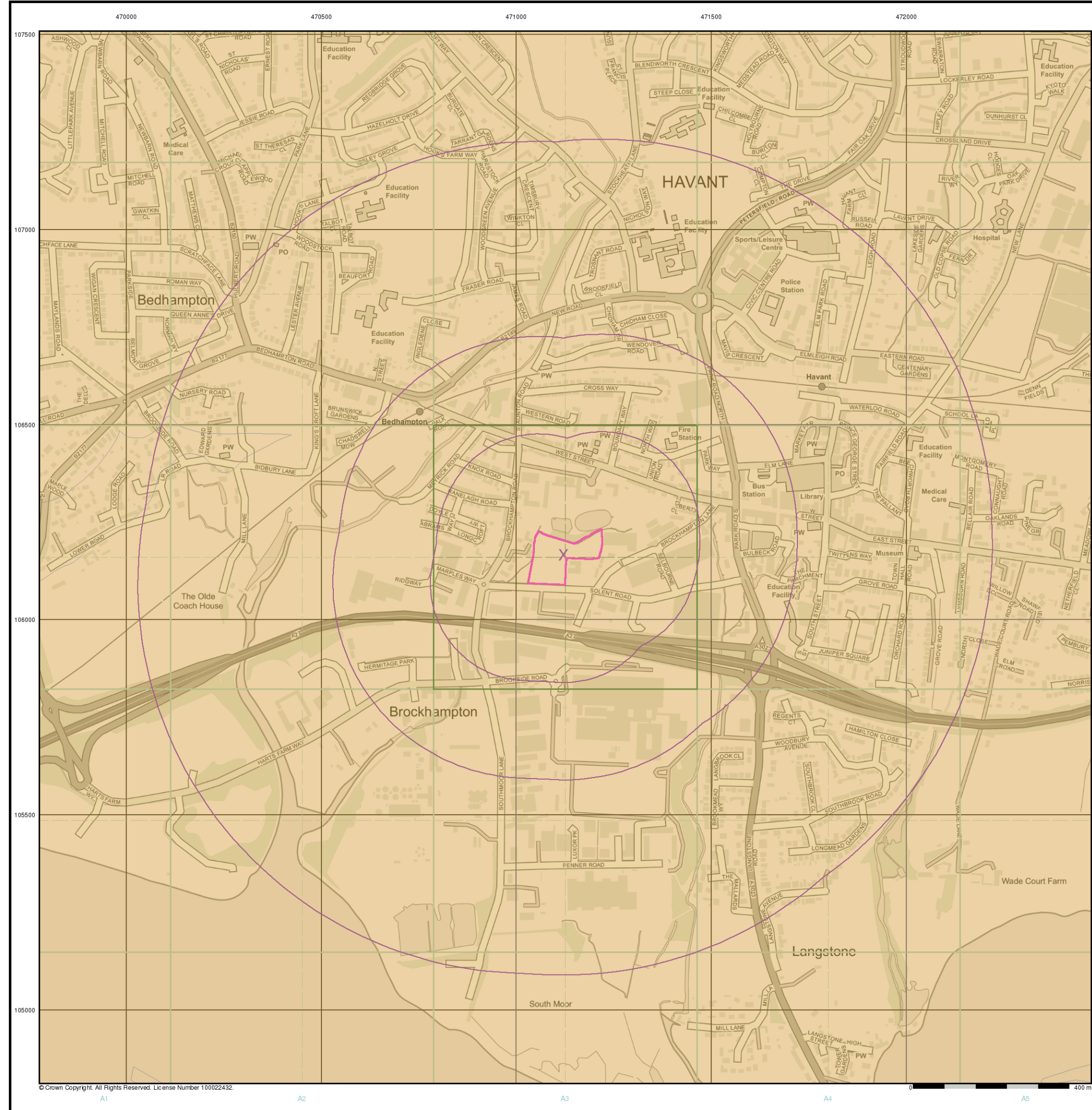


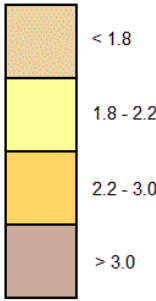


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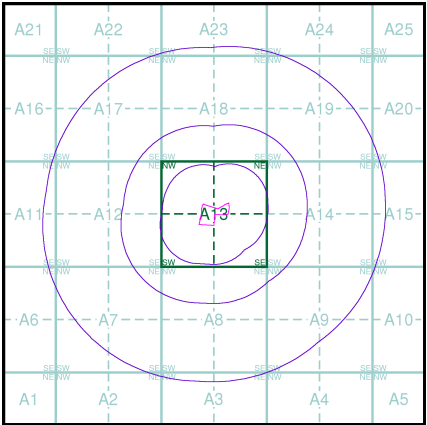
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg



Estimated Soil Chemistry Cadmium - Slice A



Order Details

Order Details: 223283800_1_1
Customer Ref: 19-1058.01
National Grid Reference: 471120, 106170
Slice: A
Site Area (Ha): 1.54
Search Buffer (m): 1000

Site Details

Land at Solent Road, HAVANT, PO9 1DQ



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

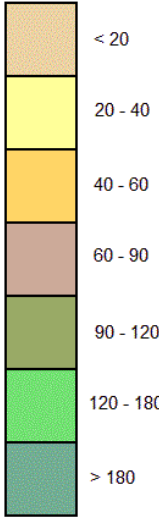


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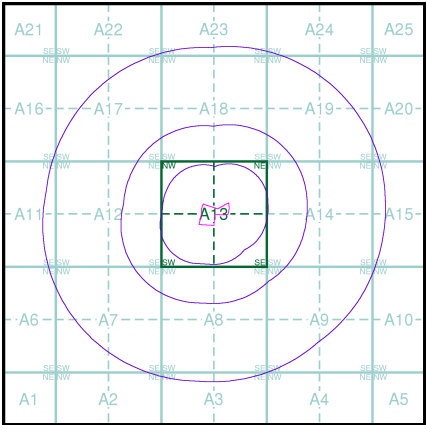
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Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg



Estimated Soil Chemistry Chromium - Slice A



Order Details

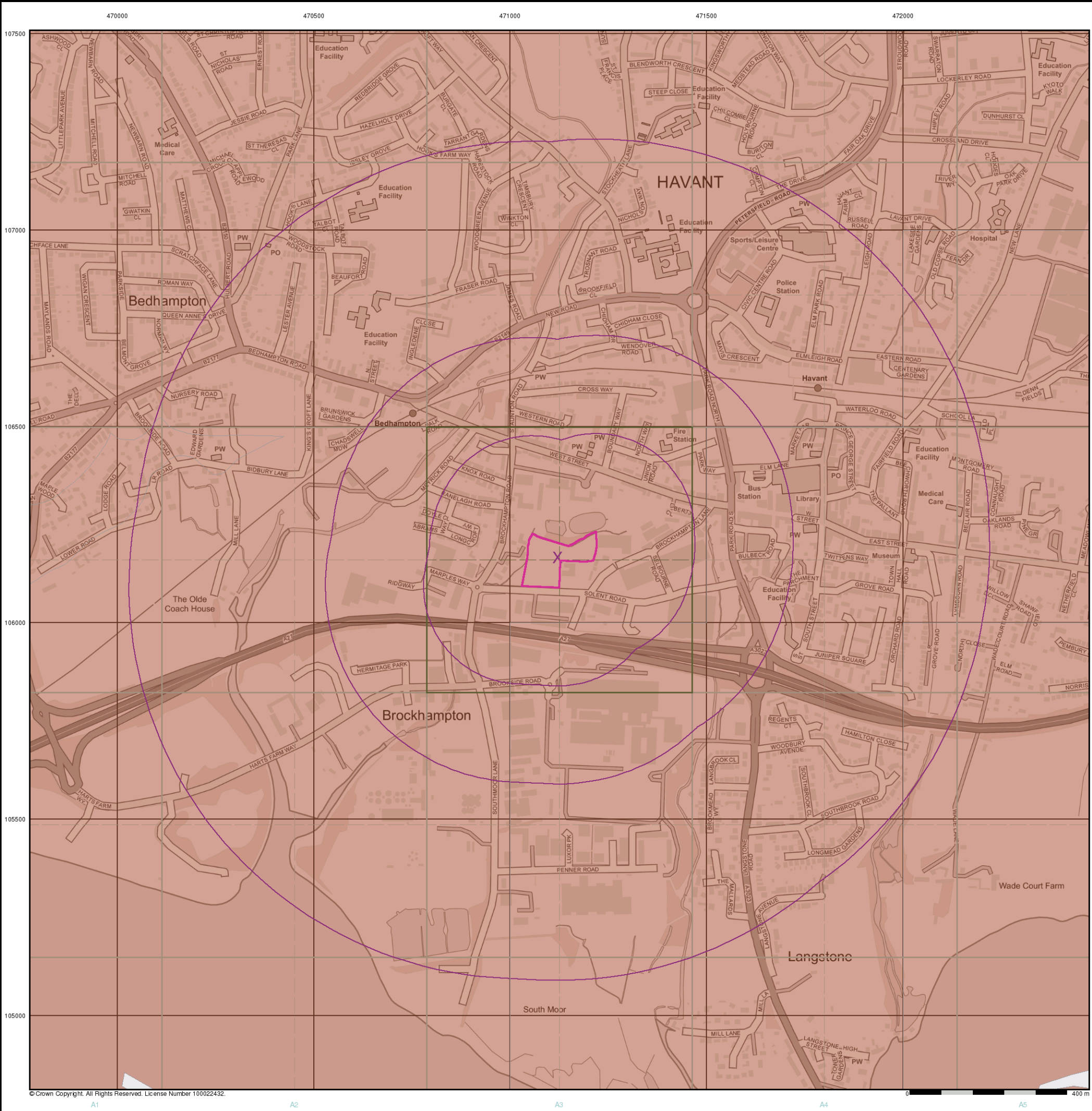
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Site Details

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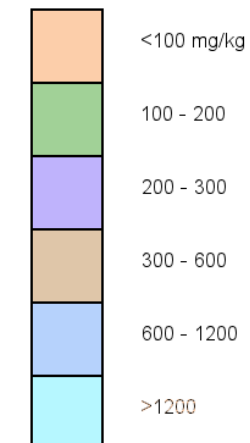


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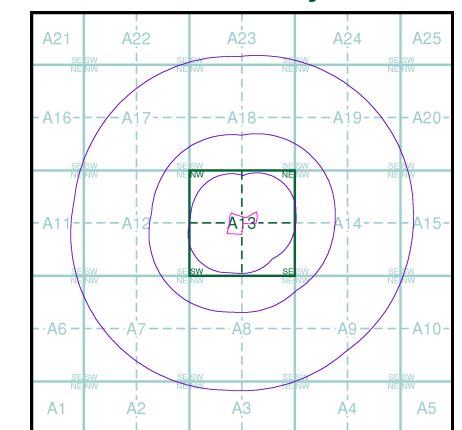
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  Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg



