

General
◊ Specified Site
◊ Specified Buffer(s)
X Bearing Reference Point

OS Water Network Data

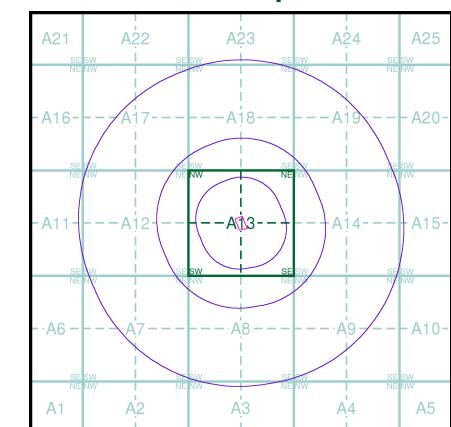
- Canal
- Reservoir
- Foreshore
- Lake
- Marsh
- Transfer
- Tidal River
- Inland River
- Sea

Contours (height in meters)

- Standard Contour
- Master Contour
- Spot Height

MLW — Mean Low Water
 MHW — Mean High Water

OS Water Network Map - Slice A

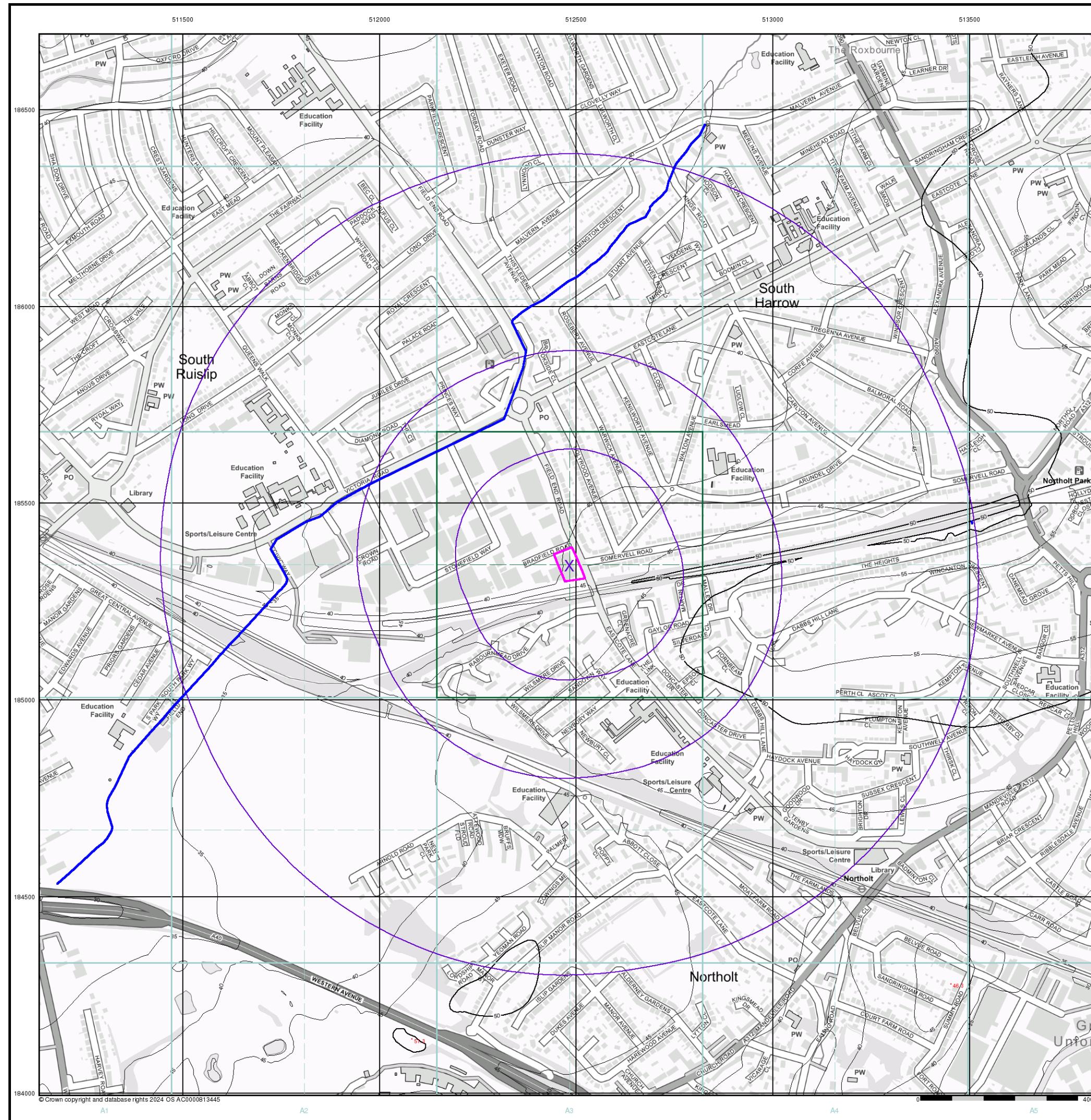


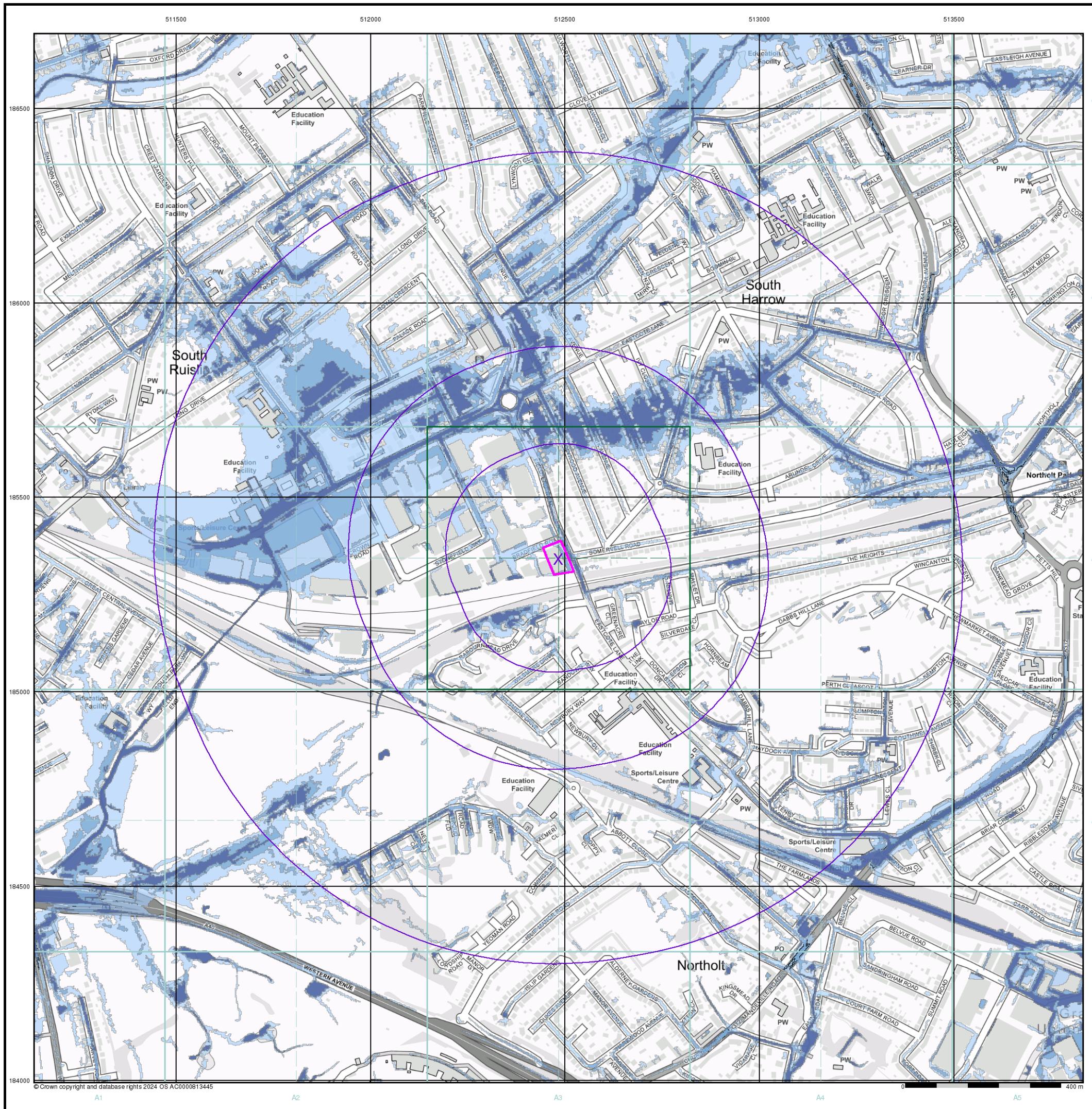
Order Details

Order Number: 365083728_1_1
 Customer Ref: 4383
 National Grid Reference: 512480, 185340
 Slice: A
 Site Area (Ha): 0.41
 Search Buffer (m): 1000

Site Details

Safestore, 1, Bradfield Road, RUISLIP, HA4 0NU





Geo²™

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Risk of Flooding from Surface Water

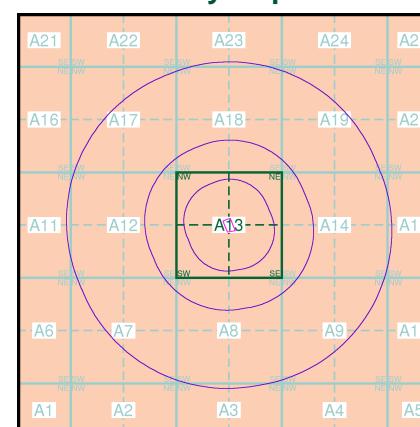
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

Suitability

-  National to county
-  County to town
-  Town to street
-  Street to parcels of land
-  Property

EA/NRW Suitability Map - Slice A



Order Details

Order Details
Order Number: 365083728_1_1
Customer Ref: 4383
National Grid Reference: 512480, 185340
Slice: A
Site Area (Ha): 0.41
Search Buffer (m): 1000

Site Details

Site Details

Landmark®
INFORMATION GROUP

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

General

- Specified Site (Yellow diamond)
- Specified Buffer(s) (Purple circle)
- Bearing Reference Point (Purple X)
- Slice (Red box)
- Map ID (Blue box)

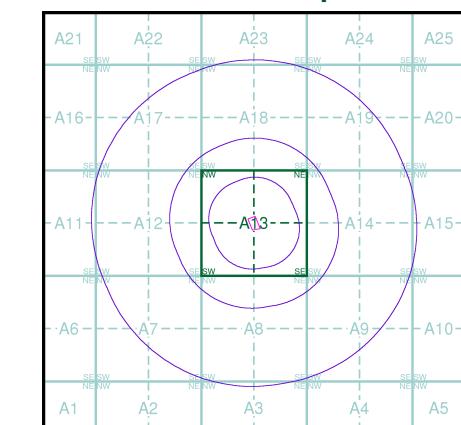
Water Framework Directive - Surface Water Quality

- High (Dark Green)
- Good (Light Green)
- Moderate (Orange)
- Poor (Red)
- Bad (Dark Red)

Contours (height in meters)

- Standard Contour (Blue line)
- Mean Low Water (MLW) (Blue line)
- Master Contour (Black line)
- Mean High Water (MHW) (Black line)
- Spot Height (Red dot)

