



**ENVIRONMENTAL STATEMENT**  
**VOLUME 2**  
**APPENDIX 11.1 – PHASE 1 PRELIMINARY SITE**  
**RISK ASSESSMENT**





Great Wolf Resorts

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# GWR BICESTER

Preliminary Risk Assessment





Great Wolf Resorts

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## **GWR BICESTER**

Preliminary Risk Assessment

**CONFIDENTIAL**

**PROJECT NO. 70042711  
OUR REF. NO. 70042711\_PRA**


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Appendix B - Site Drawings

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# EXECUTIVE SUMMARY

<b>Authorisation and Purpose of Assessment</b>	<p>WSP was instructed by Great Wolf Resorts (the Client) to undertake a Preliminary Risk Assessment (PRA) of a site at Bicester Golf Course, Green Lane, Chesterton, Bicester OX26 1TH.</p> <p>This assessment is to be undertaken in order to assess potential risks and constraints to the proposed development of the site, relating to ground conditions.</p> <p>The Development Site comprises 9 of the existing 18 hole golf course which forms part of the wider site also occupied by the Bicester Hotel Golf and Spa. This Appendix refers to the wider site for context and study area for the purposes of the pre-application considerations.</p>
<b>Key Findings</b>	<p>At the time of the site walkover, the site was occupied by an operational golf course and associated clubhouse building complex and leisure facilities.</p> <p>Historical maps show the site to remain as undeveloped land until 1922 where one unnamed building was established in the centre of the site. By 1970 the building had been replaced by several buildings operated as a farm. By 1988 the farm was replaced by the Bicester clubhouse complex of buildings and golf course.</p> <p>Historical maps indicate that the site's surrounding area remained predominantly as undeveloped / pasture land with the exception of Chesterton village to the east of the site.</p> <p>British Geological Survey maps indicate that the underlying geology comprises of bedrock deposits of the Forest Marble Formation overlying the Cornbash Formation. No superficial deposits were recorded on-site. Made Ground is anticipated to be present across the site. The bedrock deposits are classified by the EA as a Secondary A Aquifer.</p>
<b>Environmental Risk Assessment</b>	<p>The current and historic land uses are considered to present a <b>low</b> risk to future site users due to proposed hardstanding / building cover within the redevelopment.</p> <p>The risk posed to construction workers and future maintenance workers is considered to be <b>low to moderate</b> due to the potential for direct contact (e.g. dermal exposure or inhalation) with asbestos and potentially contaminated groundwater and soils.</p> <p>The risk posed to surface water features and the underlying Secondary A Aquifer is considered to be <b>low to moderate</b> due to the high risk classification of groundwater vulnerability on-site and the storage of potentially contaminative materials on-site.</p> <p>The risk posed to future site users from ground gas is considered to be <b>low</b> owing to the presence of Made Ground of unknown composition surrounding the site.</p> <p>Therefore the overall risk to human health and controlled waters from the identified off-site sources is considered to be <b>low</b>.</p>
<b>Recommendations</b>	<p>WSP recommend that a ground investigation compliant with BS10175 and a Generic Quantitative Risk Assessment (GQRA) are undertaken. These are likely to be a requirement of a planning application and will allow assessment of the</p>



identified plausible contaminant linkages. It is recommended that a ground investigation is designed based on the following technical objectives:

- Characterisation of the underlying ground and groundwater conditions;
  - Undertake soil sampling for contamination analysis;
  - Undertake ground gas and groundwater monitoring;
  - Provide an assessment of risks to human health and controlled waters; and,
  - Provide a preliminary outline assessment of potential geotechnical constraints and possible foundation options for the proposed development.
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# 1 INTRODUCTION AND OBJECTIVES

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## 1.1 AUTHORISATION AND PURPOSE OF ASSESSMENT

WSP was instructed by Great Wolf Resorts (the Client) to undertake a Preliminary Risk Assessment (PRA) of the site at Bicester Golf Course, Green Lane, Chesterton, Bicester OX26 1TH (the site).

WSP understands that this assessment is to be undertaken in order to assess potential risks and constraints to the proposed development of the site, relating to ground conditions.