Estimated Soil Chemistry Lead - Slice A

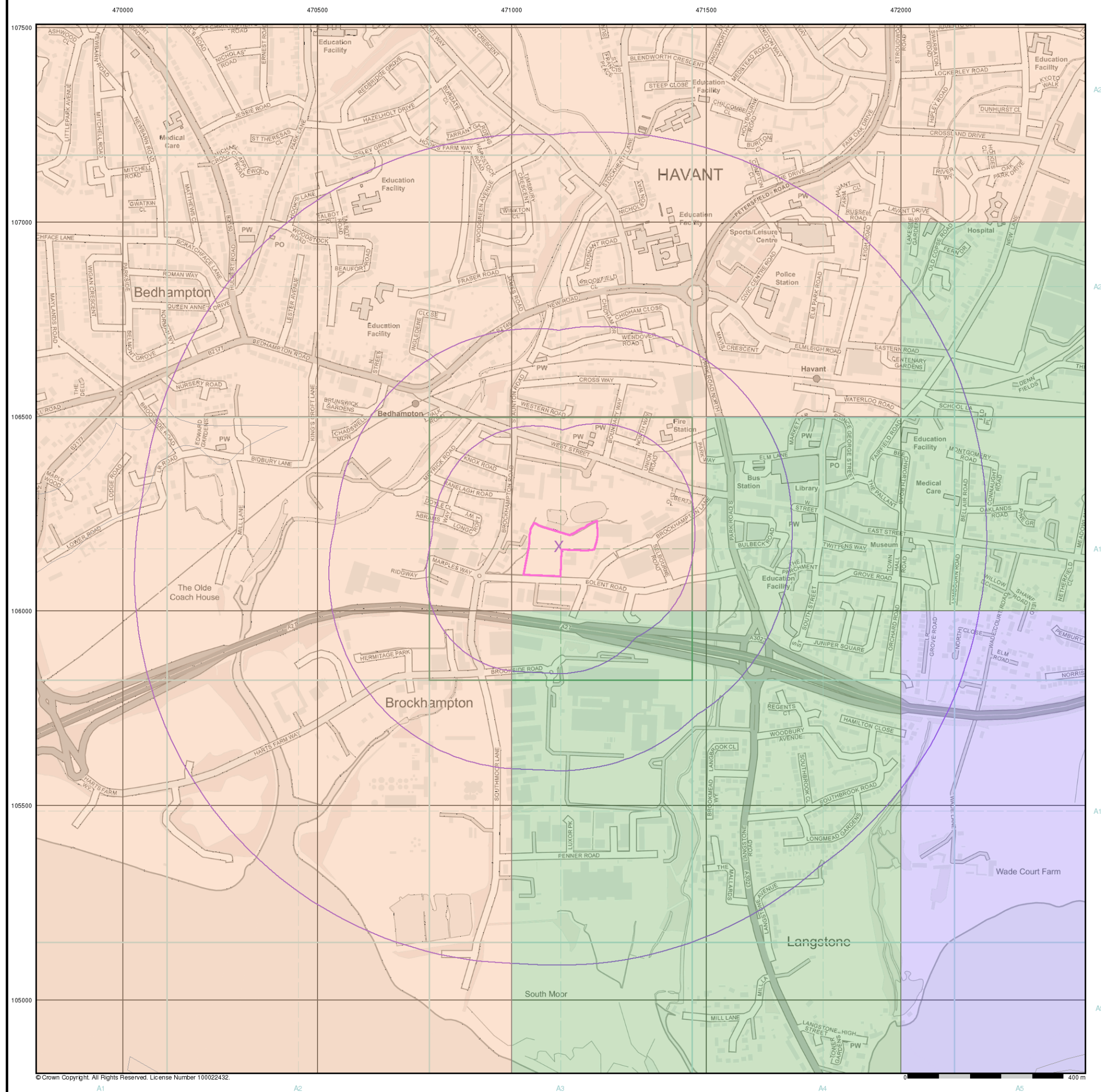


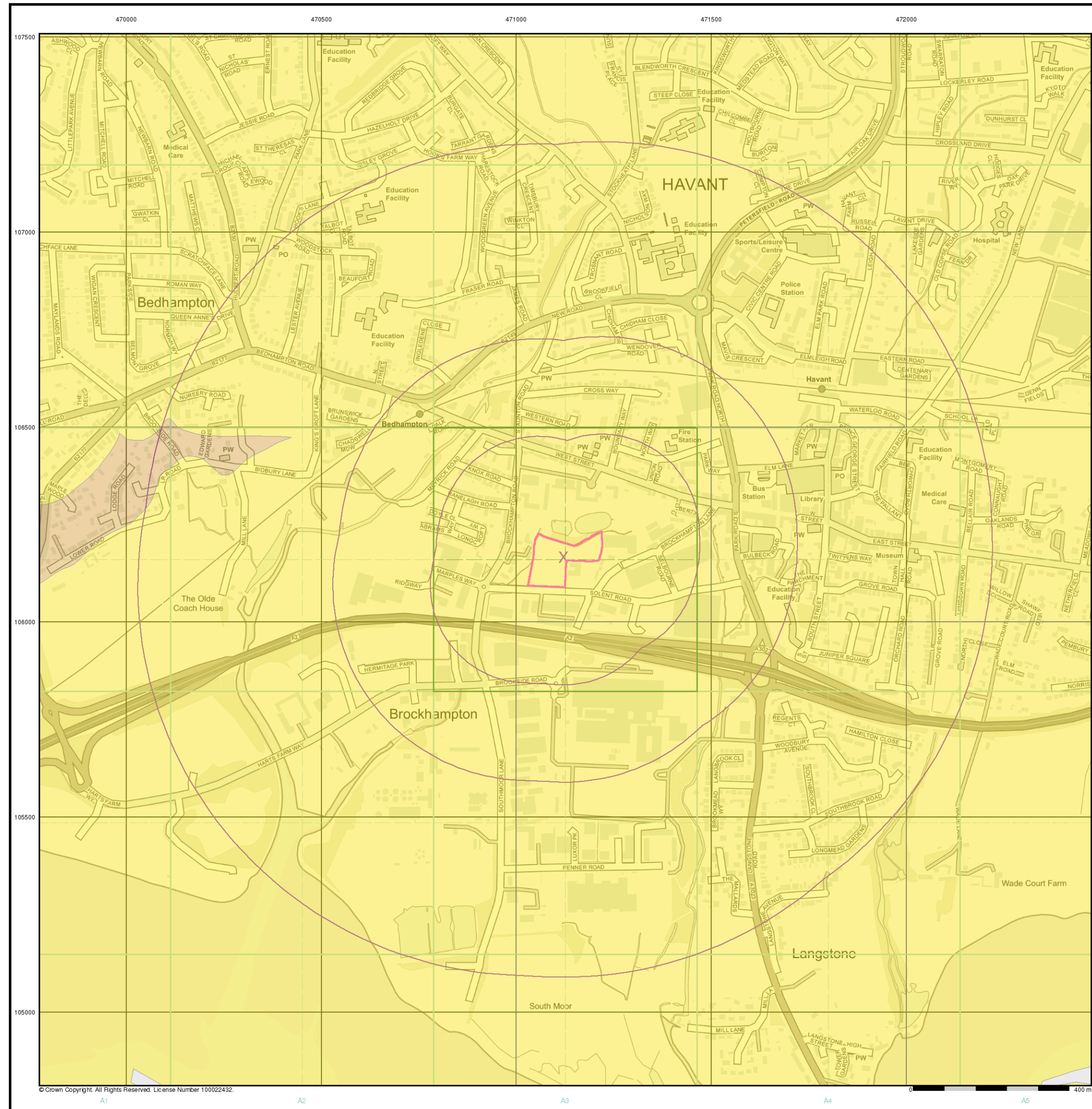
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 Search Buffer (m): 1000

Site Details

Land at Solent Road, HAVANT, PO9 1DQ



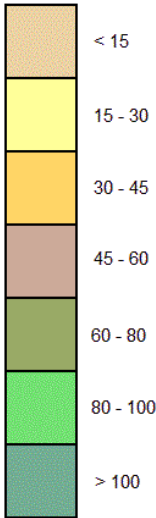


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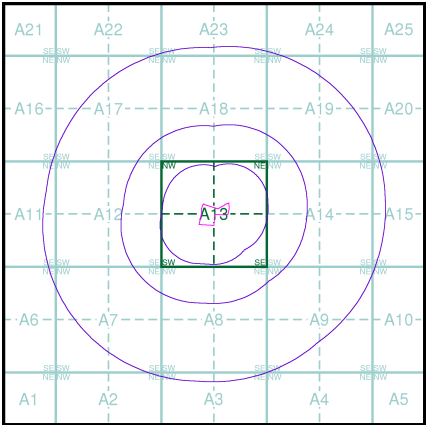
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg



Estimated Soil Chemistry Nickel - Slice A



Order Details

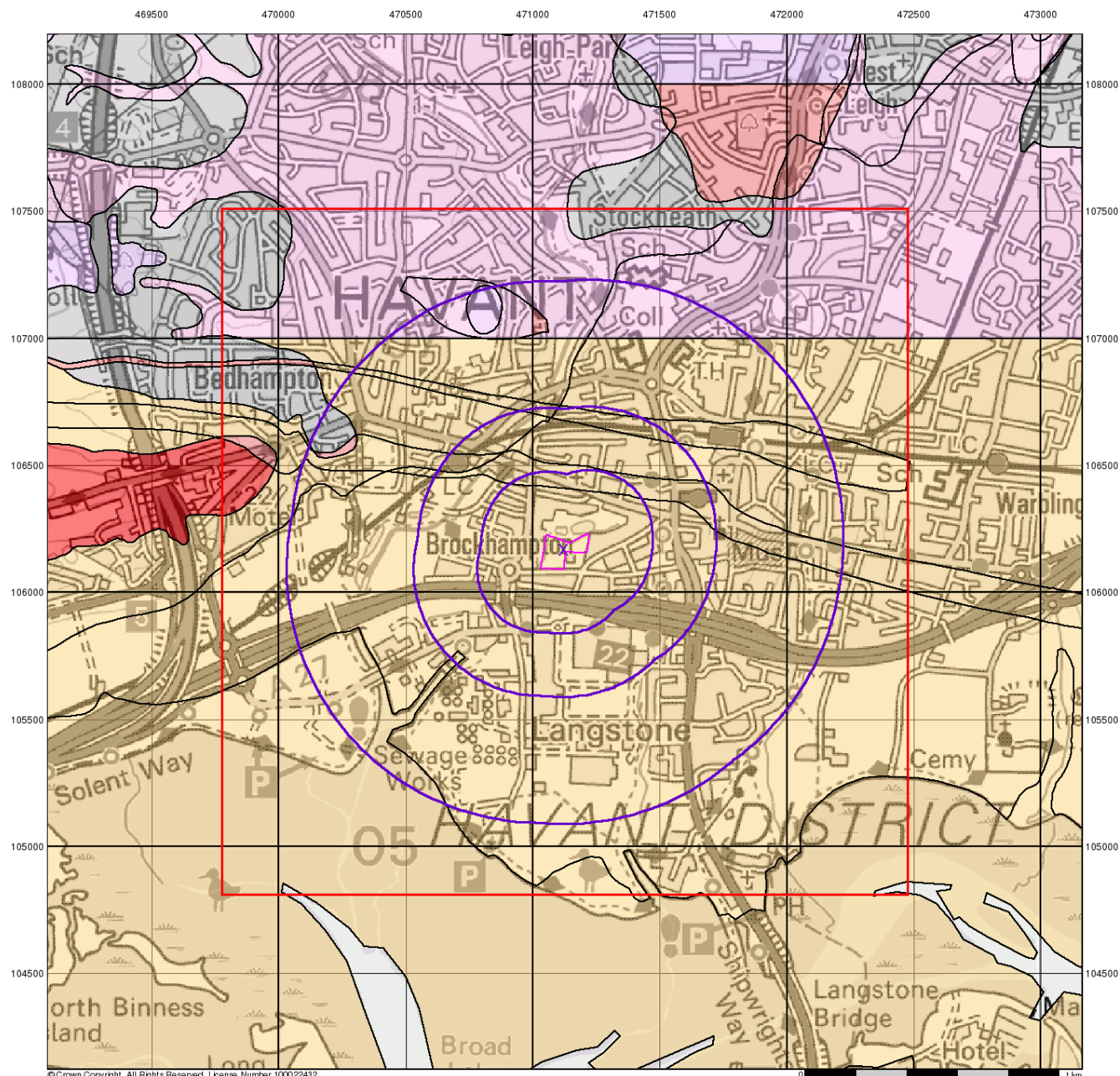
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Customer Ref: 19-1058.01
National Grid Reference: 471120, 106170
Slice: A
Site Area (Ha): 1.54
Search Buffer (m): 1000

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Groundwater Vulnerability

General

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

Agency and Hydrological

Bedrock Aquifers

- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

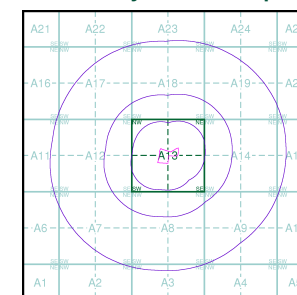
Superficial Aquifers

- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

Unproductive Aquifer

Soluble Rock

Site Sensitivity Context Map - Slice A



Order Details

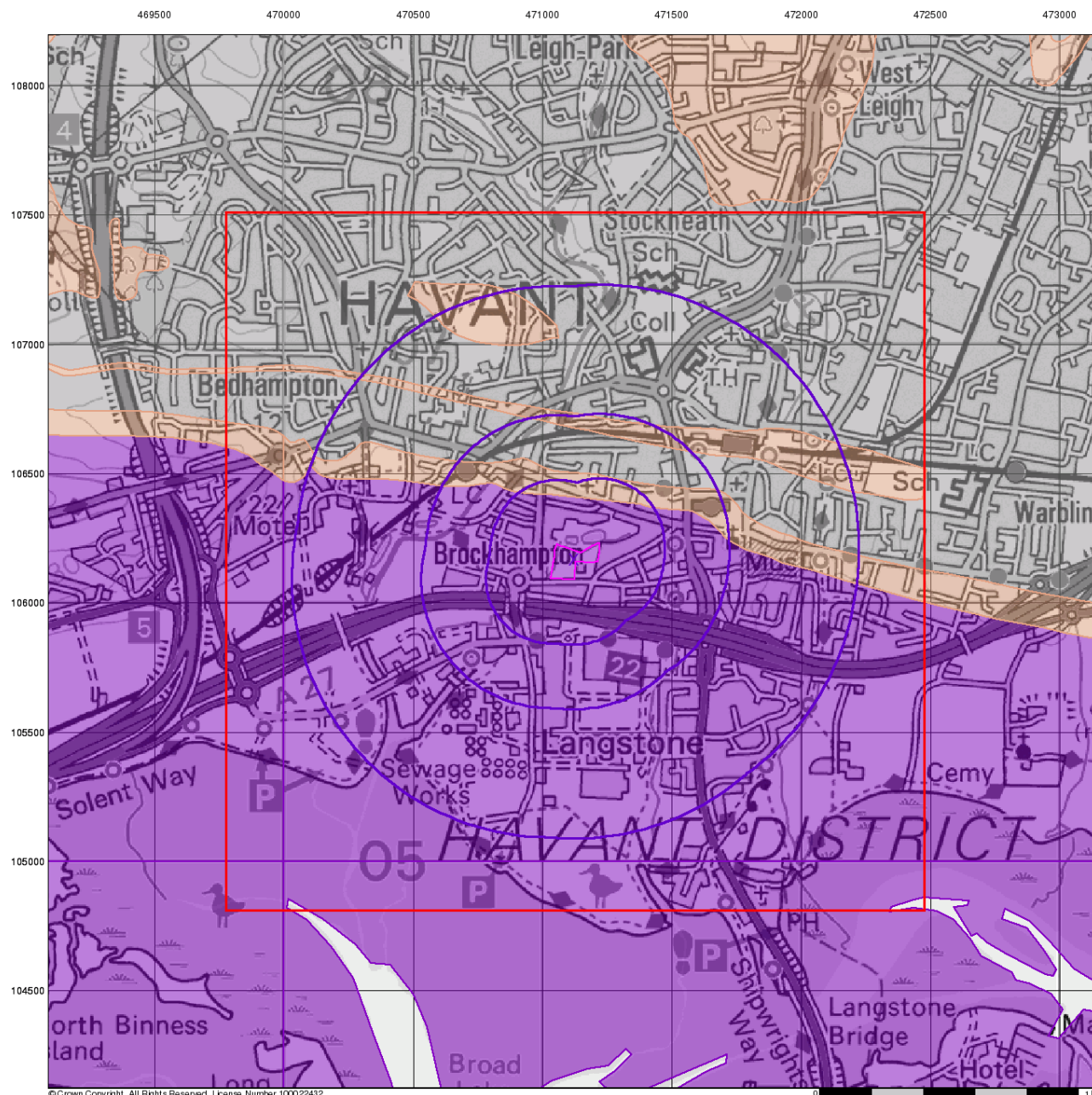
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 National Grid Reference: 471120, 106170
 Slice: A
 Site Area (Ha): 1.54
 Search Buffer (m): 1000