WFD Surface Waters Map - Slice A

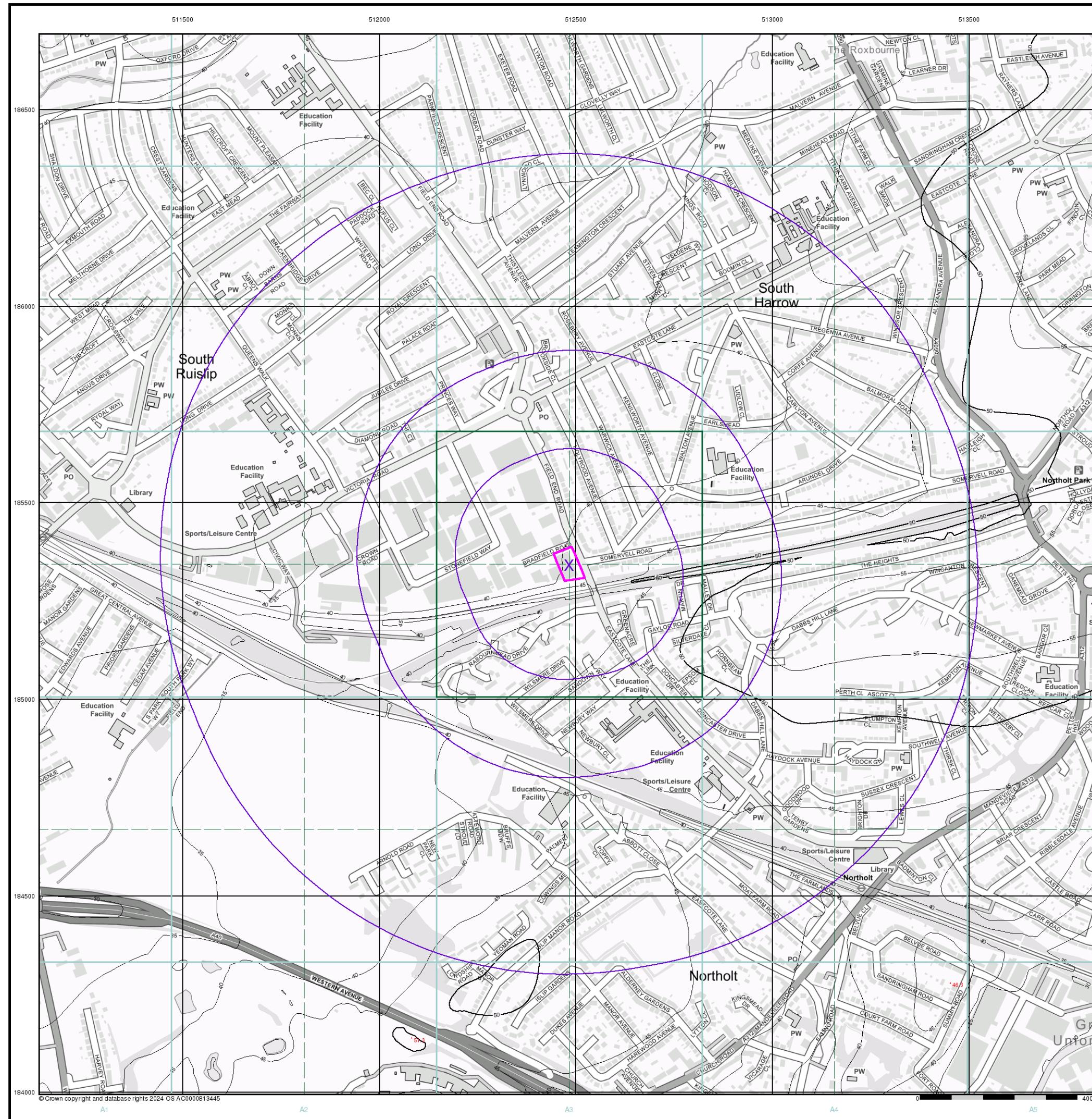


Order Details

Order Number: 365083728_1_1
 Customer Ref: 4383
 National Grid Reference: 512480, 185340
 Slice: A
 Site Area (Ha): 0.41
 Search Buffer (m): 1000

Site Details

Safestore, 1, Bradfield Road, RUISLIP, HA4 0NU



General

- Specified Site
- Specified Buffer(s)
- Several of Type at Location
- Pylon
- Bearing Reference Point
- Map ID

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Historical Prosecutions
- Prosecutions
- Registered Radioactive Substance
- River Network or Water Feature
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

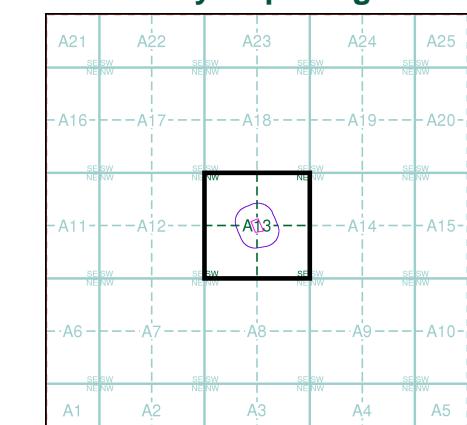
Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Geological

- BGS Recorded Mineral Site

Site Sensitivity Map - Segment A13

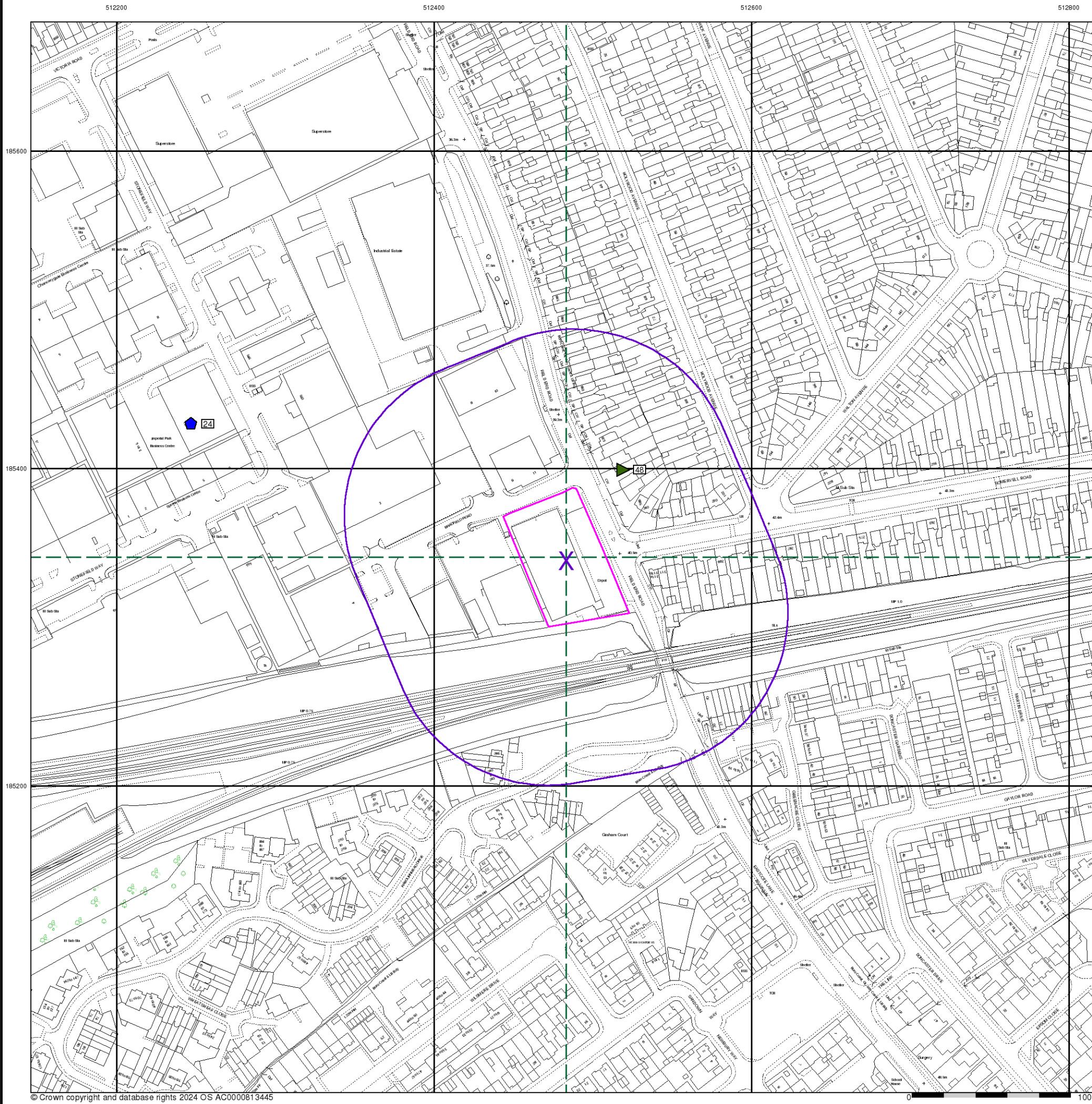


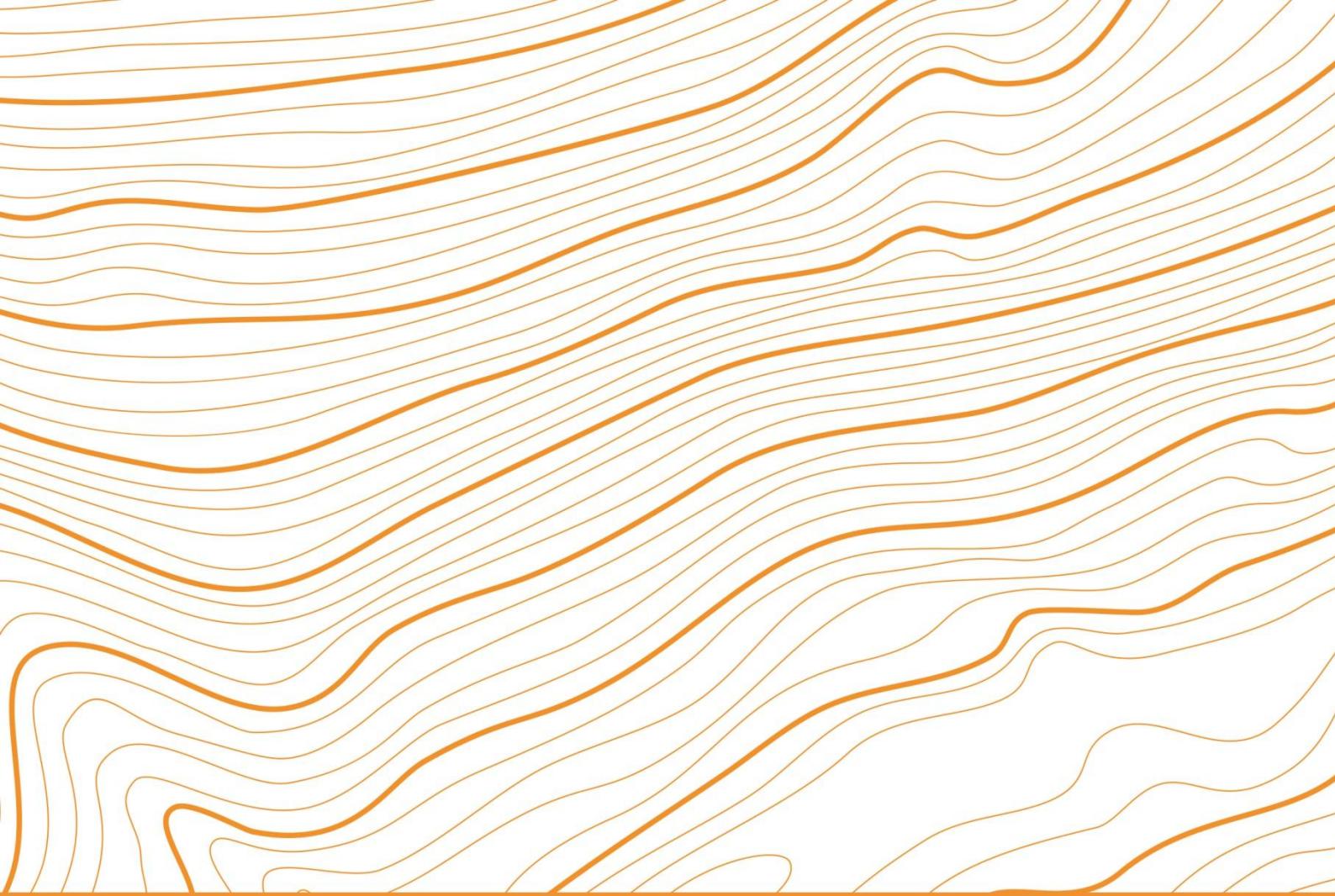
Order Details

Order Number: 365083728_1_1
 Customer Ref: 4383
 National Grid Reference: 512480, 185340
 Slice: A
 Site Area (Ha): 0.41
 Plot Buffer (m): 100

Site Details

Safestore, 1, Bradfield Road, RUISLIP, HA4 0NU





Appendix D – UXO Risk Assessment

Stage 1 Preliminary Explosive Ordnance Risk Assessment

Project: Safestore, South Ruislip

Doc Ref: PRA.10226.24

Client: Geo2

Issue Date: 11th December 2024

Conclusion(s)

GI works	EO (explosive ordnance) poses a Low Risk to the proposed works.
Post-GI Development	There is a potentially elevated likelihood of EO encounter during the proposed works.