## 1.2 AIMS

The key aims of this assessment are to:

- Develop a preliminary Conceptual Site Model (CSM) to identify potential contamination risks associated with the proposed development of the site; and,
- Evaluate likely contaminated land exposure pathways and their potential significance on identified receptors to support the proposed redevelopment.

## 1.3 DEVELOPMENT PLANS

It is understood that the redevelopment will comprise of a 500 bed resort hotel with an indoor pool and leisure complex within the Bicester Golf Resort complex. The current clubhouse complex will remain in place.

The Development Site comprises 9 of the existing 18 hole golf course which forms part of the wider site also occupied by the Bicester Hotel Golf and Spa. This Appendix refers to the wider site for context and study area for the purposes of the pre-application considerations.

## 1.4 SCOPE OF WORKS

In order to meet the aims stated in Section 1.2, the following scope of works were undertaken:

- A review of plans made available by the client, publicly available regulatory information and available historical Ordnance Survey maps to assess the current and historic potentially contaminative uses of the site, and of land uses in the vicinity of the site;
- A review of publicly available information pertaining to the geology, hydrogeology and hydrology of the site and surrounding area to assess ground conditions and the presence of plausible sensitive environmental receptors. This will include a review of available borehole data, regulatory databases, mapping and historical reports;
- A site walkover to document the current land use, potential sources of contamination, observations of current potential impact and site setting;
- Where allowed, liaison with relevant authorities including the Environment Agency and Cherwell District Council (CDC) (Environmental Health, Planning and Building Control), to gather information relevant to the site;
- A review and comment on existing information and/or reports on the site, where available; and,
- Derivation of a baseline conceptual site model (CSM) through the identification of plausible contaminant linkages in order to provide a qualitative, ranked assessment of the likelihood of potential sources of land contamination posing a significant risk to the human health and the environment.

This report has been prepared in general accordance with:

- Part 2A of the Environmental Protection Act 1990;
- The National Planning Policy Framework 2012;

- Environment Agency (EA) 'Model Procedures for the Management of Land Contamination', CLR11. 2004; and,
- NHBC, EA and CIEH 'Guidance for the Safe Development of Housing on Land Affected by Contamination' R&D66. 2008.

## 1.5 SOURCES OF INFORMATION

The following sources of information have been used in the production of the report:

- Envirocheck reports, dated 25 January 2018, Order Ref: 154470925\_1\_1;
- EA Long Term Flood Risk Information website, accessed on 6 February 2018;
- British Geological Society (BGS), Geological map Sheet No.219 Buckingham, 1:50,000, Solid and Drift Edition (2002) (online), accessed on 02 February 2018; and
- Zetica informal UXO risk report, dated 8 February 2018.

## 1.6 LIMITATIONS

This report is addressed to and may be relied upon by Great Wolf Resorts and may not be relied upon or transferred to any other parties without the express written agreement of WSP.

This report should be read and used in full. No responsibility will be accepted where this report is used, either in its entirety or in part, by any other party. WSP cannot be held liable for third party information. Full details of the limitations are provided as **Appendix A**.

## 1.7 UNDERSTANDING RISK

It is important to recognise that any risks identified during a preliminary assessment such as that presented below are perceived risks based on the record information reviewed. A more detailed assessment of the actual risks can only be assessed following intrusive investigations. The preliminary assessments presented herein are qualitative based on professional judgements following review of the available data and within the context of the existing/proposed use. Those risk categories presented (Very Low, Low, Low to Moderate, Moderate, High, Very High) follow guidance presented in CIRIA Publication C552, Contaminated Land Risk Assessment – A Guide to Good Practice. CIRIA states that risk levels should be based both on an understanding of both the probability (likelihood) of a risk occurring and the magnitude of the potential consequence (severity) of a risk. CIRIA defines four levels of probability and four levels of severity with relation to contaminated land, as presented in **Appendix A**.

## 2 SUMMARY OF THE SITE AND SURROUNDING AREA

### 2.1 SITE DESCRIPTION

A Site Location Plan and Site Plan are provided as Figures 1 and 2, respectively within **Appendix B**.

Table 2-1 provides details obtained from a site walkover undertaken on 1 February 2018 and a review of Ordnance Survey (OS) mapping, online aerial photography and relevant regulatory information obtained from the Envirocheck report. The Envirocheck report is included as **Appendix C**.

