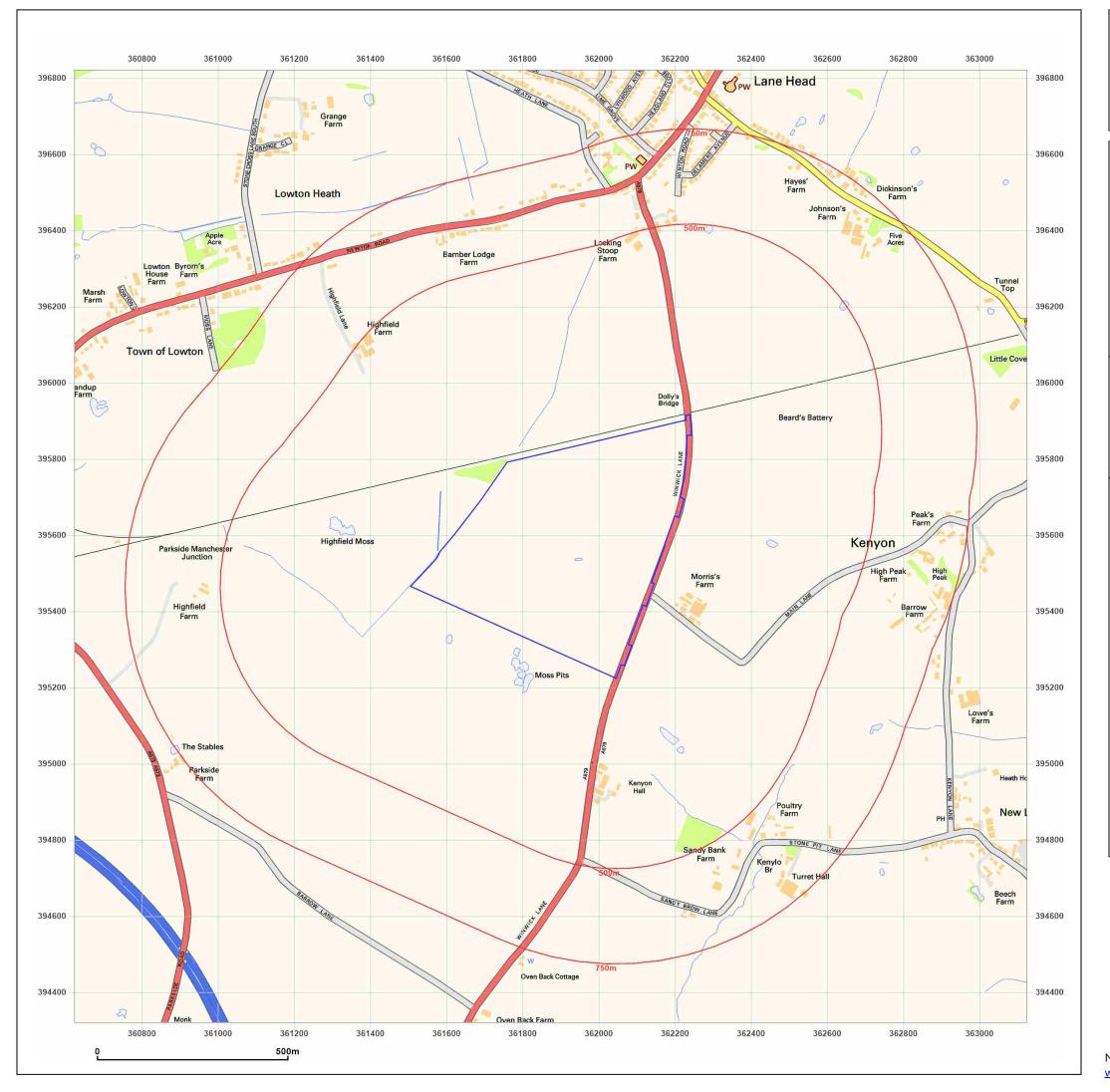




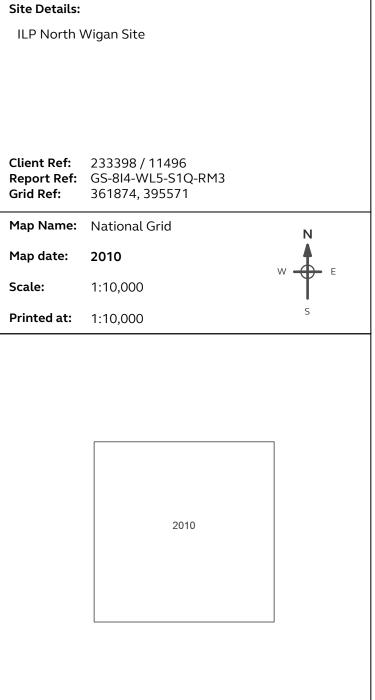
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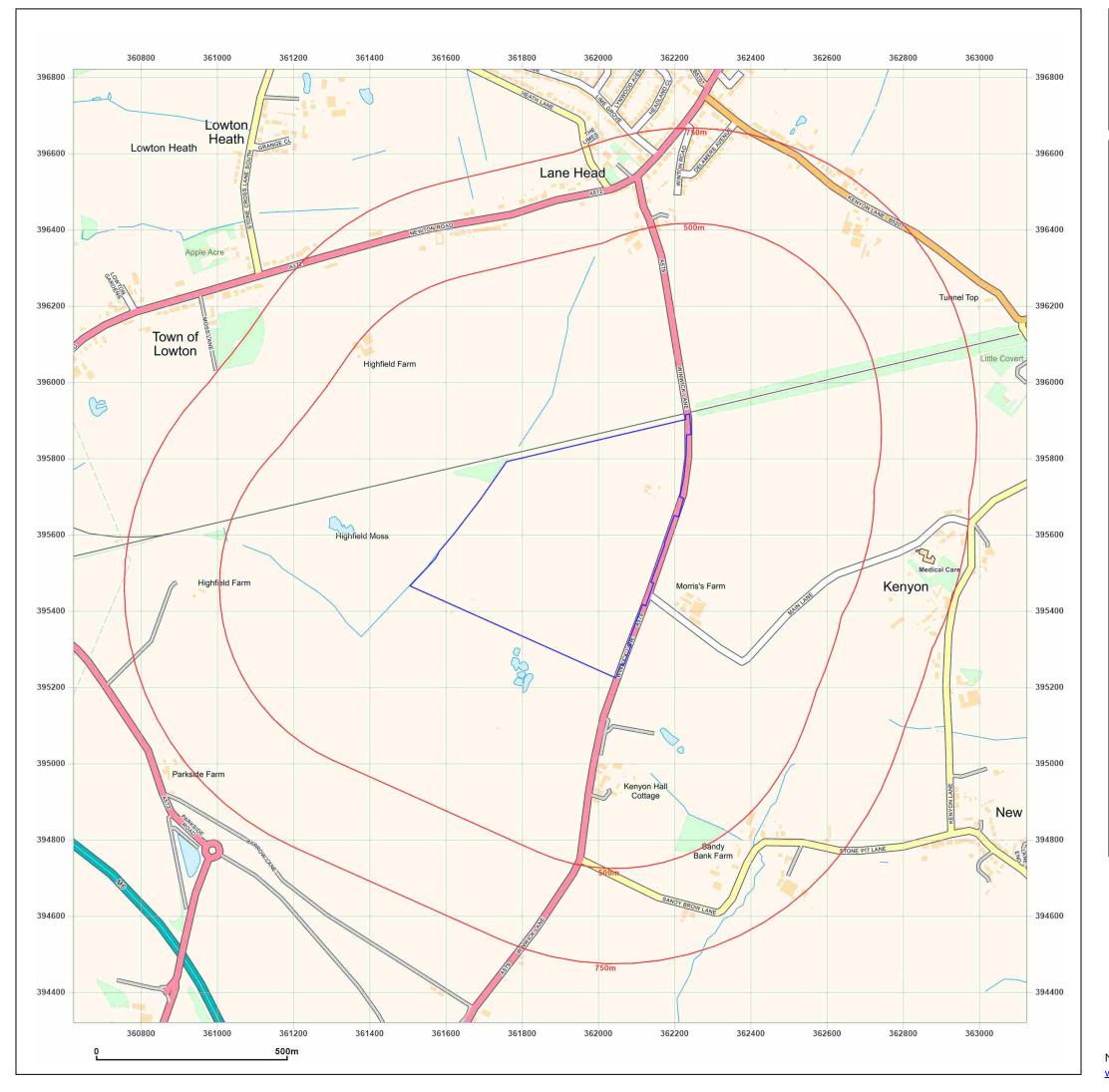




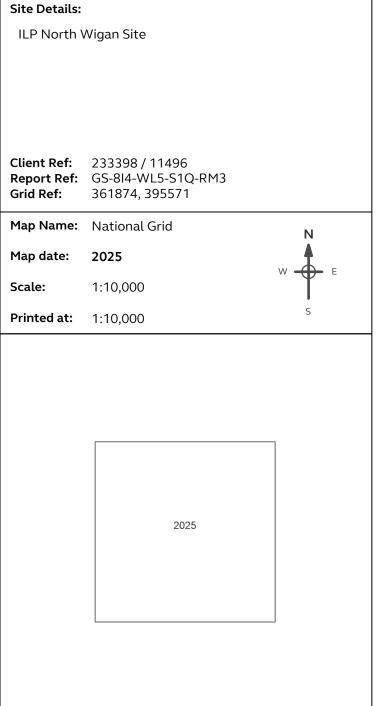
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Intermodal Logistics Park North, St Helens Minerals Assessment July 2025 ILP-BWB-SGT-XX-RP-CE-0001\_MA



**Appendix 6: Consultants Coal Mining Report** 



# Consultants Coal Mining Report

Parkside East, Junction 22 M6 St Helens

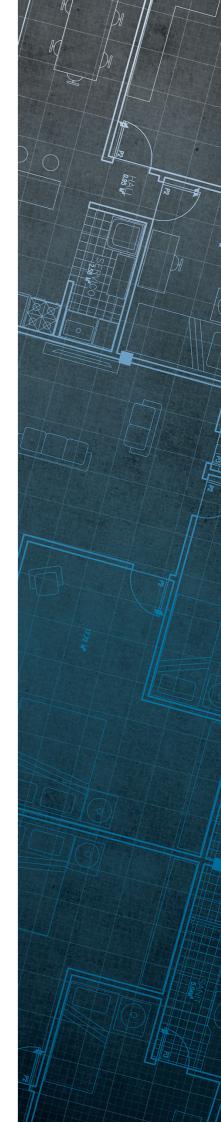
Date of enquiry:
Date enquiry received:
Issue date:

Our reference: Your reference:

22 May 2024 22 May 2024 24 May 2024

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# Consultants Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

### **Client name**

**GROUNDSURE LIMITED** 

# **Enquiry address**

Parkside East, Junction 22 M6 St Helens

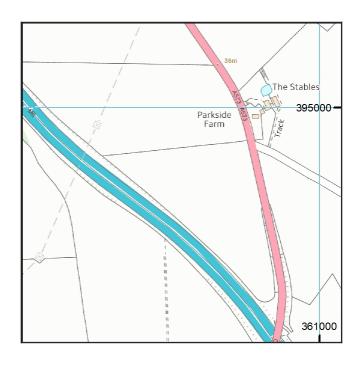
### How to contact us

0345 762 6848 (UK) +44 (0)1623 637 000 (International)

200 Lichfield Lane Mansfield Nottinghamshire NG18 4RG

www.groundstability.com

@coalauthorityin /company/the-coal-authorityf /thecoalauthorityD/thecoalauthority



Approximate position of property



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# **Section 1 – Mining activity and geology**

# Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
BICKERSHAW	CROMBOUK E	Coal	A2	361	Beneath Property	13.5	East	130	1966
BICKERSHAW	CROMBOUK E	Coal	F2	432	Beneath Property	14.2	East	130	1967
BICKERSHAW	LOWER FLORIDA	Coal	D1	467	North	17.9	South-East	180	1966
PARKSIDE	CROMBOUK E	Coal	A1	482	Beneath Property	14.0	East	130	1967
BICKERSHAW	CROMBOUK E	Coal	F1	486	Beneath Property	14.1	East	130	1964
GOLBORNE	RAMS	Coal	S1	490	North	14.2	South-East	140	1976
BICKERSHAW	LOWER FLORIDA	Coal	L2	496	North-East	11.4	East	180	1968
PARKSIDE	CROMBOUK E	Coal	F1	499	Beneath Property	14.0	East	130	1964
PARKSIDE	CROMBOUK E	Coal	B1	504	South-West	13.0	South-East	140	1965
BICKERSHAW	CROMBOUK E	Coal	C2	517	North	15.7	South-East	160	1970
BICKERSHAW	LOWER FLORIDA	Coal	L3	521	North-East	12.3	South-East	180	1969
BICKERSHAW	CROMBOUK E	Coal	C7	530	North	14.7	East	160	1974
BICKERSHAW	LOWER FLORIDA	Coal	L1	530	North-West	12.9	South-East	180	1962
unnamed	CROMBOUK E	Coal	C24	533	North-East	10.7	South-East	130	1970
BICKERSHAW	LOWER FLORIDA	Coal	L41	539	Beneath Property	16.6	East	170	1971
BICKERSHAW	CROMBOUK E	Coal	C22	542	Beneath Property	12.5	South-East	130	1970
unnamed	HIGHER FLORIDA	Coal	33PH	547	West	12.5	South-East	120	1968
PARKSIDE	CROMBOUK E	Coal	F6	551	Beneath Property	14.0	East	130	1965
BICKERSHAW	RAMS	Coal	S4	561	Beneath Property	15.0	East	140	1977
unnamed	LOWER PIGEON HOUSE (PIGEON HOUSE)	Coal	34BS	561	North	16.4	South	80	1956
unnamed	CROMBOUK E	Coal	C23	567	Beneath Property	11.2	South-East	130	1969

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
PARKSIDE	LOWER FLORIDA	Coal	L23	572	South-West	12.6	East	170	1973
unnamed	HIGHER FLORIDA	Coal	348A	590	West	11.0	South-East	120	1967
BICKERSHAW	LOWER FLORIDA	Coal	L6	598	North	15.1	South-East	180	1970
unnamed	HIGHER FLORIDA	Coal	33PI	599	South-West	12.5	South-East	120	1971
PARKSIDE	LOWER FLORIDA	Coal	L41	606	Beneath Property	12.1	East	170	1971
unnamed	LOWER FLORIDA	Coal	34AQ	607	Beneath Property	12.6	South-East	170	1959
unnamed	LOWER FLORIDA	Coal	33PA	613	Beneath Property	10.7	South-East	170	1966
PARKSIDE	LOWER FLORIDA	Coal	L21	614	East	12.3	South-East	170	1970
BICKERSHAW	LOWER FLORIDA	Coal	L4	615	Beneath Property	12.2	East	180	1973
GOLBORNE	RAMS	Coal	S7	616	North	14.2	South-East	140	1978
unnamed	TRENCHERB ONE	Coal	34IT	628	North-West	15.9	South-East	130	1966
BICKERSHAW	WIGAN FOUR FEET	Coal	W3	630	North	12.0	East	140	1978
BICKERSHAW	CROMBOUK E	Coal	C11	632	North-East	15.8	South-East	160	1982
GOLBORNE	RAMS	Coal	S15	636	East	14.9	South-East	220	1986
PARKSIDE	CROMBOUK E	Coal	B2	643	South-West	8.2	East	160	1970
PARKSIDE	LOWER FLORIDA	Coal	L22	644	West	12.6	East	170	1970
GOLBORNE	HIGHER FLORIDA	Coal	H7	646	North	14.9	South-East	107	1986
BICKERSHAW	LOWER FLORIDA	Coal	L5	653	Beneath Property	13.7	East	180	1974
PARKSIDE	CROMBOUK E	Coal	C22	655	Beneath Property	12.5	East	130	1970
PARKSIDE	LOWER FLORIDA	Coal	L24	673	South-West	15.2	East	170	1971
PARKSIDE	LOWER FLORIDA	Coal	L40	676	Beneath Property	13.0	East	170	1976
PARKSIDE	TRENCHERB ONE	Coal	T24	676	South-West	12.0	South-East	160	1980
PARKSIDE	TRENCHERB ONE	Coal	T25	680	South-East	12.0	South-East	160	1981
unnamed	WIGAN FOUR FEET	Coal	W24	698	South-West	11.8	South-East	170	1977
PARKSIDE	LOWER FLORIDA	Coal	E3	700	South-West	9.5	East	170	1968
GOLBORNE	LOWER FLORIDA	Coal	L10	706	North	14.4	South-East	180	1972

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	TRENCHERB ONE	Coal	34GP	711	North	10.7	South-East	160	1969
BICKERSHAW	WIGAN FOUR FEET	Coal	W4	712	Beneath Property	12.5	East	140	1981
unnamed	RAMS	Coal	S4	712	Beneath Property	14.0	East	140	1977
unnamed	WIGAN FOUR FEET	Coal	33PN	712	Beneath Property	12.0	South-East	140	1968
PARKSIDE	LOWER FLORIDA	Coal	L43	713	Beneath Property	12.2	East	170	1978
unnamed	WIGAN FOUR FEET	Coal	34EG	713	Beneath Property	11.5	South-East	210	1962
GOLBORNE	RAMS	Coal	S14	714	East	15.5	South-East	220	1987
unnamed	TRENCHERB ONE	Coal	33PR	730	South-West	11.6	South-East	150	1971
unnamed	PLODDER	Coal	P3	741	North-West	14.4	South-East	210	1982
BICKERSHAW	HIGHER FLORIDA	Coal	H12	741	East	15.3	South-East	110	1980
unnamed	WIGAN FOUR FEET	Coal	W25	742	South-East	11.8	South-East	160	1977
GOLBORNE	LOWER FLORIDA	Coal	L12	743	North-East	17.4	East	180	1974
unnamed	WIGAN FIVE FEET	Coal	V24	745	South-West	13.4	South-East	160	1986
PARKSIDE	LOWER FLORIDA	Coal	L4	746	Beneath Property	15.5	East	170	1973
PARKSIDE	LOWER FLORIDA	Coal	L45	779	Beneath Property	7.7	East	170	1980
PARKSIDE	RAMS	Coal	S32	779	South	8.4	South	214	1988
GOLBORNE	LOWER FLORIDA	Coal	L20	788	East	15.9	South-East	180	1978
PARKSIDE	LOWER FLORIDA	Coal	L40	799	Beneath Property	10.2	East	170	1976
PARKSIDE	LOWER FLORIDA	Coal	L42	805	Beneath Property	11.8	East	170	1974
PARKSIDE	LOWER FLORIDA	Coal	L44	810	Beneath Property	7.5	East	170	1979
GOLBORNE	PLODDER	Coal	P4	814	North	14.1	South-East	210	1985
PARKSIDE	LONDON DELPH (BIN)	Coal	LD10	832	East	16.4	South-East	200	1981
PARKSIDE	LOWER FLORIDA	Coal	L48	837	North	11.6	East	170	1979
PARKSIDE	LOWER	Coal	L46	843	Beneath Property	10.9	East	170	1980
PARKSIDE	LOWER	Coal	L32	843	South	8.5	South	185	1985
PARKSIDE	WIGAN FOUR FEET	Coal	W32	923	South	10.5	South	180	1990

# **Probable unrecorded shallow workings**

None.

# Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

### Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	359394-001	359969 394735	This shaft has been filled and capped by British Coal in Sept. 1994 The shaft was capped with reinforced concrete 15m square and 1m thick and incorporates a gas vent that is actively monitored monthly by the CA or representatives thereof.	Coal	

# Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

NW1409	NW207	NW745
NW596	16017	NW640
NW760	16333	NW676

Our records show we have more plans than those shown above which could affect the enquiry boundary.

**Please contact us on 0345 762 6848** to determine the exact abandoned mine plans you require based on your needs.

# **Outcrops**

No outcrops recorded.

# **Geological faults, fissures and breaklines**

Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Faults under or close to the property recorded.

# **Opencast mines**

None recorded within 500 metres of the enquiry boundary.

# **Coal Authority managed tips**

None recorded within 500 metres of the enquiry boundary.

# **Section 2 - Investigative or remedial activity**

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

# **Site investigations**

None recorded within 50 metres of the enquiry boundary.

# **Remediated sites**

None recorded within 50 metres of the enquiry boundary.

# **Coal mining subsidence**

A damage notice or claim for alleged subsidence damage was made in June 1995 for FIELD OS 0021 KENYON HALL FARM, CROFT, WARRINGTON, CHESHIRE. However, the claim was rejected.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

There are a further 5 claim(s) within 50 metres of the property boundary that do not match the property address. These are shown on the enquiry boundary plot.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

If further subsidence damage claims information is required, please visit www.groundstability.com.

See Section 4 for further information.

# Mine gas

Distance to gas incident/remediation (m)	Direction
87.8	North-East
93.3	South-East

See Section 4 for further information.

### Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

# **Section 3 - Licensing and future mining activity**

# **Future underground mining**

None recorded.

# **Coal mining licensing**

None recorded within 200 metres of the enquiry boundary.

### **Court orders**

None recorded.

### **Section 46 notices**

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

# Withdrawal of support notices

The property is in an area where notices to withdraw support were given in 1960 and 1976.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

# Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

# Section 4 - Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

# **Future development**

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority.

MINE GAS: Please note, if there are no recorded instances of mine gas within 500m of the enquiry boundary, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed. In these instances, the Coal Authority recommends that a more detailed Gas Risk Assessment is undertaken by a competent assessor.

# **Development advice**

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

# **Coal mining subsidence**

The site is within an area of previous interest. It is close to where the Coal Authority or licensed mine operator has investigated and where necessary remediated issues relating to coal mining subsidence.

The site requires further investigation and may influence your risk assessment. We recommend that you order the appropriate **Coal Authority Subsidence Claims Report**, which will include more information about the hazard.

# Mine gas remedial works

The site is within an area of previous interest. It is close to where the Coal Authority has investigated and subsequently remediated the effects of mine or ground gas emissions following specific reported hazards.

The site requires further investigation and may influence your risk assessment. We recommend that you order the **Coal Authority Mine Gas Emission Report**, which will include more information about the hazard.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.					

# Section 5 - Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

# Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

# **Probable unrecorded shallow workings**

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

# Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

### Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

# Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

# **Outcrops**

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

# **Geological faults, fissures and breaklines**

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

# **Opencast mines**

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

# **Coal Authority managed tips**

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

# **Site investigations**

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

# **Remediated sites**

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

# **Coal mining subsidence**

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

# Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission. Please note, if there are no recorded instances of mine gas reported, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded.

# Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

# **Future underground mining**

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

# **Coal mining licensing**

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

# **Court orders**

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

# **Section 46 notices**

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

# Withdrawal of support notices

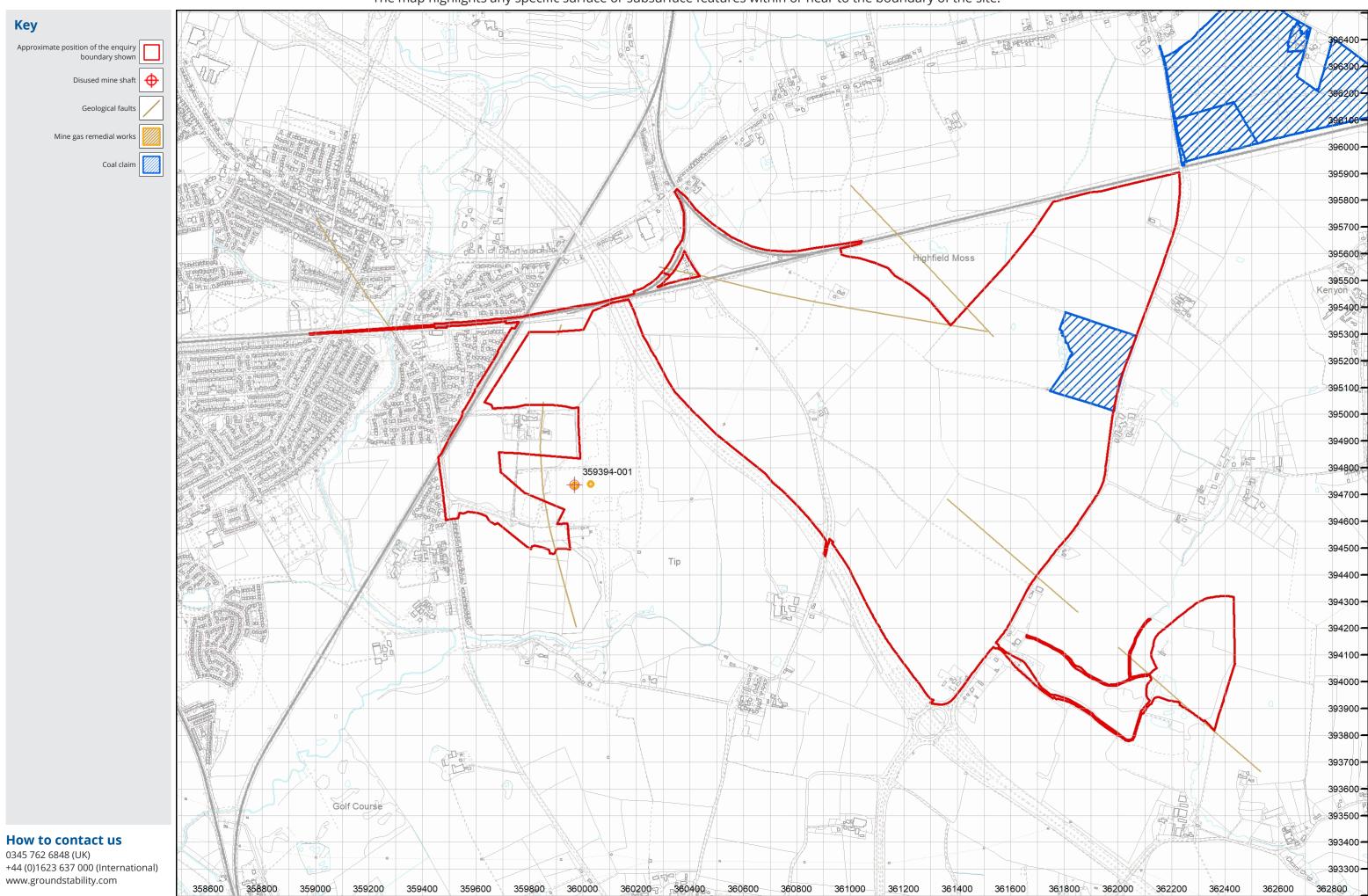
Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

# Payment to owners of former copyhold land

Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

# Summary of findings

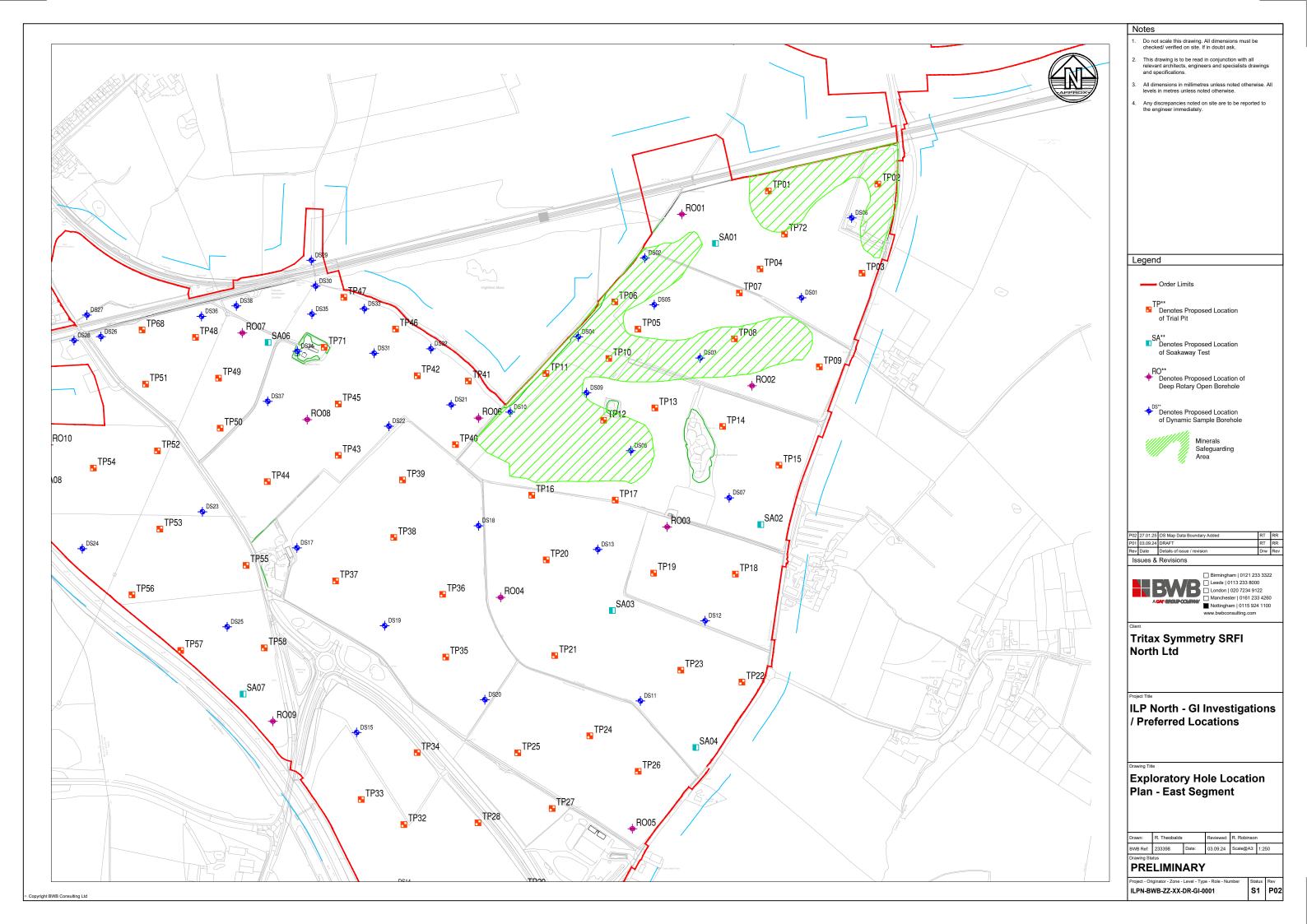
The map highlights any specific surface or subsurface features within or near to the boundary of the site.