Recommendation(s)

GI works	No further action.	To receive a Stage 2 DRA quotation: info@impartialassessments.com
Post-GI Development	Stage 2 Detailed Risk Assessment to elucidate the risk.	+44 (0) 207 126 8164

The Site



British National Grid Ref:

TQ 12483 85349

Site Address:

Bradfield Road
Victoria Retail Park
South Ruislip
London Borough of
Hillingdon
HA4 0NU

Note, the Safestore, South Ruislip site will subsequently be referred to as the 'Site'.

Introduction

Introduction	<p>A preliminary risk assessment (PRA) is the first stage of the UXO (unexploded ordnance) / EO (explosive ordnance) risk management process. It is a qualitative screening exercise to assess the likelihood of encountering EO during ground works at a given site.</p> <p>The assessment considers the basic factors that affect the likelihood of buried EO being present at a given site today and the likelihood it will be encountered during the proposed works.</p>
Assessment methodology	<p>This desktop risk assessment has been researched and written by a dedicated EO risk analyst and is produced in accordance with CIRIA C681 (2009) and C785 (2019) guidelines on UXO risk assessment. As such, the assessment considers the following five factors:</p> <ul style="list-style-type: none">▶ Site location and Site history / occupancy▶ Wartime UXO: German bombing, German shelling, and British and Allied anti-aircraft weaponry fire▶ Domestic military activity: British and Allied armed forces activity during wartime and peacetime▶ Mitigating Factors▶ Extent of the proposed ground works <p>Note, the likelihood of EO initiation / detonation and consequence(s) of EO initiation / detonation are assessed at Stage 2, not Stage 1.</p> <p>The numerical preliminary risk rating calculation included within this PRA is a unique Impartial Assessments Ltd (IAL) methodology that makes for a transparent and accountable risk assessment process.</p>
Information sources	<p>This assessment draws on preliminary research utilising information sources immediately available to IAL at the time of writing. The availability of historical information will differ depending on the Site's location. As an absolute minimum, all IAL Stage 1 PRAs involve analysis of recent aerial photography, historic OS mapping, original WW2 bombing density records and our PIEO (potential indicators of explosive ordnance) GIS map. The PIEO map plots our vast database of locations and incidents of interest.</p>
Stage 1 objective	<p>The main objective of a Stage 1 PRA is to confirm whether or not further research is required to verify the EO risk. If a low risk cannot be confirmed at Stage 1, a Stage 2 Detailed Risk Assessment (DRA) will be recommended.</p>

The Site and Proposed Works

Current Site Occupancy		A post-WW2 constructed warehouse type building and associated hardstanding.
Historic Site occupancy (OS maps review)	Pre-WW1	Farmland.
	Interwar / Pre-WW2	Unchanged.
	Post-WW2 (circa 1950s)	Unchanged.
Proposed Works		<p>Two extensions to the existing building are planned, in the north and southeast. Various shallow mechanical excavations are assumed and the possible requirement for piled foundations cannot be discounted at this stage.</p> <p>Prior to development a GI will be undertaken, comprising four window sampler boreholes to 5.0m bgl.</p>

Enemy Action during WW1

German Aerial Bombing	Did any bombs fall within 1km of the Site?	No
German Naval Shelling	Did any warship artillery shells fall within 1km of the Site?	No

Enemy Action during WW2

German aerial bombing		
Indicator	Assessment	
Bombing Targets	Confirmed by the Luftwaffe	Original Luftwaffe target records identify RAF Northolt airfield (~1.78km west of the Site) as the closest bombing target.
	Unconfirmed secondary / opportunistic	Main railway line immediately south of the Site.
Bombing Density	The Administrative Area	<p>What bombing density was experienced by Ruislip & Northwood Urban District (within which the Site was located at the time)?</p> <p>Moderate bombing density (38.3No. 'iron' bombs / 1,000 acres)</p> <p>Note, this is the official government bomb census figure. 'Iron' bomb refers to large (>40kg) thick-steel-cased bombs (most of which were high explosive filled). The bomb census did not report the numbers of small (1kg / 2kg) incendiary bombs (IBs), millions of which were dropped on the UK. It should also be noted that IAL's previous research has proven this record type inaccurate on a number of occasions.</p>
	The Study Area	<p>What is the likelihood that the figure above (for the administrative area as a whole) accurately represents the immediate study area?</p> <p>High - the Site was situated within 110m of two other administrative areas, both of which experienced moderate bombing densities.</p> <p>Note, the bombing density figure for a whole administrative area is not always a good indication of the bombing density at a given site. Within larger administrative areas, particularly rural districts, bombing density may be skewed by the presence of a single heavily bombed target, e.g. a military airfield.</p>
Air Raid Frequency		<p>An original bomb census record of air raid locations throughout Greater London references three Luftwaffe air raids affecting Northolt and 25No. affecting Ruislip.</p> <p>Note, it should be noted that IAL's previous research has proven this record type inaccurate on a number of occasions.</p>
Bombing Decoy Sites		Were any British bombing decoy sites installed within 3km of the Site?
Bomb Damage		Has initial (partial) research located evidence of potential bomb damage (e.g. OS-mapped 'ruins', clearance, redevelopment) in the vicinity of the Site?
Bomb Strikes		<p>Has initial (partial) research located evidence of a bomb strike(s) within 500m of the Site?</p> <p>Note, analysis of all Site-specific original bombing incident records is beyond the scope of a Stage 1 PRA. Some such records are unavailable within the time frame of a Stage 1 PRA.</p>

German land-based (French coast) artillery shelling

Is the Site located within one of the areas of Kent that experienced cross-Channel artillery bombardment?

No

Domestic Military Activity

EO Contamination Source	Assessment	
Anti-Aircraft (AA) Artillery Fire	During WW1	<p>Six static AA gun batteries active within firing range of the Site and there is a low likelihood of mobile AA gun deployments to the wider study area.</p> <p>The German Luftstreitkräfte were frequently active over central London. However, this small number of AA guns probably did not expend a significant quantity of ammunition.</p> <p>Note, many AA guns were mounted on vehicles so that they could be moved between vulnerable points. The number of active guns within firing range of a given site could therefore have been higher.</p>
	During WW2	<p>15No. heavy (HAA) gun batteries were positioned within firing range of the Site.</p> <p>At least three sites within autocannon firing range of the Site were protected by light anti-aircraft (LAA) guns.</p> <p>No U.P. rocket projector (ZAA) batteries were active within firing range of the Site.</p> <p>As German Luftwaffe activity in the region was frequent and intense, these guns probably expended a significant volume of ammunition.</p>
		<p>Notes. Numerous LAA gun deployments (in defence of vulnerable points) were only temporary. During the early years of the conflict many static batteries were not armed due to a lack of available weapons. In the summer of 1944, there were large-scale inland deployments of LAA and HAA guns to parts of Kent, East Sussex and the Thames Estuary.</p>
Military Bases / Installations	Were / are there any British or Allied nation sites located within a significant distance of the Site?	RAF South Ruislip - USAF site (>120m west)
Military Training Areas / Weapons Ranges	Were / are there any British or Allied nation sites located within a significant distance of the Site?	No
Munitions or Explosives Factories	Were / are there any such sites located within a significant distance of the Site?	No
Munitions Storage Depots	Were / are there any such sites located within a significant distance of the Site?	Northolt Park WW2 Army Depot (>80m southeast)
Wartime Requisition	What is the likelihood that the Site was requisitioned by the government for temporary (wartime) military use?	Moderate
Defensive Measures and Fortifications	Did the Site occupy an area that was substantially fortified against the anticipated German invasion of WW2 (or to a lesser extent, WW1)?	No
	Has initial research highlighted any fortifications or other defence measures within 1km of the Site?	No
	Could defensive minefields have been laid in the vicinity of the Site during WW2?	No
	Could WW2 Home Guard (HG) soldiers of the local unit (either the 13 th , 15 th , 16 th , or 17 th Middlesex Battalions) conceivably have utilised the Site for any potentially significant activities?	Unlikely

Key Findings and Risk Factor Scoring

		Scoring - Contamination Factor	2
Likelihood of EO Contamination	German UXO	Is the study area known to have experienced or probably did experience an elevated WW1 and / or WW2 bombing density?	Yes
		Did the Luftwaffe earmark any targets within 3km of the Site for attack?	Yes
		Would the study area have been vulnerable to small-scale random / indiscriminate bombing? i.e. due to proximity of heavily bombed urban area or an individual / isolated primary target.	n/a
		Evidence of an officially abandoned unexploded bomb (UXB) in the vicinity?	No
		Has preliminary research identified evidence of bombing within 500m of the Site, direct evidence (e.g. recorded bomb strike) or indirect evidence (e.g. structural damage or bomb crater)?	Yes
		Did (or could) the Site boundary have encompassed risk elevating ground cover during WW1 and / or WW2?	Unlikely
		Could part(s) of the Site have been neglected / inaccessible during WW1 and / or WW2?	Unlikely
		Additional observations / considerations.	Although at least four bomb strikes occurred within 400m of the Site, the Site appears to have been in use as grazing pasture during WW2. Any large UXB entry hole is unlikely to have been repeatedly overlooked in such ground conditions. Note, detailed research could identify additional local bombing incidents.
	British / Allied EO	Was AA weapon ammunition expenditure significantly elevated within firing range of the Site during WW1 and / or WW2?	Yes
		Could an unexploded AA projectile strike have gone undetected / unreported on Site, due to risk elevating wartime occupancy / ground conditions?	Unlikely
		Has evidence of wartime or peacetime military activity affecting the Site been identified?	Possibly
		Does the Site's location / position / occupancy raise the possibility of temporary wartime military activity affecting the Site? e.g. invasion defences activity or military requisition.	Unlikely
		Could HG soldiers have intentionally buried / discarded live ammunition on Site during WW2?	Unlikely
		Additional observations / considerations.	The Site was separated from the WW2 army depot by a main railway line and associated embankments. Consequently, any potentially significant depot activities are highly unlikely to have affected the Site. RAF South Ruislip was a post-WW2 command (administrative) facility, posing no associated EO contamination threat.

Likelihood of EO Remaining	How many cycles of redevelopment have affected the area of the proposed ground works?	One
	Does the Site currently contain any greenfield land or WW2-era brownfield land?	No
	Does undisturbed WW2-era soil / made ground / geology (that could be EO contaminated) remain at shallow depths (<2.0m bgl) on Site today?	Yes

	Does undisturbed WW2-era geology (that could be German UXB contaminated) remain at deeper depths (>2.0m bgl) on Site today?	Yes
	Has evidence been found confirming that the U.K armed forces have carried out EO clearance (EOC) activities on Site, recently or historically?	No
	If no evidence of EOC activity affecting the Site is immediately available, what is the likelihood that parts of the Site have been surveying / searched for EO by the U.K armed forces?	Low
	Scoring - Risk Mitigation Factor	3
	Will the proposed ground works disturb the zone of potential EO contamination (ZPC)?	Yes
	To what degree (volume of soil / geology) will the proposed ground works disturb the ZPC?	Low and Moderate
	Are higher risk intrusive methodologies planned (e.g. boreholes, piling, vibro stone columns)?	Yes
	Will the / any proposed GI works disturb a significantly lower volume of the ZPC than the / any post-GI development ground works, or vice versa?	Yes
	Scoring - Proposed Works Factor (GI)	2
	Scoring - Proposed Works Factor (Post-GI Development)	3

Preliminary (Indicative) Risk Calculation

The preliminary risk rating calculation involves three factors:

- ▶ The likelihood of EO contamination (Site location and history)
- ▶ The likelihood of EO remaining on Site today (the extent of any risk mitigating factors)
- ▶ The likelihood of EO encounter during the proposed works (the type, volume and depth of proposed ground disturbance)

Each factor is numerically rated (**1 to 5**). For 'likelihood of EO contamination' and 'likelihood of EO encounter', **one** is the lowest likelihood.

For 'likelihood of EO remaining', **five** is the lowest degree of risk mitigative activities.

When added together, a final score of **eight or more** triggers the recommendation of a Stage 2 DRA.

Proposed Works	Contamination	Risk Mitigation	Proposed Works	Risk Rating Calculation	
	1 = lowest 5 = highest	1 = highest 5 = lowest	1 = lowest 5 = highest	2+3+2=	7
GI works	2	3	2	2+3+2=	7
Post-GI Development	2	3	3	2+3+3=	8

Further research is required to educate the risk in relation to the development phase works only.

A Stage 2 Detailed EO Risk Assessment is recommended prior to the development phase works commencing.

IAL has exercised all reasonable care, skill and due diligence in preparing this risk assessment. However, a low-risk conclusion at Stage 1 PRA does not mean 'no risk'. For example, it is impossible to identify locations where members of the public have previously buried unwanted (often inherited) EO on private land (such as residential back gardens). Such EO contamination is not uncommon.