Site Details

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Landmark
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Bedrock Aquifer Designation

General

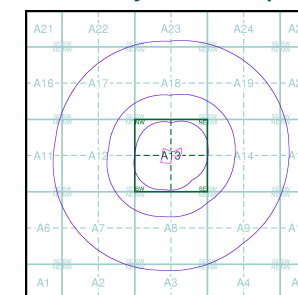
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



Order Details

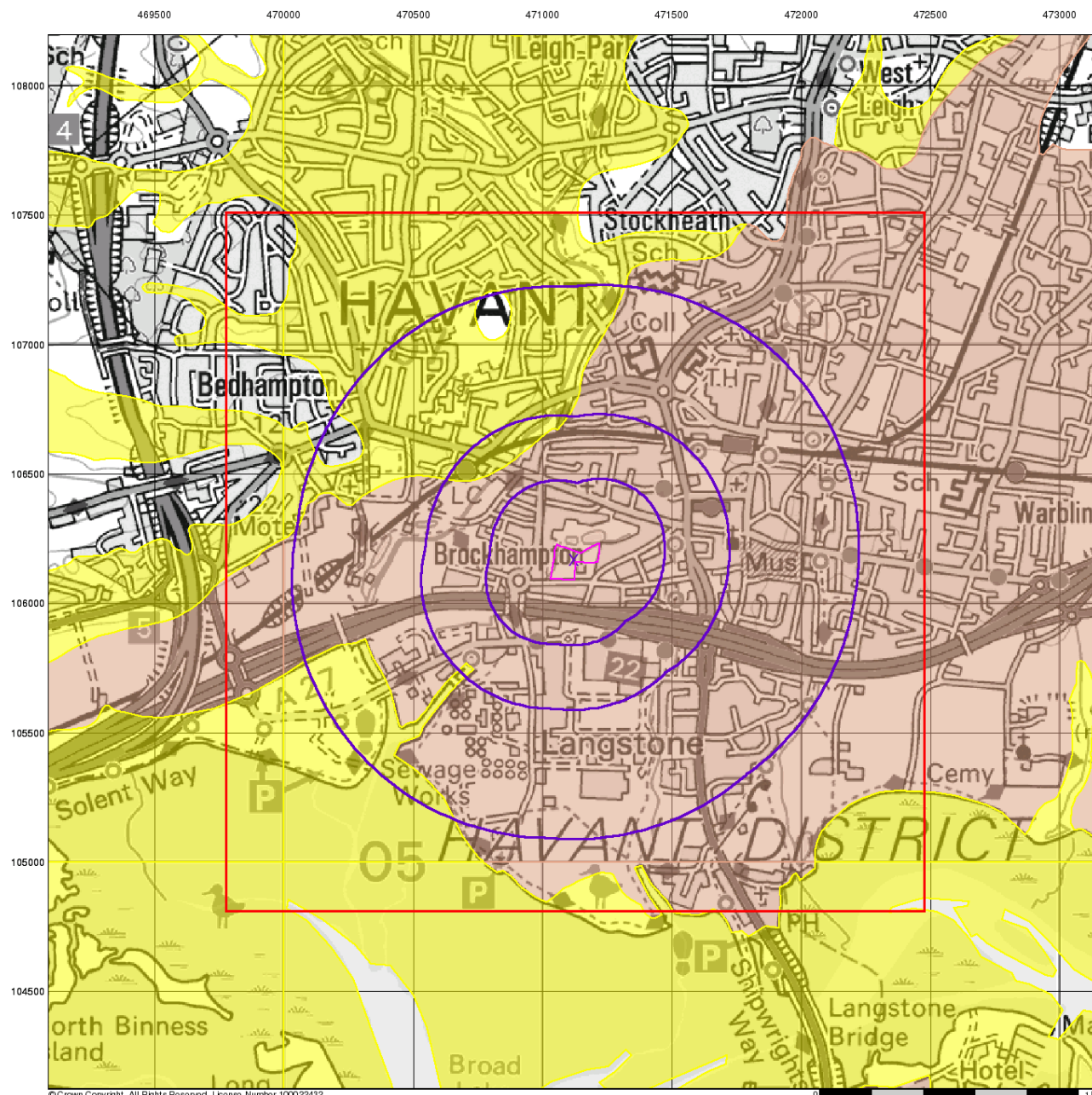
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 Site Area (Ha): 1.54
 Search Buffer (m): 1000

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Superficial Aquifer Designation

General

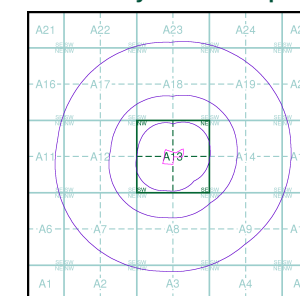
- ▭ Specified Site ○ Specified Buffer(s) X Bearing Reference Point
- ▭ Slice B Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