Intermodal Logistics Park North, St Helens Minerals Assessment July 2025 ILP-BWB-SGT-XX-RP-CE-0001\_MA



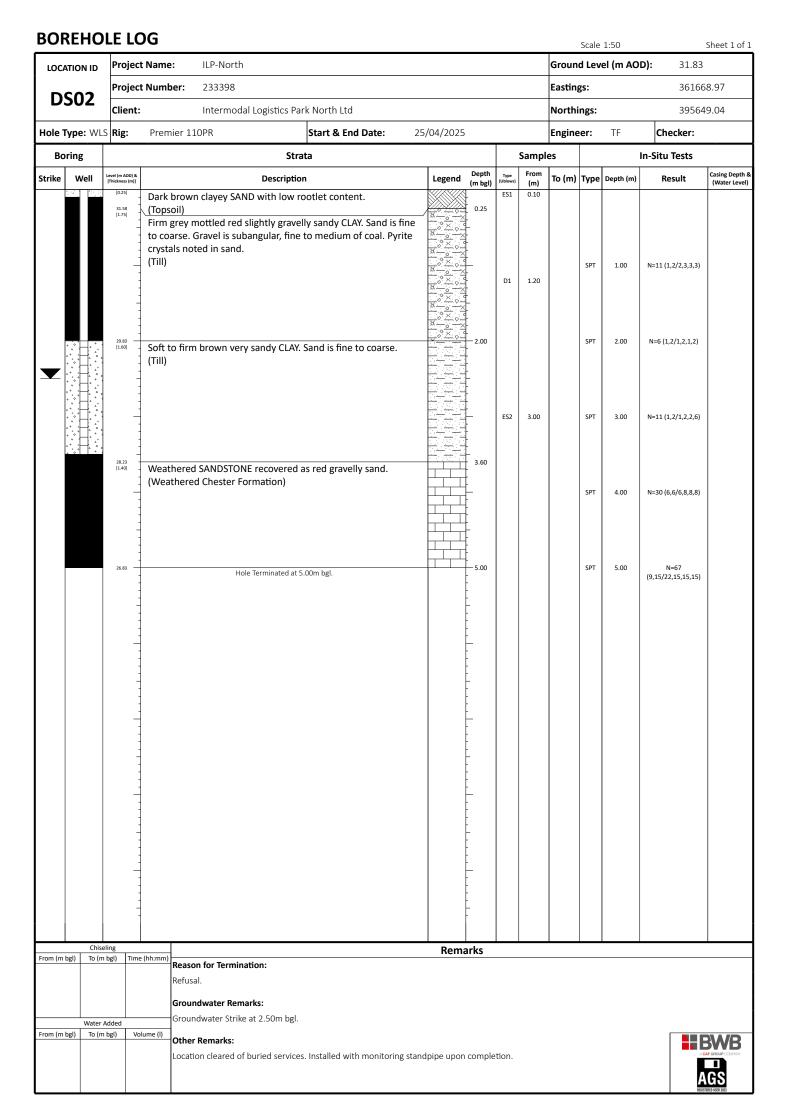
Appendix 7: Exploratory Hole Location Plan



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**Appendix 8: Exploratory Hole Logs** 

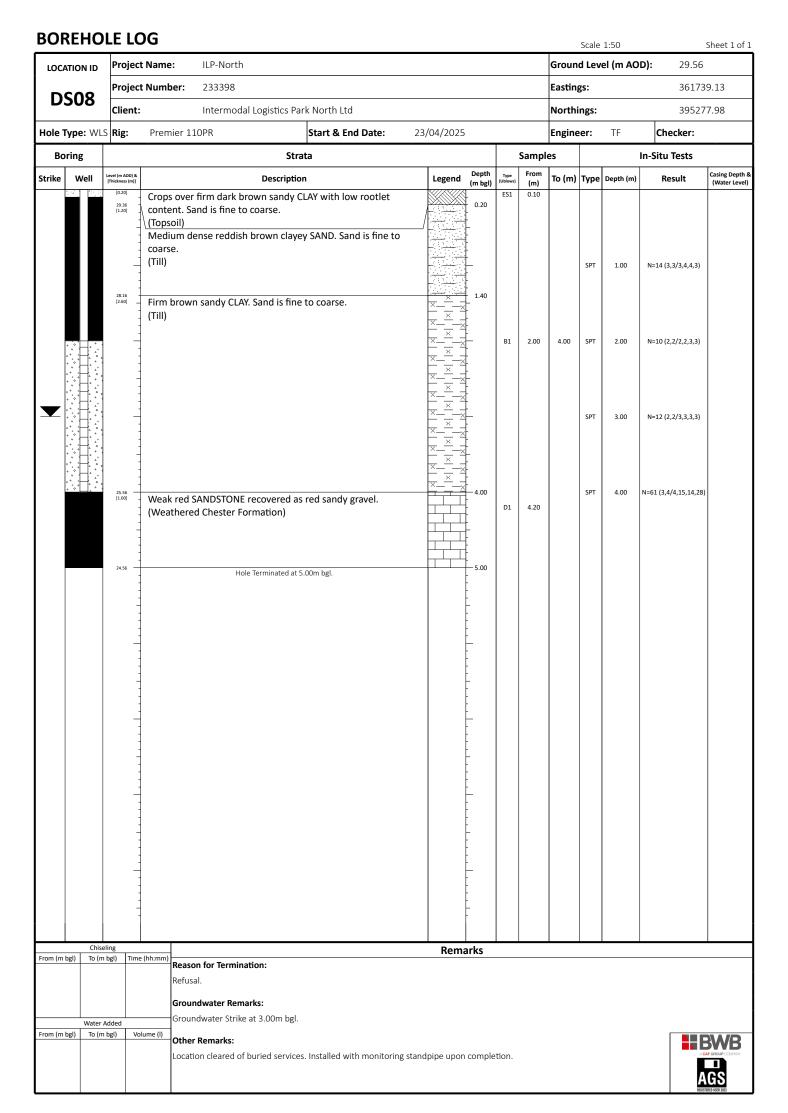


BORI	ЕНО	LE LC	)G							Scale	1:50		Sheet 1 of 1
LOCATI	ON ID	Projec	t Name: ILP-North								el (m AO		
DC	<b>02</b>	Projec	t Number: 233398						Easting	gs:		36180	)9.59
DS	U3 	Client:	Intermodal Lo	ogistics Park North Ltd					Northi	ings:		39541	ب.9.47
Hole Ty	pe: WL	S Rig:	Premier 110PR	Start & End Date:	25/04/2025				Engine	er:	TF	Checker:	
Borii	ng			Strata				Sampl	es			In-Situ Tests	
Strike	Well	Level (m AOD) & [Thickness (m)]		Description	Legend	Depth (m bgl)		From (m)	To (m)	Туре	Depth (m)	Result	Casing Depth & (Water Level)
Strike	Well	Level (m AOD) & [Thickness (m)]	Gravel is subangular to su sandstone and coal. (Till)			Depth (m bgl)	Type (Ublows) ES1  ES2 D1		To (m)	SPT SPT	1.00 2.00 3.00	N=8 (1,2/2,2,2,2)  N=10 (1,2/2,3,2,3)  N=15 (3,3/5,4,3,3)  N=17 (4,3/4,4,4,5)	Casing Depth & (Water Level)
	Chise	eling	<u> </u>		Pems	arks							
From (m bgl	) To (m	n bgl) Time	Reason for Terminatio Refusal.  Groundwater Remarks No groundwater encou	s:	Rema	arks						1	BWB

Location cleared of buried services. Installed with monitoring standpipe upon completion.

**HBWB** 

BORE	HOL	E LC	)G							Scale	1:50		Sheet 1 of 1
LOCATION	IID	Project	t Name: ILP-North						Groun	d Lev	el (m AO	<b>D):</b> 29.35	
DS0	Л	Project	t Number: 233398						Eastin	gs:		36154	5.19
טטע	4	Client:	Intermodal Logistics Park	North Ltd					Northi	ngs:		39548	6.74
Hole Type:	: WLS	Rig:	Premier 110PR	Start & End Date: 01	/05/2025				Engine	er:	TF	Checker:	
Boring			Strata	a				Sampl	es			In-Situ Tests	
Strike We	ell [	evel (m AOD) & Thickness (m)]	Description		Legend	Depth (m bgl)	Type (Ublows)	From (m)	To (m)	Туре	Depth (m)	Result	Casing Depth & (Water Level)
		28.95 (0.60)	Dark brown slightly clayey gravelly SA coarse. Gravel is subangular to subrot sandstone. (Topsoil) Firm brown sandy CLAY. Sand is fine to (Till) Soft to stiff brown slightly silty slightly CLAY. Sand is fine to coarse. Gravel is of sandstone and coal. (Till)  Weathered SANDSTONE recovered as (Weathered Chester Formation)  Hole Terminated at 4.0	o coarse.  y sandy slightly gravelly subangular, fine to coarse		-1.00	E51	1.50		SPT SPT	2.00 3.00	N=7 (1,2/1,2,2,2)  N=14 (1,2/2,3,4,5)  N=22 (1,2/3,4,6,9)  N=57 (6,11/12,15,15,15)	
	Chic-'	ng.											
From (m bgl)	Chiselii To (m b	gl) Time	Reason for Termination: Refusal. Groundwater Remarks: No groundwater encountered. Other Remarks: Location cleared of buried services.	Installed with monitoring stanc	Rema		tion.					A	BWB W GROUP COLUMNIA



ROKE	нО	LE LC	)G							Scale	1:50		Sheet 1 of 1	
LOCATIO	ON ID	Project	t Name: ILP-North						Groun	d Lev	el (m AO	<b>D):</b> 31.40		
DS1	۱۸	Project	t <b>Number:</b> 233398						Easting	gs:		36138	6.03	
		Client:	Intermodal Logistics Park	North Ltd					Northi	ngs:		395315.05		
Hole Typ	e: WLS	Rig:	Premier 110PR	Start & End Date: 24	/04/2025				Engineer: LC		LC	Checker:		
Borin	g		Strata	1				Sample	es			In-Situ Tests		
Strike V	Vell	Level (m AOD) & [Thickness (m)]	Description		Legend	Depth (m bgl)	Type (Ublows)	From (m)	To (m)	Туре	Depth (m)	Result	Casing Depth & (Water Level)	
		(0.30)	Grass over dark brown to dark grey sil SAND with frequent rootlets to 0.25m (Topsoil)  Brown and orange becoming light gree fine and medium SAND.  (Till)  Medium dense grey occasionally brow medium SAND.  (Till)  Stiff grey occasionally mottled red slig Gravel is fine and medium subangular limestone, quartzite, chert and occasi sandstone.  (Till)  Medium dense grey occasionally yello SAND.  (Till)  Stiff dark red to reddish brown slightly (Till)  Orange and yellow slightly gravelly fin Gravel is fine to coarse subrounded chertill)  Stiff dark red to reddish brown slightly (Till)  Very dense grey and orange slightly gravelly g	yish brown from 0.6m  yn slightly silty fine and  htly gravelly CLAY/SILT. to subrounded onal very weak  w silty fine and medium  y sandy CLAY. e and medium SAND. hert and quartzite. y sandy CLAY.  ravelly fine and medium ular to subrounded			ES1	1.20 1.70	1.30 1.80	SPT	2.00 3.00	N=14 (1,2/3,3,3,5)  N=22 (3,3/3,3,8,8)  25 (9,15/25 for 50mm)		
		-												
From (m hall	Chisel		(hh:mm)		Rema	rks			·			l		
From (m bgl)	To (m  Water A	dded	Reason for Termination:  Groundwater Remarks:  No groundwater encountered.  Other Remarks:  Location cleared of buried services. I	nstalled with monitoring stanc	pipe upon	comple	tion.						BWB GS	

TRIAL PIT LOG Sheet 1 of 1 Scale: 1:50 LOCATION ID: Project Name: ILP-North 1.80 Project Number: 233398 Orientation 0.70 Pit Dimensions (m) **TP01** Client: Intermodal Logistics Park North Ltd Plant: JCB 3CX Start & End Date: Stability: Stable 30/04/2025 Ground Level (m AOD): 34.67 Eastings & Northings: Engineer: DZ Checker: 361979E 395831N Strata Samples **In-Situ Tests** Level (m Depth Legend (m bgl) Backfill Description Туре rom (m To (m) Туре Result (m) Dark brown slightly gravelly silty fine SAND with rootlets. Gravel is sub-0.40m rounded to rounded fine and medium quartzite. 34.27 (Topsoil) D1 0.50 0.60 Firm mottled brown grey slightly gravelly silty very sandy CLAY. Gravel is subangular and sub-rounded fine and medium sandstone, quartzite and shale. (100)kPa 0.80m (90)kPa (90)kPa (Till) HSV 0.80 HSV 0.80 33.47 Brown silty fine SAND. (Weathered Chester Formation) В1 1.70 1.90 2.20m 3.40 В2 3.30 31.27 3.40 Hole Terminated at 3.40m bgl. Remarks Reason for Termination:

Terminated on rock.

### Groundwater Notes:

Wet soils below 1.20m bgl. Slow water inflow.

#### Other Remarks:



TRIAL PIT LOG Scale: 1:50 Sheet 1 of 1 LOCATION ID: Project Name: ILP-North 1.90 Project Number: 233398 Orientation 0.70 Pit Dimensions (m) **TP02** Client: Intermodal Logistics Park North Ltd Plant: JCB 3CX Start & End Date: Stability: Unstable below 1.60m. 30/04/2025 Ground Level (m AOD): 37.28 Eastings & Northings: Engineer: DZ Checker: 362189E 395799N Strata Samples **In-Situ Tests** Level (m Depth Legend (m bgl) Backfill To (m) Result (m) D1 0.10 0.20 Dark brown slightly gravelly silty fine SAND with rootlets. Gravel is sub-0.30m rounded to rounded fine and medium quartzite, plastic and brick. 36.98 0.30 (Made Ground) Firm mottled brown grey slightly gravelly slightly sandy silty CLAY. Gravel is В1 0.60 0.70 sub-angular and sub-rounded fine and medium sandstone, quartzite and shale. (Reworked Natural Soils) 1.30m (Made Ground) 35.68 1.60 Brown slightly gravelly very clayey fine to coarse SAND. Gravel is angular to sub-rounded fine to coarse sandstone. 1.90 2.00 D2 (Glaciofluvial Ice Contact Deposits) 1.10m В2 2.50 2.60 34.58 2.70 Hole Terminated at 2.70m bgl.

### Remarks

### Reason for Termination:

Terminated on collapse of wet soils.

### Groundwater Notes:

Wet soils below 1.60m bgl. Moderate water inflow.

#### Other Remarks



TRIAL PIT LOG Sheet 1 of 1 Scale: 1:50 LOCATION ID: Project Name: ILP-North 2.00 Project Number: 233398 Orientation 0.70 Pit Dimensions (m) **TP06** Client: Intermodal Logistics Park North Ltd Plant: JCB 3CX Start & End Date: Stability: Stable 30/04/2025 Ground Level (m AOD): 30.17 Eastings & Northings: Engineer: DZ Checker: 361618E 395540N Strata Samples **In-Situ Tests** Level (m Depth Legend (m bgl) Backfill Description Туре rom (m To (m) Туре (m) Dark brown slightly gravelly silty fine SAND with rootlets. Gravel is sub-0.35m rounded to rounded fine and medium quartzite. (Topsoil) Firm mottled orange, brown and grey slightly gravelly very sandy CLAY. Gravel 0.60 (55)kPa 0.70 0.80 (60)kPa (65)kPa is sub-angular and sub-rounded fine and medium sandstone, quartzite and HSV 0.60 HSV 0.60 shale. Sand is fine. (Till) 2.25m 27.57 2.60 Soft grey brown silty sandy CLAY. Sand is fine. 2.70 (65)kPa D2 2.70 2.80 HSV × (70)kPa HSV 2.70 (Till) HSV 2.70 (70)kPa × 1.00m <u>×</u> 3.60 D3 3.50 26.57 -3.60 Hole Terminated at 3.60m bgl.

### Remarks

### Reason for Termination:

Terminated at agreed depth.

### Groundwater Notes:

No groundwater encountered.

#### Other Remarks



TRIAL PIT LOG Scale: 1:50 Sheet 1 of 1 LOCATION ID: Project Name: ILP-North 1.90 Project Number: 233398 Orientation Pit Dimensions (m) 0.70 **TP08** Client: Intermodal Logistics Park North Ltd Plant: JCB 3CX Start & End Date: Stability: Stable 30/04/2025 Ground Level (m AOD): 32.74 Eastings & Northings: Engineer: DZ Checker: 361882E 395471N Strata Samples **In-Situ Tests** Level (m Depth Legend (m bgl) Backfill Description Туре rom (n To (m) Туре (m) 0.10 0.30 Dark brown slightly gravelly silty fine SAND with rootlets. Gravel is sub-В1 0.30m rounded to rounded fine and medium quartzite. 32.44 0.30 (Topsoil) Firm mottled orange brown and grey slightly gravelly very sandy CLAY. Gravel 0.60 (60)kPa 0.70 0.80 (65)kPa (70)kPa is sub-angular and sub-rounded fine and medium sandstone, quartzite and HSV 0.60 HSV 0.60 shale. Sand is fine. (Till) 2.10m D1 2.10 2.20 30.34 . 4 2.40 Red clayey, gravelly medium SAND with low cobble content. Gravel is angular to sub-rounded medium to coarse sandstone. Cobbles are angular and  $\operatorname{\mathsf{sub}}$  angular sandstone. 1.00m (Weathered Chester Formation) 3.40 В3 3.30 29.34 3.40 Hole Terminated at 3.40m bgl. Remarks Reason for Termination: Terminated on rock.

#### **Groundwater Notes:**

No groundwater encountered.



TRIAL PIT LOG Sheet 1 of 1 Scale: 1:50 LOCATION ID: Project Name: ILP-North 1.90 Project Number: 233398 Orientation Pit Dimensions (m) 0.60 **TP10** Client: Intermodal Logistics Park North Ltd Plant: JCB 3CX Start & End Date: Stability: Stable 28/04/2025 Ground Level (m AOD): Eastings & Northings: Engineer: DZ Checker: 31.11 361643E 395414N Strata Samples **In-Situ Tests** Level (m Depth Legend (m bgl) Backfill Description Туре To (m) Туре Result (m) Dark brown clayey slightly gravelly silty fine SAND with rootlets. Gravel is sub-0.40m rounded to rounded fine and medium quartzite. 30.71 0.40 (Topsoil) Firm mottled orange grey red and brown very sandy CLAY. Sand is fine. (Till) (80)kPa 0.90 1.00 В1 (80)kPa (85)kPa HSV 0.80 1.20m HSV 0.80 29.51 1.60 Soft to firm slightly gravelly very sandy CLAY. Gravel is angular fine and medium sandstone and quartzite. Sand is fine. D1 2.00 2.10 (Till) B2 2.30 2.50 2.50 (50)kPa HSV 1.90m (60)kPa (65)kPa HSV 2.50 HSV 2.50 3.50 В3 3.40 27.61 3.50 Hole Terminated at 3.50m bgl.

### Remarks

### Reason for Termination:

Terminated at agreed depth.

#### **Groundwater Notes:**

Wet soils below 1.60m bgl. Slow water inflow.

#### Other Remarks



TRIAL PIT LOG Scale: 1:50 Sheet 1 of 1 LOCATION ID: Project Name: ILP-North 1.80 Project Number: 233398 Orientation Pit Dimensions (m) 0.60 **TP11** Client: Intermodal Logistics Park North Ltd Plant: JCB 3CX Start & End Date: Stability: Stable 28/04/2025 Ground Level (m AOD): 30.28 Eastings & Northings: Engineer: DZ Checker: 361440E 395372N Strata Samples **In-Situ Tests** Level (m Depth Legend (m bgl) Backfill Туре To (m) Result (m) Dark brown slightly gravelly silty fine SAND with rootlets. Gravel is sub-0.40m 0.20 0.40 rounded to rounded fine and medium quartzite. 29.88 0.40 (Topsoil) Soft to firm mottled brown orange grey slightly gravelly sandy silty CLAY. <u>></u> Gravel is sub-angular to sub-rounded fine and medium sandstone and 0.80 0.90  $quartzite. \ Sand \ is \ fine \ to \ coarse.$ <u>></u> (Till) <u>></u>e (70)kPa 1.70m (70)kPa (80)kPa <u>></u>¢ HSV HSV 1.20 D1 1.70 1.80 ১৬ 28.18 -2.10 Red gravelly fine and medium SAND. Gravel is angular to sub-rounded medium and coarse sandstone. (Weathered Chester Formation) 1.40m 2.80 2.90 D2 Below 3.00m bgl: With cobbles. Cobbles are angular sandstone. 3.50 В3 3.30 26.78 3.50 Hole Terminated at 3.50m bgl.

Remarks

#### Reason for Termination:

Terminated at agreed depth.

### Groundwater Notes:

No groundwater encountered.

#### Other Remarks



TRIAL PIT LOG Scale: 1:50 Sheet 1 of 1 LOCATION ID: Project Name: ILP-North 2.00 Project Number: 233398 Orientation Pit Dimensions (m) 0.60 **TP12** Client: Intermodal Logistics Park North Ltd Plant: JCB 3CX Start & End Date: Stability: Stable 28/04/2025 Ground Level (m AOD): Eastings & Northings: Engineer: DZ Checker: 29.28 361609E 395306N Strata Samples **In-Situ Tests** Level (m Depth Legend (m bgl) Backfill Туре rom (m To (m) Туре Result (m) Dark brown slightly gravelly silty fine SAND with rootlets. Gravel is sub-0.35m rounded to rounded fine and medium quartzite. (Topsoil) × Brown yellow grey slightly sandy silty CLAY. Sand is fine to coarse. X. (Till) 0.85m 0.90 1.20 В1 × <u>×</u> × 28.08 Soft brown, orange and grey slightly gravelly sandy silty CLAY. Gravel is subangular to sub rounded fine to coarse sandstone, quartzite and shale. Sand is D2 1.50 1.60 fine. <u>></u>¢ 1.00m (Till) ১৬ B2 1.90 2.10 HSV 2.00 (45)kPa (50)kPa 27.08 -2.20 Red and orange gravelly fine and medium SAND with low cobble content. HSV 2.00 (50)kPa Gravel is angular to sub-rounded fine to coarse sandstone. Cobbles are angular sandstone. (Weathered Chester Formation) 1.20m 3.40 В3 3.30 25.88 3.40 Hole Terminated at 3.40m bgl.

### Remarks

### Reason for Termination:

Terminated on rock.

### Groundwater Notes:

No groundwater encountered.

#### Other Remarks



TRIAL PIT LOG Scale: 1:50 Sheet 1 of 1 LOCATION ID: Project Name: ILP-North 2.00 233398 Project Number: Orientation 0.70 Pit Dimensions (m) **TP72** Client: Intermodal Logistics Park North Ltd Plant: JCB 3CX Start & End Date: Stability: Stable 30/04/2025 Ground Level (m AOD): Eastings & Northings: Engineer: DZ Checker: 33.17 362004E 395678N Strata Samples **In-Situ Tests** Level (m Depth Legend (m bgl) Backfill Туре rom (n To (m) Туре Result (m) D1 0.10 0.20 Dark brown silty slightly gravelly fine SAND with rootlets. Gravel is sub-0.35m rounded to rounded fine and medium quartzite. 32.82 (Topsoil) 0.25m Firm light brown light grey CLAY. 0.60 32.57 <u>></u> 0.70 (60)kPa (Lacustrine Deposits) (60)kPa (65)kPa HSV 0.70 Firm mottled brown grey slightly gravelly sandy silty CLAY. Gravel is sub-<u>>ç</u> HSV 0.70 1.00 1.20 angular and sub-rounded fine and medium sandstone, quartzite and shale. <u>></u> Sand is fine to coarse. 1.60m <u>></u>e (Till) <u>><</u> <u>১</u>ং 30.97 -2.20 Brown orange silty medium SAND. (Till) 0.80m 2.80 2.90 B2 30.17 3.00 Firm brown grey slightly gravelly silty CLAY. Gravel is sub-angular and sub-3.10 (55)kPa D2 3.10 3.20 HSV HSV 3.10 (60)kPa 0.50m rounded fine and medium sandstone, quartzite and shale. HSV 3.10 (60)kPa (Till) 29.67 3.50 Hole Terminated at 3.50m bgl.

#### Remarks

#### Reason for Termination:

Terminated at agreed depth.

#### Groundwater Notes:

No groundwater encountered.