IAL cannot be held responsible for any inaccuracies or omissions within any records / information relied upon to carry out this PRA.

IAL is not liable for any relevant records / information that has become available subsequent to this PRA's issue date.

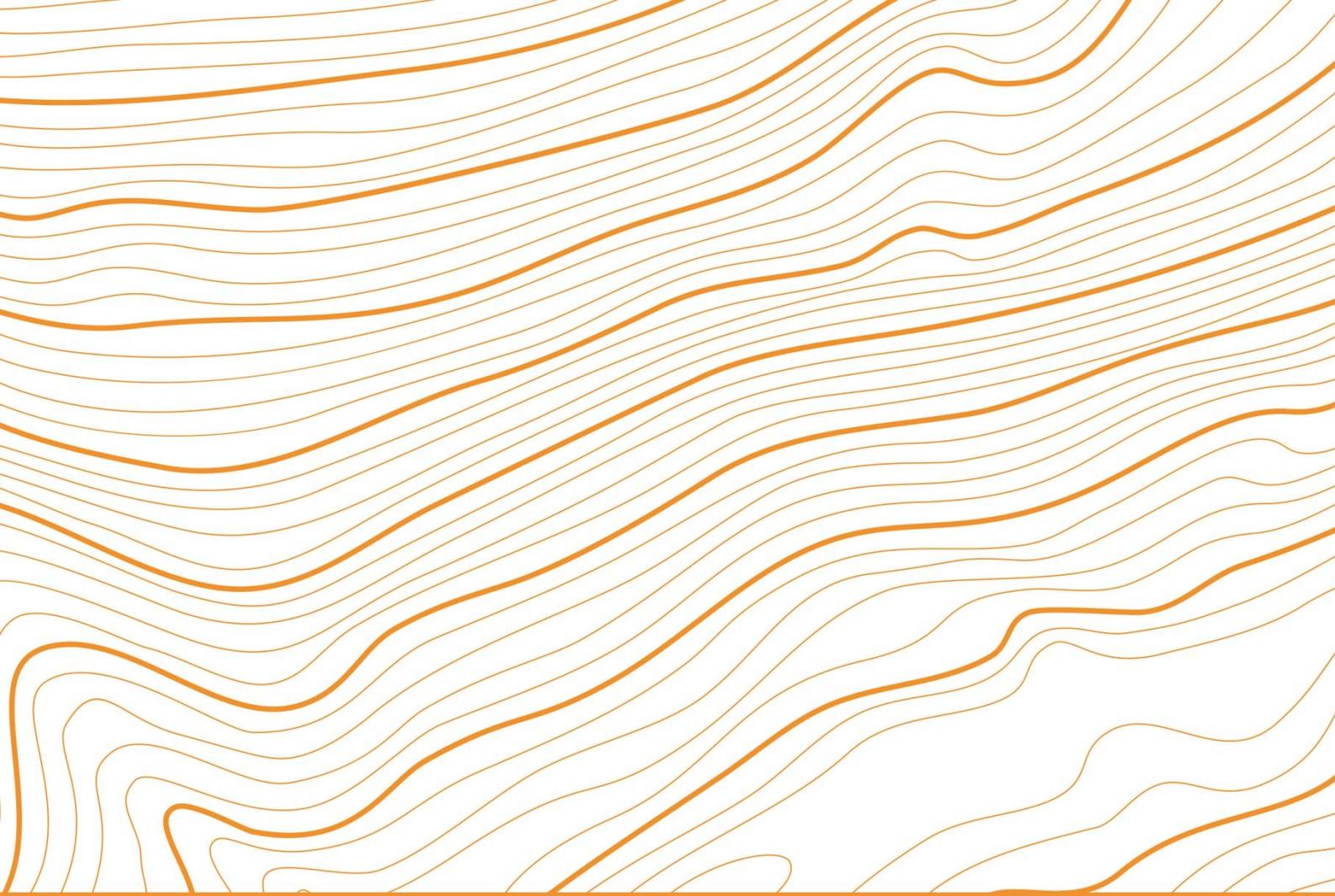
IAL cannot accept liability for subsequent changes to Site conditions that could affect the risk level.

At the time of writing, the relevant UK construction industry guidelines on explosive ordnance risk assessment (CIRIA) were adhered to. Subsequent revisions to these guidelines or new guidelines / legislation may render part(s) of this report obsolete. Reliance on the findings of this report must therefore be limited accordingly. Such reliance must be based on the whole report and not on extracts which may lead to incomplete or incorrect conclusions when taken out of context.

This report has been prepared for the exclusive use of the client (named on Page 1). Any third party relying on any information, conclusion or recommendation contained within this report, does so at their own risk.

The content of this document is confidential and subject to copyright owned by Impartial Assessments Limited. 2024. All rights reserved. No part of this report may be amended, reproduced, published, or distributed to a third party without the prior written consent of Impartial Assessments.





Appendix E – Borehole Logs and SPT Certificate

Key to exploratory hole symbols and abbreviations

SAMPLE TYPES

ACM - Asbestos sample	AMAL - Amalgamated sample	B - Bulk disturbed sample
BLK - Block sample	C - Core sample	CBR - CBR test sample
D - Disturbed sample	ES - Environmental sample	EW - Environmental water sample
G - Gas sample	J - Jar sample	L - Liner sample
TW - Pushed thin wall sample	U - Undisturbed sample	UT - Undisturbed thin wall sample
W - Water sample		

IN-SITU TESTS

HV - Hand shear vane	HV(r) - Hand shear vane residual	PID - Photo ionisation detector
PP - Hand penetrometer	SPT - Standard penetration test	SPT(C) - SPT using cone

GROUNDWATER

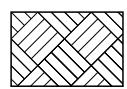
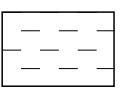
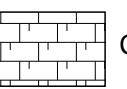
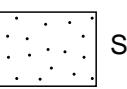
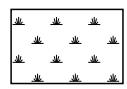
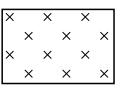
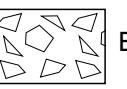
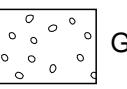
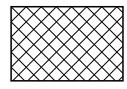
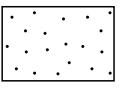
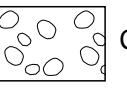
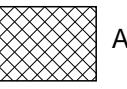
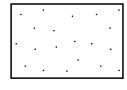
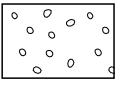
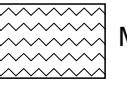
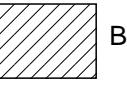
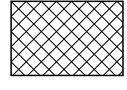
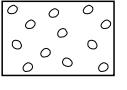
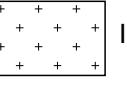
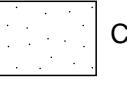
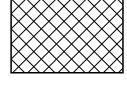
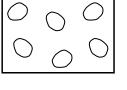
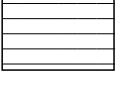
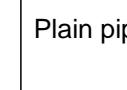
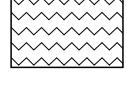
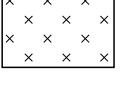
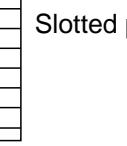
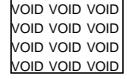
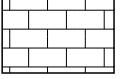
 Groundwater strike

 Groundwater rest level

ROTARY CORE DETAILS

TCR - Total core recovery (%)	SCR - Solid core recovery (%)	RQD - Rock quality designation (%)
FI - Fracture index	NI - Non-intact core	AZCL - Assumed zone of core loss

LEGEND

	Topsoil		Clay		Chalk		Sand backfill
	Peat		Silt		Breccia		Gravel backfill
	Made ground		Sand		Conglomerate		Arisings
	Concrete		Gravel		Metamorphic		Bentonite
	Wood		Cobbles		Igneous		Concrete
	Brick		Boulders				Grout
	Bituminous material		Mudstone				Plain pipe
	Gypsum		Siltstone				
	Coal		Sandstone				Slotted pipe
	Void		Limestone				



Borehole Log

DS101

Sheet 1 of 1

Hole Type DS	Easting 512463.28	Northing 185373.10	Ground Level (m) 39.19	Scale 1:25
Project Name Safestore, Ruislip	Project No. 4383	Start Date 2025-01-08	End Date 2025-01-08	

Client Safestore		Contractor Dynamic Sampling		Consultant MOK			
Inst/ Backfill	Water Levels	Samples and Tests		Strata			
		Depth (m)	Type/ Ref				
				Level (m)	Depth (thickness) (m)	Legend	Description
				39.16	(0.03) 0.03 (0.21)		MADE GROUND: Macadam. MADE GROUND: Concrete.
		0.50 - 0.60	D1	38.95	0.24 (0.11)		MADE GROUND: Light brown slightly sandy angular to sub-angular fine to coarse brick GRAVEL with rare cobbles of angular brick. Sand is fine to coarse.
		0.90 - 1.00	ES1	38.84	0.35		Soft light brown occasional mottled light grey slightly silty CLAY. [LONDON CLAY FORMATION]
		1.20 - 1.30	SPT(C) D2				Band of angular to sub-angular fine to medium mudstone GRAVEL. (0.60 - 0.70m)
		2.00	SPT(C)	N=10 (1.2/2,2,3,3)	(1.65)		Firm light brown occasional mottled light grey slightly silty CLAY. [LONDON CLAY FORMATION]
		2.90 - 3.00	D3		(1.00)		
		3.00	SPT(C)	N=16 (2,2/3,4,4,5)	37.19	2.00	Firm light brown occasional mottled light grey silty CLAY. [LONDON CLAY FORMATION]
		4.00 - 4.10	SPT(C) D4	N=16 (10,5/3,4,4,5)	36.19	3.00	Rare selenite crystals. (2.80 - 3.00m)
		4.00	SPT(C)	N=20 (3,4/4,5,5,6)	35.89	(0.30)	Light brown slightly sandy clayey angular to sub-angular fine to medium mudstone GRAVEL. Sand is fine to coarse. [LONDON CLAY FORMATION]
		5.00	SPT(C)	N=19 (3,3/4,4,5,6)	34.19	3.30	Firm light brown occasional mottled light grey slightly silty CLAY. [LONDON CLAY FORMATION]
					(1.70)		Rare selenite crystals. (4.00 - 5.00m)
					5.00		End of Borehole at 5.00m
Remarks					Method, Plant, Stability, Dimensions		Logger
1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area spot cleared for services prior to excavation by a specialist third-party contractor. 3. Hand dug pit advanced to 1.20 m bgl. 4. No olfacto or visual evidence of contamination was noted. 5. SPT Hammer Ref. 110.71, Energy Ratio 76 %. 6. Borehole terminated at 5.00 m bgl due to target depth reached. 7. Borehole installed with a 50 mm HDPE standpipe, gas bung and flush cover. 8. Groundwater encountered at 3.00 m bgl.					0.00 - 5.00m DS Premier 110		MOK
Checked By: JCR Approved By: TH					Created using Pebble Geo		