Order Details

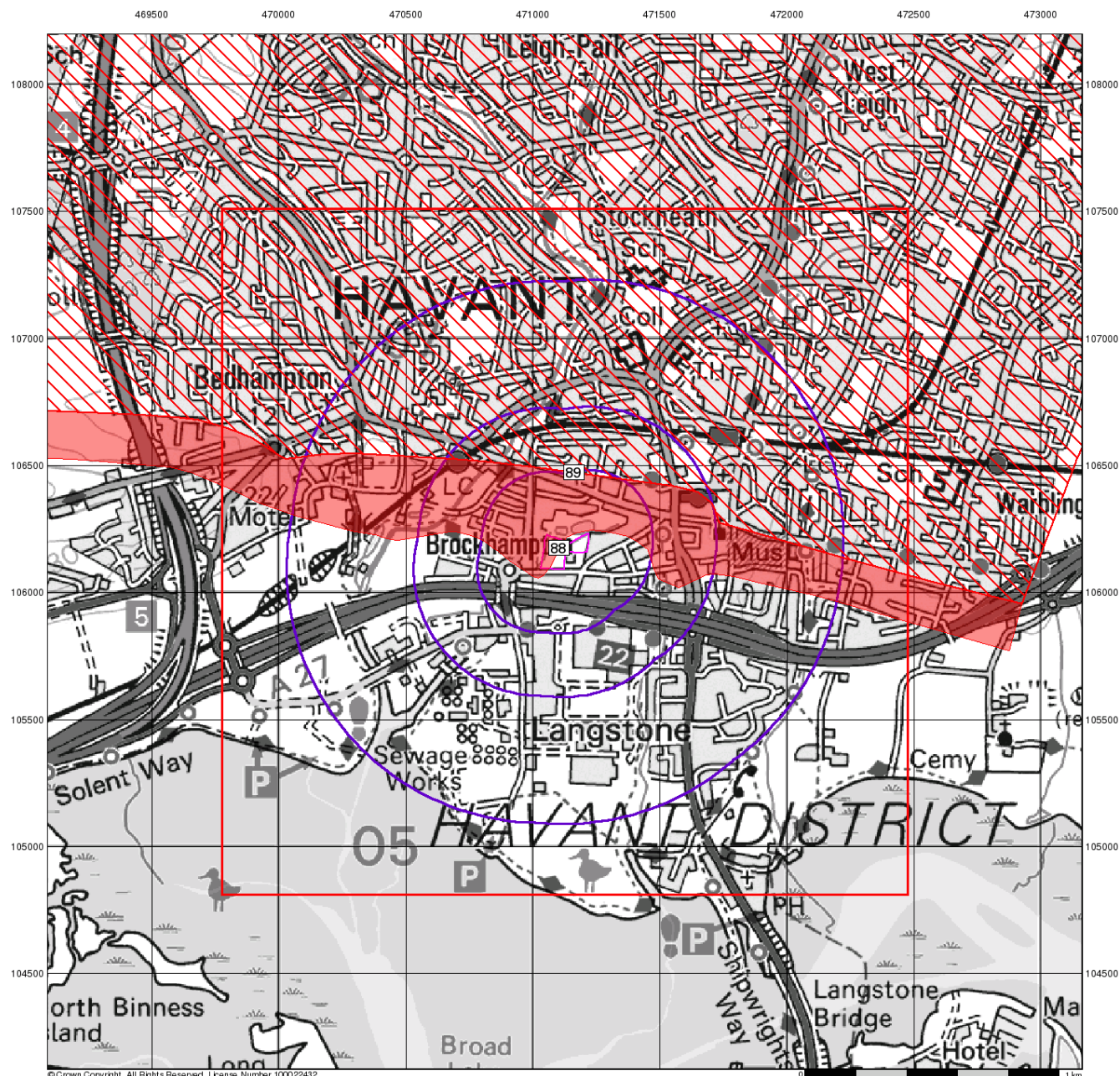
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Source Protection Zones

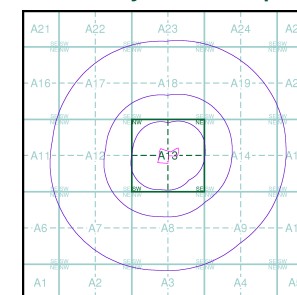
General

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

Agency and Hydrological

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

Site Sensitivity Context Map - Slice A



Order Details

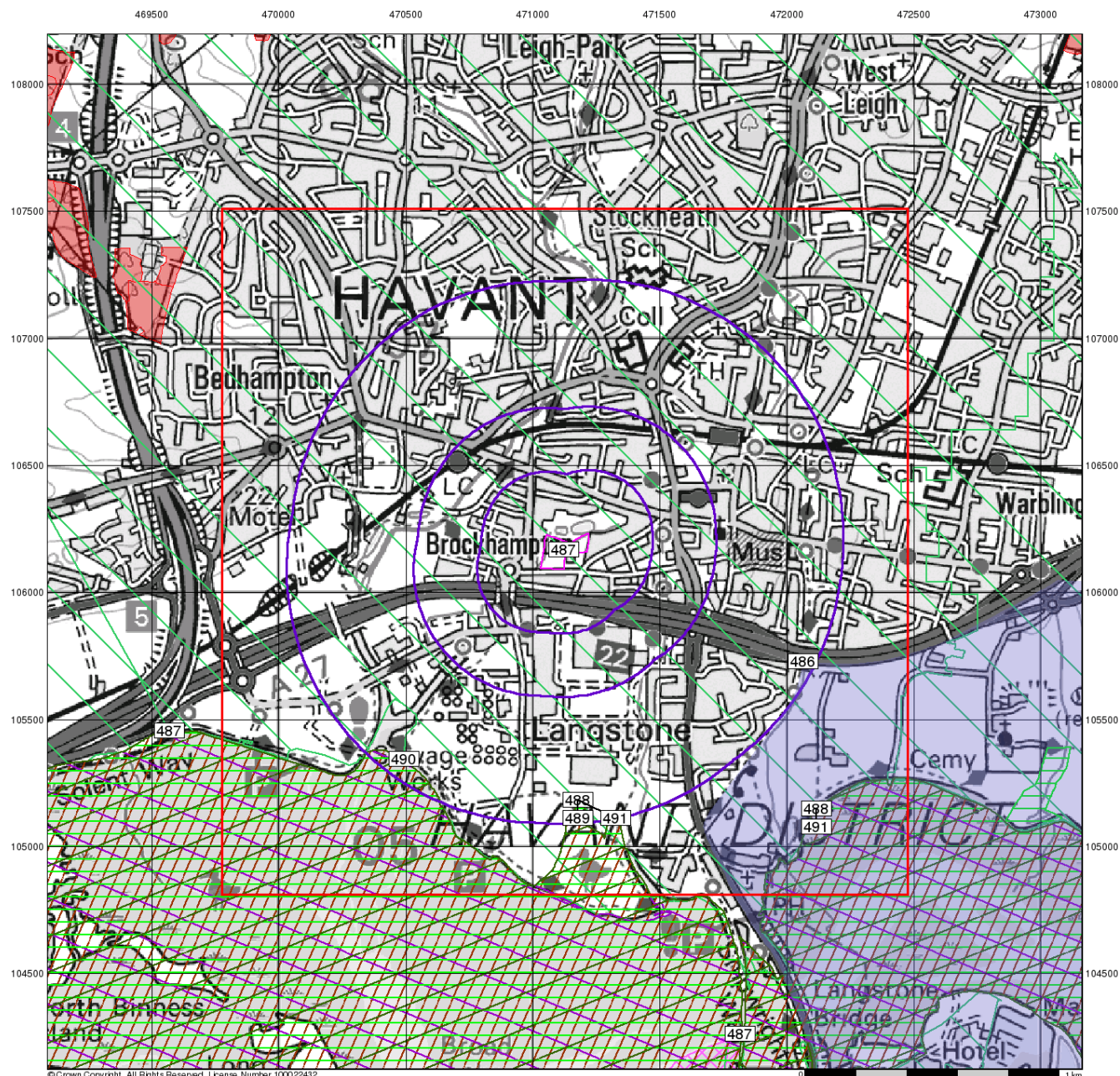
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 Customer Ref: 19-1058.01
 National Grid Reference: 471120, 106170
 Slice: A
 Site Area (Ha): 1.54
 Search Buffer (m): 1000

Site Details

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Sensitive Land Uses

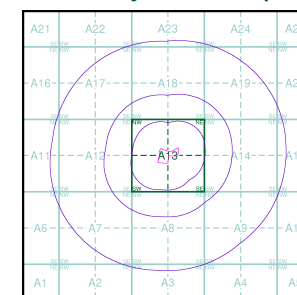
General

- ◇ Specified Site
- Specified Buffer(s)
- X Bearing Reference Point
- Slice
- B Map ID