#### Other Remarks



Intermodal Logistics Park North, St Helens Minerals Assessment July 2025 ILP-BWB-SGT-XX-RP-CE-0001\_MA



**Appendix 9: PSD Testing Results** 



# **DETERMINATION OF LIQUID AND PLASTIC LIMITS**

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Depth Top [m]: 1.20

Sample Type: D

Depth Base [m]: Not Given

Job Number: 25-029363-0 Date Sampled: 23/04/2025

Date Received: 16/05/2025 Date Tested: 17/06/2025 Sampled By: Not Given

**Test Results:** 

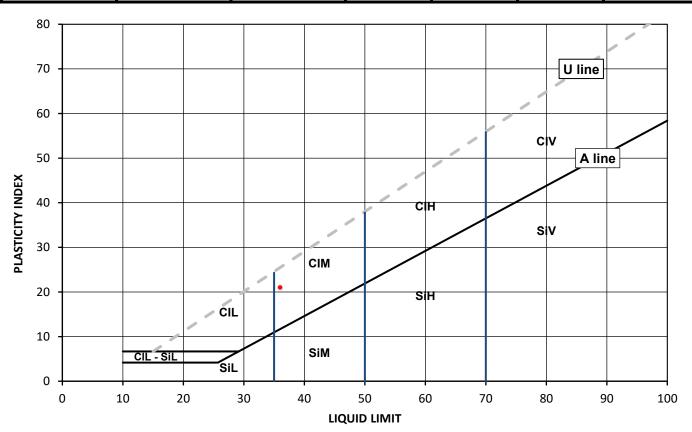
Laboratory Reference: 570763 **DS07** Hole No.: Sample Reference: Not Given

Sample Description: Brown slightly gravelly sandy CLAY

Sample Preparation: Tested after >0.425mm removed by hand; The water content in the sample was increased

80g/30deg Cone Type:

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [lp] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
21.6	36	15	21	0.33	0.67	97



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

> 0 Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

> Signed: Kataryna

> > Kozies

Katarzyna Koziel

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd



### **DETERMINATION OF LIQUID AND PLASTIC LIMITS**

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 23/04/2025

Date Received: 16/05/2025 Date Tested: 20/06/2025 Sampled By: Not Given

**Test Results:** 

Hole No.:

Laboratory Reference: 570764 Depth Top [m]: 2.00 **DS08** Depth Base [m]: 4.00

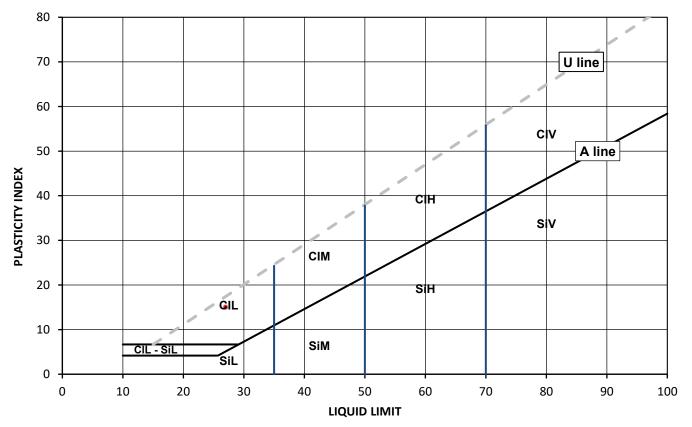
Sample Reference: Not Given Sample Type: B

Sample Description: Brown slightly gravelly very sandy CLAY

Tested after >0.425mm removed by hand; The water content in the sample was increased Sample Preparation:

80g/30deg Cone Type:

As Received Water	Liquid Limit	Plastic Limit	Plasticity Index [lp] %	Liquidity Index	Consistency	% Passing 425µm
Content [W] %	[WL] %	[Wp] %		[IL] % #	Index [IC] % #	BS Test Sieve
17.8	27	12	15	0.40	0.60	99



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

> 0 Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

> Signed: Kataryna

> > Kozies

Katarzyna Koziel

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Page 1 of 1 **Date Reported:** 09/07/2025



### DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 25/04/2025

Date Received: 16/05/2025 Date Tested: 17/06/2025

Sampled By: Not Given

**Test Results:** 

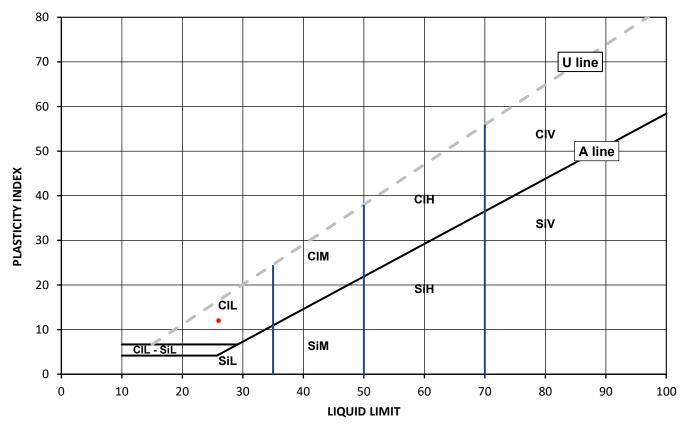
Laboratory Reference:570765Depth Top [m]: 1.20Hole No.:DS02Depth Base [m]: Not GivenSample Reference:Not GivenSample Type: D

Sample Description: Brown slightly gravelly very sandy CLAY

Sample Preparation: Tested after >0.425mm removed by hand; The water content in the sample was increased

Cone Type: 80g/30deg

As Received Water	Liquid Limit	Plastic Limit	Plasticity Index [lp] %	Liquidity Index	Consistency	% Passing 425µm
Content [W] %	[WL] %	[Wp] %		[IL] % #	Index [IC] % #	BS Test Sieve
12.5	26	14	12	-0.08	1.08	95



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

Liquid Limit Plasticity Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

O Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

Signed: Kataryna

Katarzyna Koziel
Geotechnical Reporting

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

**Date Reported:** 09/07/2025



# DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 25/04/2025

Date Received: 16/05/2025 Date Tested: 17/06/2025

Sampled By: Not Given

**Test Results:** 

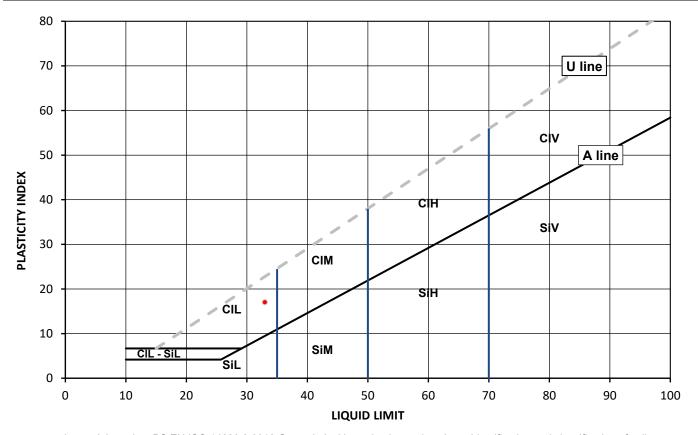
Laboratory Reference:570766Depth Top [m]: 3.00Hole No.:DS05Depth Base [m]: Not GivenSample Reference:Not GivenSample Type: D

Sample Description: Brown slightly gravelly very sandy CLAY

Sample Preparation: Tested after >0.425mm removed by hand; The water content in the sample was increased

Cone Type: 80g/30deg

As Received Water	Liquid Limit	Plastic Limit	Plasticity Index [lp] %	Liquidity Index	Consistency	% Passing 425µm
Content [W] %	[WL] %	[Wp] %		[IL] % #	Index [IC] % #	BS Test Sieve
18.5	33	16	17	0.18	0.82	97



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

O Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

Signed: Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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Page 1 of 1

Date Reported: 09/07/2025 GF 337.14



# DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398

Depth Top [m]: 1.50

Sample Type: D

Depth Base [m]: Not Given

Job Number: 25-029363-0 Date Sampled: 28/04/2025 Date Received: 16/05/2025

Date Tested: 17/06/2025 Sampled By: Not Given

**Test Results:** 

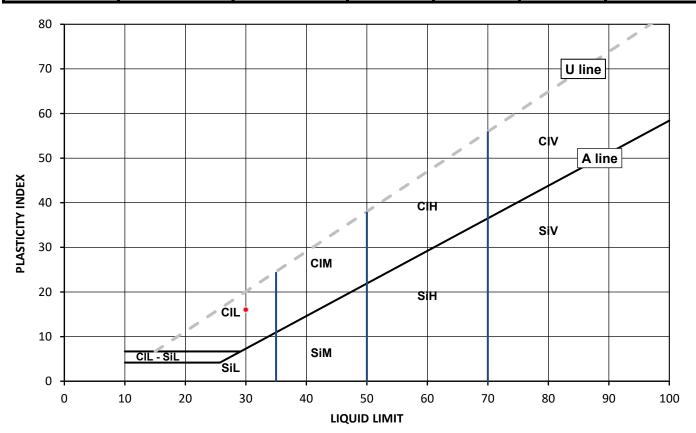
Laboratory Reference: 570767 Hole No.: DS01

Sample Reference: Not Given
Sample Description: Brown slightly gravelly very sandy CLAY

Sample Preparation: Tested after >0.425mm removed by hand; The water content in the sample was increased

Cone Type: 80g/30deg

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [lp] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
17.1	30	14	16	0.19	0.81	98



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

O Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

Signed: Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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Page 1 of 1

Date Reported: 09/07/2025

GF 337.14



# **DETERMINATION OF LIQUID AND PLASTIC LIMITS**

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 28/04/2025

Date Received: 16/05/2025 Date Tested: 17/06/2025 Sampled By: Not Given

**Test Results:** 

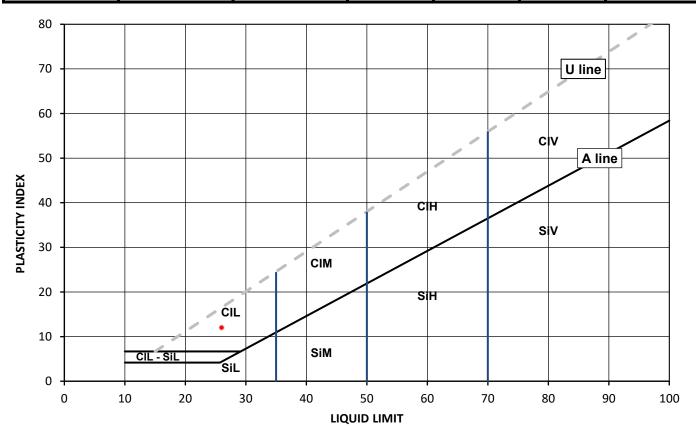
Laboratory Reference: 570770 Depth Top [m]: 2.00 TP10 Depth Base [m]: 2.10 Hole No.: Sample Reference: Not Given Sample Type: D

Sample Description: Brown slightly gravelly very sandy CLAY

Tested after >0.425mm removed by hand; The water content in the sample was increased Sample Preparation:

80g/30deg Cone Type:

As Received Water	Liquid Limit	Plastic Limit	Plasticity Index [lp] %	Liquidity Index	Consistency	% Passing 425µm
Content [W] %	[WL] %	[Wp] %		[IL] % #	Index [IC] % #	BS Test Sieve
15.4	26	14	12	0.08	0.92	96



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

> 0 Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

> Signed: Kataryna

> > Kozies

Katarzyna Koziel

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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Page 1 of 1 **Date Reported:** 09/07/2025 GF 337.14



### DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 28/04/2025

Date Received: 16/05/2025 Date Tested: 19/06/2025

Sampled By: Not Given

**Test Results:** 

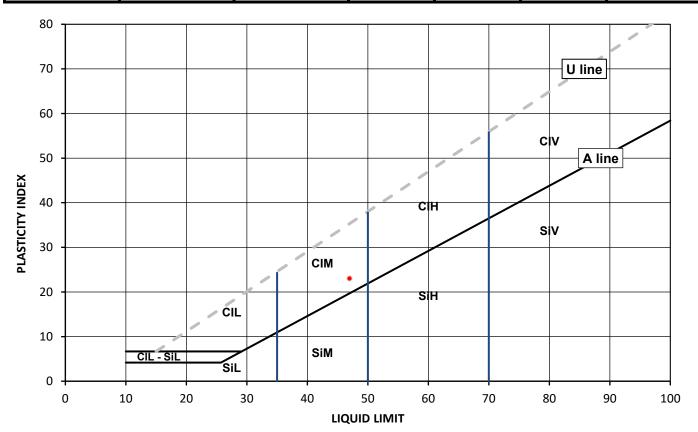
Laboratory Reference:570774Depth Top [m]: 0.70Hole No.:TP14Depth Base [m]: 0.90Sample Reference:Not GivenSample Type: B

Sample Description: Dark grey slightly gravelly slightly sandy silty CLAY

Sample Preparation: Tested after washing to remove >0.425mm; The water content in the sample was increased

Cone Type: 80g/30deg

As Received Water	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Consistency	% Passing 425µm
Content [W] %	[WL] %	[Wp] %	[lp] %	[IL] % #	Index [IC] % #	BS Test Sieve
33.0	47	24	23	0.39	0.61	94



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

O Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

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Remarks: Preliminary report

Signed: Kataryna

Kozies

Katarzyna Koziel
Geotechnical Reporting

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd



### **DETERMINATION OF LIQUID AND PLASTIC LIMITS**

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 28/04/2025

Date Received: 16/05/2025 Date Tested: 17/06/2025 Sampled By: Not Given

**Test Results:** 

Laboratory Reference: 570775 TP15 Hole No.: Sample Reference: Not Given

Sample Description:

Brownish grey slightly gravelly very sandy CLAY

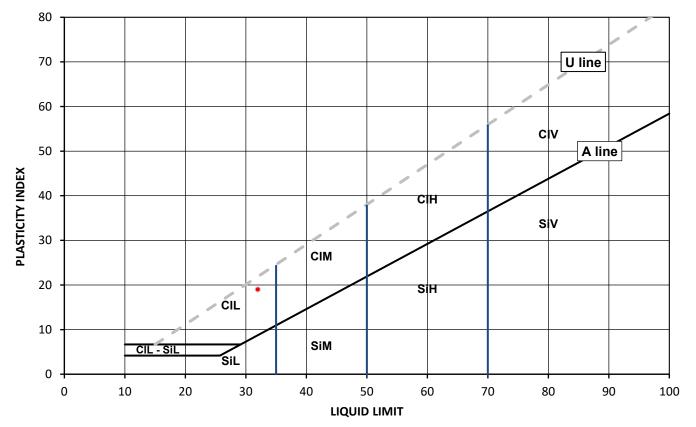
Sample Preparation: Cone Type:

Depth Top [m]: 0.50 Depth Base [m]: 0.60

Sample Type: D

Tested after >0.425mm removed by hand; The water content in the sample was increased 80g/30deg

As Received Water	Liquid Limit	Plastic Limit	Plasticity Index [lp] %	Liquidity Index	Consistency	% Passing 425μm
Content [W] %	「WL1 %	[Wp] %		[IL] % #	Index IIC1 % #	BS Test Sieve
16.7	32	13	19	0.21	0.79	90



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

Liquid Limit Plasticity Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

> 0 Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

> Signed: Kataryna

Katarzyna Koziel

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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Kozies Page 1 of 1

**Date Reported:** 09/07/2025

GF 337.14



### **DETERMINATION OF LIQUID AND PLASTIC LIMITS**

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 29/04/2025

Date Received: 16/05/2025 Date Tested: 20/06/2025 Sampled By: Not Given

**Test Results:** 

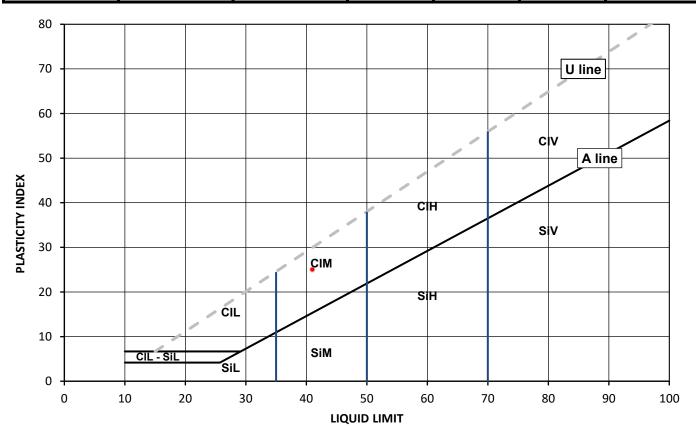
Laboratory Reference: 570780 Depth Top [m]: 0.50 TP24 Depth Base [m]: 0.60 Hole No.: Sample Reference: Not Given Sample Type: B

Sample Description: Brown slightly gravelly slightly sandy silty CLAY

Tested after >0.425mm removed by hand; The water content in the sample was increased Sample Preparation:

80g/30deg Cone Type:

As Received Water	Liquid Limit	Plastic Limit	Plasticity Index [lp] %	Liquidity Index	Consistency	% Passing 425µm
Content [W] %	[WL] %	[Wp] %		[IL] % #	Index [IC] % #	BS Test Sieve
18.3	41	16	25	0.08	0.92	96



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

> 0 Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

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Remarks: Preliminary report

> Signed: Kataryna

> > Kozies

Katarzyna Koziel

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

laboratory. The results included within the report relate only to the sample(s) submitted for testing.



### **DETERMINATION OF LIQUID AND PLASTIC LIMITS**

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Depth Top [m]: 1.50

Depth Base [m]: 1.60

Sample Type: D

Job Number: 25-029363-0 Date Sampled: 29/04/2025

Date Received: 16/05/2025 Date Tested: 17/06/2025 Sampled By: Not Given

**Test Results:** 

Hole No.:

Laboratory Reference: 570784 TP20 Sample Reference: Not Given

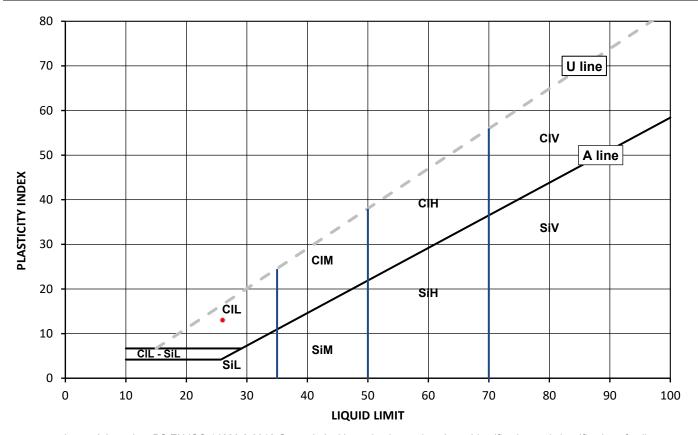
Sample Description: Brown slightly gravelly very sandy CLAY

Sample Preparation:

Tested after >0.425mm removed by hand; The water content in the sample was increased

80g/30deg Cone Type:

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [lp] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
15.6	26	13	13	0.23	0.77	95



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М

Н High 50 to 70 ٧ Very high exceeding 70

0 Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

> Signed: Kataryna

Katarzyna Koziel

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd



### DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 29/04/2025

Date Received: 16/05/2025 Date Tested: 18/06/2025 Sampled By: Not Given

resuring carried out at 12 Arranytical Elimited, dr. 1 formerow, 41-711 Nuda Siaska, 1 olar

**Test Results:** 

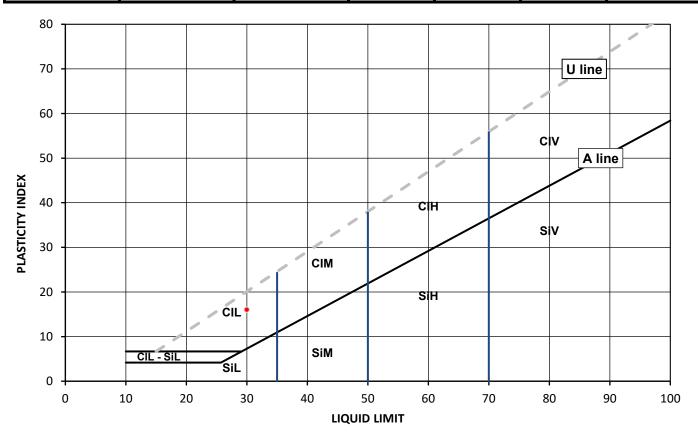
Laboratory Reference:570787Depth Top [m]: 0.60Hole No.:TP23Depth Base [m]: 0.70Sample Reference:Not GivenSample Type: B

Sample Description: Reddish brown slightly gravelly very sandy CLAY

Sample Preparation: Tested after washing to remove >0.425mm; The water content in the sample was increased

Cone Type: 80g/30deg

As Received Water	Liquid Limit	Plastic Limit	Plasticity Index [lp] %	Liquidity Index	Consistency	% Passing 425µm
Content [W] %	[WL] %	[Wp] %		[IL] % #	Index [IC] % #	BS Test Sieve
13.1	30	14	16	-0.06	1.06	93



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

O Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

Signed: Kataryna

Katarzyna Koziel

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd



## **DETERMINATION OF LIQUID AND PLASTIC LIMITS**

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 30/04/2025

Date Received: 16/05/2025 Date Tested: 17/06/2025 Sampled By: Not Given

**Test Results:** 

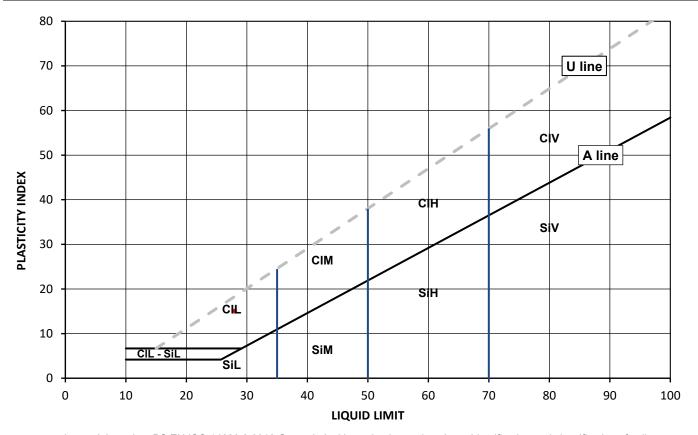
Laboratory Reference: 570790 Depth Top [m]: 2.10 TP08 Depth Base [m]: 2.20 Hole No.: Sample Reference: Not Given Sample Type: D

Sample Description: Brown slightly gravelly very sandy CLAY

Tested after >0.425mm removed by hand; The water content in the sample was increased Sample Preparation:

80g/30deg Cone Type:

As Received War		Plastic Limit [Wp] %	Plasticity Index [lp] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
14.4	28	13	15	0.07	0.93	93



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70

٧ Very high exceeding 70

0 Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

> Signed: Kataryna

> > Kozies

Katarzyna Koziel

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Page 1 of 1

**Date Reported:** 09/07/2025



# **DETERMINATION OF LIQUID AND PLASTIC LIMITS**

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Depth Top [m]: 0.70

Depth Base [m]: 0.80

Sample Type: D

Job Number: 25-029363-0 Date Sampled: 30/04/2025

Date Received: 16/05/2025 Date Tested: 17/06/2025 Sampled By: Not Given

**Test Results:** 

Laboratory Reference: 570794

TP06 Hole No.: Sample Reference: Not Given

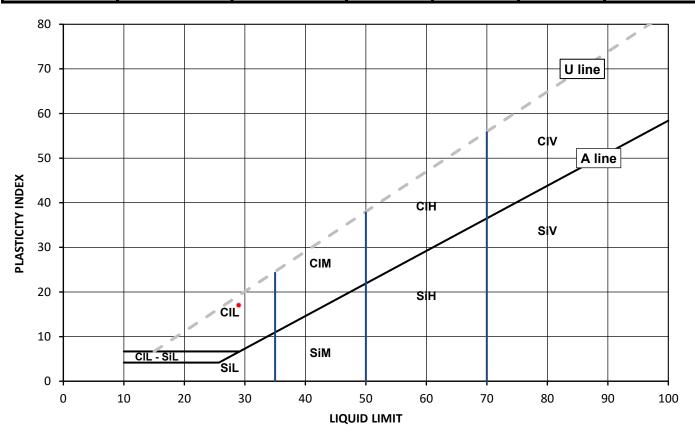
Sample Description: Sample Preparation: Brown slightly gravelly very sandy CLAY

Cone Type:

Tested after >0.425mm removed by hand; The water content in the sample was increased

80g/30deg

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [lp] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
14.6	29	12	17	0.18	0.82	97



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt

Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

0 Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

> Signed: Kataryna

> > Kozies

Katarzyna Koziel

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Page 1 of 1 **Date Reported:** 09/07/2025



# DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 30/04/2025

Date Received: 16/05/2025 Date Tested: 20/06/2025

Sampled By: Not Given

**Test Results:** 

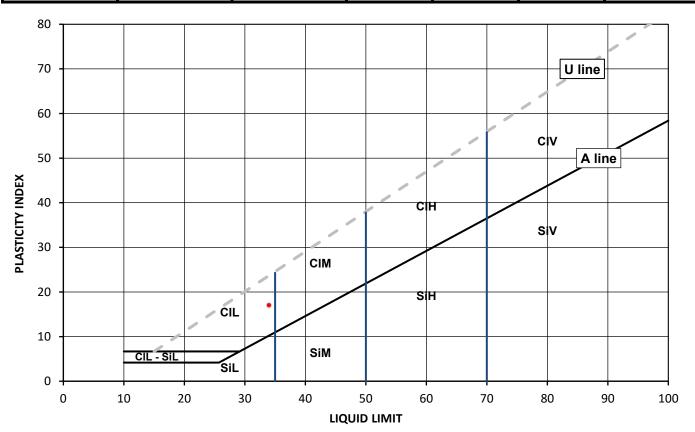
Laboratory Reference:570795Depth Top [m]: 0.60Hole No.:TP02Depth Base [m]: 0.70Sample Reference:Not GivenSample Type: B

Sample Description: Brown slightly gravelly slightly sandy silty CLAY

Sample Preparation: Tested after washing to remove >0.425mm; The water content in the sample was increased

Cone Type: 80g/30deg

As Received Water	Liquid Limit	Plastic Limit	Plasticity Index [lp] %	Liquidity Index	Consistency	% Passing 425µm
Content [W] %	[WL] %	[Wp] %		[IL] % #	Index [IC] % #	BS Test Sieve
14.2	34	17	17	-0.18	1.18	85



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

O Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

Signed: Kataryna

Kozies

Katarzyna Koziel Geotechnical Reporting

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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9/07/2025 **GF 337.14** 



# DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



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Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 30/04/2025

Date Received: 16/05/2025 Date Tested: 17/06/2025

Sampled By: Not Given

**Test Results:** 

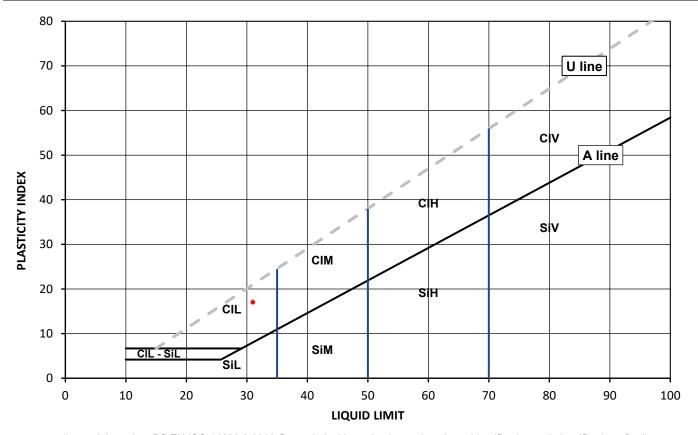
Laboratory Reference:570798Depth Top [m]: 2.20Hole No.:TP03Depth Base [m]: 2.30Sample Reference:Not GivenSample Type: D

Sample Description: Brown slightly gravelly very sandy CLAY

Sample Preparation: Tested after >0.425mm removed by hand; The water content in the sample was increased

Cone Type: 80g/30deg

As Received Water	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Consistency	% Passing 425µm
Content [W] %	[WL] %	[Wp] %	[lp] %	[IL] % #	Index [IC] % #	BS Test Sieve
17.0	31	14	17	0.18	0.82	92



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

O Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

Signed: Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

**Date Reported:** 09/07/2025

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd



### **DETERMINATION OF LIQUID AND PLASTIC LIMITS**

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 30/04/2025

Date Received: 16/05/2025 Date Tested: 17/06/2025

Sampled By: Not Given

**Test Results:** 

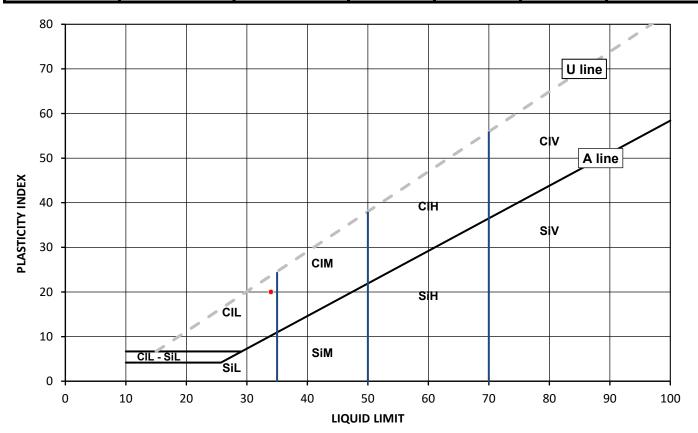
Laboratory Reference: 570801 Depth Top [m]: 0.50 TP01 Depth Base [m]: 0.60 Hole No.: Sample Reference: Not Given Sample Type: D

Sample Description: Brownish grey slightly gravelly very sandy CLAY

Tested after >0.425mm removed by hand; The water content in the sample was increased Sample Preparation:

80g/30deg Cone Type:

As Received Water	Liquid Limit	Plastic Limit	Plasticity Index [lp] %	Liquidity Index	Consistency	% Passing 425µm
Content [W] %	[WL] %	[Wp] %		[IL] % #	Index [IC] % #	BS Test Sieve
17.6	34	14	20	0.20	0.80	99



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

> 0 Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

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Remarks: Preliminary report

Signed:

Katarzyna Koziel

Geotechnical Reporting Team Leader

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Page 1 of 1

Kataryna

Kozies

for and on behalf of i2 Analytical Ltd

**Date Reported:** 09/07/2025

GF 337.14



### **DETERMINATION OF LIQUID AND PLASTIC LIMITS**

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Depth Top [m]: 0.40

Depth Base [m]: 0.60

Sample Type: D

Job Number: 25-029363-0 Date Sampled: 01/05/2025

Date Received: 16/05/2025 Date Tested: 17/06/2025 Sampled By: Not Given

**Test Results:** 

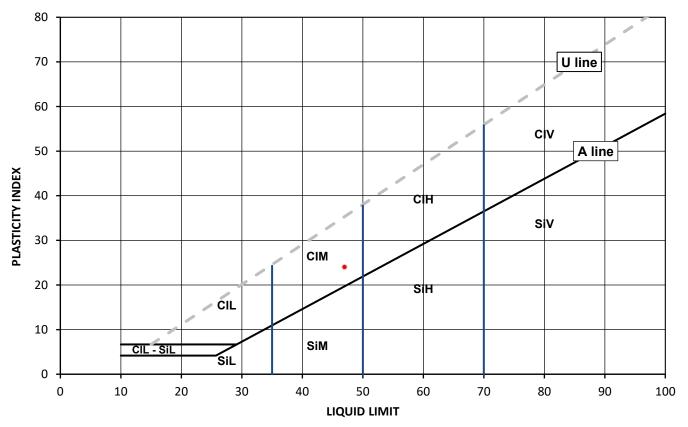
Laboratory Reference: 570804 TP31 Hole No.: Sample Reference: Not Given