Borehole Log

DS102

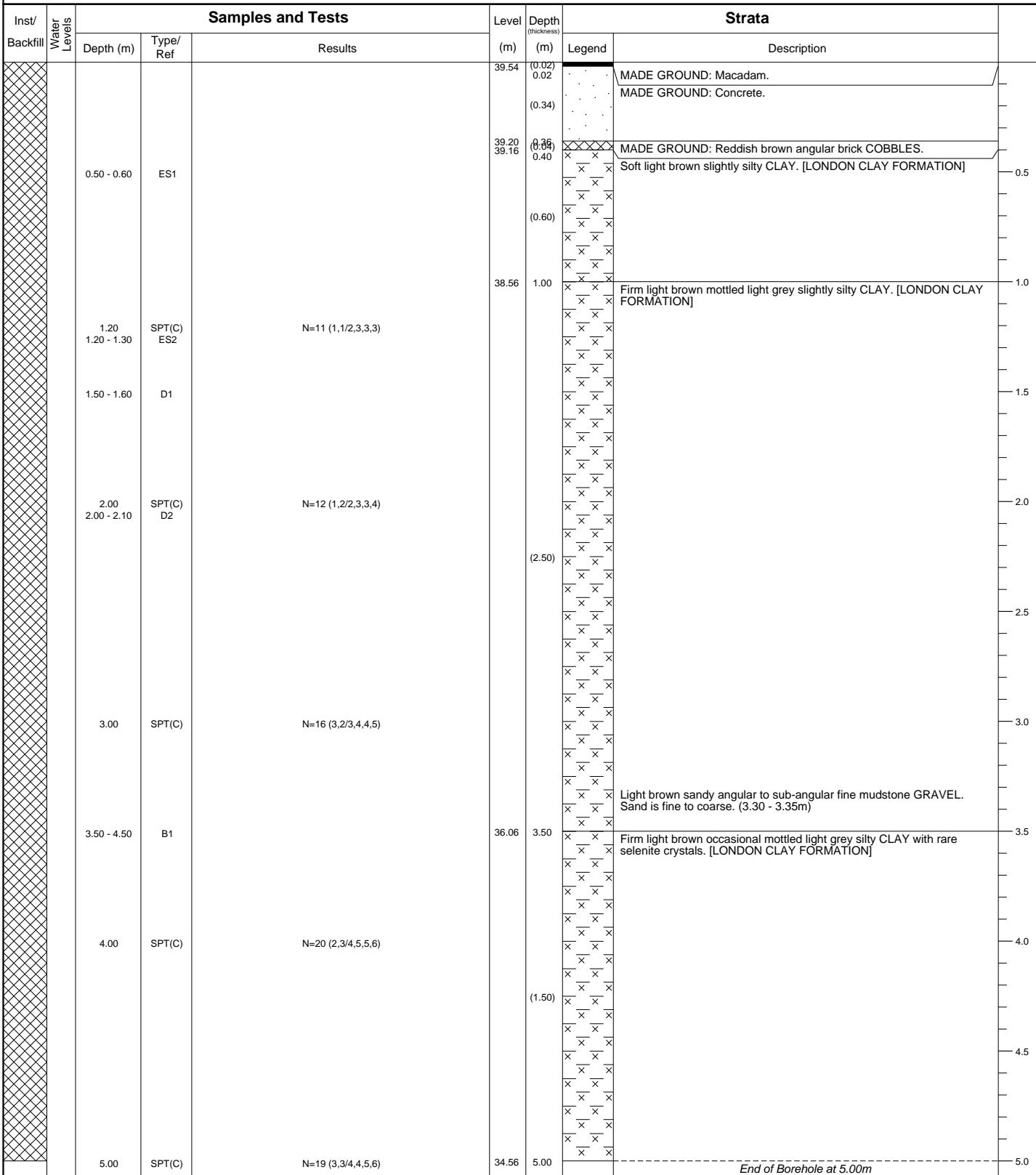
Sheet 1 of 1

Hole Type	Easting	Northing	Ground Level (m)	Scale
DS	512475.60	185379.10	39.56	1:25
Project Name		Project No.	Start Date	End Date
Safestore, Ruislip		4383	2025-01-08	2025-01-08

Client Safestore

Contractor
Dynamic Sampling

Consultant MOK



Remarks

1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area spot cleared for services prior to excavation by a specialist third-party contractor. 3. Hand dug pit advanced to 1.20 m bgl. 4. Not olfactory or visual evidence of contamination was noted. 5. SPT Hammer Test 10.71, Energy Ratio 76 %. 6. Borehole terminated at 5.00 m bgl due to target depth reached. 7. Borehole backfilled with arisings. 8. Borehole remained dry upon completion.

Method, Plant, Stability, Dimensions

Logger

0.00 - 5.00m DS Premier 110

MOK

Checked By: JCR Approved By: TH



Borehole Log

DS103

Sheet 1 of 1

Hole Type DS	Easting 512502.97	Northing 185336.27	Ground Level (m) 39.54	Scale 1:25
Project Name Safestore, Ruislip	Project No. 4383		Start Date 2025-01-09	End Date 2025-01-09

Client Safestore			Contractor Dynamic Sampling		Consultant MOK				
Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (thickness) (m)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
					39.50	(0.04) 0.04 (0.24)		MADE GROUND: Macadam. MADE GROUND: Concrete.	
		0.40 - 0.50	ES1		39.26	0.28 (0.22)		Cobbles of angular brick. (0.25 - 0.28m) MADE GROUND: Reddish brown sandy slightly clayey angular to sub-angular fine to coarse brick, wood, concrete, mudstone and quartzite GRAVEL with rare cobbles of angular brick. Sand is fine to coarse.	
		0.50 - 0.60	D1		39.04	0.50 (0.17)		MADE GROUND: Greyish brown slightly gravelly sandy SILT. Gravel is angular to sub-angular fine to coarse brick, wood, concrete, mudstone and quartzite. Sand is fine to coarse.	
				N=13 (2,2/2,3,4,4)	38.87	0.67 (0.33)		Soft light brown occasional mottled light grey slightly silty CLAY. [LONDON CLAY FORMATION]	
		1.20	SPT(C)		38.54	1.00		Firm light brown occasional mottled light grey slightly silty CLAY. [LONDON CLAY FORMATION]	
		1.20 - 1.30	D2						
		2.00	SPT(C)	N=10 (2,2/2,3,2,3)					
		2.00 - 3.00	B1						
		3.00	SPT(C)	N=17 (3,3/4,3,5,5)	36.54	3.00		Rare calcite crystals. (2.90 - 3.00m)	
		3.50 - 3.60	D3					Firm light brown occasional mottled light grey silty CLAY with rare selenite crystals. [LONDON CLAY FORMATION]	
		4.00	SPT(C)	N=15 (2,3/3,4,4,4)				Rare shell fragments. (3.00 - 3.20m)	
		5.00	SPT(C)	N=30 (3,3/4,5,11,10)	34.54	5.00			
End of Borehole at 5.00m									
Remarks 1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area spot cleared for services prior to excavation by a specialist third-party contractor. 3. Hand dug pit advanced to 1.20 m bgl. 4. No olfactory or visual evidence of contamination was noted. 5. SPT Hammer Ref. 110.71, Energy Ratio 76 %. 6. Borehole terminated at 5.00 m bgl due to target depth reached. 7. Borehole backfilled with arisings. 8. Borehole remained dry upon completion.						Method, Plant, Stability, Dimensions		Logger	
							0.00 - 5.00m	DS Premier 110	MOK
Checked By: JCR Approved By: TH									Created using Pebble Geo



Borehole Log

DS104

Sheet 1 of 1

Hole Type DS	Easting 512512.57	Northing 185316.35	Ground Level (m) 39.57	Scale 1:25
Project Name Safestore, Ruislip	Project No. 4383	Start Date 2025-01-09	End Date 2025-01-09	

Client Safestore		Contractor Dynamic Sampling		Consultant MOK				
Inst/ Backfill	Water Levels	Samples and Tests		Strata				
		Depth (m)	Type/ Ref					
				Level (m)	Depth (thickness) (m)	Legend	Description	
				39.53	(0.04) 0.04 (0.18)		MADE GROUND: Macadam. MADE GROUND: Concrete.	
		0.30 - 0.40	ES1	39.35	0.22 (0.43)		MADE GROUND: Light brown sandy slightly clayey angular to sub-angular concrete, brick, metal, glass and quartzite GRAVEL. Sand is fine to coarse.	
		0.70 - 0.80	ES2	38.92	0.65 (0.55)		Soft light brown occasional mottled light grey silty CLAY. [LONDON CLAY FORMATION]	
		1.20	SPT(C)	N=6 (1,1/1,1,2,2)	38.37	1.20	Firm light brown occasional mottled light grey silty CLAY. [LONDON CLAY FORMATION]	
		2.00	SPT(C)	N=12 (2,2/2,3,3,4)				
		2.60 - 3.70	D2				Light brown sandy angular to sub-angular fine mudstone GRAVEL. Sand is fine to coarse. (2.20 - 2.30m)	
		3.00	SPT(C)	N=18 (2,3/4,4,4,6)			Rare calcite crystals. (2.70 - 2.80m) Rare shell fragments. (2.30 - 3.00m)	
		3.00 - 3.10	D1					
		4.00	SPT(C)	N=14 (2,3/3,3,3,5)			Light brown sandy angular to sub-angular fine mudstone GRAVEL. Sand is fine to coarse. (3.28 - 3.33m)	
		4.00 - 4.10	D3				Rare selenite crystals. (3.00 - 5.00m)	
		5.00	SPT(C)	N=20 (3,4/4,5,5,6)	34.57	5.00		
								End of Borehole at 5.00m
Remarks							Method, Plant, Stability, Dimensions	
1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area spot cleared for services prior to excavation by a specialist third-party contractor. 3. Hand dug pit advanced to 1.20 m bgl. 4. No olfactotry or visual evidence of contamination was noted. 5. SPT Hammer Ref. 110.71, Energy Ratio 76 %. 6. Borehole terminated at 5.00 m bgl due to target depth reached. 7. Borehole installed with a 50 mm HDPE standpipe, gas bung and flush cover. 8. Groundwater encountered at 0.50 m bgl.							0.00 - 5.00m DS Premier 110	
Checked By: JCR Approved By: TH							Logger	
							MOK	



Hand Pit

FIP101

Sheet 1 of 1

Hole Type	Easting	Northing	Ground Level (m)	Scale
IP	512471.29	185373.17	39.44	1:25
Project Name		Project No.	Start Date	End Date
Safestore, Ruislip		4383	2025-01-08	2025-01-08

Remarks

1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area spot cleared for services prior to excavation by a specialist third-party contractor. 3. Hand dug pit advanced to 0.24 m bgl. 4. No olfactory or visual evidence of contamination was noted. 5. Hand pit terminated at 0.24 m bgl due to concrete obstruction. 6. Hand pit backfilled with arisings. 7. Hand pit remained dry upon completion.

Method, Plant, Stability, Dimensions

0.00 - 0.24m IP Hand tools
Stable

Logger

MOK

Checked By: AT Approved By: TH



Hand Pit

FIP102

Sheet 1 of 1

Hole Type IP	Easting 512502.90	Northing 185326.07	Ground Level (m) 39.54	Scale 1:25
Project Name Safestore, Ruislip	Project No. 4383		Start Date 2025-01-09	End Date 2025-01-09

Client Safestore			Contractor Dynamic Sampling			Consultant MOK		
Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (thickness) (m)	Strata	
		Depth (m)	Type/ Ref	Results			Legend	Description
					39.52	(0.02) 0.02 (0.26)		MADE GROUND: Macadam. MADE GROUND: Concrete.
					39.26	0.28 (0.28)		MADE GROUND: Light brown sandy angular to sub-angular fine to coarse concrete, brick, quartzite and siltstone GRAVEL with occasional cobbles of angular brick and concrete. Sand is fine to coarse. Red angular whole brick. (0.28 - 0.29m)
					38.98	0.56		<i>End of Trial Pit at 0.56m</i>
								1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0
Remarks						Method, Plant, Stability, Dimensions		Logger
1. Logged in general accordance with BS 5930:2015+A1:2020. 2. Area spot cleared for services prior to excavation by a specialist third-party contractor. 3. Hand dug pit advanced to 0.56 m bgl. 4. No olfactory or visual evidence of contamination was noted. 5. Hand pit terminated at 0.56 m bgl due perched groundwater. 6. Hand pit backfilled with arisings. 7. Perched groundwater encountered at 0.50 m bgl.						0.00 - 0.56m IP Hand tools Stable		MOK
Checked By: AT Approved By: TH								

Dynamic Sampling UK Ltd
Unit 8 Victory Park
Victory Road
Derby
DE248ZF

SPT Hammer Ref: 110.71
 Test Date: 16/07/2024
 Report Date: 16/07/2024
 File Name: 110.71.spt
 Test Operator: B.HUNTER