Sensitive Land Uses

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

Site Sensitivity Context Map - Slice A



Order Details

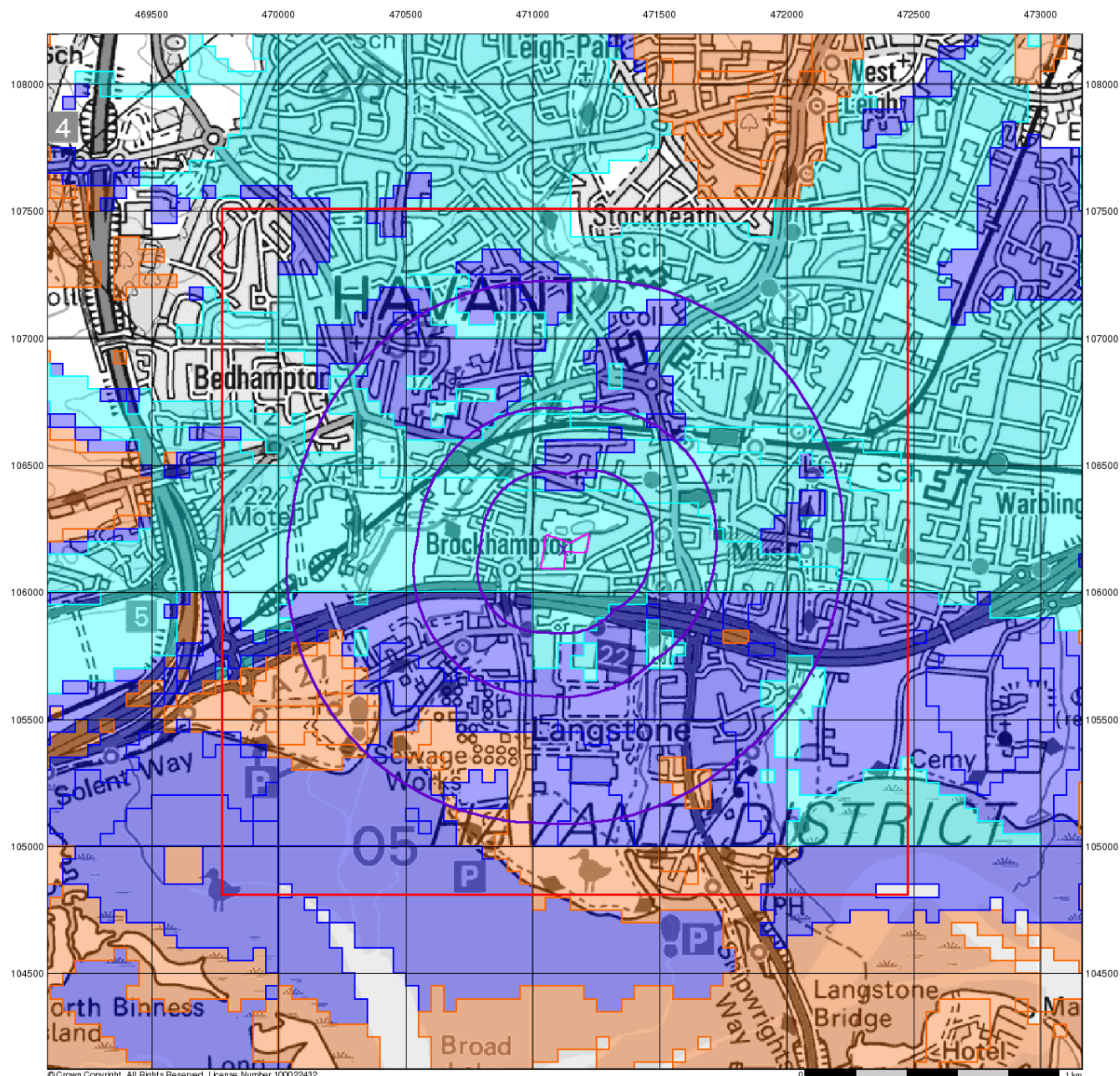
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BGS Flood GFS Data

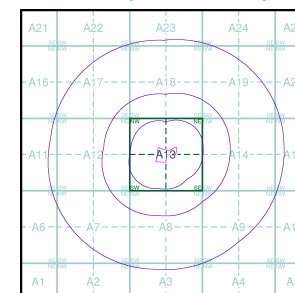
General

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

Agency and Hydrological (Flood)

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 223283800_1_1
 Customer Ref: 19-1058.01
 National Grid Reference: 471120, 106170
 Slice: A
 Site Area (Ha): 1.54
 Search Buffer (m): 1000

Site Details

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Appendix D – Havant Borough Council Correspondance

From: Driver, Jonathan <Jonathan.Driver@havant.gov.uk>
Sent: 15 November 2019 17:19
To: Sian Silcock
Cc: Aidan Nelson
Subject: RE: Contaminated Land Enquiry - Land at Solent Road, Havant

Good afternoon Sian,

The Council has not undertaken a numerical/hierarchical risk ranking process, so there is no priority-level assigned to this- (or any specific-) plot of land. In terms of general site context;

- There are no specific potentially contaminating landuse features known to be associated with the site
- Several site investigations have been undertaken in the vicinity of the site, both to the north and south of Solent Road, and the East and West of Brockhampton Lane.
- Artesian groundwater conditions within the principal aquifer have been confirmed on adjacent land (very likely to apply to the subject site)
- Trans-boundary contamination has been identified on a plot to the East of Brockhampton Road, and to the South of Brockhampton Lane (migration across northern site boundary, from memory.
- A site investigation have been undertaken on part of the Tanneries site (Brockhampton Lane) which noted presence of some contaminants identified by visual and olfactory means – but not substantiated by chemical results. The Leather Works / Chamois Works adjacent to the subject site has not been subject to an investigation to date. Tanks are noted on modern mapping at the boundary of the subject site.
- Investigations for the adjacent site would be available under planning file ref: 03/61715/001 (Risk Management Ltd; Bosmere Medical Centre), and to the South of Solent Road under Planning File References 06/54408/004 (CJ Associated Ltd.; Jewson, 2 Solent) & APP/12/00491 (Soils Ltd.; Units 4-10 Brockhampton Lane). More than one assessment report exists on each of these planning files.
- Trans-boundary migration is considered to represent the greatest risk factor for presence of contamination within the curtilage of the subject site.

I trust that this meets with your requirements. It looks like limited documentation is available on the Planning Pubic access portal for the above referenced applications. If site investigation reports are required, I would expect the planning archive to contain copies. It may not be a simple retrieval process (some documents in the archive are present in fragmented form), so I have not sought to collate the documentation at this stage. You will be aware that I will need to confirm that documents exist within the public domain before disclosure – this does not typically hinder disclosure.