Sample Description: Brown slightly gravelly slightly sandy CLAY

Tested after >0.425mm removed by hand; The water content in the sample was increased Sample Preparation:

80g/30deg Cone Type:

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [lp] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
24.8	47	23	24	0.08	0.92	98



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М

> Н High 50 to 70 ٧ Very high exceeding 70

0 Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

> Signed: Kataryna

Katarzyna Koziel

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd



# DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 02/05/2025

Date Received: 16/05/2025 Date Tested: 17/06/2025

Sampled By: Not Given

**Test Results:** 

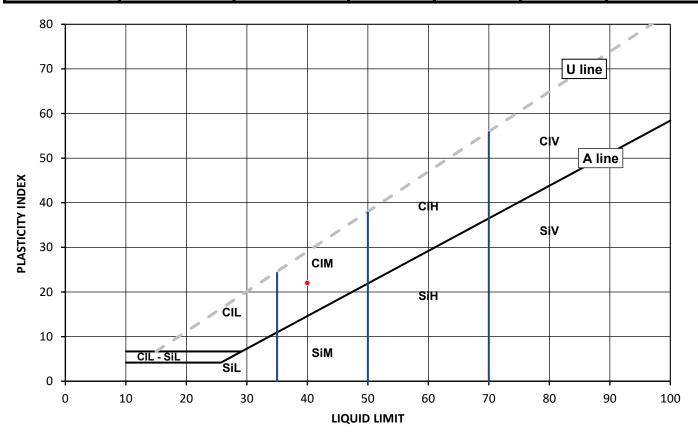
Laboratory Reference:570812Depth Top [m]: 0.40Hole No.:TP36Depth Base [m]: 0.50Sample Reference:Not GivenSample Type: D

Sample Description: Brownish grey slightly gravelly sandy CLAY

Sample Preparation: Tested after >0.425mm removed by hand; The water content in the sample was increased

Cone Type: 80g/30deg

As Received Water	Liquid Limit	Plastic Limit	Plasticity Index [lp] %	Liquidity Index	Consistency	% Passing 425µm
Content [W] %	[WL] %	[Wp] %		[IL] % #	Index [IC] % #	BS Test Sieve
21.3	40	18	22	0.14	0.86	97



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

O Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

Signed: Kataryna

Kozies

Katarzyna Koziel

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd



### DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398

Depth Top [m]: 1.00

Sample Type: D

Depth Base [m]: Not Given

Job Number: 25-029363-0 Date Sampled: 30/04/2025

Date Received: 16/05/2025 Date Tested: 17/06/2025 Sampled By: Not Given

**Test Results:** 

Laboratory Reference: 570814 Hole No.: DS14

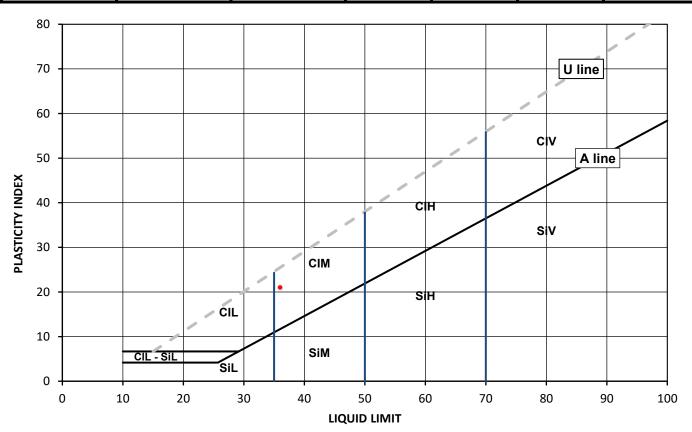
Sample Reference: Not Given

Sample Description: Brown slightly gravelly sandy CLAY

Sample Preparation: Tested after >0.425mm removed by hand; The water content in the sample was increased

Cone Type: 80g/30deg

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [lp] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
10.9	36	15	21	-0.19	1.19	88



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

O Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

Signed: Kataryna

Kozies

Katarzyna Koziel

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd



# DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398

Depth Top [m]: 0.50

Sample Type: D

Depth Base [m]: Not Given

Job Number: 25-029363-0 Date Sampled: 30/04/2025

Date Received: 16/05/2025 Date Tested: 17/06/2025 Sampled By: Not Given

**Test Results:** 

Laboratory Reference: 570815

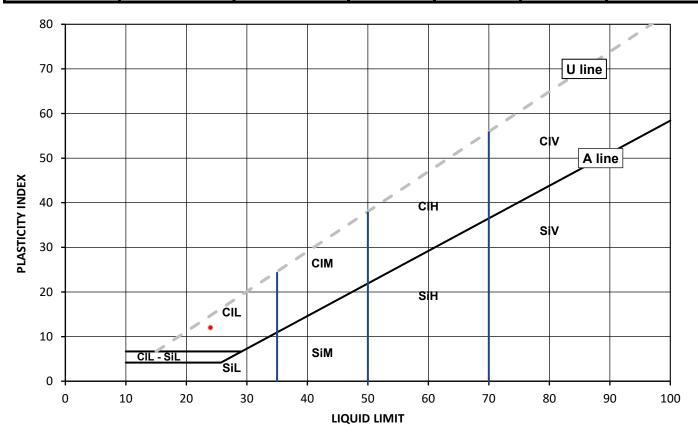
Hole No.: DS15 Sample Reference: Not Given

Sample Description: Brown slightly gravelly clayey SAND

Sample Preparation: Tested after >0.425mm removed by hand; The water content in the sample was increased

Cone Type: 80g/30deg

As Received Water	Liquid Limit	Plastic Limit	Plasticity Index [lp] %	Liquidity Index	Consistency	% Passing 425µm
Content [W] %	[WL] %	[Wp] %		[IL] % #	Index [IC] % #	BS Test Sieve
8.9	24	12	12	-0.25	1.25	96



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 CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

Signed: Kataryna

Kozies

Katarzyna Koziel

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Page 1 of 1

**Date Reported:** 09/07/2025



## DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398

Depth Top [m]: 3.50

Sample Type: D

Depth Base [m]: Not Given

Job Number: 25-029363-0 Date Sampled: 01/05/2025 Date Received: 16/05/2025

Date Tested: 17/06/2025 Sampled By: Not Given

**Test Results:** 

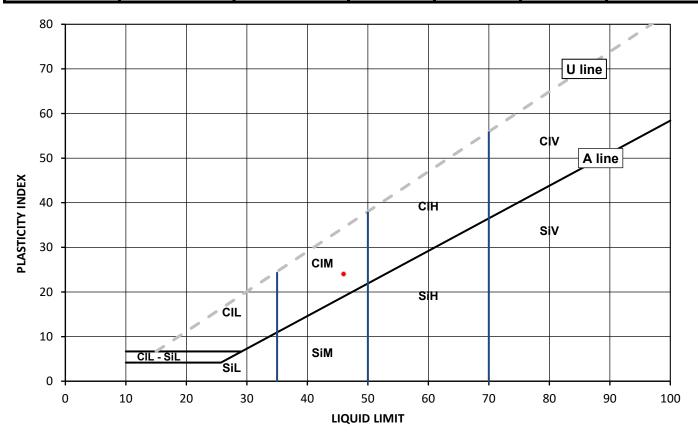
Laboratory Reference: 570816
Hole No.: DS06

Sample Reference: Not Given
Sample Description: Brown slightly gravelly slightly sandy CLAY

Sample Preparation: Tested after >0.425mm removed by hand; The water content in the sample was increased

Cone Type: 80g/30deg

As Received Water	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Consistency	% Passing 425µm
Content [W] %	[WL] %	[Wp] %	[lp] %	[IL] % #	Index [IC] % #	BS Test Sieve
30.9	46	22	24	0.38	0.63	97



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

O Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

Signed: Kataryna

Katarzyna Koziel
Geotechnical Reporting

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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Date Reported: 09/07/2025



## **DETERMINATION OF LIQUID AND PLASTIC LIMITS**

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



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**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Depth Top [m]: 4.00

Sample Type: D

Depth Base [m]: Not Given

Job Number: 25-029363-0 Date Sampled: 28/05/2025

Date Received: 16/05/2025 Date Tested: 17/06/2025 Sampled By: Not Given

**Test Results:** 

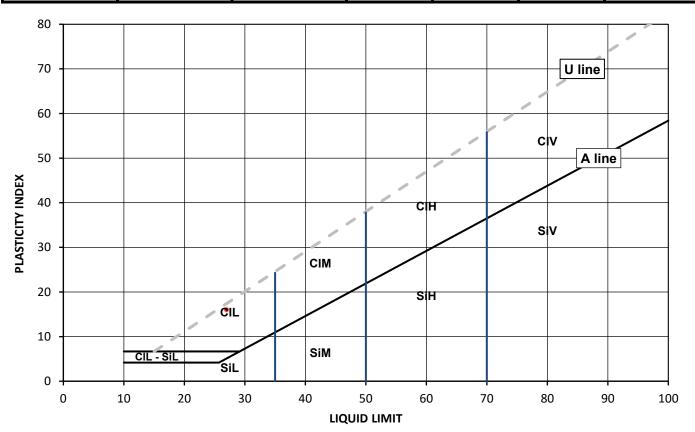
Laboratory Reference: 570820 RO02 Hole No.: Sample Reference: Not Given

Sample Description: Brown slightly gravelly very sandy CLAY

Tested after >0.425mm removed by hand; The water content in the sample was increased Sample Preparation:

80g/30deg Cone Type:

As Received Water	Liquid Limit	Plastic Limit	Plasticity Index [lp] %	Liquidity Index	Consistency	% Passing 425µm
Content [W] %	[WL] %	[Wp] %		[IL] % #	Index [IC] % #	BS Test Sieve
8.9	27	11	16	-0.13	1.13	93



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

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Katarzyna Koziel Geotechnical Reporting Team Leader

for and on behalf of i2 Analytical Ltd

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Kozies Page 1 of 1



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Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 30/04/2025

Date Received: 16/05/2025 Date Tested: 18/06/2025

Sampled By: Not Given

**Test Results:** 

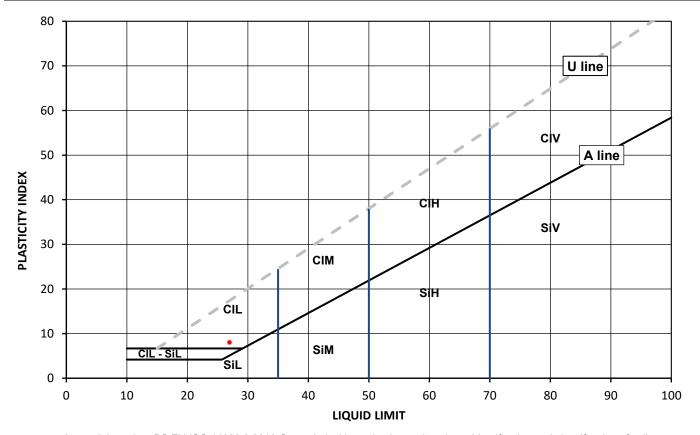
Laboratory Reference: 572839 Depth Top [m]: 0.30 TP51 1 Depth Base [m]: Not Given Hole No.: Sample Reference: Not Given Sample Type: D

Sample Description: Brown slightly gravelly very sandy silty CLAY

Sample Preparation: Tested after washing to remove >0.425mm; The water content in the sample was increased

80g/30deg Cone Type:

As Received V Content [W]		Plastic Limit [Wp] %	Plasticity Index [lp] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
11.7	27	19	8	-0.88	1.88	88



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

Liquid Limit Plasticity Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

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Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

> Signed: Kataryna

Katarzyna Koziel

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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Kozies Page 1 of 1



## DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398

Depth Top [m]: 0.50

Sample Type: B

Depth Base [m]: Not Given

Job Number: 25-029363-0 Date Sampled: 30/04/2025

Date Received: 16/05/2025 Date Tested: 20/06/2025 Sampled By: Not Given

**Test Results:** 

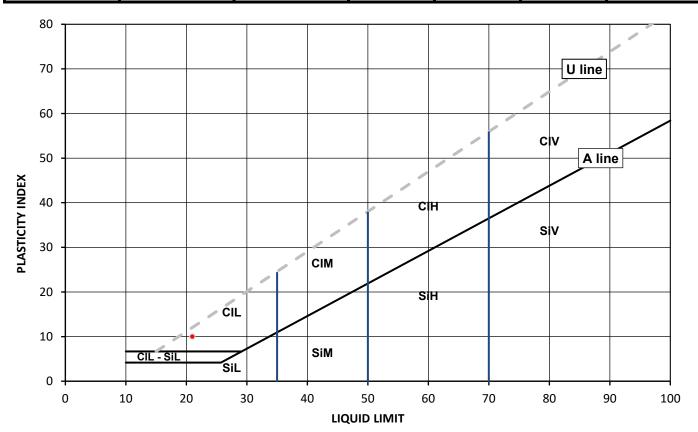
Laboratory Reference: 572842 Hole No.: TP71 1

Sample Reference: Not Given
Sample Description: Brown slightly gravelly sandy silty CLAY

Sample Preparation: Tested after >0.425mm removed by hand; The water content in the sample was increased

Cone Type: 80g/30deg

As Received Water	Liquid Limit	Plastic Limit	Plasticity Index [lp] %	Liquidity Index	Consistency	% Passing 425µm
Content [W] %	[WL] %	[Wp] %		[IL] % #	Index [IC] % #	BS Test Sieve
11.1	21	11	10	0.00	1.00	95



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

O Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

**Date Reported:** 09/07/2025

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd



## **DETERMINATION OF LIQUID AND PLASTIC LIMITS**

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

Client Reference: 233398

Depth Top [m]: 1.30

Sample Type: D

Depth Base [m]: Not Given

Job Number: 25-029363-0 Date Sampled: 30/04/2025

Date Received: 16/05/2025 Date Tested: 18/06/2025 Sampled By: Not Given

**Test Results:** 

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

Laboratory Reference: 572849 **TP413** Hole No.: Sample Reference: Not Given

Sample Description:

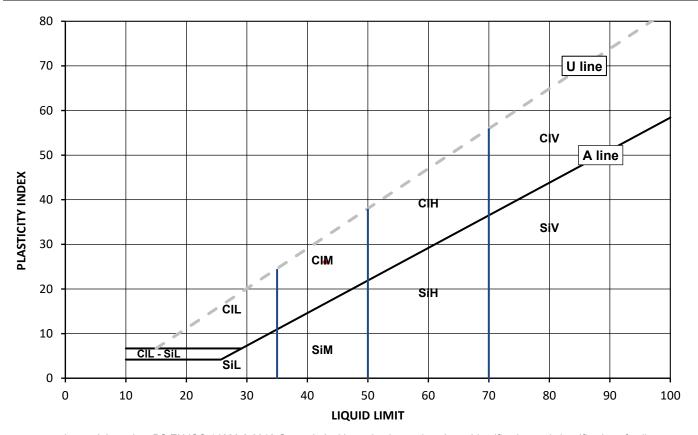
Brown slightly gravelly sandy CLAY

Sample Preparation:

Tested after >0.425mm removed by hand; The water content in the sample was increased

80g/30deg Cone Type:

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [lp] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
22.4	43	17	26	0.19	0.81	96



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

> 0 Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

> Signed: Kataryna

Katarzyna Koziel

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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Kozies Page 1 of 1

**Date Reported:** 09/07/2025



## **DETERMINATION OF LIQUID AND PLASTIC LIMITS**

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022, cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6

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



4041

**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 30/04/2025

Date Received: 16/05/2025 Date Tested: 18/06/2025 Sampled By: Not Given

**Test Results:** 

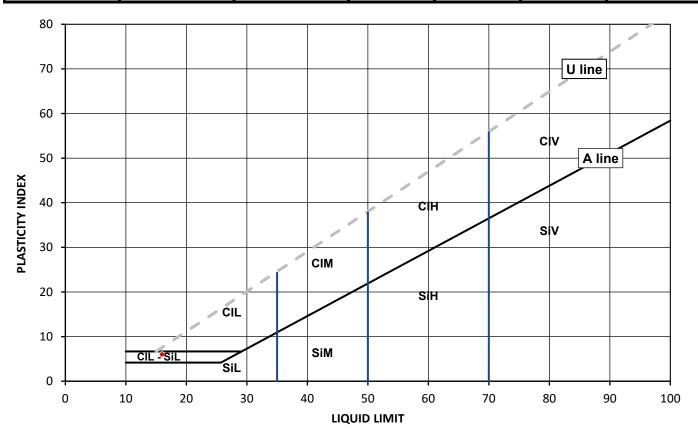
Laboratory Reference: 572861 Depth Top [m]: 1.70 **DS10** Depth Base [m]: 1.80 Hole No.: Sample Reference: Not Given Sample Type: B

Sample Description: Light brownish grey slightly gravelly CLAY and SILT

Sample Preparation: Tested after >0.425mm removed by hand; The water content in the sample was increased

80g/30deg Cone Type:

As Received Water	Liquid Limit	Plastic Limit	Plasticity Index [lp] %	Liquidity Index	Consistency	% Passing 425µm
Content [W] %	[WL] %	[Wp] %		[IL] % #	Index [IC] % #	BS Test Sieve
15.6	16	10	6	1.00	0.00	97



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

Plasticity Liquid Limit Clay CI L I ow below 35 Si Silt Medium 35 to 50 М Н High 50 to 70 ٧ Very high exceeding 70

> 0 Organic append to classification for organic material (eg CIHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Preliminary report

> Signed: Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

**Date Reported:** 09/07/2025

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Kozies Page 1 of 1 for and on behalf of i2 Analytical Ltd





Tested in Accordance with:

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



4041

Client: **BWB Consulting Limited** 

BS EN ISO 17892-12:2018+A2:2022 cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6. W by BS EN ISO 17892-1:2014+A1:2022. Particle Density by gas jar BS 1377-2:2022.

5th Floor, Waterfront House,

Nottingham, NG2 3DQ

**Thomas Flame** Contact:

Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0

Date Sampled: 23/04 - 29/04/2025

Date Received: 16/05/2025 Date Tested: 20/06/2025 Sampled By: Not Given

#### **Test results**

Client Address:

			Sample	2							Liquid	l & Plastic	Limit				Density	
Laboratory Reference	Hole No.	Reference	Depth Top	Depth Base	Туре	Description	Remarks	w	% Passing 425um	WL*	Correlation Factor	Wp	lp	Cone type	Sample Preparation	bulk	dry	PD
			m	m				%	%	%		%	%			Mg/m3	Mg/m3	Mg/m3
570763	DS07	Not Given	1.20	Not Given	D	Brown slightly gravelly sandy CLAY	Atterberg 4 Point	21.6	97	36	1	15	21	80g/30 deg	R/I			
570764	DS08	Not Given	2.00	4.00	В	Brown slightly gravelly very sandy CLAY	Atterberg 4 Point	17.8	99	27	-	12	15	80g/30 deg	R/I			
570765	DS02	Not Given	1.20	Not Given	D	Brown slightly gravelly very sandy CLAY	Atterberg 4 Point	12.5	95	26	-	14	12	80g/30 deg	R/I			
570766	DS05	Not Given	3.00	Not Given	D	Brown slightly gravelly very sandy CLAY	Atterberg 4 Point	18.5	97	33	,	16	17	80g/30 deg	R/I			
570767	DS01	Not Given	1.50	Not Given	D	Brown slightly gravelly very sandy CLAY	Atterberg 4 Point	17.1	98	30	1	14	16	80g/30 deg	R/I			
572851	TP40 3	Not Given	0.70	Not Given	D	Reddish brown slightly gravelly sandy CLAY		12.2										
570770	TP10	Not Given	2.00	2.10	D	Brown slightly gravelly very sandy CLAY	Atterberg 4 Point	15.4	96	26	1	14	12	80g/30 deg	R/I			
570774	TP14	Not Given	0.70	0.90	В	Dark grey slightly gravelly slightly sandy silty CLAY	Atterberg 4 Point	33.0	94	47	,	24	23	80g/30 deg	WR/I			
570775	TP15	Not Given	0.50	0.60	D	Brownish grey slightly gravelly very sandy CLAY	Atterberg 4 Point	16.7	90	32	-	13	19	80g/30 deg	R/I			
570780	TP24	Not Given	0.50	0.60	В	Brown slightly gravelly slightly sandy silty CLAY	Atterberg 4 Point	18.3	96	41	-	16	25	80g/30 deg	R/I			

Note: # Non accredited; NP - Non plastic; N - Tested in natural condition, R - Tested after >0,425mm removed by hand, WR - Tested after washing to remove >425mm; I - The water content in the sample was increased, D - The water content in the sample was decreased; \* - One point liquid limit corrected as per the report Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Comments: Preliminary report

Signed:

Katarzvna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

**Date Reported:** 09/07/2025

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Tested in Accordance with:

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



4041

BS EN ISO 17892-12:2018+A2:2022 cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6. W by BS EN ISO 17892-1:2014+A1:2022.

Particle Density by gas jar BS 1377-2:2022.

Client Address: 5th Floor, Waterfront House,

IP North

Nottingham, NG2 3DQ

**BWB Consulting Limited** 

Contact: Thomas Flame

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

Client Reference: 233398 Job Number: 25-029363-0

Date Sampled: 29/04 - 30/04/2025

Date Received: 16/05/2025 Date Tested: 20/06/2025 Sampled By: Not Given

#### Test results

Site Address:

Client:

			Sample	)							Liquio	l & Plastic	Limit				Density	
Laboratory Reference	Hole No.	Reference	Depth Top	Depth Base	Туре	Description	Remarks	w	% Passing 425um	WL*	Correlation Factor	Wp	lp	Cone type	Sample Preparation	bulk	dry	PD
			m	m				%	%	%		%	%			Mg/m3	Mg/m3	Mg/m3
570782	TP25	Not Given	1.20	1.30	В	Reddish brown slightly gravelly clayey SAND		7.6										
572849	TP41 3	Not Given	1.30	Not Given	D	Brown slightly gravelly sandy CLAY	Atterberg 4 Point	22.4	96	43	-	17	26	80g/30 deg	R/I			
570784	TP20	Not Given	1.50	1.60	D	Brown slightly gravelly very sandy CLAY	Atterberg 4 Point	15.6	95	26	-	13	13	80g/30 deg	R/I			
570787	TP23	Not Given	0.60	0.70	В	Reddish brown slightly gravelly very sandy CLAY	Atterberg 4 Point	13.1	93	30	-	14	16	80g/30 deg	WR/I			
570788	TP22	Not Given	0.50	0.60	В	Brown clayey SAND		8.5										2.66
570790	TP08	Not Given	2.10	2.20	D	Brown slightly gravelly very sandy CLAY	Atterberg 4 Point	14.4	93	28	1	13	15	80g/30 deg	R/I			
570791	TP08	Not Given	3.30	3.40	В	Dark brown gravelly CLAY												2.80
570794	TP06	Not Given	0.70	0.80	D	Brown slightly gravelly very sandy CLAY	Atterberg 4 Point	14.6	97	29	1	12	17	80g/30 deg	R/I			
570795	TP02	Not Given	0.60	0.70	В	Brown slightly gravelly slightly sandy silty CLAY	Atterberg 4 Point	14.2	85	34	1	17	17	80g/30 deg	WR/I			
570796	TP02	Not Given	1.90	2.00	D	Brown slightly gravelly very clayey SAND												2.65

Note: # Non accredited; NP - Non plastic; N - Tested in natural condition, R - Tested after >0,425mm removed by hand, WR - Tested after washing to remove >425mm; I - The water content in the sample was increased, D - The water content in the sample was decreased; \* - One point liquid limit corrected as per the report Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Comments: Preliminary report

Signed:

Kataryna

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

**Date Reported:** 09/07/2025

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Tested in Accordance with:

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



4041

Client: BWB Consulting Limited

BS EN ISO 17892-12:2018+A2:2022 cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6. W by BS EN ISO 17892-1:2014+A1:2022.

Particle Density by gas jar BS 1377-2:2022.

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 30/04 - 02/05/2025

Date Received: 16/05/2025 Date Tested: 17/06/2025

Date Tested: 17/06/2025 Sampled By: Not Given

Contact: Thomas Flame

Site Address: IP North

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

5th Floor, Waterfront House,

Nottingham, NG2 3DQ

#### Test results

Client Address:

			Sample	9							Liquio	l & Plasti	Limit				Density	
Laboratory Reference	Hole No.	Reference	Depth Top	Depth Base	Туре	Description	Remarks	w	% Passing 425um	WL*	Correlation Factor	Wp	lp	Cone type	Sample Preparation	bulk	dry	PD
			m	m				%	%	%	Ŭ	%	%			Mg/m3	Mg/m3	Mg/m3
570798	TP03	Not Given	2.20	2.30	D	Brown slightly gravelly very sandy CLAY	Atterberg 4 Point	17.0	92	31	-	14	17	80g/30 deg	R/I			
570799	TP03	Not Given	3.10	3.20	В	Brown slightly clayey SAND												2.69
570801	TP01	Not Given	0.50	0.60	D	Brownish grey slightly gravelly very sandy CLAY	Atterberg 4 Point	17.6	99	34	-	14	20	80g/30 deg	R/I			
570802	TP04	Not Given	0.90	1.00	В	Dark brown sandy silty CLAY		22.9										
570803	TP04	Not Given	2.40	2.50	В	Dark brown PEAT		129										
570804	TP31	Not Given	0.40	0.60	D	Brown slightly gravelly slightly sandy CLAY	Atterberg 4 Point	24.8	98	47	-	23	24	80g/30 deg	R/I			
570806	TP32	Not Given	2.00	2.20	В	Orangish brown clayey SAND												2.66
570810	TP37	Not Given	2.00	2.10	D	Brown gravelly SAND		6.9										
570812	TP36	Not Given	0.40	0.50	D	Brownish grey slightly gravelly sandy CLAY	Atterberg 4 Point	21.3	97	40	-	18	22	80g/30 deg	R/I			_
570814	DS14	Not Given	1.00	Not Given	D	Brown slightly gravelly sandy CLAY	Atterberg 4 Point	10.9	88	36	-	15	21	80g/30 deg	R/I			

Note: # Non accredited; NP - Non plastic; N - Tested in natural condition, R - Tested after >0,425mm removed by hand, WR - Tested after washing to remove >425mm; I - The water content in the sample was increased, D - The water content in the sample was decreased; \* - One point liquid limit corrected as per the report Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Comments: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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Page 1 of 1 **Date Reported**: 09/07/2025





Tested in Accordance with:

BS EN ISO 17892-12:2018+A2:2022 cl 5.3 and 5.5, Fall Cone Method, 4 Pt

Test, BS 1377-2:2022, cl 5.2 and 6. W by BS EN ISO 17892-1:2014+A1:2022.

Particle Density by gas jar BS 1377-2:2022.

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



Client Reference: 233398

Job Number: 25-029363-0

Date Sampled: 30/04 - 28/05/2025

Date Received: 16/05/2025

Date Tested: 20/06/2025

Sampled By: Not Given

**4041**Client: BWB Consulting Limited

IP North

5th Floor, Waterfront House, Nottingham, NG2 3DQ

Contact: Thomas Flame

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

#### Test results

Site Address:

Client Address:

			Sample	2							Liquio	d & Plastic	Limit				Density	
Laboratory Reference	Hole No.	Reference	Depth Top m	Depth Base m	Туре	Description	Remarks	W %	% Passing 425um %	WL*	Correlation Factor	Wp %	lp %	Cone type	Sample Preparation	bulk	dry Mg/m²	PD Mg/m3
570815	DS15	Not Given	0.50	Not Given	D	Brown slightly gravelly clayey SAND	Atterberg 4 Point	8.9	96	24	-	12	12	80g/30 deg	R/I	IVIG/III3	IVIG/III3	IVIg/III3
570816	DS06	Not Given	3.50	Not Given	D	Brown slightly gravelly slightly sandy CLAY	Atterberg 4 Point	30.9	97	46	-	22	24	80g/30 deg	R/I			
570817	DS26	Not Given	1.70	Not Given	D	Brown SAND		7.2										
570818	DS27	Not Given	1.90	Not Given	D	Brown SAND		10.5										
570820	RO02	Not Given	4.00	Not Given	D	Brown slightly gravelly very sandy CLAY	Atterberg 4 Point	8.9	93	27	-	11	16	80g/30 deg	R/I			
572838	TP48 1	Not Given	1.00	Not Given	В	Orangish brown gravelly SAND		9.9										2.64
572839	TP51 1	Not Given	0.30	Not Given	D	Brown slightly gravelly very sandy silty CLAY	Atterberg 4 Point	11.7	88	27	-	19	8	80g/30 deg	WR/I			
572861	DS10	Not Given	1.70	1.80	В	Light brownish grey slightly gravelly CLAY and SILT	Atterberg 4 Point	15.6	97	16	-	10	6	80g/30 deg	R/I			
572842	TP71 1	Not Given	0.50	Not Given	В	Brown slightly gravelly sandy silty CLAY	Atterberg 4 Point	11.1	95	21	-	11	10	80g/30 deg	R/I			
572843	TP71 3	Not Given	1.80	Not Given	В	Brown slightly gravelly SAND									·			2.64

Note: # Non accredited; NP - Non plastic; N - Tested in natural condition, R - Tested after >0,425mm removed by hand, WR - Tested after washing to remove >425mm; I - The water content in the sample was increased, D - The water content in the sample was decreased; \* - One point liquid limit corrected as per the report Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Comments: Preliminary report

Signed:

Kataryna

Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

**Date Reported:** 09/07/2025





Tested in Accordance with:

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



4041

BS EN ISO 17892-12:2018+A2:2022 cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022, cl 5.2 and 6. W by BS EN ISO 17892-1:2014+A1:2022.