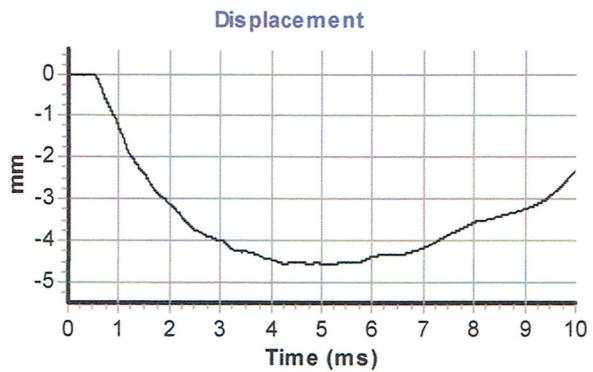
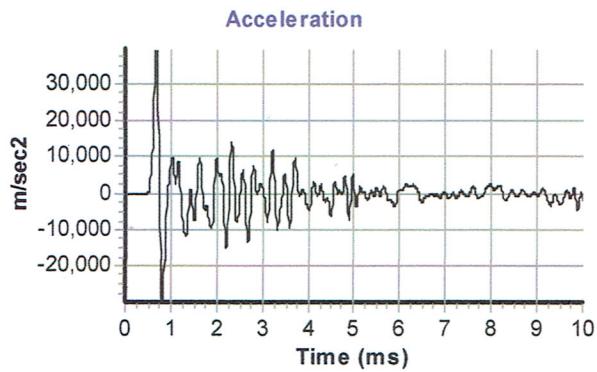
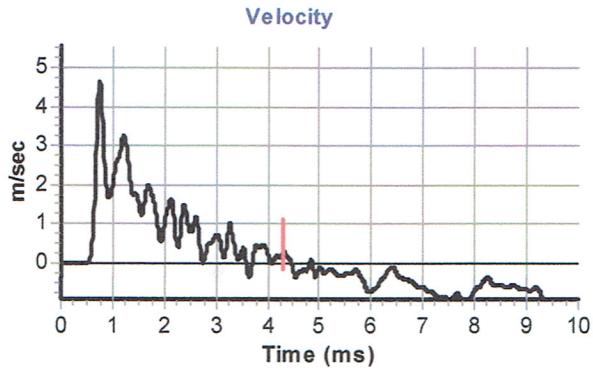
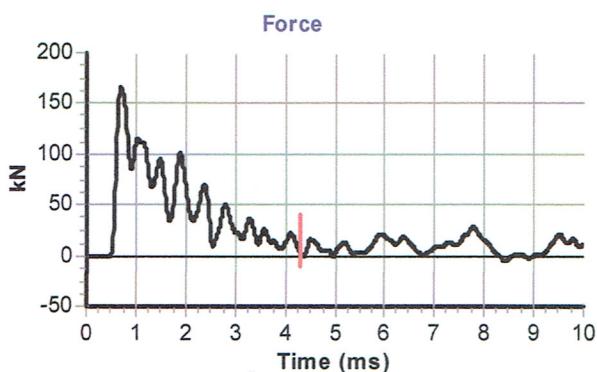
Instrumented Rod Data

Diameter d_r (mm): 54
 Wall Thickness t_r (mm): 6.6
 Assumed Modulus E_a (GPa): 208
 Accelerometer No.1: 62901
 Accelerometer No.2: 69902

SPT Hammer Information

Hammer Mass m (kg): 63.5
 Falling Height h (mm): 760
 SPT String Length L (m): 10.0

Comments / Location



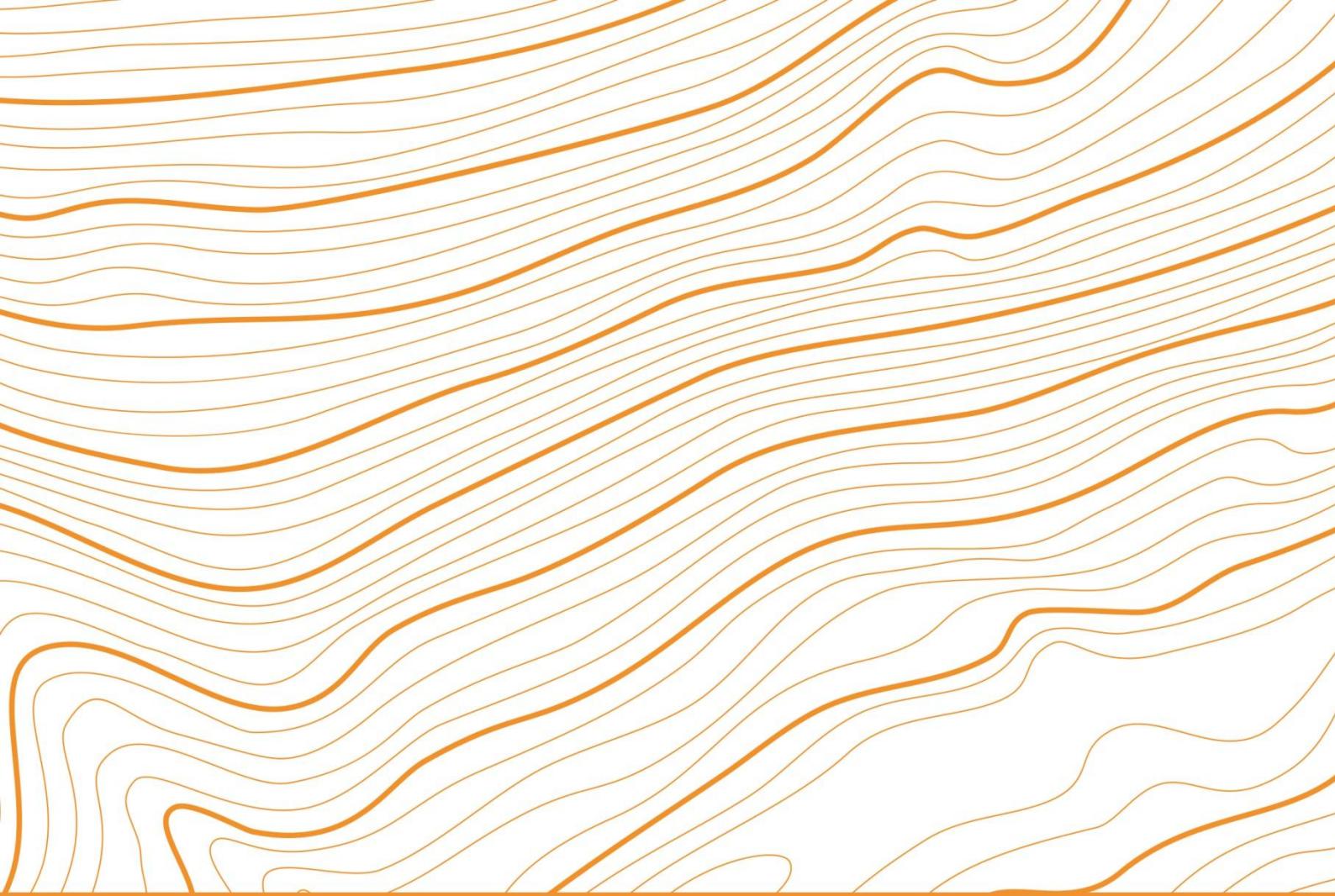
Calculations

Area of Rod A (mm²): 983
 Theoretical Energy E_{theor} (J): 473
 Measured Energy E_{meas} (J): 359

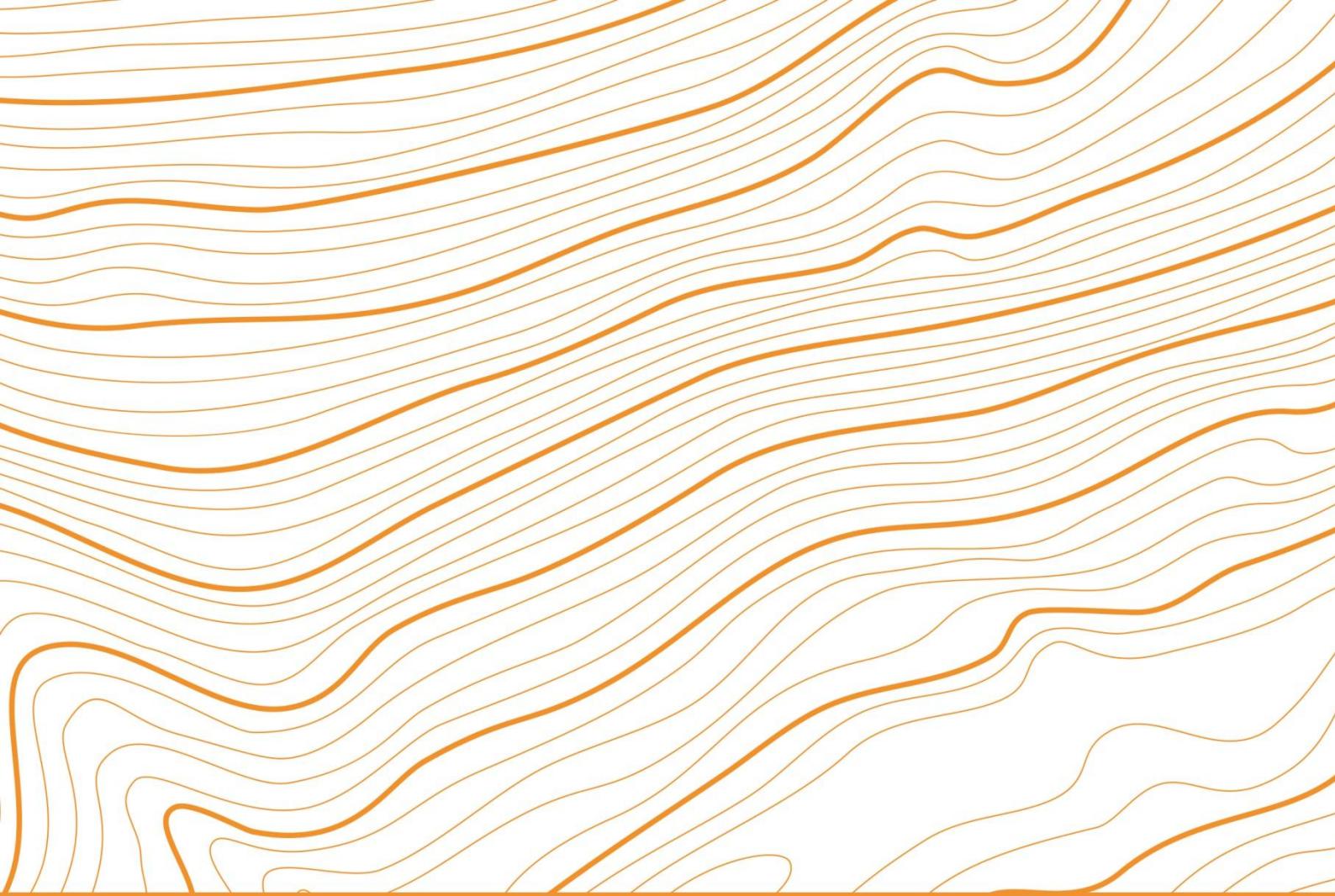
Energy Ratio E_r (%): 76

Signed: B.Hunter
 Title: Operations Manager





Appendix F – Monitoring Data



Appendix G – Soil Chemical Analysis Results



GEO2 Remediation Ltd
Coniston House
Louisa Street
Idle
BD10 8NE

e: Megan.OKelly@geo2.co.uk
Tom.Horner@geo2.co.uk

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

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

Analytical Report Number : 25-000982

Replaces Analytical Report Number: 25-000982, issue no. 1
Additional analysis undertaken.
Asbestos Quantification added to Sample 422216, as per client's request

Project / Site name:	Ruislip	Samples received on:	10/01/2025
Your job number:	4383	Samples instructed on/ Analysis started on:	10/01/2025
Your order number:	3454	Analysis completed by:	17/01/2025
Report Issue Number:	2	Report issued on:	17/01/2025
Samples Analysed:		10 soil samples	

Signed:

Claire Bancroft
Customer Service Advisor
For & on behalf of i2 Analytical Ltd.