Best Regards,

Jonathan Driver
Environmental Control Officer

Havant Borough Council Environmental Health
Public Service Plaza, Civic Centre Road, Havant, Hants PO9 2AX

Tel (Direct Dial): 023 9244 6677
Tel (Mobile) : 07877 971 106
Tel (Team Admin): 023 9244 6670

Email: jonathan.driver@havant.gov.uk

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From: Sian Silcock <Sian.Silcock@deltasimons.com>
Sent: 04 November 2019 14:39
To: Driver, Jonathan <Jonathan.Driver@havant.gov.uk>
Cc: Aidan Nelson <Aidan.Nelson@deltasimons.com>
Subject: Contaminated Land Enquiry - Land at Solent Road, Havant

Good afternoon,

We are undertaking a Phase I Environmental Assessment for land at the following address:

Solent Road, Havant, PO9 1DQ.

The Site is shown on the attached map. I would be grateful if you could confirm whether or not the Site is on your list of prioritised sites under Part 2A and, if so, what priority it is considered to be? Also, please could you let me know whether you are aware of any previous intrusive investigations and/or remediation at the Site?

Kind Regards,

Siân

Siân Silcock
Graduate
M: +44 (0)7773 043898
E: Sian.Silcock@deltasimons.com
www.deltasimons.com



Birmingham Bristol Dublin Leeds Lincoln London Manchester Newcastle Norwich Nottingham

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Appendix E – Previous Reports

PORTSMOUTH WATER HEAD OFFICE REDEVELOPMENT

HYDROGEOLOGICAL RISK ASSESSMENT

AUGUST 2014

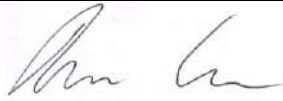
PROJECT NO. 14150023

B. A. Hydro Solutions Limited
3 The Sidings
Station Road
Shepreth
Royston
Herts
SG8 6PZ



HYDROGEOLOGICAL RISK ASSESSMENT

**PORTSMOUTH WATER
WEST STREET
HAVANT
HAMPSHIRE
PO9 1LG**

	Name	Signature	Date
Written by:	Jessica Crane Senior Hydrogeologist		03/09/2014
Checked & compiled by:	Tim Baker Principal Hydrogeologist		03/09/2014

Report researched and produced by B. A. Hydro Solutions Limited (BAHS Ltd) on the instruction of Mr Mark Mills, Portsmouth Water Limited.

Report published on the 3rd September 2014, additional copies are available on request from BAHS Ltd. This report remains the intellectual property of BAHS Ltd and contributors.

DOCUMENT RECORD SHEET

Revision Register

Version	Date	Changes
0.0	19/06/2014	Data Collation
1 to 6	20/06/2014 to 05/08/2014	Early Versions
7	06/08/2014	First Internal Draft Report
8	07/08/2014	Second Internal Draft Report
9	08/08/2014	Final Internal Draft Report
9.1	08/08/2014	Report Issued for Comments
10	01/09/2014	Revision to include comments
10.1	03/09/2014	Final Issue Report

Document Issue Register

Version	Date	Recipients
9	08/08/2014	Final Internal Draft Report
9.1	08/08/2014	Report Issued for Comments
10	01/09/2014	Revision to include comments
10.1	03/09/2014	Final Issue Report



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w. www.britishdrillingassociation.co.uk



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w. www.gshp.org.uk



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PO9 1LG



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Herts
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e. info@bahsltd.com
w. www.bahsltd.com

ABSTRACT

B. A. Hydro Solutions Ltd. (BAHS) were commissioned to complete a Hydrogeological Risk Assessment to establish the potential impact on springs located on the Portsmouth Water Head (PWL) Office site resulting from planned redevelopment of the site. Havant Springs consist of a number of Chalk fed features which occur through the centre of the head office site. They provide a significant volume of water to the Company and the majority of the supply to Portsmouth.

The viability, nature, extent and characteristics of any redevelopment depend on the assessed impact of the proposal on the strategic spring supply. Concerns have been raised within an internal document over the possible impact of the proposal. BAHS assessed all information available at the time of reporting to form the basis of a hydrogeological conceptual understanding of the site. A lack of site specific hydrogeological information was identified. Consequently a detailed geophysical survey was proposed as an alternative to physical drilling on the site, as a non-invasive method of “seeing” into the sub-surface. Electrical Resistivity was chosen as the best method for the site, in order to define the Chalk upper surface, and also delineate any other geological boundaries, structures and other objects on the site.

Electrical resistivity profiles across the site were completed in July 2014 to establish where the top of the Chalk occurs in relation to ground surface so that the proposed development could be assessed in the context of the Chalk-overburden boundary. Survey results have been used to plot the depth to the Chalk at multiple points across the site, these measurements have been combined with measured depths to the chalk made in local boreholes and wells. The combined data set has been used to plot the upper surface of the Chalk beneath the site and the surrounding area.

BAHS have established from the plot of the Chalk upper surface that the Chalk appears to be displaced by a previously unknown and significant east to west aligned fault or series of faults which results in the Chalk being present at a shallower depth beneath the north of the site relative to the southern part of the site.

The Chalk is generally dipping towards the north east in the south of the site, and to the north-west in the north of the site. Along a line extending roughly through the centre of the site [assumed to be the fault line or corridor of faulting] the difference in the depth to the Chalk is up to 24 metres from the north to the south side of the feature. This displacement will have resulted in the Chalk being more fractured thus allowing groundwater to move upwards more easily on the northern side of the site.

The observed displacement across the structure explains why the springs occur along an east to west line and why there are none south of the ponds until you reach Boiling Meadow. Springs at the latter appear to be present due to the Chalk becoming increasingly shallow in the same direction. The springs are thus present due to the Chalk being almost at ground level. It is possible that there may be another fault(s)

with an east to west alignment on or very close to the southern boundary which may have dropped the Chalk deeper just to the south.

This study plays an important part in safeguarding the springs by identifying the mechanisms controlling the presence and emergence of the springs. The advanced hydrogeological conceptual understanding of the source generated as a result of this study shall be used to assist with compliance with future changes in drinking water standards and protection of the water source. It also means PWL can assess the risk posed to the source from unplanned events and incidents. PWL can also assess which activities may be permitted in the vicinity of the springs as the vulnerability of the sources can be assessed more effectively now the site is better understood.

Based on the advanced hydrogeological conceptual understanding of the site this risk assessment has found that due to the nature of the springs, development of part of the Havant site could be permitted providing certain activities are prevented and others are restricted or/and carefully controlled. The principle risk to the springs would be during any site development, it is therefore a critical period which would need to be carefully planned, designed, managed and supervised to minimise the risk posed to the springs. The current activities on site in many instances represent a greater risk to the springs than the proposed development, these continue without problems due to appropriate controls and measures in place.

Beyond the construction period the risks posed to the springs from the planned residential and office development would become low. Careful planning of the develop will mitigate the risk posed by utilities/services, drainage and the impact activities in the area could have on the springs. Specific recommendations and mitigation measures to deal with the main risks associated with site development proposal have been discussed in detail in Section 11 and Section 12.

The site has been divided into five zones labelled A to E, for each the potential risks posed to the spring supply have been considered. This document recommends that certain activities are not carried out/permitted in some areas or zones due to the risk posed. In all instances some if not all of the proposed development is possible providing the correct control or mitigation measures are in place.

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