Particle Density by gas jar BS 1377-2:2022.

Client Address:

5th Floor, Waterfront House,
Nottingham, NG2 3DQ

**BWB Consulting Limited** 

Contact: Thomas Flame

Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0
Date Sampled: 30/04/2025
Date Received: 16/05/2025
Date Tested: 18/06/2025

Sampled By: Not Given

#### Test results

Client:

			Sample	e							Liquid	l & Plastic	Limit				Density	
Laboratory Reference	Hole No.	Reference	Depth Top m	Depth Base m	Туре	Description	Remarks	W %	% Passing 425um %	WL*	Correlation Factor	Wp %	lp %	Cone type	Sample Preparation	bulk Mg/m3	dry Mg/m3	PD Mg/m3
572859	TP44 1	Not Given	0.70	Not Given	В	Brown slightly clayey SAND		70	70	76		76	70			IVIG/IIIS	Wig/ilis	2.66
570768	TP17	Not Given	1.40	1.50	В	Brown clayey SAND												2.66

Note: # Non accredited; NP - Non plastic; N - Tested in natural condition, R - Tested after >0,425mm removed by hand, WR - Tested after washing to remove >425mm; I - The water content in the sample was increased, D - The water content in the sample was decreased; \* - One point liquid limit corrected as per the report Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Comments: Preliminary report

Signed:

Kata ay na Kozies Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

**Date Reported:** 09/07/2025

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#### **DETERMINATION OF WATER CONTENT**

Tested in Accordance with: BS EN ISO 17892-1:2014+A1:2022, BS 1377-2: 2022, clause 4.1

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



Client Reference: 233398

Job Number: 25-029363-0

Date Sampled: 23/04 - 29/04/2025

Date Received: 16/05/2025

Date Tested: 17/06 - 20/06/2025

Sampled By: Not Given

4041 Client: BWB Consulting Limited

Client Address:

5th Floor, Waterfront House, Nottingham, NG2 3DQ

Contact: Thomas Flame

Site Address: IP North

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

#### **Test results**

			Sample	9										
Laboratory Reference	Hole No.	Reference	Depth Top	Depth Base	Туре	Description	Remarks	wc						
			m	m				%						
570763	DS07	Not Given	1.20	Not Given	D	Brown slightly gravelly sandy CLAY		21.6						
570764	DS08	Not Given	2.00	4.00	В	Brown slightly gravelly very sandy CLAY		17.8						
570765	DS02	Not Given	1.20	Not Given	D	Brown slightly gravelly very sandy CLAY		12.5						
570766	DS05	Not Given	3.00	Not Given	D	Brown slightly gravelly very sandy CLAY		18.5						
570767	DS01	Not Given	1.50	Not Given	D	Brown slightly gravelly very sandy CLAY		17.1						
570770	TP10	Not Given	2.00	2.10	D	Brown slightly gravelly very sandy CLAY		15.4						
572839	TP51 1	Not Given	0.30	Not Given	D	Brown slightly gravelly very sandy silty CLAY		11.7						
570775	TP15	Not Given	0.50	0.60	D	Brownish grey slightly gravelly very sandy CLAY		16.7						
572861	DS10	Not Given	1.70	1.80	В	Light brownish grey slightly gravelly CLAY and SILT		15.6						
570782	TP25	Not Given	1.20	1.30	В	Reddish brown slightly gravelly clayey SAND		7.6						

Comments: Preliminary report

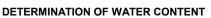
Signed:

Kataayna

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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Tested in Accordance with: BS EN ISO 17892-1:2014+A1:2022, BS 1377-2: 2022, clause 4.1

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



Client Reference: 233398

Job Number: 25-029363-0

Date Sampled: 29/04 - 01/05/2025

Date Received: 16/05/2025

Date Tested: 17/06 - 20/06/2025

Sampled By: Not Given

4041 Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House, Nottingham, NG2 3DQ

Contact: Thomas Flame

Site Address: IP North

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

#### **Test results**

			Sample	9										
Laboratory Reference	Hole No.	Reference	Depth Top	Depth Base	Туре	Description	Remarks	wc						
			m	m				%						
570784	TP20	Not Given	1.50	1.60	D	Brown slightly gravelly very sandy CLAY		15.6						
570787	TP23	Not Given	0.60	0.70	В	Reddish brown slightly gravelly very sandy CLAY		13.1						
570788	TP22	Not Given	0.50	0.60	В	Brown clayey SAND		8.5						
570790	TP08	Not Given	2.10	2.20	D	Brown slightly gravelly very sandy CLAY		14.4						
570794	TP06	Not Given	0.70	0.80	D	Brown slightly gravelly very sandy CLAY		14.6						
572849	TP41 3	Not Given	1.30	Not Given	D	Brown slightly gravelly sandy CLAY		22.4						
570798	TP03	Not Given	2.20	2.30	D	Brown slightly gravelly very sandy CLAY		17.0						
570801	TP01	Not Given	0.50	0.60	D	Brownish grey slightly gravelly very sandy CLAY		17.6						
572851	TP40 3	Not Given	0.70	Not Given	D	Reddish brown slightly gravelly sandy CLAY		12.2						
570803	TP04	Not Given	2.40	2.50	В	Dark brown PEAT		129						

Comments: Preliminary report

Signed:

Kata ay na Kozier Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

**Date Reported:** 09/07/2025





Tested in Accordance with: BS EN ISO 17892-1:2014+A1:2022, BS 1377-2: 2022, clause 4.1

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



Client Reference: 233398

Job Number: 25-029363-0

Date Sampled: 30/04 - 28/05/2025

Date Received: 16/05/2025

Date Tested: 17/06 - 19/06/2025

Sampled By: Not Given

4041 Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House, Nottingham, NG2 3DQ

Contact: Thomas Flame

Site Address: IP North

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

#### **Test results**

			Sample	)										
Laboratory Reference	Hole No.	Reference	Depth Top	Depth Base	Туре	Description	Remarks	wc						
			m	m				%						
570804	TP31	Not Given	0.40	0.60	D	Brown slightly gravelly slightly sandy CLAY		24.8						
570810	TP37	Not Given	2.00	2.10	D	Brown gravelly SAND		6.9						
570812	TP36	Not Given	0.40	0.50	D	Brownish grey slightly gravelly sandy CLAY		21.3						
570814	DS14	Not Given	1.00	Not Given	D	Brown slightly gravelly sandy CLAY		10.9						
570815	DS15	Not Given	0.50	Not Given	D	Brown slightly gravelly clayey SAND		8.9						
570816	DS06	Not Given	3.50	Not Given	D	Brown slightly gravelly slightly sandy CLAY		30.9						
570817	DS26	Not Given	1.70	Not Given	D	Brown SAND		7.2						
570818	DS27	Not Given	1.90	Not Given	D	Brown SAND		10.5						
570820	RO02	Not Given	4.00	Not Given	D	Brown slightly gravelly very sandy CLAY		8.9						
572838	TP48 1	Not Given	1.00	Not Given	В	Orangish brown gravelly SAND		9.9			 			

Comments: Preliminary report

Signed:

Katasyna

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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Page 1 of 1 **Date Reported:** 09/07/2025

GF 126.19



## **SUMMARY REPORT**

#### **DETERMINATION OF WATER CONTENT**

Tested in Accordance with: BS EN ISO 17892-1:2014+A1:2022, BS 1377-2: 2022, clause 4.1

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



Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 30/04/2025

Date Received: 16/05/2025 Date Tested: 18/06 - 20/06/2025

Sampled By: Not Given

5th Floor, Waterfront House, Nottingham, NG2 3DQ

Thomas Flame Contact:

Site Address: IP North

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

**BWB** Consulting Limited

#### **Test results**

**4041** Client:

Client Address:

			Sample	9										
Laboratory Reference	Hole No.	Reference	Depth Top	Depth Base	Туре	Description	Remarks	wc						
			m	m				%						
572842	TP71 1	Not Given	0.50	Not Given	В	Brown slightly gravelly sandy silty CLAY	Atterberg 4 Point	11.1						
												_		

Comments: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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> GF 126.19 Page 1 of 1 **Date Reported:** 09/07/2025



#### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address:

5th Floor, Waterfront House, Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 28/04/2025

Date Received: 16/05/2025 Date Tested: 20/06/2025 Sampled By: Not Given

Depth Top [m]: 1.40

Depth Base [m]: 1.50

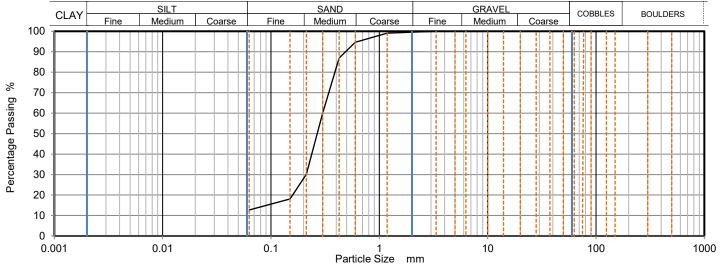
Sample Type: B

**Test Results:** 

Laboratory Reference: 570768 TP17 Hole No.: Sample Reference: Not Given

Sample Description: Brown clayey SAND

Sample Preparation: Sample was quartered, oven dried at 108.1 °C and broken down by hand.



Sieving         Sedimentation           Particle Size mm         % Passing           500         100           300         100           150         100           125         100           90         100           75         100           63         100           50         100           37.5         100           28         100           20         100           14         100           6.3         100           5         100           3.35         100           2         100           1.18         99           0.6         95           0.425         87           0.3         60           0.212         30           0.15         18           0.063         13		_	0	- Tartiolo C
500         100           300         100           150         100           125         100           90         100           75         100           63         100           50         100           37.5         100           28         100           20         100           14         100           6.3         100           5         100           3.35         100           2         100           1.18         99           0.6         95           0.425         87           0.3         60           0.212         30           0.15         18	Siev	ing	Sedime	ntation
300     100       150     100       125     100       90     100       75     100       63     100       50     100       37.5     100       28     100       20     100       14     100       6.3     100       5     100       3.35     100       2     100       1.18     99       0.6     95       0.425     87       0.3     60       0.212     30       0.15     18	Particle Size mm	% Passing	Particle Size mm	% Passing
150     100       125     100       90     100       75     100       63     100       50     100       37.5     100       28     100       20     100       14     100       10     100       6.3     100       5     100       3.35     100       2     100       1.18     99       0.6     95       0.425     87       0.3     60       0.212     30       0.15     18	500	100		
125     100       90     100       75     100       63     100       50     100       37.5     100       28     100       20     100       14     100       10     100       6.3     100       5     100       3.35     100       2     100       1.18     99       0.6     95       0.425     87       0.3     60       0.212     30       0.15     18	300	100		
90 100 75 100 63 100 50 100 37.5 100 28 100 20 100 14 100 10 100 6.3 100 5 100 3.35 100 2 100 1.18 99 0.6 95 0.425 87 0.3 60 0.212 30 0.15 18	150	100		
75	125	100		
63 100 50 100 37.5 100 28 100 20 100 14 100 100 6.3 100 5 100 5 100 3.35 100 2 1.18 99 0.6 95 0.425 87 0.3 60 0.212 30 0.15 18	90	100		
50     100       37.5     100       28     100       20     100       14     100       10     100       6.3     100       5     100       3.35     100       2     100       1.18     99       0.6     95       0.425     87       0.3     60       0.212     30       0.15     18	75	100		
37.5 100 28 100 20 100 14 100 10 100 6.3 100 5 100 3.35 100 2 100 1.18 99 0.6 95 0.425 87 0.3 60 0.212 30 0.15 18	63	100		
28 100 20 100 14 100 10 100 6.3 100 5 100 3.35 100 2 100 1.18 99 0.6 95 0.425 87 0.3 60 0.212 30 0.15 18	50	100		
20 100 14 100 10 100 6.3 100 5 100 3.35 100 2 100 1.18 99 0.6 95 0.425 87 0.3 60 0.212 30 0.15 18	37.5	100		
14     100       10     100       6.3     100       5     100       3.35     100       2     100       1.18     99       0.6     95       0.425     87       0.3     60       0.212     30       0.15     18	28	100		
10 100 6.3 100 5 1	20	100		
6.3 100 5 100 3.35 100 2 100 1.18 99 0.6 95 0.425 87 0.3 60 0.212 30 0.15 18	14	100		
5     100       3.35     100       2     100       1.18     99       0.6     95       0.425     87       0.3     60       0.212     30       0.15     18	10	100		
3.35 100 2 100 1.18 99 0.6 95 0.425 87 0.3 60 0.212 30 0.15 18	6.3	100		
2 100 1.18 99 0.6 95 0.425 87 0.3 60 0.212 30 0.15 18	5	100		
1.18     99       0.6     95       0.425     87       0.3     60       0.212     30       0.15     18	3.35	100		
0.6     95       0.425     87       0.3     60       0.212     30       0.15     18	2	100		
0.425     87       0.3     60       0.212     30       0.15     18	1.18	99		
0.3     60       0.212     30       0.15     18	0.6	95		
0.212     30       0.15     18	0.425	87	1	
0.15 18	0.3	60		
	0.212	30		
0.063 13	0.15	18		
	0.063	13	7	

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	87
Fines < 0.063 mm	13

Grading Analysis		
D100	mm	3.35
D60	mm	0.3
D30	mm	0.212
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This

Remarks: Preliminary report

Signed:

Katarzyna Koziel Geotechnical Reporting Team Leader

**Date Reported:** 09/07/2025

Kozies Page 1 of 1

Kataryna

for and on behalf of i2 Analytical Ltd

report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.



# DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10 i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



4041

Client: BWB Consulting Limited

Client Address: 5th Floor Waterfron

5th Floor, Waterfront House, Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0

Date Sampled: 28/04/2025

Date Sampled: 28/04/2025 Date Received: 16/05/2025 Date Tested: 19/06/2025 Sampled By: Not Given

Depth Top [m]: 1.90

Depth Base [m]: 2.10

Sample Type: B

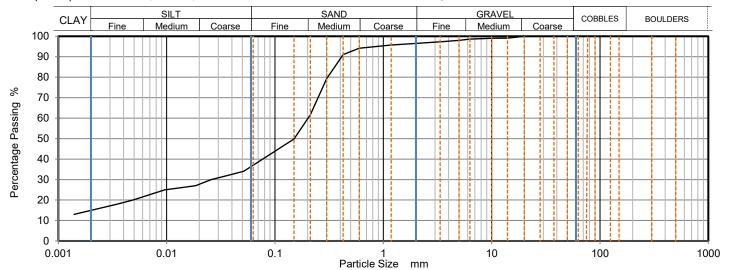
**Test Results:** 

rest Results.

Laboratory Reference: 570771
Hole No.: TP12
Sample Reference: Not Given

Sample Description: Brown slightly gravelly sandy silty CLAY

Sample Preparation: Sample was quartered, oven dried at 107.8 °C and broken down by hand.



Siev	ing	Sedime	entation
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0513	34
300	100	0.0365	32
150	100	0.0257	30
125	100	0.0185	27
90	100	0.0096	25
75	100	0.0049	20
63	100	0.0035	18
50	100	0.0014	13
37.5	100		
28	100		
20	100		
14	99		
10	99		
6.3	99		
5	98		
3.35	97		
2	97		
1.18	96		
0.6	94	Particle density	(assumed)
0.425	91	2.65	Mg/m3
0.3	79		
0.212	62		
0.15	50		
0.063	37		

Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	60
Silt	22
Clay	15

Grading Analysis		
D100	mm	20
D60	mm	0.203
D30	mm	0.025
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Remarks: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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Rozies
Page 1 of 1

Date Reported: 09/07/2025 GF 366.12



#### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

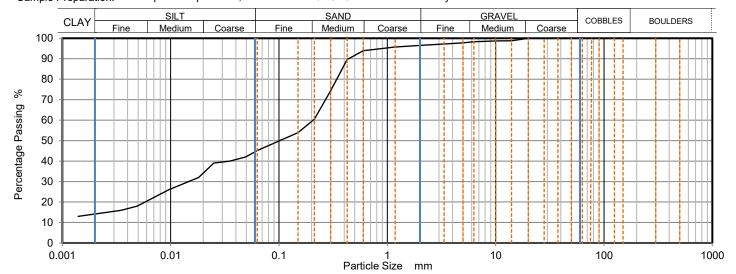
Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 28/04/2025 Date Received: 16/05/2025 Date Tested: 19/06/2025 Sampled By: Not Given

**Test Results:** 

Laboratory Reference: 570772 Depth Top [m]: 0.80 TP11 Depth Base [m]: 0.90 Hole No.: Sample Reference: Not Given Sample Type: B

Sample Description: Orangish brown slightly gravelly sandy silty CLAY

Sample Preparation: Sample was quartered, oven dried at 107.8 °C and broken down by hand.



Siev	ring	Sedime	entation
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0493	42
300	100	0.0351	40
150	100	0.0250	39
125	100	0.0181	32
90	100	0.0096	26
75	100	0.0049	18
63	100	0.0035	16
50	100	0.0014	13
37.5	100		
28	100		
20	100		
14	99		
10	99		
6.3	98		
5	98		
3.35	97		
2	97		
1.18	96		
0.6	94	Particle density	(assumed)
0.425	90	2.65	Mg/m3
0.3	74		
0.212	61		
0.15	54		
0.063	45	1	

Sample Proportions	% dry mass				
Very coarse	0				
Gravel	4				
Sand	51				
Silt	31				
Clay	14				

Grading Analysis		
D100	mm	20
D60	mm	0.206
D30	mm	0.0146
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Remarks: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

for and on behalf of i2 Analytical Ltd

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Kozies Page 1 of 1

**Date Reported:** 09/07/2025 GF 366.12



#### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 28/04/2025 Date Received: 16/05/2025 Date Tested: 19/06/2025

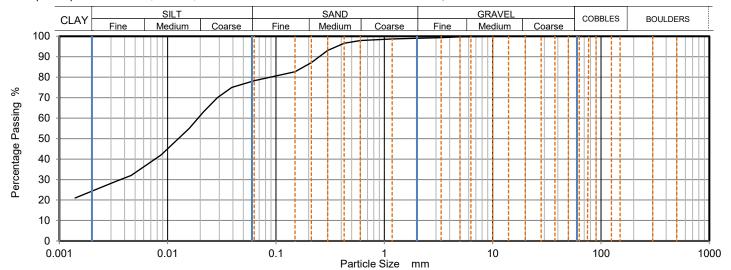
Sampled By: Not Given

**Test Results:** 

Laboratory Reference: 570773 Depth Top [m]: 0.60 TP13 Depth Base [m]: 0.70 Hole No.: Sample Reference: Not Given Sample Type: B

Sample Description: Brown slightly sandy silty CLAY

Sample Preparation: Sample was quartered, oven dried at 107.8 °C and broken down by hand.



Sieving         Sedimentation           Particle Size mm         % Passing           500         100         0.0391         75           300         100         0.0288         70           150         100         0.0213         63           125         100         0.0158         55           90         100         0.0087         42           75         100         0.0046         32           63         100         0.0033         29           50         100         0.0014         21           37.5         100         0.0014         21           37.5         100         0.0014         21           28         100         0.0014         21           10         100         0.0014         21           10         100         0.0014         0.0014           10         100         0.0014         0.0014           10         100         0.0014         0.0014           10         100         0.0014         0.0014         0.0014           10         100         0.0014         0.0014         0.0014         0.0014				
500         100         0.0391         75           300         100         0.0288         70           150         100         0.0213         63           125         100         0.0158         55           90         100         0.0087         42           75         100         0.0046         32           63         100         0.0033         29           50         100         0.0014         21           37.5         100         0.0014         21           28         100         0.0014         21           20         100         0.0014         21           10         100         0.0014         0.0014           10         100         0.0014         0.0014           10         100         0.0014         0.0014         0.0014           10         100         0.0014         0.00	Sieving		Sedimentation	
300         100         0.0288         70           150         100         0.0213         63           125         100         0.0158         55           90         100         0.0087         42           75         100         0.0046         32           63         100         0.0033         29           50         100         0.0014         21           37.5         100         0.0014         21           28         100         0.0014         21           20         100         0.0014         0.0014           14         100         0.0014         0.0014           10         100         0.0014         0.0014           10         100         0.0014         0.0014           10         100         0.0014         0.0014           10         100         0.0014         0.0014           10         100         0.0014         0.0014           10         100         0.0014         0.0014           10         100         0.0014         0.0014           10         100         0.0014         0.0014           10	Particle Size mm	% Passing	Particle Size mm	% Passing
150         100         0.0213         63           125         100         0.0158         55           90         100         0.0087         42           75         100         0.0046         32           63         100         0.0033         29           50         100         0.0014         21           37.5         100         0.0014         21           28         100         0.0014         21           20         100         0.0014         0.0014           14         100         0.0014         0.0014           10         100         0.0014         0.0014         0.0014           10         100         0.0014	500	100	0.0391	75
125         100         0.0158         55           90         100         0.0087         42           75         100         0.0046         32           63         100         0.0033         29           50         100         0.0014         21           37.5         100         0.0014         21           28         100         0.0014         21           20         100         0.0014         0.0014         0.0014           14         100         0.0014	300	100	0.0288	70
90 100 0.0087 42  75 100 0.0046 32  63 100 0.0033 29  50 100 0.0014 21  37.5 100  28 100  20 100  14 100  10 100  6.3 100  5 100  3.35 99  2 99  1.18 99  0.6 98 Particle density (assumed)  0.425 97  0.3 93  0.212 87  0.15 83	150	100	0.0213	63
75 100 0.0046 32 63 100 0.0033 29 50 100 0.0014 21 37.5 100 28 100 20 100 14 100 10 100 6.3 100 5 100 3.35 99 2 99 1.18 99 0.6 98 Particle density (assumed) 0.425 97 0.3 93 0.212 87 0.15 83	125	100	0.0158	55
63 100 0.0033 29 50 100 0.0014 21 37.5 100 28 100 20 100 14 100 10 100 6.3 100 5 100 3.35 99 2 99 1.18 99 0.6 98 Particle density (assumed) 0.425 97 0.3 93 0.212 87 0.15 83	90	100	0.0087	42
50         100         0.0014         21           37.5         100         28         100           20         100         20         100         20           14         100	75	100	0.0046	32
37.5 100 28 100 20 100 14 100 10 100 6.3 100 5 100 3.35 99 2 99 1.18 99 0.6 98 Particle density (assumed) 0.425 97 0.3 93 0.212 87 0.15 83	63	100	0.0033	29
28 100 20 100 14 100 10 100 6.3 100 5 100 3.35 99 2 99 1.18 99 0.6 98 Particle density (assumed) 0.425 97 0.3 93 0.212 87 0.15 83	50	100	0.0014	21
20 100 14 100 10 100 6.3 100 5 100 3.35 99 2 99 1.18 99 0.6 98 Particle density (assumed) 0.425 97 0.3 93 0.212 87 0.15 83	37.5	100		
14     100       10     100       6.3     100       5     100       3.35     99       2     99       1.18     99       0.6     98     Particle density (assumed)       0.425     97     2.65     Mg/m3       0.3     93       0.212     87       0.15     83	28	100		
10 100 6.3 100 5 1	20	100		
6.3 100 5 100 3.35 99 2 99 1.18 99 0.6 98 Particle density (assumed) 0.425 97 0.3 93 0.212 87 0.15 83	14	100		
5 100 3.35 99 2 99 1.18 99 0.6 98 Particle density (assumed) 0.425 97 2.65 Mg/m3 0.3 93 0.212 87 0.15 83	10	100		
3.35 99 2 99 1.18 99 0.6 98 Particle density (assumed) 0.425 97 2.65 Mg/m3 0.3 93 0.212 87 0.15 83	6.3	100		
2 99 1.18 99 0.6 98 Particle density (assumed) 0.425 97 2.65 Mg/m3 0.3 93 0.212 87 0.15 83	5	100		
1.18 99 0.6 98 Particle density (assumed) 0.425 97 2.65 Mg/m3 0.3 93 0.212 87 0.15 83	3.35	99		
0.6     98     Particle density (assumed)       0.425     97     2.65     Mg/m3       0.3     93       0.212     87       0.15     83	2	99		
0.425     97     2.65     Mg/m3       0.3     93       0.212     87       0.15     83	1.18	99		
0.3 93 0.212 87 0.15 83	0.6	98	Particle density	(assumed)
0.212     87       0.15     83	0.425	97	2.65	Mg/m3
0.15 83	0.3	93		_
	0.212	87		
0.063 78	0.15	83		
	0.063	78		

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	21
Silt	54
Clay	24

Grading Analysis		
D100	mm	10
D60	mm	0.0192
D30	mm	0.00356
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Remarks: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Kozies Page 1 of 1

**Date Reported:** 09/07/2025

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#### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 28/04/2025 Date Received: 16/05/2025 Date Tested: 19/06/2025

Sampled By: Not Given

**Test Results:** 

Sample Reference:

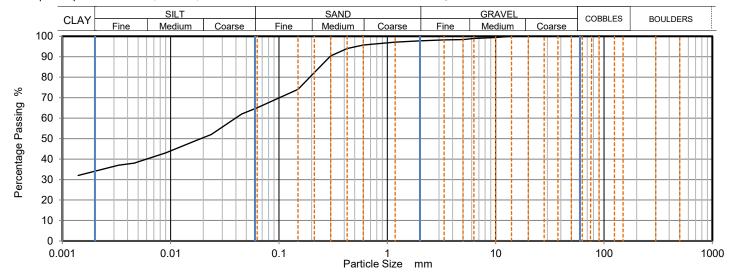
Hole No.:

Laboratory Reference: 570774 TP14

Depth Top [m]: 0.70 Depth Base [m]: 0.90 Not Given Sample Type: B

Sample Description: Dark grey slightly gravelly slightly sandy silty CLAY

Sample Preparation: Sample was quartered, oven dried at 107.8 °C and broken down by hand.



Sieving		Sedimentation		
Particle Size mm	% Passing	Particle Size mm	% Passing	
500	100	0.0453	62	
300	100	0.0328	57	
150	100	0.0237	52	
125	100	0.0170	49	
90	100	0.0090	43	
75	100	0.0046	38	
63	100	0.0033	37	
50	100	0.0014	32	
37.5	100			
28	100			
20	100			
14	100			
10	99			
6.3	99			
5	98			
3.35	98			
2	98			
1.18	97			
0.6	96	Particle density	(assumed)	
0.425	94	2.65	Mg/m3	
0.3	90			
0.212	82			
0.15	74			
0.063	65	1		

Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	33
Silt	31
Clay	34

Grading Analysis		
D100	mm	14
D60	mm	0.0398
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Remarks: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

for and on behalf of i2 Analytical Ltd

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Kozies Page 1 of 1

**Date Reported:** 09/07/2025



# DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10 i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0

Date Sampled: 28/04/2025

Date Received: 16/05/2025

Date Tested: 18/06/2025

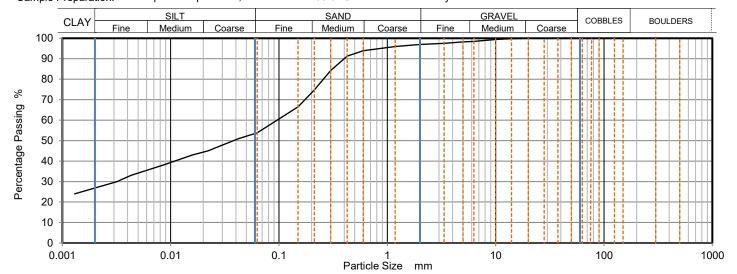
ress: IP North Sampled By: Not Given

**Test Results:** 

Laboratory Reference:570776Depth Top [m]: 1.00Hole No.:TP15Depth Base [m]: 1.30Sample Reference:Not GivenSample Type: B

Sample Description: Reddish brown slightly gravelly slightly sandy silty CLAY

Sample Preparation: Sample was quartered, oven dried at 108.9 °C and broken down by hand.