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

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

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

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting
air - once the analysis is complete

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

Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

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



4041



Analytical Report Number: 25-000982

Project / Site name: Ruislip

Your Order No: 3454

Lab Sample Number	422213	422214	422215	422216	422217			
Sample Reference	DS101	DS102	DS102	DS103	DS104			
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Water Matrix	N/A	N/A	N/A	N/A	N/A			
Depth (m)	0.90-1.00	0.50-0.60	1.20-1.30	0.40-0.50	0.30-0.40			
Date Sampled	08/01/2025	08/01/2025	08/01/2025	09/01/2025	09/01/2025			
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	55.7	26.8
Moisture Content	%	0.01	NONE	20	22	20	19	23
Total mass of sample received	kg	0.1	NONE	0.6	0.6	0.6	0.6	0.6

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	-	-	-	Detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	-	-	-	WEM	DOC
Actinolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	Detected	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	Detected	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	0.01	-
-------------------------------------	---	-------	-----------	---	---	---	------	---

Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	Loose Fibres	-
---	------	-----	-----------	---	---	---	--------------	---

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	-	-	-	9.8	8.5
Total Sulphate as SO ₄	mg/kg	50	MCERTS	-	-	-	-	-
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	-	-	-	3500	250
Water Soluble SO ₄ 16hr extraction (2:1)	mg/l	1.25	MCERTS	-	-	-	1740	127
Total Sulphur	mg/kg	50	MCERTS	-	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	-	-	-	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.05	0.06
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.66	0.66
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.16	0.17
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1	1.4
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.89	1.2
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.46	0.66
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.52	0.7
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	0.61	0.75
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	0.26	0.41
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.51	0.66
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.29	0.36
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.07	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.35	0.39

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	5.86	7.37
-----------------------------	-------	-----	-----------	--------	--------	--------	------	------

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	15	13	17	20
----------------------------------	-------	---	--------	----	----	----	----	----



4041



Analytical Report Number: 25-000982

Project / Site name: Ruislip

Your Order No: 3454

Lab Sample Number	422213	422214	422215	422216	422217			
Sample Reference	DS101	DS102	DS102	DS103	DS104			
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Water Matrix	N/A	N/A	N/A	N/A	N/A			
Depth (m)	0.90-1.00	0.50-0.60	1.20-1.30	0.40-0.50	0.30-0.40			
Date Sampled	08/01/2025	08/01/2025	08/01/2025	09/01/2025	09/01/2025			
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Barium (aqua regia extractable)	mg/kg	1	MCERTS	210	110	61	210	400
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.4	1.8	1.3	0.8	0.97
Boron (water soluble)	mg/kg	0.2	MCERTS	1.5	1.2	0.9	2.9	1.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	44	48	44	40	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	24	26	27	19	48
Lead (aqua regia extractable)	mg/kg	1	MCERTS	15	17	17	220	750
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	42	62	40	16	18
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	80	87	73	45	43
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	63	76	71	130	200

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_ID_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 _{HS_ID_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	0.063	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 _{HS_ID_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	0.017	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 _{EH CU_ID_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH CU_ID_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	2.4
TPHCWG - Aliphatic >EC16 - EC21 _{EH CU_ID_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH CU_ID_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	16	< 8.0	9.5
TPHCWG - Aliphatic >EC5 - EC35 _{EH CU+HS_ID_AL}	mg/kg	10	NONE	< 10	< 10	16	< 10	12

TPHCWG - Aromatic >EC5 - EC7 _{HS_ID_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_ID_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_ID_AR}	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	0.25	< 0.020
TPHCWG - Aromatic >EC10 - EC12 _{EH CU_ID_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH CU_ID_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH CU_ID_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH CU_ID_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	15	< 10
TPHCWG - Aromatic >EC5 - EC35 _{EH CU+HS_ID_AR}	mg/kg	10	NONE	< 10	< 10	< 10	15	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



4041



Analytical Report Number: 25-000982

Project / Site name: Ruislip

Your Order No: 3454

Lab Sample Number	422218	422219	422220	422221	422222
Sample Reference	DS104	DS101	DS102	DS103	DS104
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.70-0.80	2.90-3.00	1.50-1.60	0.40-0.50	3.60-3.70
Date Sampled	09/01/2025	08/01/2025	08/01/2025	09/01/2025	09/01/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	57.6	< 0.1
Moisture Content	%	0.01	NONE	21	19	20	22	19
Total mass of sample received	kg	0.1	NONE	0.6	0.5	0.5	0.5	0.5

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	-	-	-	-	-
Actinolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	-	-

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	-	-
-------------------------------------	---	-------	-----------	---	---	---	---	---

Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	-	-
---	------	-----	-----------	---	---	---	---	---

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	-	6.6	7.4	8.3	8.3
Total Sulphate as SO ₄	mg/kg	50	MCERTS	-	41000	480	2700	8400
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	-	5500	290	1400	6300
Water Soluble SO ₄ 16hr extraction (2:1)	mg/l	1.25	MCERTS	-	2750	147	676	3130
Total Sulphur	mg/kg	50	MCERTS	-	16000	190	2500	2600
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	0.2	< 0.1	0.5	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-
Fluorene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-
Anthracene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-
Pyrene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-
Chrysene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-
Diben(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	-	-	-	-
-----------------------------	-------	-----	-----------	--------	---	---	---	---

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	-	-	-	-
----------------------------------	-------	---	--------	----	---	---	---	---



4041



Analytical Report Number: 25-000982

Project / Site name: Ruislip

Your Order No: 3454

Lab Sample Number	422218	422219	422220	422221	422222			
Sample Reference	DS104	DS101	DS102	DS103	DS104			
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Water Matrix	N/A	N/A	N/A	N/A	N/A			
Depth (m)	0.70-0.80	2.90-3.00	1.50-1.60	0.40-0.50	3.60-3.70			
Date Sampled	09/01/2025	08/01/2025	08/01/2025	09/01/2025	09/01/2025			
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Barium (aqua regia extractable)	mg/kg	1	MCERTS	49	-	-	-	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.4	-	-	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	2.7	-	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	43	-	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	24	-	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	28	-	-	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	37	-	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	-	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	75	-	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	69	-	-	-	-

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_ID_AL}	mg/kg	0.01	MCERTS	< 0.010	-	-	-	-
TPHCWG - Aliphatic >EC6 - EC8 _{HS_ID_AL}	mg/kg	0.01	MCERTS	< 0.010	-	-	-	-
TPHCWG - Aliphatic >EC8 - EC10 _{HS_ID_AL}	mg/kg	0.01	MCERTS	0.025	-	-	-	-
TPHCWG - Aliphatic >EC10 - EC12 _{EH CU_ID_AL}	mg/kg	1	MCERTS	< 1.0	-	-	-	-
TPHCWG - Aliphatic >EC12 - EC16 _{EH CU_ID_AL}	mg/kg	2	MCERTS	< 2.0	-	-	-	-
TPHCWG - Aliphatic >EC16 - EC21 _{EH CU_ID_AL}	mg/kg	8	MCERTS	< 8.0	-	-	-	-
TPHCWG - Aliphatic >EC21 - EC35 _{EH CU_ID_AL}	mg/kg	8	MCERTS	< 8.0	-	-	-	-
TPHCWG - Aliphatic >EC5 - EC35 _{EH CU+HS_ID_AL}	mg/kg	10	NONE	< 10	-	-	-	-

TPHCWG - Aromatic >EC5 - EC7 _{HS_ID_AR}	mg/kg	0.01	MCERTS	< 0.010	-	-	-	-
TPHCWG - Aromatic >EC7 - EC8 _{HS_ID_AR}	mg/kg	0.01	MCERTS	< 0.010	-	-	-	-
TPHCWG - Aromatic >EC8 - EC10 _{HS_ID_AR}	mg/kg	0.02	MCERTS	< 0.020	-	-	-	-
TPHCWG - Aromatic >EC10 - EC12 _{EH CU_ID_AR}	mg/kg	1	MCERTS	< 1.0	-	-	-	-
TPHCWG - Aromatic >EC12 - EC16 _{EH CU_ID_AR}	mg/kg	2	MCERTS	< 2.0	-	-	-	-
TPHCWG - Aromatic >EC16 - EC21 _{EH CU_ID_AR}	mg/kg	10	MCERTS	< 10	-	-	-	-
TPHCWG - Aromatic >EC21 - EC35 _{EH CU_ID_AR}	mg/kg	10	MCERTS	< 10	-	-	-	-
TPHCWG - Aromatic >EC5 - EC35 _{EH CU+HS_ID_AR}	mg/kg	10	NONE	< 10	-	-	-	-

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	-	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number: 25-000982

Project / Site name: Ruislip

Your Order No: 3454

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
422216	DS103	0.40-0.50	166	Loose Fibres	Amosite & Chrysotile	0.010	0.010

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



Analytical Report Number : 25-000982

Project / Site name: Ruislip

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
422213	DS101	None Supplied	0.90-1.00	Light brown clay and sand with gravel
422214	DS102	None Supplied	0.50-0.60	Light brown clay
422215	DS102	None Supplied	1.20-1.30	Light brown clay
422216	DS103	None Supplied	0.40-0.50	Brown sandy gravel with stones ^{tg}
422217	DS104	None Supplied	0.30-0.40	Brown sand with stones
422218	DS104	None Supplied	0.70-0.80	Brown clay
422219	DS101	None Supplied	2.90-3.00	Brown clay and sand
422220	DS102	None Supplied	1.50-1.60	Brown clay
422221	DS103	None Supplied	0.40-0.50	Brown clay and sand with stones
422222	DS104	None Supplied	3.60-3.70	Brown clay



4041

**Analytical Report Number : 25-000982****Project / Site name: Ruislip****Water matrix abbreviations:****Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)****Final Sewage Effluent (FSE) Landfill Leachate (LL)**

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES	In-house method	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS



Analytical Report Number : 25-000982

Project / Site name: Ruislip

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

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

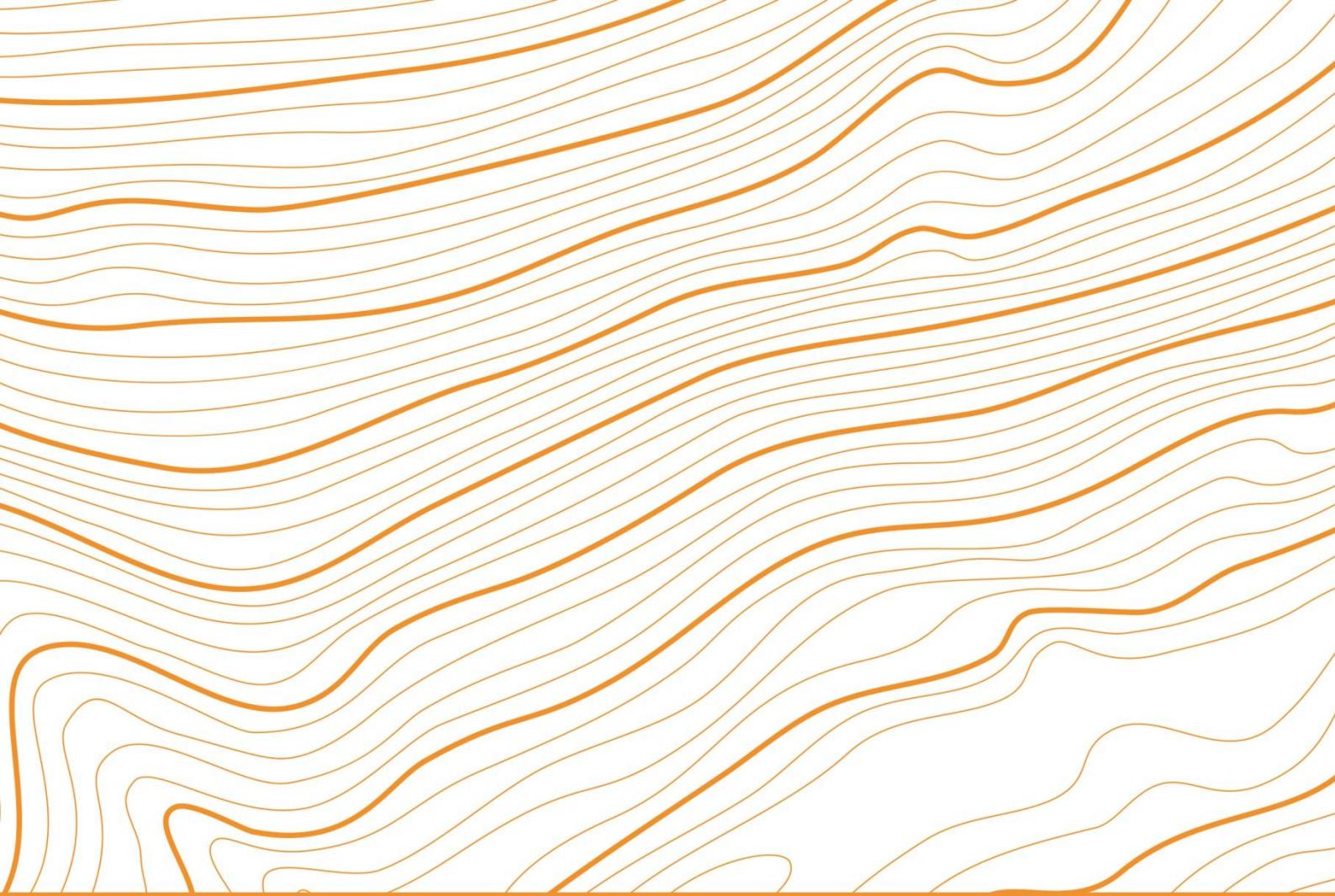
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution

*g - Unaccredited sample matrix.



Appendix H – Geotechnical Analysis Results



TEST CERTIFICATE

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: GEO2 Remediation Ltd

Client Address: Coniston House, Louisa Street,
Idle, BD10 8NE

Contact: Megan Okelly

Site Address: Ruislip

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

Client Reference: 4383

Job Number: 25-000812-1

Date Sampled: 08/01/2024

Date Received: 10/01/2025

Date Tested: 16/01/2025

Sampled By: Not Given

Test Results:

Laboratory Reference: 421232

Depth Top [m]: 0.50

Hole No.: DS101

Depth Base [m]: 0.60

Sample Reference: Not Given

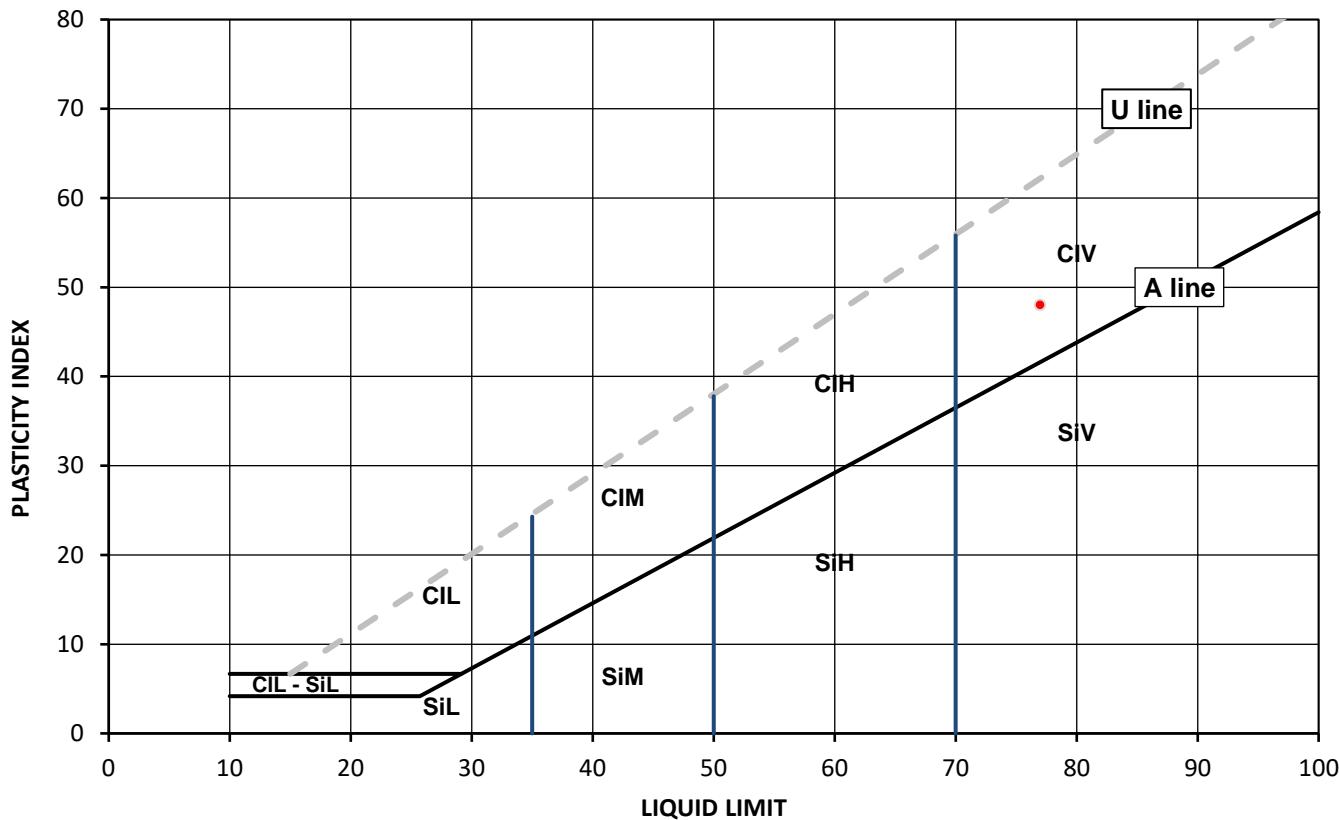
Sample Type: D

Sample Description: Light brown slightly gravelly 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 [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
34.2	77	29	48	0.10	0.90	94



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:

Signed:

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.



TEST CERTIFICATE

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: GEO2 Remediation Ltd

Client Address: Coniston House, Louisa Street,
Idle, BD10 8NE

Contact: Megan Okelly

Site Address: Ruislip

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

Client Reference: 4383

Job Number: 25-000812-1

Date Sampled: 08/01/2024

Date Received: 10/01/2025

Date Tested: 16/01/2025

Sampled By: Not Given

Test Results:

Laboratory Reference: 421233

Depth Top [m]: 2.00

Hole No.: DS102

Depth Base [m]: 2.10

Sample Reference: Not Given

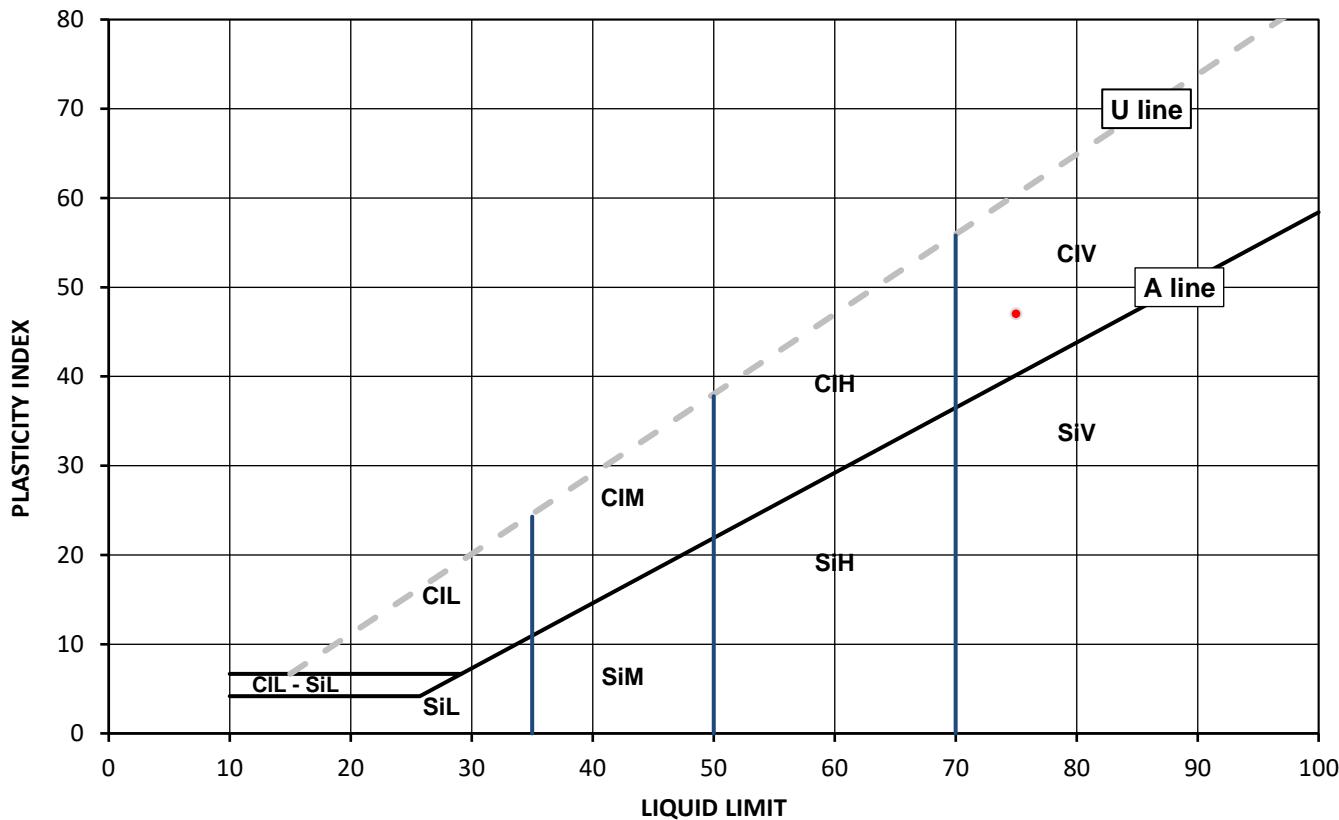
Sample Type: D

Sample Description: Brownish grey slightly gravelly 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 [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
31.1	75	28	47	0.06	0.94	95



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:

Signed:

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.



TEST CERTIFICATE

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: GEO2 Remediation Ltd

Client Address: Coniston House, Louisa Street,
Idle, BD10 8NE

Contact: Megan Okelly

Site Address: Ruislip

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

Client Reference: 4383

Job Number: 25-000812-1

Date Sampled: 09/01/2024

Date Received: 10/01/2025

Date Tested: 16/01/2025

Sampled By: Not Given

Test Results:

Laboratory Reference: 421234

Depth Top [m]: 1.20

Hole No.: DS103

Depth Base [m]: 1.30

Sample Reference: Not Given

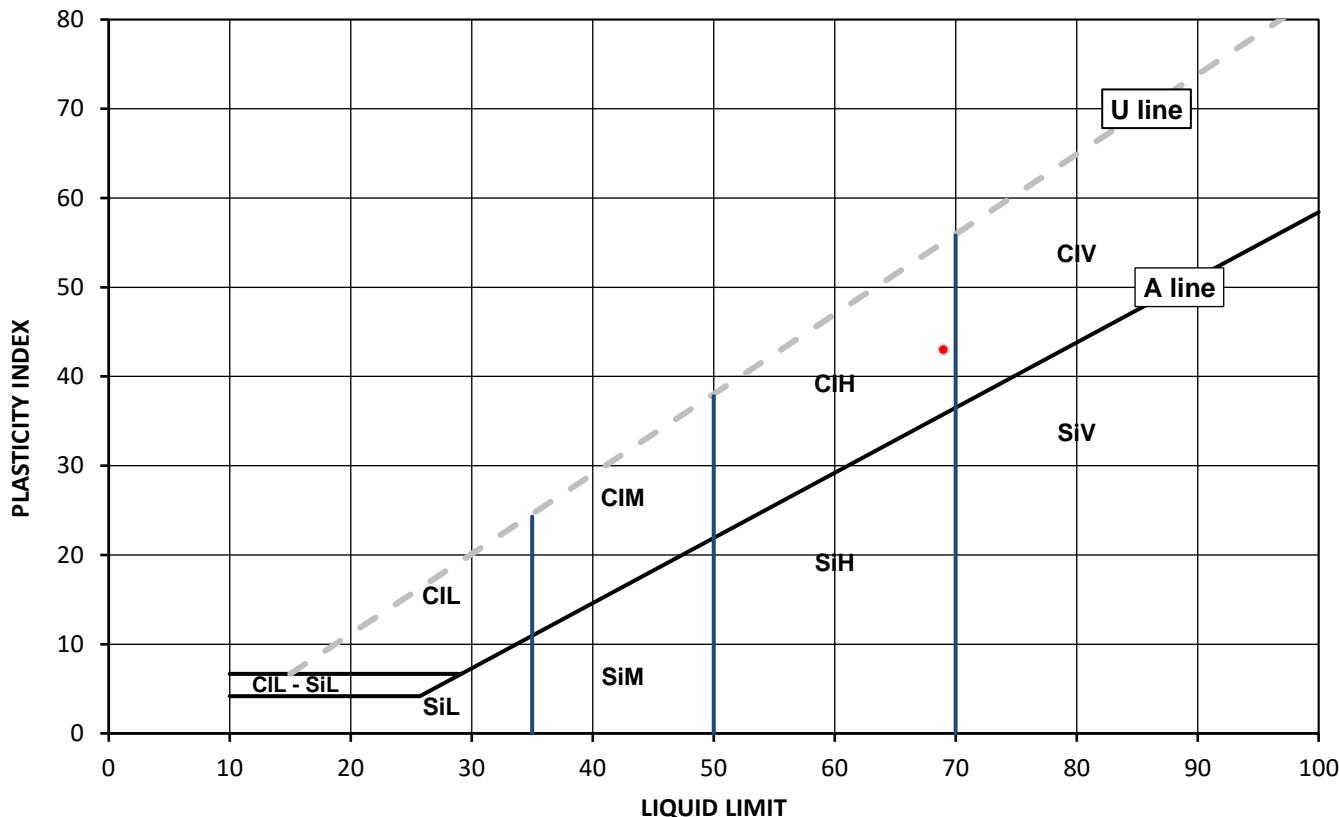
Sample Type: D

Sample Description: Brownish grey CLAY

Sample Preparation: Tested in natural condition; 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 [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
28.7	69	26	43	0.07	0.93	100



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

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

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

Remarks:

Signed:

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.