Sieving		Sedimo	Sedimentation		
Particle Size mm	% Passing	Particle Size mm	% Passing		
500	100	0.0426	51		
300	100	0.0307	48		
150	100	0.0221	45		
125	100	0.0160	43		
90	100	0.0085	38		
75	100	0.0043	33		
63	100	0.0032	30		
50	100	0.0013	24		
37.5	100				
28	100				
20	100				
14	100				
10	99				
6.3	99				
5	98				
3.35	98				
2	97				
1.18	96				
0.6	94	Particle density	(assumed)		
0.425	91	2.65	Mg/m3		
0.3	84				
0.212	75				
0.15	67				
0.063	54	1			

Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	43
Silt	27
Clay	27

Grading Analysis		
D100	mm	20
D60	mm	0.0964
D30	mm	0.0033
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Remarks: Preliminary report

Signed:

Katarzyna Koziel Geotechnical Reporting Team Leader

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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Fage 1 of 1

Kataryna

**Date Reported:** 09/07/2025



#### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address:

5th Floor, Waterfront House, Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

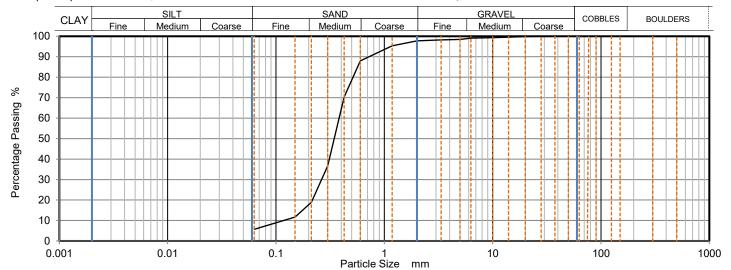
Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 29/04/2025 Date Received: 16/05/2025 Date Tested: 19/06/2025 Sampled By: Not Given

**Test Results:** 

Laboratory Reference: 570777 Depth Top [m]: 1.00 TP19 Depth Base [m]: 1.30 Hole No.: Sample Reference: Not Given Sample Type: B

Sample Description: Orangish brown slightly gravelly clayey SAND

Sample Preparation: Sample was whole tested, oven dried at 107.8 °C and broken down by hand.



Sieving         Sedimentation           Particle Size mm         % Passing           500         100           300         100           150         100           125         100           90         100           75         100           63         100           50         100           37.5         100           28         100           20         100           14         100           10         99           6.3         99           5         99           3.35         98           2         98           1.18         95           0.6         88           0.425         70           0.3         37           0.212         19           0.15         12           0.063         6				1 411000
500       100         300       100         150       100         125       100         90       100         75       100         63       100         50       100         37.5       100         28       100         20       100         14       100         10       99         6.3       99         5       99         3.35       98         2       98         1.18       95         0.6       88         0.425       70         0.3       37         0.212       19         0.15       12	Sieving		Sedime	ntation
300       100         150       100         125       100         90       100         75       100         63       100         50       100         37.5       100         28       100         20       100         14       100         10       99         6.3       99         5       99         3.35       98         2       98         1.18       95         0.6       88         0.425       70         0.3       37         0.212       19         0.15       12	Particle Size mm	% Passing	Particle Size mm	% Passing
150       100         125       100         90       100         75       100         63       100         50       100         37.5       100         28       100         20       100         14       100         10       99         6.3       99         5       99         3.35       98         2       98         1.18       95         0.6       88         0.425       70         0.3       37         0.212       19         0.15       12	500	100		
125     100       90     100       75     100       63     100       50     100       37.5     100       28     100       20     100       14     100       10     99       6.3     99       5     99       3.35     98       2     98       1.18     95       0.6     88       0.425     70       0.3     37       0.212     19       0.15     12	300	100		
90 100 75 100 63 100 50	150	100		
75 100 63 100 50 100 37.5 100 28 100 20 100 100 100 100 100 100 100 100	125	100		
63 100 50 100 37.5 100 28 100 20 100 100 10 10 10 10 10 10 10 10 10 10	90	100		
50     100       37.5     100       28     100       20     100       14     100       10     99       6.3     99       5     99       3.35     98       2     98       1.18     95       0.6     88       0.425     70       0.3     37       0.212     19       0.15     12	75	100		
37.5 100 28 100 20 100 14 100 10 99 6.3 99 5 99 3.35 98 2 98 1.18 95 0.6 88 0.425 70 0.3 37 0.212 19 0.15 12	63	100		
28 100 20 100 14 100 10 99 6.3 99 5 99 3.35 98 2 98 1.18 95 0.6 88 0.425 70 0.3 37 0.212 19 0.15 12	50	100		
20     100       14     100       10     99       6.3     99       5     99       3.35     98       2     98       1.18     95       0.6     88       0.425     70       0.3     37       0.212     19       0.15     12	37.5	100		
14     100       10     99       6.3     99       5     99       3.35     98       2     98       1.18     95       0.6     88       0.425     70       0.3     37       0.212     19       0.15     12	28	100		
10 99 6.3 99 5 99 5 99 5 99 5 99 6 99 6 99 6 99	20	100		
6.3 99 5 99 5 99 5 99 5 99 6 99 6 99 6 99	14	100		
5     99       3.35     98       2     98       1.18     95       0.6     88       0.425     70       0.3     37       0.212     19       0.15     12		99		
3.35 98 98 98 98 98 98 98 98 98 98 98 98 98	6.3	99		
2 98 1.18 95 0.6 88 0.425 70 0.3 37 0.212 19 0.15 12	5	99		
1.18 95 0.6 88 0.425 70 0.3 37 0.212 19 0.15 12	3.35	98		
0.6     88       0.425     70       0.3     37       0.212     19       0.15     12	2	98		
0.425     70       0.3     37       0.212     19       0.15     12	1.18	95		
0.3     37       0.212     19       0.15     12	0.6	88		
0.212     19       0.15     12		70		
0.15 12		37		•
	0.212	19		
0.063 6	0.15	12		
	0.063	6		

Sample Proportions	% dry mass	
Very coarse	0	
Gravel	2	
Sand	92	
Fines <0.063 mm	6	

Grading Analysis		
D100	mm	28
D60	mm	0.382
D30	mm	0.264
D10	mm	0.117
Uniformity Coefficient		3.3
Curvature Coefficient		1.6

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: Preliminary report

> Signed: Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

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for and on behalf of i2 Analytical Ltd **Date Reported:** 09/07/2025

Kozies Page 1 of 1



# DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10 i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0
Date Sampled: 29/04/2025
Date Received: 16/05/2025
Date Tested: 20/06/2025

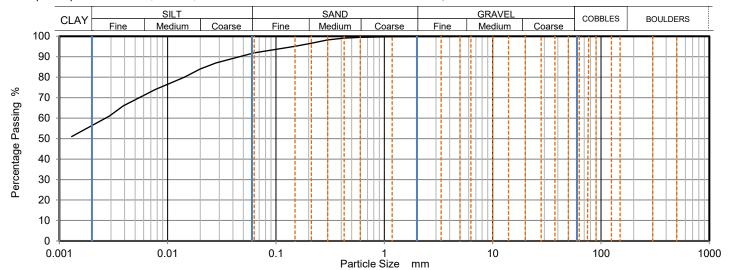
Sampled By: Not Given

**Test Results:** 

Laboratory Reference:570778Depth Top [m]: 0.50Hole No.:TP26Depth Base [m]: 0.70Sample Reference:Not GivenSample Type: B

Sample Description: Brown slightly sandy silty CLAY

Sample Preparation: Sample was quartered, oven dried at 108.1 °C and broken down by hand.



Sieving		Sedimo	entation
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0390	89
300	100	0.0279	87
150	100	0.0199	84
125	100	0.0143	80
90	100	0.0077	74
75	100	0.0039	66
63	100	0.0029	61
50	100	0.0013	51
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100	Particle density	(assumed)
0.425	99	2.65	Mg/m3
0.3	98		
0.212	97		
0.15	95		
0.063	92	1	

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	8
Silt	36
Clay	56

Grading Analysis		
D100	mm	5
D60	mm	0.00274
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Remarks: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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Rozies
Page 1 of 1

Date Reported: 09/07/2025



# DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10 i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0

Date Sampled: 29/04/2025
Date Received: 16/05/2025
Date Tested: 20/06/2025

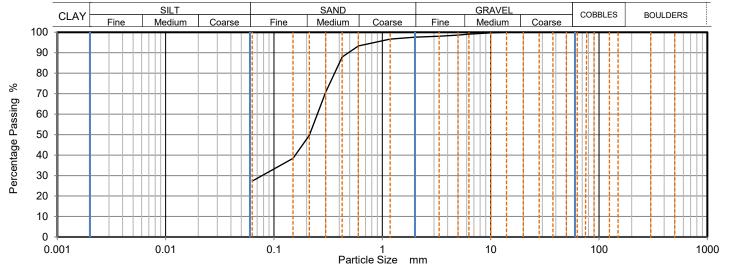
Sampled By: Not Given

**Test Results:** 

Laboratory Reference:570779Depth Top [m]: 1.20Hole No.:TP26Depth Base [m]: 1.30Sample Reference:Not GivenSample Type: B

Sample Description: Brown slightly gravelly very clayey SAND

Sample Preparation: Sample was quartered, oven dried at 108.1 °C and broken down by hand.



Cinvina			
Sieving		Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
3.35	98		
2	98		
1.18	97		
0.6	93		
0.425	88		
0.3	71		
0.212	50	1	
0.15	38	]	
0.063	27		

Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	71
Fines <0.063 mm	27

Grading Analysis		
D100	mm	14
D60	mm	0.251
D30	mm	0.0777
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: Preliminary report

Signed:

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Katasyna Kozier Page 1 of 1

1 of 1 **Date Reported:** 09/07/2025



#### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 29/04/2025 Date Received: 16/05/2025

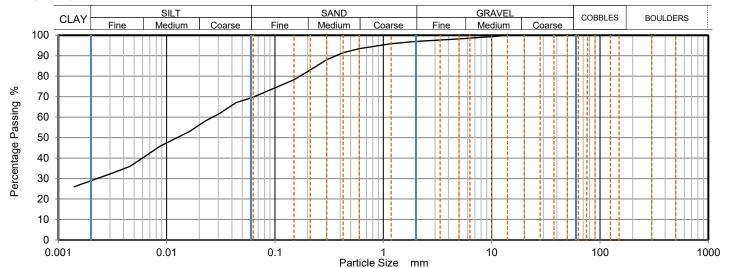
Date Tested: 20/06/2025 Sampled By: Not Given

**Test Results:** 

Laboratory Reference: 570780 Depth Top [m]: 0.50 TP24 Depth Base [m]: 0.60 Hole No.: Sample Reference: Not Given Sample Type: B

Sample Description: Brown slightly gravelly slightly sandy silty CLAY

Sample Preparation: Sample was quartered, oven dried at 108.1 °C and broken down by hand.



Sieving		Il Sadime	entation
Siev	ilig	Sedillie	illation
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0434	67
300	100	0.0313	62
150	100	0.0226	58
125	100	0.0163	53
90	100	0.0088	46
75	100	0.0046	36
63	100	0.0033	33
50	100	0.0014	26
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	98		
3.35	98		
2	97		
1.18	96		
0.6	94	Particle density	(assumed)
0.425	92	2.65	Mg/m3
0.3	88		
0.212	83		
0.15	78		
0.063	70	1	

Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	27
Silt	41
Clay	29

Grading Analysis		
D100	mm	14
D60	mm	0.0267
D30	mm	0.00225
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This

Remarks: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

GF 366.12

Kozies

Page 1 of 1 **Date Reported:** 09/07/2025

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#### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address:

5th Floor, Waterfront House, Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 29/04/2025

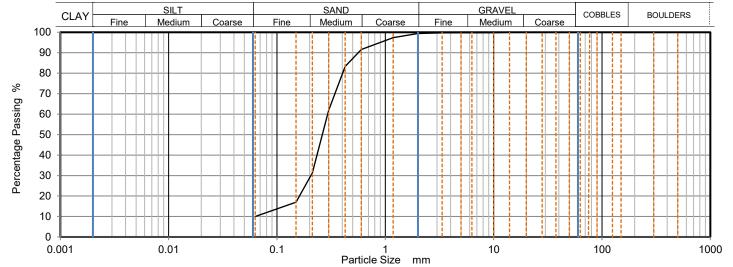
Date Received: 16/05/2025 Date Tested: 19/06/2025 Sampled By: Not Given

**Test Results:** 

Laboratory Reference: 570781 Depth Top [m]: 0.80 TP27 Depth Base [m]: 0.90 Hole No.: Sample Reference: Not Given Sample Type: B

Sample Description: Orangish brown clayey SAND

Sample Preparation: Sample was quartered, oven dried at 107.8 °C and broken down by hand.



Sieving		Sedimentation	
Siev	ring	Sediffie	iitatioii
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	97		
0.6	92		
0.425	83		
0.3	62		
0.212	31		
0.15	17		
0.063	10		

Sample Proportions	% dry mass	
Very coarse	0	
Gravel	1	
Sand	89	
Fines < 0.063 mm	10	

Grading Analysis		
D100	mm	14
D60	mm	0.294
D30	mm	0.205
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: Preliminary report

> Signed: Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Kozies

Page 1 of 1 **Date Reported:** 09/07/2025 GF 366.12



#### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address:

5th Floor, Waterfront House, Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0

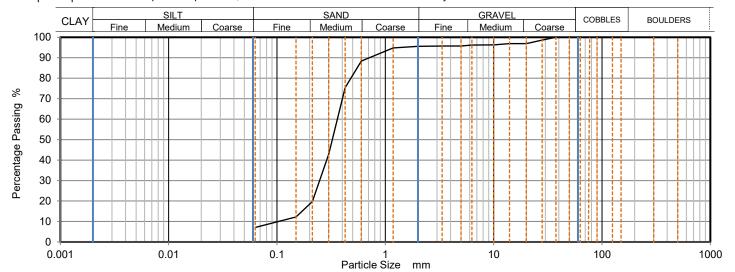
Date Sampled: 29/04/2025 Date Received: 16/05/2025 Date Tested: 19/06/2025 Sampled By: Not Given

**Test Results:** 

Laboratory Reference: 570782 Depth Top [m]: 1.20 TP25 Depth Base [m]: 1.30 Hole No.: Sample Reference: Not Given Sample Type: B

Sample Description: Reddish brown slightly gravelly clayey SAND

Sample Preparation: Sample was quartered, oven dried at 108.1 °C and broken down by hand.



Otavita a		П	
Sieving		Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	99		
20	97		
14	97		
10	96		
6.3	96		
5	96		
3.35	96		
2	96		
1.18	95		
0.6	88		
0.425	75		
0.3	43		
0.212	20		
0.15	12		
0.063	7		

Sample Proportions	% dry mass	
Very coarse	0	
Gravel	4	
Sand	89	
Fines < 0.063 mm	7	

Grading Analysis		
D100	mm	37.5
D60	mm	0.361
D30	mm	0.248
D10	mm	0.104
Uniformity Coefficient		3.5
Curvature Coefficient		1.6

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: Preliminary report

> Signed: Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Kozies

**Date Reported:** 09/07/2025

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#### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

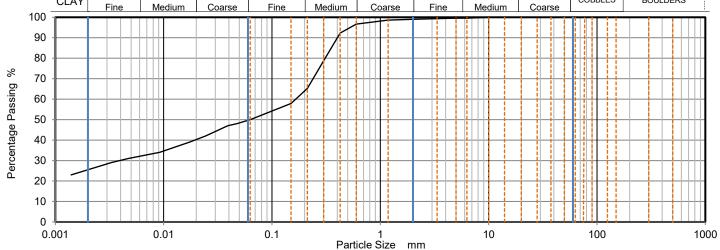
Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 29/04/2025 Date Received: 16/05/2025 Date Tested: 19/06/2025 Sampled By: Not Given

Depth Top [m]: 0.50

**Test Results:** 

Laboratory Reference: 570783 TP20 Hole No.:

Depth Base [m]: 0.70 Sample Reference: Not Given Sample Type: B Sample Description: Brown sandy silty CLAY Sample Preparation: Sample was quartered, oven dried at 107.8 °C and broken down by hand. SAND **GRAVEL** SILT COBBLES CLAY BOULDERS Medium Coarse Fine Medium Coarse Medium Coarse 100 90



Siev	ing	Sedime	entation
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0475	48
300	100	0.0391	47
150	100	0.0244	42
125	100	0.0174	39
90	100	0.0092	34
75	100	0.0047	31
63	100	0.0033	29
50	100	0.0014	23
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	99		
2	99		
1.18	99		
0.6	97	Particle density	(measured)
0.425	92	2.72	Mg/m3
0.3	79		
0.212	65	1	
0.15	58	1	
0.063	50	7	

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	49
Silt	25
Clay	25

Grading Analysis		
D100	mm	10
D60	mm	0.166
D30	mm	0.00408
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Remarks: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

for and on behalf of i2 Analytical Ltd

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Kozies Page 1 of 1

**Date Reported:** 09/07/2025 GF 366.12



#### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address:

5th Floor, Waterfront House, Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

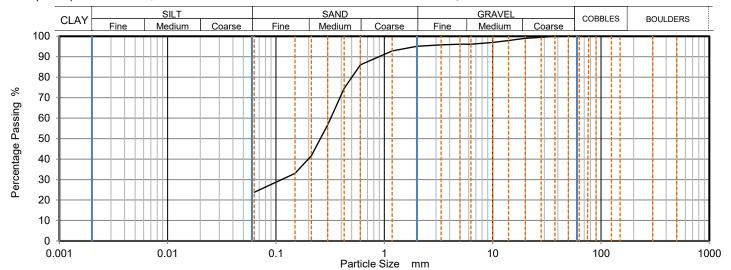
Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 29/04/2025 Date Received: 16/05/2025 Date Tested: 20/06/2025 Sampled By: Not Given

**Test Results:** 

Laboratory Reference: 570785 Depth Top [m]: 2.60 TP20 Depth Base [m]: 2.70 Hole No.: Sample Reference: Not Given Sample Type: B

Sample Description: Brown gravelly very clayey SAND

Sample Preparation: Sample was whole tested, oven dried at 108.1 °C and broken down by hand.



Sieving		Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	99		
14	98		
10	97		
6.3	96		
5	96		
3.35	96		
2	95		
1.18	93		
0.6	86		
0.425	75		
0.3	57		_
0.212	42		
0.15	33		
0.063	24	1	

Sample Proportions	% dry mass	
Very coarse	0	
Gravel	5	
Sand	71	
Fines <0.063 mm	24	

Grading Analysis		
D100	mm	37.5
D60	mm	0.32
D30	mm	0.113
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: Preliminary report

> Signed: Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Kozies

Page 1 of 1 **Date Reported:** 09/07/2025



#### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 29/04/2025 Date Received: 16/05/2025

Date Tested: 20/06/2025 Sampled By: Not Given

Depth Top [m]: 0.70

Depth Base [m]: 0.90

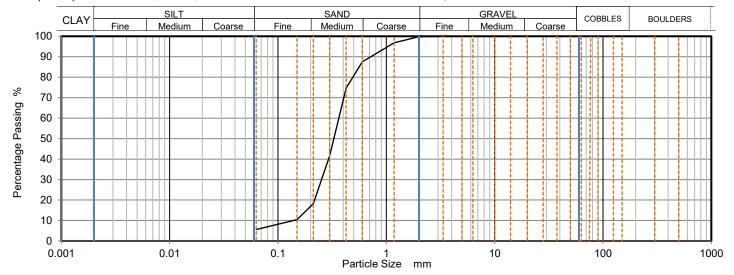
Sample Type: B

**Test Results:** 

Laboratory Reference: 570786 TP16 Hole No.: Sample Reference: Not Given

Sample Description: Brown clayey SAND

Sample Preparation: Sample was quartered, oven dried at 108.1 °C and broken down by hand.



Siev	ing	Sedime	entation
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	97		
0.6	88		
0.425	75		
0.3	42		
0.212	18		
0.15	10	1	
0.063	6	1	

Sample Proportions	% dry mass	
Very coarse	0	
Gravel	0	
Sand	94	
Fines < 0.063 mm	6	

Grading Analysis		
D100	mm	3.35
D60	mm	0.364
D30	mm	0.252
D10	mm	0.14
Uniformity Coefficient		2.6
Curvature Coefficient		1.3

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

for and on behalf of i2 Analytical Ltd

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Kozies Page 1 of 1

**Date Reported:** 09/07/2025



#### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 29/04/2025 Date Received: 16/05/2025

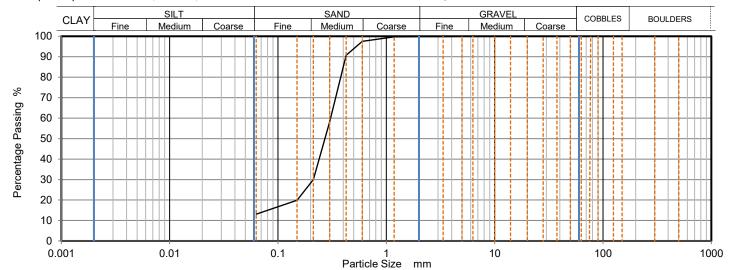
Date Tested: 20/06/2025 Sampled By: Not Given

**Test Results:** 

Laboratory Reference: 570788 Depth Top [m]: 0.50 TP22 Depth Base [m]: 0.60 Hole No.: Sample Reference: Not Given Sample Type: B

Sample Description: Brown clayey SAND

Sample Preparation: Sample was quartered, oven dried at 108.1 °C and broken down by hand.



			i ditiolo (
Sieving		Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	98		
0.425	91		
0.3	58		
0.212	30		
0.15	20		
0.063	13		

Sample Proportions	% dry mass
Very coarse	0
Gravel	Ô
Sand	87
Fines <0.063 mm	13

Grading Analysis		
D100	mm	5
D60	mm	0.306
D30	mm	0.212
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: Preliminary report

Signed:

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Kataryna Kozies

**Date Reported:** 09/07/2025



#### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 30/04/2025

Date Received: 16/05/2025 Date Tested: 20/06/2025 Sampled By: Not Given

Depth Top [m]: 0.60

Depth Base [m]: 0.70

Sample Type: B

**Test Results:** 

Hole No.:

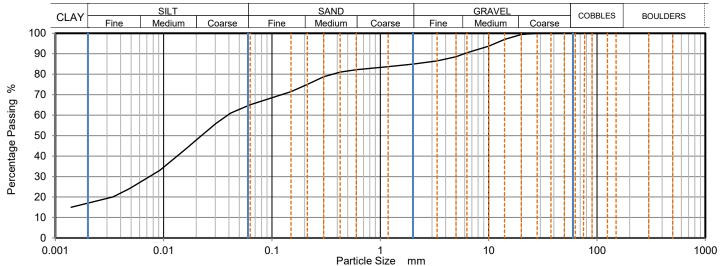
Laboratory Reference: 570795 TP02

Sample Reference: Not Given

Sample Description: Sample Preparation:

Brown slightly gravelly slightly sandy silty CLAY

Sample was quartered, oven dried at 108.1 °C and broken down by hand.



Sieving		Sedimo	Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing	
500	100	0.0415	61	
300	100	0.0305	56	
150	100	0.0223	50	
125	100	0.0164	44	
90	100	0.0092	33	
75	100	0.0048	24	
63	100	0.0034	20	
50	100	0.0014	15	
37.5	100			
28	100			
20	99			
14	97			
10	94			
6.3	91			
5	89			
3.35	87			
2	85			
1.18	84			
0.6	82	Particle density	(assumed)	
0.425	81	2.65	Mg/m3	
0.3	79			
0.212	75			
0.15	72			
0.063	65	1		

Sample Proportions	% dry mass
Very coarse	0
Gravel	15
Sand	20
Silt	48
Clay	17

Grading Analysis		
D100	mm	28
D60	mm	0.0382
D30	mm	0.00761
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Remarks: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

GF 366.12

Kozies

Page 1 of 1 **Date Reported:** 09/07/2025



#### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address:

5th Floor, Waterfront House, Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 30/04/2025 Date Received: 16/05/2025 Date Tested: 17/06/2025

Sampled By: Not Given

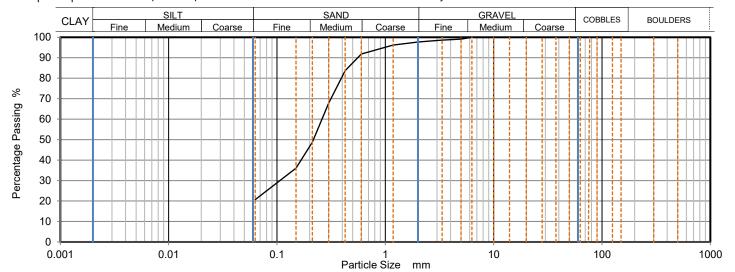
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

**Test Results:** 

Laboratory Reference: 570796 Depth Top [m]: 1.90 TP02 Depth Base [m]: 2.00 Hole No.: Sample Reference: Not Given Sample Type: D

Sample Description: Brown slightly gravelly very clayey SAND

Sample Preparation: Sample was quartered oven dried at 107.8 °C and broken down by hand.



Cincinn		11 0	
Sieving		Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	99		
3.35	99		
2	98		
1.18	96		
0.6	92		
0.425	84	1	
0.3	68		
0.212	49		
0.15	36		
0.063	21	1	

Sample Proportions	% dry mass	
Very coarse	0	
Gravel	2	
Sand	77	
Fines <0.063 mm	21	

Grading Analysis		
D100	mm	6.3
D60	mm	0.26
D30	mm	0.106
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: Preliminary report

> Signed: Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

Kozies Page 1 of 1 for and on behalf of i2 Analytical Ltd

**Date Reported:** 09/07/2025



# DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10 i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0

Date Sampled: 30/04/2025

Date Received: 16/05/2025

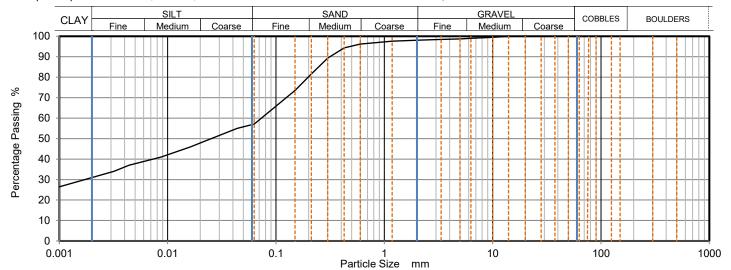
Date Tested: 18/06/2025 Sampled By: Not Given

**Test Results:** 

Laboratory Reference:570797Depth Top [m]: 0.60Hole No.:TP03Depth Base [m]: 0.70Sample Reference:Not GivenSample Type: B

Sample Description: Yellowish brown slightly gravelly sandy silty CLAY

Sample Preparation: Sample was quartered, oven dried at 108.9 °C and broken down by hand.



Siev	ring	Sedimo	entation
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0438	55
300	100	0.0315	52
150	100	0.0225	49
125	100	0.0163	46
90	100	0.0087	41
75	100	0.0044	37
63	100	0.0032	34
50	100	0.0008	25
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
3.35	99		
2	98		
1.18	98		
0.6	96	Particle density	(assumed)
0.425	94	2.65	Mg/m3
0.3	89		
0.212	82	1	
0.15	74	1	
0.063	57	1	

Sample Proportions	% dry mass	
Very coarse	0	
Gravel	2	
Sand	41	
Silt	26	
Clay	31	

Grading Analysis		
D100	mm	14
D60	mm	0.0736
D30	mm	0.00165
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Remarks: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

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for and on behalf of i2 Analytical Ltd

**Date Reported:** 09/07/2025

Page 1 of 1



# DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10 i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

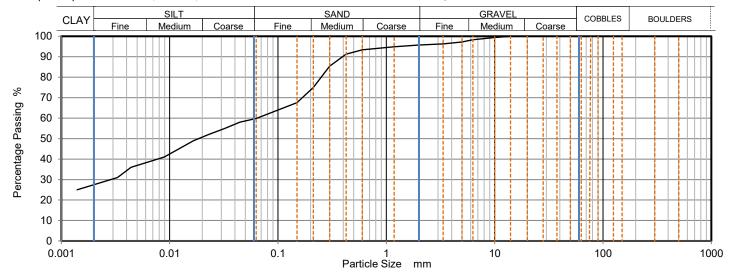
Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 30/04/2025 Date Received: 16/05/2025 Date Tested: 19/06/2025 Sampled By: Not Given

**Test Results:** 

Laboratory Reference:570800Depth Top [m]: 1.00Hole No.:TP72Depth Base [m]: 1.20Sample Reference:Not GivenSample Type: B

Sample Description: Brown slightly gravelly sandy silty CLAY

Sample Preparation: Sample was quartered, oven dried at 107.8 °C and broken down by hand.



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0445	58
300	100	0.0323	55
150	100	0.0229	52
125	100	0.0166	49
90	100	0.0089	41
75	100	0.0044	36
63	100	0.0033	31
50	100	0.0014	25
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	98		
5	97		
3.35	96		
2	96		
1.18	95		
0.6	93	Particle density	(assumed)
0.425	91	2.65	Mg/m3
0.3	85		
0.212	75		
0.15	68		
0.063	60	1	

Sample Proportions	% dry mass
Very coarse	0
Gravel	4
Sand	36
Silt	32
Clay	28

Grading Analysis		
D100	mm	14
D60	mm	0.0644
D30	mm	0.0027
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Remarks: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

for and on behalf of i2 Analytical Ltd

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Kozier
Page 1 of 1

**Date Reported:** 09/07/2025 **GF 366.12** 



# DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10 i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0

Date Sampled: 30/04/2025 Date Received: 16/05/2025 Date Tested: 19/06/2025

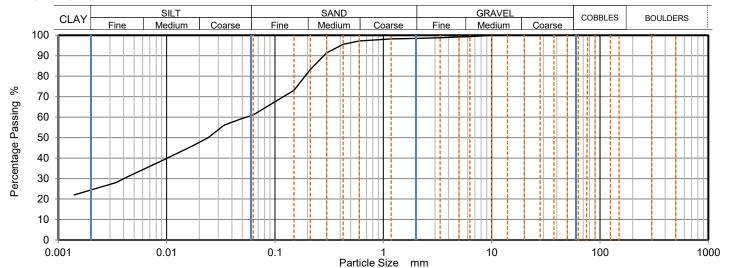
Sampled By: Not Given

**Test Results:** 

Laboratory Reference:570802Depth Top [m]: 0.90Hole No.:TP04Depth Base [m]: 1.00Sample Reference:Not GivenSample Type: B

Sample Description: Dark brown sandy silty CLAY

Sample Preparation: Sample was quartered, oven dried at 107.8 °C and broken down by hand.



Sieving		Sedimentation	
Sievi	ilig	Sedillie	I
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0474	59
300	100	0.0338	56
150	100	0.0242	50
125	100	0.0174	46
90	100	0.0093	39
75	100	0.0044	31
63	100	0.0034	28
50	100	0.0014	22
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
3.35	99		
2	99		
1.18	98		
0.6	97	Particle density	(assumed)
0.425	96	2.65	Mg/m3
0.3	91		
0.212	83		
0.15	73	1	
0.063	61	1	

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	38
Silt	37
Clay	24

Grading Analysis		
D100	mm	10
D60	mm	0.0532
D30	mm	0.00397
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Remarks: Preliminary report

Signed: Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

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for and on behalf of i2 Analytical Ltd

Date Reported: 09/07/2025

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Page 1 of 1



### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address:

5th Floor, Waterfront House, Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 01/05/2025 Date Received: 16/05/2025

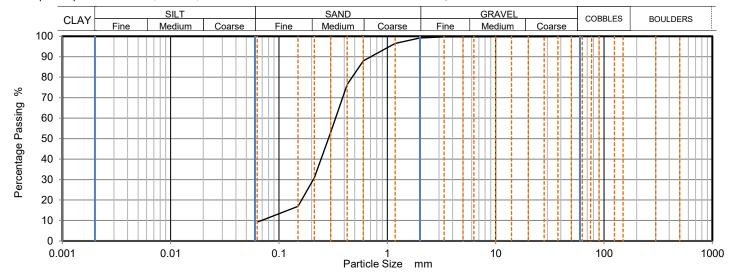
Date Tested: 19/06/2025 Sampled By: Not Given

**Test Results:** 

Laboratory Reference: 570806 Depth Top [m]: 2.00 TP32 Depth Base [m]: 2.20 Hole No.: Sample Reference: Not Given Sample Type: B

Sample Description: Orangish brown clayey SAND

Sample Preparation: Sample was quartered, oven dried at 108.1 °C and broken down by hand.



Sieving		Sedime	entation
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	97		
0.6	88		
0.425	76		
0.3	53		
0.212	31	1	
0.15	17	1	
0.063	9	1	

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	90
Fines < 0.063 mm	9

Grading Analysis		
D100	mm	37.5
D60	mm	0.333
D30	mm	0.207
D10	mm	0.0692
Uniformity Coefficient		4.8
Curvature Coefficient		1.9

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

**Date Reported:** 09/07/2025

for and on behalf of i2 Analytical Ltd

GF 366.12

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Kozies Page 1 of 1



# DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10 i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



4041

Client: BWB Consulting Limited

Client Address:

5th Floor, Waterfront House, Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 02/05/2025

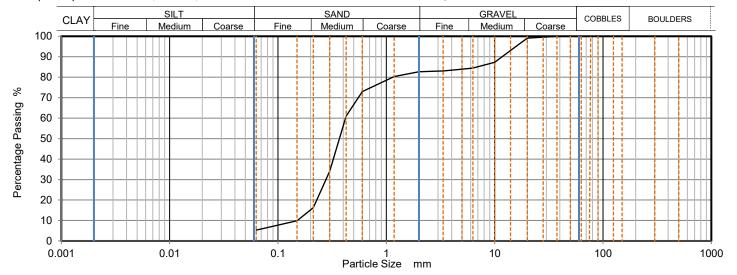
Date Received: 16/05/2025 Date Tested: 19/06/2025 Sampled By: Not Given

**Test Results:** 

Laboratory Reference:570808Depth Top [m]: 1.60Hole No.:TP39Depth Base [m]: 1.70Sample Reference:Not GivenSample Type: B

Sample Description: Orangish brown gravelly clayey SAND

Sample Preparation: Sample was quartered, oven dried at 107.8 °C and broken down by hand.



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	99		
14	93		
10	87		
6.3	85		
5	84		
3.35	83		
2	83		
1.18	80		
0.6	73		
0.425	61		
0.3	34		
0.212	16		
0.15	10	1	
0.063	5	1	

Sample Proportions	% dry mass
Very coarse	0
Gravel	17
Sand	78
Fines < 0.063 mm	5

Grading Analysis		
D100	mm	37.5
D60	mm	0.419
D30	mm	0.277
D10	mm	0.151
Uniformity Coefficient		2.8
Curvature Coefficient		1.2

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This

Remarks: Preliminary report

Signed: Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

**Date Reported:** 09/07/2025

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Page 1 of 1

for and on behalf of i2 Analytical Ltd

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### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 02/05/2025 Date Received: 16/05/2025

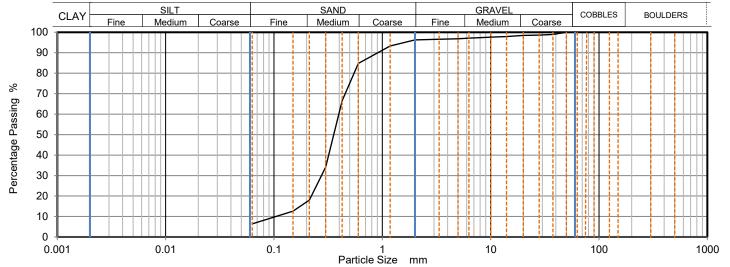
Date Tested: 19/06/2025 Sampled By: Not Given

**Test Results:** 

Laboratory Reference: 570809 Depth Top [m]: 0.50 **TP37** Depth Base [m]: 0.70 Hole No.: Sample Reference: Not Given Sample Type: B

Sample Description: Orangish brown slightly gravelly clayey SAND

Sample Preparation: Sample was quartered, oven dried at 107.8 °C and broken down by hand.



Sieving		Sedime	ntation
Ole C	, iiig	Jedinie	intation
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	99		
28	99		
20	99		
14	98		
10	98		
6.3	97		
5	97		
3.35	97		
2	96		
1.18	93		
0.6	85		
0.425	67		
0.3	34		
0.212	18	1	
0.15	13	1	
0.063	6	1	

Sample Proportions	% dry mass
Very coarse	0
Gravel	4
Sand	90
Fines < 0.063 mm	6

Grading Analysis		
D100	mm	50
D60	mm	0.396
D30	mm	0.274
D10	mm	0.104
Uniformity Coefficient		3.8
Curvature Coefficient		1.8

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: Preliminary report

Signed:

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Kataryna Kozies

**Date Reported:** 09/07/2025

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### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 02/05/2025 Date Received: 16/05/2025 Date Tested: 19/06/2025

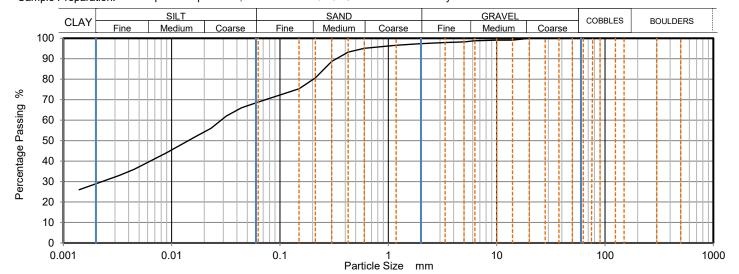
Sampled By: Not Given

**Test Results:** 

Laboratory Reference: 570813 Depth Top [m]: 0.40 TP35 Depth Base [m]: 0.50 Hole No.: Sample Reference: Not Given Sample Type: B

Sample Description: Brown slightly gravelly slightly sandy silty CLAY

Sample Preparation: Sample was quartered, oven dried at 107.8 °C and broken down by hand.



Sieving		Sedime	entation
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0441	66
300	100	0.0320	62
150	100	0.0231	56
125	100	0.0167	52
90	100	0.0089	44
75	100	0.0045	36
63	100	0.0033	33
50	100	0.0014	26
37.5	100		
28	100		
20	100		
14	99		
10	99		
6.3	99		
5	98		
3.35	98		
2	97		
1.18	97		
0.6	95	Particle density	(assumed)
0.425	93	2.65	Mg/m3
0.3	89		
0.212	81	1	
0.15	75	1	
0.063	69	1	

Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	29
Silt	39
Clay	29

Grading Analysis		
D100	mm	20
D60	mm	0.0286
D30	mm	0.0023
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Remarks: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

**Date Reported:** 09/07/2025

for and on behalf of i2 Analytical Ltd

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### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address:

5th Floor, Waterfront House, Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 30/04/2025 Date Received: 16/05/2025 Date Tested: 20/06/2025 Sampled By: Not Given

Depth Top [m]: 0.50

Sample Type: B

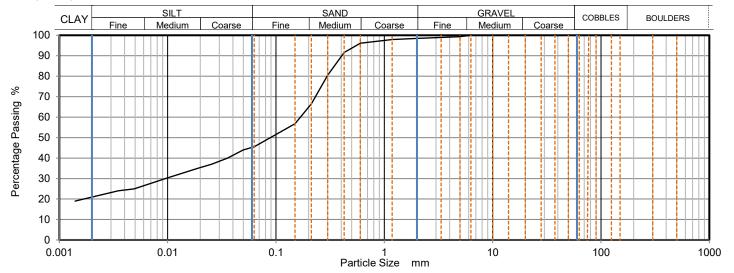
Depth Base [m]: Not Given

**Test Results:** 

Laboratory Reference: 572842 TP71 1 Hole No.: Sample Reference: Not Given

Sample Description: Brown slightly gravelly sandy silty CLAY

Sample Preparation: Sample was quartered, oven dried at 108.3 °C and broken down by hand.



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	0.0497	44
300	100	0.0356	40
150	100	0.0255	37
125	100	0.0189	35
90	100	0.0095	30
75	100	0.0049	25
63	100	0.0035	24
50	100	0.0014	19
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	99		
3.35	99		
2	99		
1.18	98		
0.6	96	Particle density	(measured)
0.425	92	2.66	Mg/m3
0.3	81		
0.212	67		
0.15	57		
0.063	46	1	

Sample Proportions	% dry mass	
Very coarse	0	
Gravel	2	
Sand	52	
Silt	25	
Clay	21	

Grading Analysis		
D100	mm	6.3
D60	mm	0.168
D30	mm	0.0091
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving and hydrometer sedimentation

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This

Remarks: Preliminary report

> Signed: Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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Page 1 of 1 **Date Reported:** 09/07/2025 GF 366.12



### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address:

5th Floor, Waterfront House, Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 30/04/2025

Date Received: 16/05/2025 Date Tested: 19/06/2025 Sampled By: Not Given

Depth Top [m]: 2.00

Sample Type: D

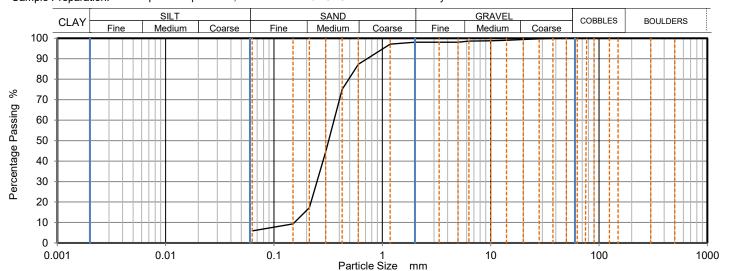
Depth Base [m]: Not Given

**Test Results:** 

Laboratory Reference: 572850 TP412 Hole No.: Sample Reference: Not Given

Sample Description: Orangish brown slightly gravelly clayey SAND

Sample Preparation: Sample was quartered, oven dried at 107.8 °C and broken down by hand.



Sievi	ing	Sedimer	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100	1	
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	99		
14	99		
10	99		
6.3	99		
5	98		
3.35	98		
2	98		
1.18	97		
0.6	87		
0.425	75	1	
0.3	45		
0.212	17		
0.15	9		
0.063	6		

Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	92
Fines < 0.063 mm	6

Grading Analysis		
D100	mm	37.5
D60	mm	0.358
D30	mm	0.249
D10	mm	0.155
Uniformity Coefficient		2.3
Curvature Coefficient		1.1

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: Preliminary report

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Kozies

Page 1 of 1 Date Reported: 09/07/2025 GF 366.12



### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address:

5th Floor, Waterfront House, Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

**Test Results:** 

Laboratory Reference: 572851 **TP403** Hole No.: Sample Reference: Not Given

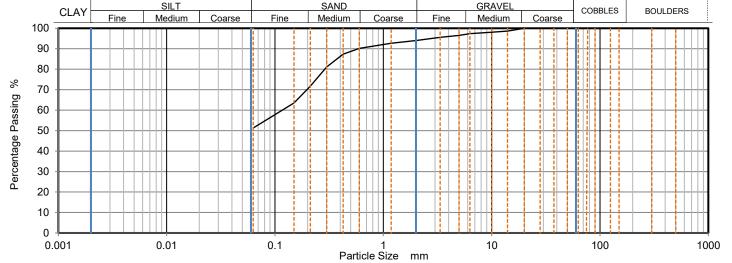
Sample Description: Reddish brown slightly gravelly sandy CLAY

Sample Preparation: Sample was quartered, oven dried at 107.9 °C and broken down by hand. Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 30/04/2025 Date Received: 16/05/2025 Date Tested: 18/06/2025 Sampled By: Not Given

Depth Top [m]: 0.70

Sample Type: D

Depth Base [m]: Not Given



Sieving		Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	98		
6.3	97		
5	97		
3.35	96		
2	94		
1.18	93		
0.6	90		
0.425	87		
0.3	81		
0.212	72		
0.15	64		
0.063	51		

Sample Proportions	% dry mass
Very coarse	0
Gravel	6
Sand	43
Fines < 0.063 mm	51

Grading Analysis		
D100	mm	20
D60	mm	0.117
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

Kozies

for and on behalf of i2 Analytical Ltd Page 1 of 1 **Date Reported:** 09/07/2025

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# DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10 i2 Analytical Ltd Unit 8 Harrowden Road Brackmills Industrial Estate Northampton NN4 7EB



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0

Date Sampled: 30/04/2025

Date Received: 16/05/2025

Date Tested: 24/06/2025

Sampled By: Not Given

Depth Top [m]: 1.30

Depth Base [m]: 2.00

Sample Type: B

**Test Results:** 

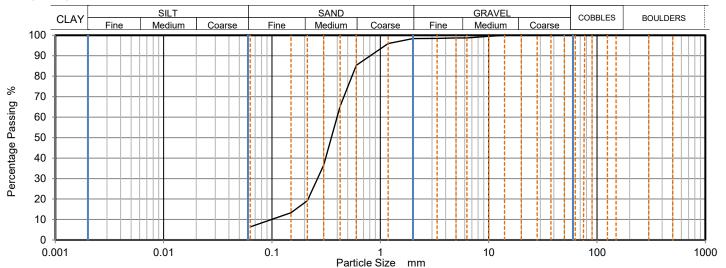
Laboratory Reference: 572853

Hole No.: Combine TP42@1.4+ TP40@1.3 + TP40@2.0

Sample Reference: Not Given

Sample Description: Brown slightly gravelly clayey SAND

Sample Preparation: Sample was quartered, oven dried at 108.9 °C and broken down by hand.



			1 article (
Sievi	ing	Sedimer	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
3.35	99		
2	98		
1.18	96		
0.6	85		
0.425	65		
0.3	37		
0.212	19		
0.15	13		
0.063	6	71	

Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	92
Fines < 0.063 mm	6

Grading Analysis		
D100	mm	14
D60	mm	0.398
D30	mm	0.263
D10	mm	0.0989
Uniformity Coefficient		4
Curvature Coefficient		1.8

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: Preliminary report

Signed: Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

**Date Reported:** 09/07/2025

Kozien
Page 1 of 1

for and on behalf of i2 Analytical Ltd



### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address:

5th Floor, Waterfront House, Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 30/04/2025 Date Received: 16/05/2025

Depth Top [m]: 0.45

Sample Type: B

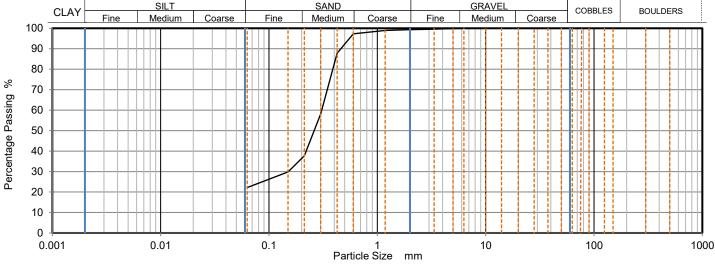
Depth Base [m]: Not Given

**Test Results:** 

Laboratory Reference: 572854 TP45 2 Hole No.: Not Given

Sample Reference: Sample Description: Brown very clayey SAND

Sample Preparation: Sample was quartered, oven dried at 108.1 °C and broken down by hand. Date Tested: 20/06/2025 Sampled By: Not Given



Siev	/ina	Sedime	ntation
0.00	, <u>g</u>	J	inacion
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	99		
0.6	97		
0.425	88	1	
0.3	58		
0.212	38		
0.15	30		
0.063	22	1	

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	77
Fines <0.063 mm	22

Grading Analysis		
D100	mm	6.3
D60	mm	0.307
D30	mm	0.151
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

Remarks: Preliminary report

> Signed: Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Kozies

Page 1 of 1 **Date Reported:** 09/07/2025 GF 366.12



### **DETERMINATION OF PARTICLE** SIZE DISTRIBUTION

Tested in Accordance with: BS EN ISO 17892-4:2016, BS 1377-2:2022 cl. 10

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



**BWB** Consulting Limited Client:

Client Address:

5th Floor, Waterfront House, Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 30/04/2025 Date Received: 16/05/2025 Date Tested: 18/06/2025

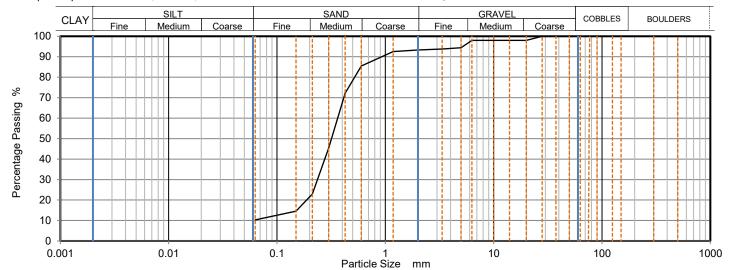
Sampled By: Not Given

### **Test Results:**

Laboratory Reference: 572855 Depth Top [m]: 2.10 TP45 4 Depth Base [m]: Not Given Hole No.: Sample Reference: Not Given Sample Type: B

Sample Description: Orangish brown gravelly clayey SAND

Sample Preparation: Sample was quartered, oven dried at 108.5 °C and broken down by hand.



Siev	/ing	Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	98		
14	98		
10	98		
6.3	98		
5	94		
3.35	94		
2	93		
1.18	93		
0.6	86		
0.425	72		
0.3	45		
0.212	23		
0.15	15	]	
0.063	10	<u> </u>	

Sample Proportions	% dry mass
Very coarse	0
Gravel	7
Sand	83
Fines < 0.063 mm	10

Grading Analysis		
D100	mm	28
D60	mm	0.363
D30	mm	0.237
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Uniformity and Curvature Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with ISO 17892 -4, by sieving on as received or wet sample

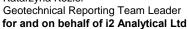
Remarks: Preliminary report

> Signed: Kataryna

Katarzyna Koziel

**Date Reported:** 09/07/2025

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#### **DETERMINATION OF PARTICLE DENSITY - GAS JAR METHOD**

Tested in Accordance with: BS 1377-2:2022, clause 9.2

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



Client Reference: 233398

Job Number: 25-029363-0

Date Sampled: 28/04 - 01/05/2025

Date Received: 16/05/2025

Date Tested: 17/06 - 20/06/2025

Sampled By: Not Given

4041

Client: BWB Consulting Limited

Client Address:

5th Floor, Waterfront House, Nottingham, NG2 3DQ

Contact: Thomas Flame

Site Address: IP North

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

### **Test results**

		Sample									
Laboratory Reference	Hole No.	Reference	Depth Top	Depth Base	Туре	Description	Remarks	PD	Preparation		
			m	m				Mg/m3			
572843	TP71 3	Not Given	1.80	Not Given	В	Brown slightly gravelly SAND		2.64	Quartered, natural condition		
572846	TP46 2	Not Given	0.80	Not Given	В	Yellowish brown gravelly CLAY		2.70	Quartered, natural condition		
570788	TP22	Not Given	0.50	0.60	В	Brown clayey SAND		2.66	Quartered, natural condition		
570791	TP08	Not Given	3.30	3.40	В	Dark brown gravelly CLAY		2.80	Quartered, natural condition		
570796	TP02	Not Given	1.90	2.00	D	Brown slightly gravelly very clayey SAND		2.65	Quartered, natural condition		
570799	TP03	Not Given	3.10	3.20	В	Brown slightly clayey SAND		2.69	Quartered, natural condition		
570806	TP32	Not Given	2.00	2.20	В	Orangish brown gravelly SAND		2.66	Quartered, natural condition		
572838	TP48 1	Not Given	1.00	Not Given	В	Orangish brown gravelly SAND		2.64	Quartered, natural condition		
572859	TP44 1	Not Given	0.70	Not Given	В	Brown slightly clayey SAND		2.66	Quartered, natural condition		

Note: PD - Particle Density

Comments: Preliminary report

Signed:

Kata ay na Kozier Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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



### **DETERMINATION OF DRY DENSITY/WATER** CONTENT RELATIONSHIP COMPACTION METHOD **USING 2.5 KG RAMMER**

Tested in Accordance with: BS 1377-2: 2022, cl.11

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



4041

**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Depth Top [m]: 2.30

Depth Base [m]: 2.50

Sample Type: B

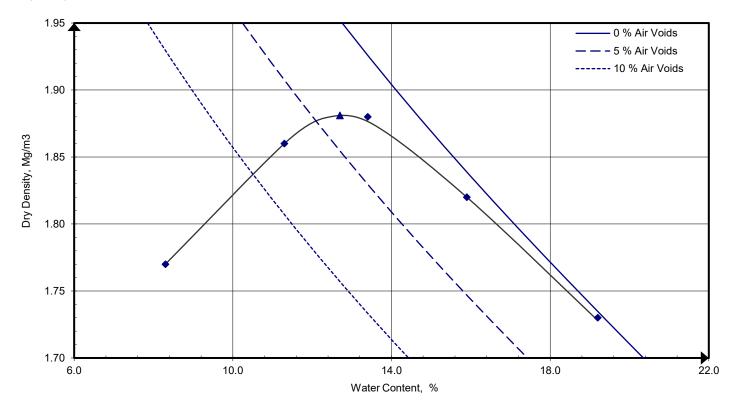
**Test Results:** 

Laboratory Reference: 570769 TP10 Hole No.: Not Given Sample Reference:

Sample Description: **Brown CLAY** 

Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.





Compaction Point No.	1	2	3	4	5
Water Content %	8.3	11.3	13.4	15.9	19.2
Dry Density Mg/m³	1.77	1.86	1.88	1.82	1.73

Grading zone	2
Mould Type	1 Litre
Samples Used	Single sample tested
Matarial Datain along 07.5 mm. Oissa	0/

Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.60
As received Water Content	%	19.2
Maximum Dry Density	Mg/m³	1.88

Optimum Water Content	%	13	

Note: BS 1377-2:2022, cl 11.3

Remarks: Preliminary report

Signed:

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Kozies

**Date Reported:** 09/07/2025

Kataryna



### **DETERMINATION OF DRY DENSITY/WATER CONTENT RELATIONSHIP COMPACTION METHOD USING 2.5 KG RAMMER**

Tested in Accordance with: BS 1377-2: 2022, cl.11

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



4041

**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Depth Top [m]: 0.50

Depth Base [m]: 0.70

Sample Type: B

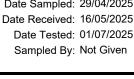
Job Number: 25-029363-0 Date Sampled: 29/04/2025

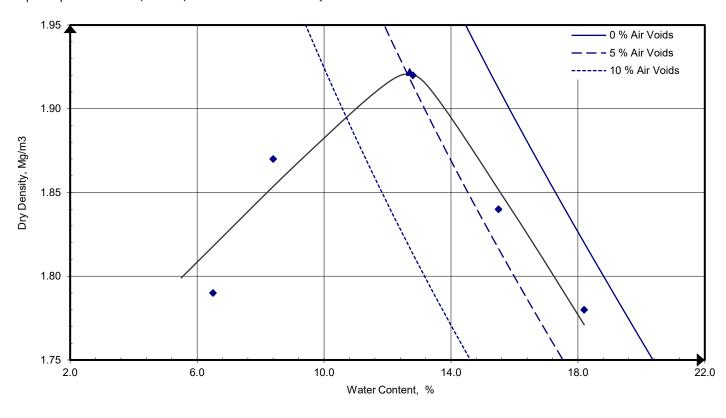
**Test Results:** 

Laboratory Reference: 570783 TP20 Hole No.: Not Given Sample Reference:

Sample Description: **Brown CLAY** 

Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.





Compaction Point No.	1	2	3	4	5
Water Content %	6.5	8.4	12.8	15.5	18.2
Dry Density Mg/m³	1.79	1.87	1.92	1.84	1.78

Grading zone	1
Mould Type	1 Litre
Samples Used	Single sample tested
Matarial Datain at an 07 f new Olassa	0/

Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using gas jar (BS 1377-2: 2022 Clause 9.2)	Mg/m³	2.72
As received Water Content	%	17.2
Maximum Dry Density	Mg/m³	1.92

Optimum Water Content	%	13	

Note: BS 1377-2:2022, cl 11.3

Remarks: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Kozies

Page 1 of 1 **Date Reported:** 09/07/2025

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GF 599.2



### **DETERMINATION OF DRY DENSITY/WATER** CONTENT RELATIONSHIP COMPACTION METHOD **USING 2.5 KG RAMMER**

Tested in Accordance with: BS 1377-2: 2022, cl.11

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



4041

**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 30/04/2025 Date Received: 16/05/2025

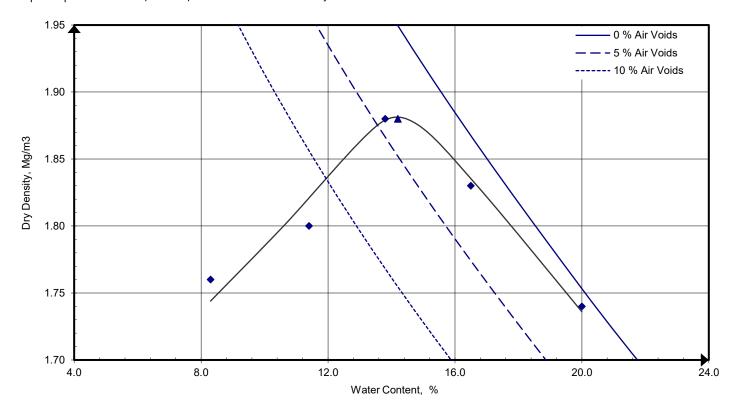
Date Tested: 08/07/2025 Sampled By: Not Given

**Test Results:** 

Laboratory Reference: 570795 Depth Top [m]: 0.60 TP02 Depth Base [m]: 0.70 Hole No.: Sample Reference: Not Given Sample Type: B

Sample Description: Brown slightly gravelly slightly sandy silty CLAY

Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.



Compaction Point No.	1	2	3	4	5
Water Content %	8.3	11.4	13.8	16.5	20.0
Dry Density Mg/m³	1.76	1.80	1.88	1.83	1.74

Grading zone	3
Mould Type	CBR
Samples Used	Single sample tested

Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	6
Particle Density - Assumed	Mg/m³	2.70
As received Water Content	%	14.2
Maximum Dry Density	Mg/m³	1.88

Optimum Water Content	%	14	

Note: BS 1377-2:2022, CL 11.4

Remarks: Preliminary report

Signed:

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Kozies

Page 1 of 1

Kataryna

**Date Reported:** 09/07/2025

GF 599.2



# DETERMINATION OF DRY DENSITY/WATER CONTENT RELATIONSHIP COMPACTION METHOD USING 2.5 KG RAMMER

Tested in Accordance with: BS 1377-2: 2022, cl.11

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



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 01/05/2025 Date Received: 16/05/2025

Date Tested: 08/07/2025 Sampled By: Not Given

**Test Results:** 

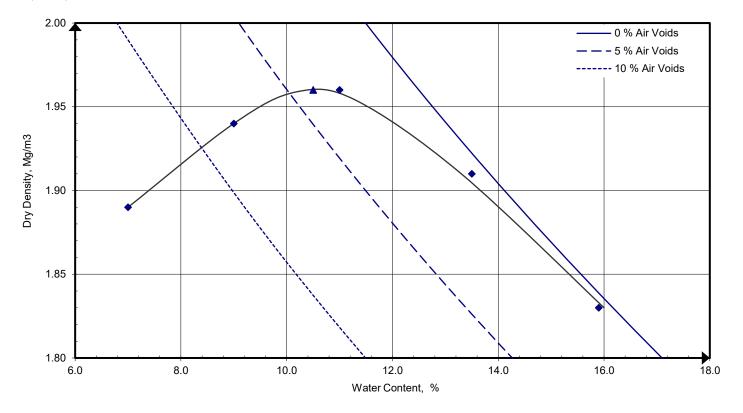
Laboratory Reference: 570805 Hole No.: TP34 Sample Reference: Not Given

Sample Description: Brown sandy CLAY

Sample Description. Brown sandy CLAT

Depth Top [m]: 1.20 Depth Base [m]: 1.30 Sample Type: B

Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.



Compaction Point No.	1	2	3	4	5
Water Content %	7.0	9.0	11.0	13.5	15.9
Dry Density Mg/m³	1.89	1.94	1.96	1.91	1.83

Grading zone	1	
Mould Type	1 Litre	
Samples Used	Single sample tested	
Material Retained on 37.5 mm Sieve	% 0	

Material Retained on 37.5 mm Sieve  Material Retained on 20.0 mm Sieve	<u>%</u>		
Particle Density - Assumed	Ma/m³	2.60	
As received Water Content	, wig/iii		
Maximum Dry Density	Mg/m³	1.96	

Optimum Water Content	%	11	

Note: BS 1377-2:2022, cl 11.3

Remarks: Preliminary report

Signed: Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

testing.

for and on behalf of i2 Analytical Ltd



Sample Reference:

# **TEST CERTIFICATE**

# DETERMINATION OF DRY DENSITY/WATER CONTENT RELATIONSHIP COMPACTION METHOD USING 2.5 KG RAMMER

Tested in Accordance with: BS 1377-2: 2022, cl.11

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



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 01/05/2025 Date Received: 16/05/2025

Date Tested: 08/07/2025 Sampled By: Not Given

Depth Top [m]: 0.50

Depth Base [m]: 0.70

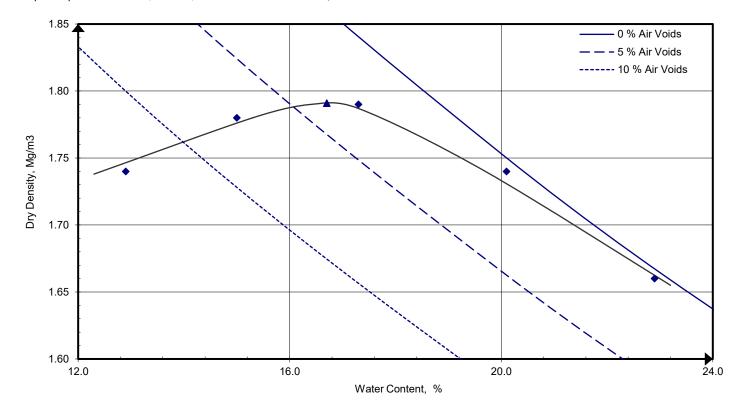
Sample Type: B

Test Results:
Laboratory Reference: 570807
Hole No.: TP33

Sample Description: Brown slightly sandy CLAY

Not Given

Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.



Compaction Point No.	1	2	3	4	5
Water Content %	12.9	15.0	17.3	20.1	22.9
Dry Density Mg/m³	1.74	1.78	1.79	1.74	1.66

Grading zone	2
Mould Type	1 Litre
Samples Used	Single sample tested

Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	1
Particle Density - Assumed	Mg/m³	2.70
As received Water Content	%	17.3
Maximum Dry Density	Mg/m³	1.79

Optimum Water Content	%	17	

Note: BS 1377-2:2022, cl 11.3

Remarks: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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Page 1 of 1 **Date Reported:** 09/07/2025

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### **DETERMINATION OF DRY DENSITY/WATER CONTENT RELATIONSHIP COMPACTION METHOD USING 2.5 KG RAMMER**

Tested in Accordance with: BS 1377-2: 2022, cl.11

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



4041

**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Depth Top [m]: 0.70

Depth Base [m]: 0.80

Sample Type: B

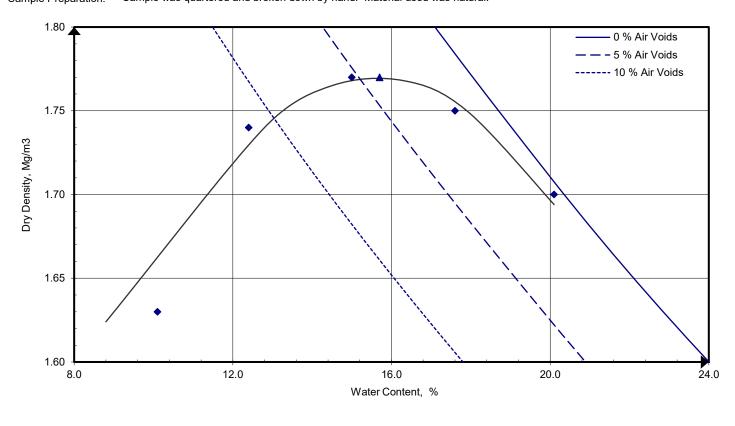
**Test Results:** 

Laboratory Reference: 570811 TP36 Hole No.: Not Given Sample Reference:

Sample Description: Brown sandy CLAY

Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.

Job Number: 25-029363-0 Date Sampled: 02/05/2025 Date Received: 16/05/2025 Date Tested: 08/07/2025 Sampled By: Not Given



Compaction Point No.	1	2	3	4	5
Water Content %	10.1	12.4	15.0	17.6	20.1
Dry Density Mg/m³	1.63	1.74	1.77	1.75	1.70

Grading zone	1
Mould Type	1 Litre
Samples Used	Single sample tested
Material Detained on 27 Franc City	0/

Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.60
As received Water Content	%	20.1
Maximum Dry Density	Mg/m³	1.77

Optimum Water Content	%	16	

Note: BS 1377-2:2022, cl 11.3

Remarks: Preliminary report

Signed:

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Kataryna Kozies



### **DETERMINATION OF DRY DENSITY/WATER CONTENT RELATIONSHIP METHOD USING** 4.5 KG RAMMER

Tested in Accordance with: BS 1377-2:2022, CL 11

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



4041

**BWB** Consulting Limited Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0

Date Sampled: 29/04/2025 Date Received: 16/05/2025

Date Tested: 02/07/2025 Sampled By: Not Given

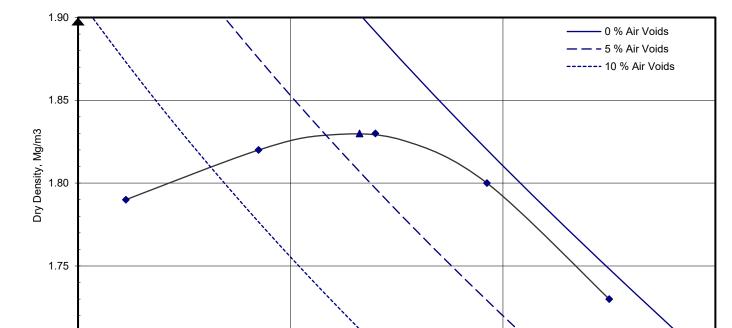
**Test Results:** 

Laboratory Reference: 570786 TP16 Hole No.: Not Given Sample Reference:

Sample Description: Brown clayey SAND

Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.

Depth Top [m]: 0.70 Depth Base [m]: 0.90 Sample Type: B



Compaction Point No.	1	2	3	4	5
Water Content %	8.9	11.4	13.6	15.7	18.0
Dry Density Mg/m³	1.79	1.82	1.83	1.80	1.73

Water Content, %

12

Grading Zone	1
Mould Type	1 Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	% 0
M + + + B + + + + + + + + + + + + + + +	0/

Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.55
As received Water Content	%	7.3
Maximum Dry Density	Mg/m³	1.83

Optimum Water Content	%	13	

BS 1377-2:2022, cl 11.5

1.70 8

Remarks: Preliminary report

Signed:

Katarzyna Koziel Geotechnical Reporting Team Leader

**Date Reported:** 09/07/2025

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for and on behalf of i2 Analytical Ltd

16

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GF 601.2

Page 1 of 1



### **DETERMINATION OF DRY DENSITY/WATER CONTENT RELATIONSHIP METHOD USING** 4.5 KG RAMMER

Tested in Accordance with: BS 1377-2:2022, CL 11

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



4041

**BWB Consulting Limited** Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 30/04/2025 Date Received: 16/05/2025

Date Tested: 02/07/2025 Sampled By: Not Given

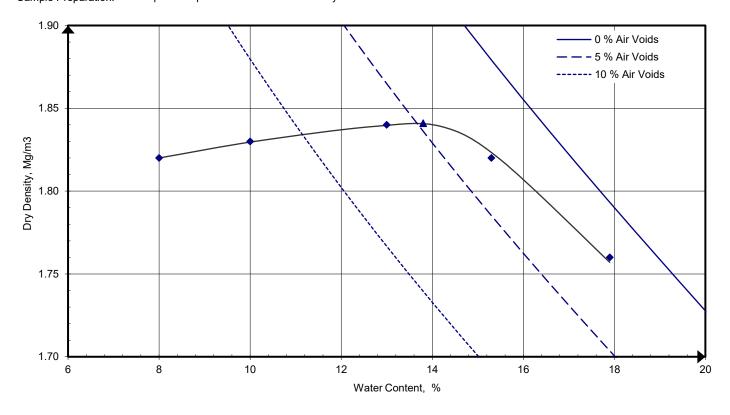
**Test Results:** 

Laboratory Reference: 572843 **TP713** Hole No.: Not Given Sample Reference:

Sample Description: Brown slightly gravelly SAND

Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.

Depth Top [m]: 1.80 Depth Base [m]: Not Given Sample Type: B



Compaction Point No.	1	2	3	4	5
Water Content %	8.0	10.0	13.0	15.3	17.9
Dry Density Mg/m³	1.82	1.83	1.84	1.82	1.76

Grading Zone	X
Mould Type	CBR
Samples Used	Single sample tested

Material Retained on 37.5 mm Sieve	%	10
Material Retained on 20.0 mm Sieve	%	21
Particle Density - Measured using gas jar (BS 1377-2: 2022 Clause 9.2)	Mg/m³	2.64
As received Water Content	%	10.0
Maximum Dry Density	Mg/m³	1.84

Optimum Water Content	%	14	

Notes: BS 1377-2:2022, CL 11.6

Remarks:

Zone X - test carried out with clients consent.

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This

Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

Kozies

Page 1 of 1 **Date Reported:** 09/07/2025

for and on behalf of i2 Analytical Ltd

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GF 601.2



### **DETERMINATION OF DRY DENSITY/WATER CONTENT RELATIONSHIP METHOD USING** 4.5 KG RAMMER

Tested in Accordance with: BS 1377-2:2022, CL 11

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



4041

**BWB Consulting Limited** Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0

Date Sampled: 30/04/2025 Date Received: 16/05/2025

**Test Results:** 

Laboratory Reference: 572844 **TP47A 3** Hole No.: Not Given Sample Reference:

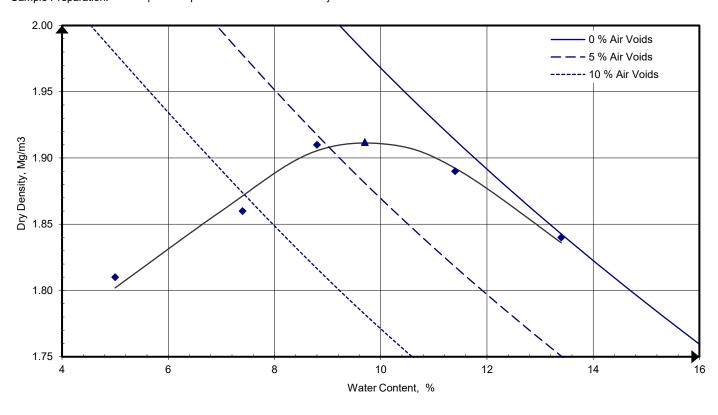
Sample Description: Orangish brown SAND

Sample Preparation: Sample was quartered and broken down by hand. Material used was natural. Date Tested: 03/07/2025 Sampled By: Not Given

Depth Top [m]: 1.20

Sample Type: B

Depth Base [m]: Not Given



Compaction Point No.	1	2	3	4	5
Water Content %	5.0	7.4	8.8	11.4	13.4
Dry Density Mg/m³	1.81	1.86	1.91	1.89	1.84

Grading Zone	1
Mould Type	1 Litre
Samples Used	Single sample tested

Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.45
As received Water Content	%	11.4
Maximum Dry Density	Mg/m³	1.91

Optimum Water Content	%	9.7	

BS 1377-2:2022, cl 11.5

Remarks: Preliminary report

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Kozies

Page 1 of 1 **Date Reported:** 09/07/2025



### **DETERMINATION OF DRY DENSITY/WATER CONTENT RELATIONSHIP METHOD USING** 4.5 KG RAMMER

Tested in Accordance with: BS 1377-2:2022, CL 11

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



4041

**BWB Consulting Limited** Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0 Date Sampled: 30/04/2025 Date Received: 16/05/2025

Date Tested: 07/07/2025

**Test Results:** 

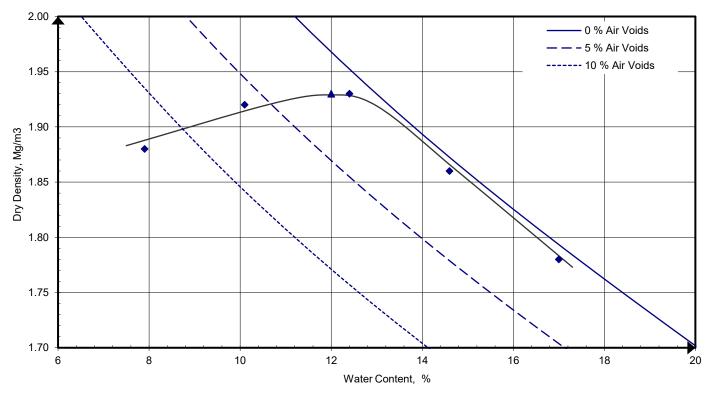
Laboratory Reference: 572848 TP41 1 Hole No.: Not Given Sample Reference:

Sample Description: Dark brown slightly clayey SAND

Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.

Sampled By: Not Given Depth Top [m]: 0.45

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



Compaction Point No.	1	2	3	4	5
Water Content %	7.9	10.1	12.4	14.6	17.0
Dry Density Mg/m³	1.88	1.92	1.93	1.86	1.78

Grading Zone	1
Mould Type	1 Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	% 0

Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.58
As received Water Content	%	14.6
Maximum Dry Density	Mg/m³	1.93

Optimum Water Content	%	12	

BS 1377-2:2022, cl 11.5

Remarks: Preliminary report

Signed:

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Kataryna Kozies

**Date Reported: 09/07/2025** 



### **DETERMINATION OF DRY DENSITY/WATER CONTENT RELATIONSHIP METHOD USING** 4.5 KG RAMMER

Tested in Accordance with: BS 1377-2:2022, CL 11

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



4041

**BWB Consulting Limited** Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

**Test Results:** 

Laboratory Reference: 572854 TP45 2 Hole No.: Not Given Sample Reference:

Sample Description: **Brown SAND** 

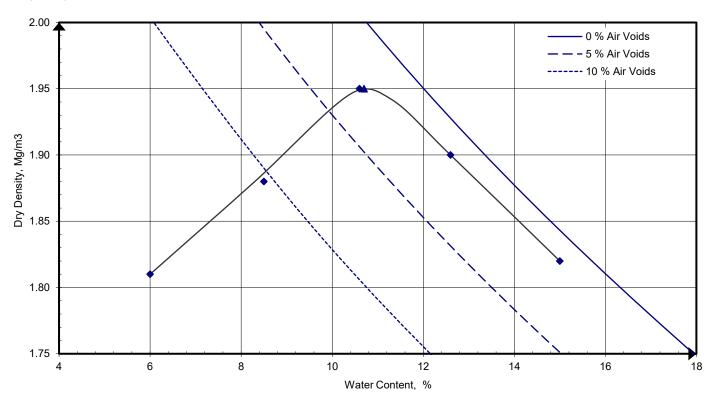
Sample Preparation: Sample was whole tested and broken down by hand. Material used was natural.



Depth Top [m]: 0.45

Sample Type: B

Depth Base [m]: Not Given



Compaction Point No.	1	2	3	4	5
Water Content %	6.0	8.5	10.6	12.6	15.0
Dry Density Mg/m³	1.81	1.88	1.95	1.90	1.82

Grading Zone	2
Mould Type	1 Litre
Samples Used	Single sample tested

Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	2
Particle Density - Assumed	Mg/m³	2.55
As received Water Content	%	10.6
Maximum Dry Density	Mg/m³	1.95

Optimum Water Content	%	11	

BS 1377-2:2022, cl 11.5

Remarks: Preliminary report

Signed:

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

Kataryna Kozies



# DETERMINATION OF THE CALIFORNIA BEARING RATIO (CBR)

Tested in Accordance with: BS 1377-2:2022 Cl. 15

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



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 28/04/2025

Date Received: 16/05/2025 Date Tested: 01/07/2025

Sampled By: Not Given

**Test Results:** 

Laboratory Reference: 570768
Hole No.: TP17
Sample Reference: Not Given

Sample Description: Brown clayey SAND

Depth Top [m]: 1.40 Depth Base [m]: 1.50

Sample Type: B

### **Specimen Preparation:**

Initial Specimen details

Condition Remoulded Soaking details

Details Recompacted with specified standard effort using 4.5kg rammer

Period of soaking details

Soaking details
Period of soaking
Time to surface
Amount of swell recorded
Dry density after soaking
Not soaked
days
days
Mmm
Mg/m3

Material retained on 20mm sieve removed

0 %

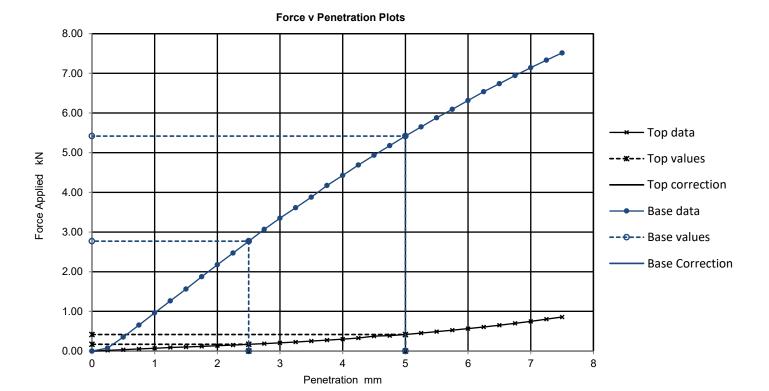
Surcharge applied 8 kg

4.8

kPa

Bulk density Dry density 1.84 Mg/m31.68 Mg/m3

Water content 9.7 %



Results

TOP BASE

Curve	CBR Values, %				
correction applied	2.5mm	5mm	Highest	Average	
No	1.3	2.1	2.1		
No	21	27	27		

Water Content % 9.6 9.7

Remarks:

Preliminary report

Test/ Specimen specific remarks:

Signed:

Kataryna

Katarzyna Koziel
Geotechnical Repor

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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or and on behalf of 12 Analytical I

**Date Reported:** 09/07/2025



# DETERMINATION OF THE CALIFORNIA BEARING RATIO (CBR)

Tested in Accordance with: BS 1377-2:2022 Cl. 15

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



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 02/05/2025

Date Received: 16/05/2025 Date Tested: 08/07/2025

Sampled By: Not Given

**Test Results:** 

Laboratory Reference:570813Depth Top [m]: 0.40Hole No.:TP35Depth Base [m]: 0.50Sample Reference:Not GivenSample Type: B

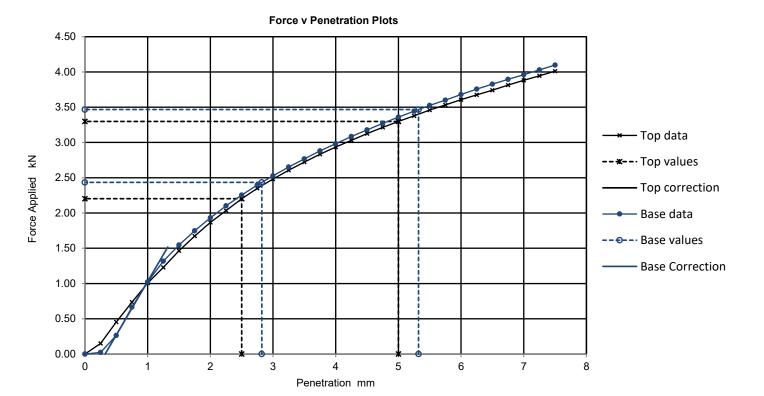
Sample Description: Brown CLAY

### **Specimen Preparation:**

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

Initial Specimen details Bulk density 2.09 Mg/m3 Surcharge applied 8 kg
Dry density 1.83 Mg/m3 Surcharge applied 4.8 kPa

Water content 14 %



Results

TOP BASE

Curve		CBR Va	ılues, %	
correction applied	2.5mm	5mm	Highest	Average
No	17	16	17	18
Yes	18	17	18	10

Water Content % 14 14

Remarks: Preliminary report

Test/ Specimen specific remarks:

Signed:

Kataryna

Kozies

Katarzyna Koziel Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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

Tested in Accordance with: BS 1377-2:2022 Cl. 15

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



4041

**BWB Consulting Limited** Client:

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 30/04/2025

Date Received: 16/05/2025 Date Tested: 08/07/2025 Sampled By: Not Given

**Test Results:** 

Hole No.:

Orangish brown gravelly SAND

Laboratory Reference: 572838 Depth Top [m]: 1.00 TP48 1 Depth Base [m]: Not Given

Sample Reference: Not Given Sample Type: B

**Specimen Preparation:** 

Sample Description:

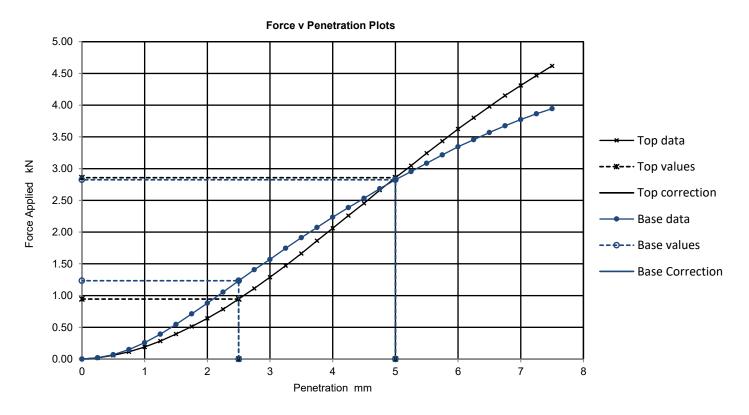
Condition Remoulded Soaking details Not soaked Details Period of soaking

days Recompacted with specified standard effort using 2.5kg rammer Time to surface days Amount of swell recorded mm Material retained on 20mm sieve removed 0 % Dry density after soaking Mg/m3

Initial Specimen details **Bulk density** 1.78 Mg/m3 Surcharge applied 8 kg 4.8 kPa

Dry density 1.63 Mg/m3

Water content 9.5



Results

TOP **BASE** 

Curve		CBR Va	lues, %	
correction applied	2.5mm	5mm	Highest	Average
No	7.2	14	14	14
No	9.3	14	14	14

Water Content % 9.4 9.0

Remarks: Preliminary report

Test/ Specimen specific remarks:

Signed:

Katarzyna Koziel

**Date Reported:** 09/07/2025

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Kataryna

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd



# DETERMINATION OF THE CALIFORNIA BEARING RATIO (CBR)

Tested in Accordance with: BS 1377-2:2022 CI. 15

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



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398

Job Number: 25-029363-0 Date Sampled: 30/04/2025

Date Received: 16/05/2025 Date Tested: 08/07/2025 Sampled By: Not Given

**Test Results:** 

Laboratory Reference: 572840
Hole No.: TP51 1
Sample Reference: Not Given

Sample Description: Brown SAND

Depth Top [m]: 0.50
Depth Base [m]: Not Given

Sample Type: B

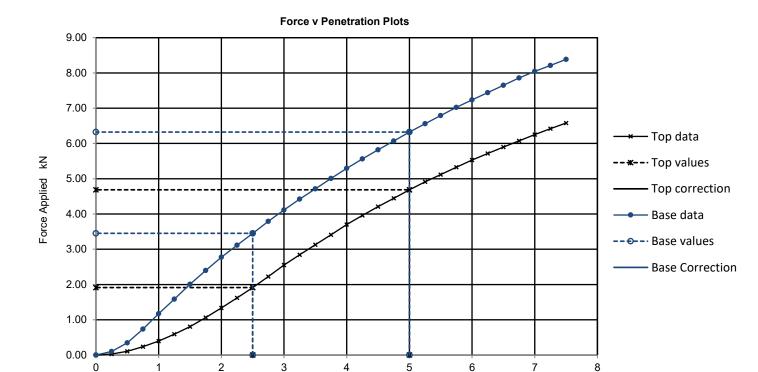
### **Specimen Preparation:**

Initial Specimen details

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

Bulk density 1.91 Mg/m3
Dry density 1.74 Mg/m3
Water content 9.6 %

Surcharge applied 8 kg 4.8 kPa



Results

TOP BASE

Curve		CBR Va	lues, %	
correction applied	2.5mm	5mm	Highest	Average
No	15	23	23	
No	26	32	32	

Penetration mm

Water Content % 9.4 9.4

Remarks: Preliminary report

Test/ Specimen specific remarks:

Signed:

Katarzyna Koziel Geotechnical Reporting Team Leader

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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Kataryna

Date Reported: 09/07/2025



# DETERMINATION OF THE CALIFORNIA BEARING RATIO (CBR)

Tested in Accordance with: BS 1377-2:2022 Cl. 15

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



4041

Client: BWB Consulting Limited

Client Address: 5th Floor, Waterfront House,

Nottingham, NG2 3DQ

Water content

Contact: Thomas Flame
Site Address: IP North

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

Client Reference: 233398 Job Number: 25-029363-0

Date Sampled: 30/04/2025

Date Received: 16/05/2025 Date Tested: 08/07/2025 Sampled By: Not Given

### **Test Results:**

Laboratory Reference: 572856
Hole No.: TP43 2
Sample Reference: Not Given
Sample Description: Brown SAND

Depth Top [m]: 0.40 Depth Base [m]: Not Given

Sample Type: B

### **Specimen Preparation:**

Condition Remoulded Soaking details Not soaked Details Period of soaking days Recompacted with specified standard effort using 2.5kg rammer Time to surface days Amount of swell recorded mm Material retained on 20mm sieve removed 8 % Dry density after soaking Mg/m3 Initial Specimen details **Bulk density** 1.89 Mg/m3 Surcharge applied 8 kg Dry density 1.72 Mg/m3 4.8 kPa

10

Force v Penetration Plots 9.00 8.00 7.00 - Top data 6.00 Force Applied kN - Top values 5.00 Top correction 4.00 - Base data - • - · Base values 3.00 **Base Correction** 2.00 1.00 0.00 3 6

Results

TOP BASE

Curve		CBR Va	ılues, %	
correction applied	2.5mm	5mm	Highest	Average
No	9	18	18	
No	30	32	32	

Penetration mm

Water Content % 9.9 9.6

Remarks:

Preliminary report

Test/ Specimen specific remarks:

Signed:

Kataryna

Katarzyna Koziel Geotechnical Reporting Team Leader

Geotechnical Reporting Team Leader for and on behalf of i2 Analytical Ltd

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Date Reported: 09/07/2025 GF 593.1