**Table 2-1 Summary of Site Characteristics**

Details	Description
Name and Address of Site	Bicester Golf Course, Green Lane, Chesterton, Bicester, Oxfordshire OX26 1TH
Grid Reference	454880, 221230
Site Description and Current Use	<p>The site covers an approximate area of 49.74 ha and is irregular in shape. The main access to the golf course is from Green Lane to the south.</p> <p>The site is occupied by an operational golf course with two storey clubhouse and leisure complex buildings in the centre of the site. These consist of a hotel, golf pro-shop, restaurant, nursery, spa, courtyards, tennis courts and parking.</p> <p>The golf course extended across the east (holes 1 to 9) and north-west (holes 10 to 18) of the site comprising grassed areas, interspersed with standing water bodies, drainage ditches, sand bunkers and semi-mature to mature trees. Bands of woodland areas and hedges extended along the boundary of the site.</p> <p>The south-west of the site comprised a disused driving range with large material stockpiles and a body of standing water along the eastern boundary. The stockpiles consisted of limestone, mudstone and silt mixed with occasional construction waste. A recently constructed large steel-framed shed was situated north of the stockpiles where the underlying bedrock was exposed at the surface.</p> <p>The site is bordered by the A4095 to the north, The Hale road to the east, Green Lane and an open field to the south and the M40 motorway to the west.</p>
Site Surrounding Area	<p>The site is located in a predominantly rural area, consisting of farm land and recreational land to the north, south and west. The site is approximately 2.75 km south-west of Bicester town centre and directly east of the village of Chesterton.</p> <p>Tanora Cottage and Vicarage Farm residential properties are located immediately north of the site, along the A4095.</p> <p>A residential construction site was recorded adjacent to the east of the site during the walkover.</p> <p>W.I.G. Engineering Limited, a structural steelwork fabricator, is located to the south of the site, adjacent to the main site access. Several rusted steel drums and a bunded oil tank were stored along the boundary of the site.</p>

Ground Cover, Surface Observations and Topography	The majority of the site footprint consists of soft landscaping associated with the golf course comprising amenity grassland, poor semi-improved grassland, scrub, hedges and semi-mature to mature broadleaved trees.
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## 2.2 SITE OBSERVATIONS

Table 2-2 details key observations made during the site walkover that are considered to be environmentally pertinent.

**Table 2-2: Summary of Potential Contaminative Uses / Storage**

Details	Description
Above Ground Chemical/Fuel storage	<p>Five bunded oil tanks, six propane gas tanks, sodium hypochlorite 10L bottles, Turfcomplex fertilizer bottles and engine oil bottles were recorded adjacent to the clubhouse and leisure complex structures. There was minimal evidence recorded of staining and spillages.</p> <p>A gas governor and four air conditioning units were located to the north of the main clubhouse and leisure complex structures.</p>
Electrical	An electrical substation was situated immediately north of the main clubhouse and leisure complex structures.
Drainage	Several drainage ditches were noted extending across areas of the golf course, particularly around the edge of the site and connecting the standing water bodies.
Asbestos Containing Materials (ACM)	ACMs were not reported to be present in the buildings.
Material Stockpiles	<p>Large material stockpiles were recorded along the south-eastern boundary. The stockpiles consisted of limestone, mudstone and silt mixed with occasional construction waste.</p> <p>Small stockpiles of topsoil and sand were recorded to the south of a storage unit, adjacent to the car park in the centre of the site. It is assumed these are used in the maintenance of the golf course. Waste stockpiles were also noted in this location consisting of tyres, plastics, timber and office furniture.</p> <p>Four rusted steel drums were noted along the northern boundary of the site, adjacent to Tanora Cottage.</p>

The potential contaminative sources are illustrated on Figure 3 (**Appendix B**) and site photographs are provided as **Appendix E**.

### 3 HISTORICAL LAND USE

#### 3.1 GENERAL

Historical maps were obtained as part of the Envirocheck report (**Appendix C**) and were reviewed to identify any potentially contaminative former land uses on the site and within a 250 m radius of the site boundary.

Other sources of information have also been used to understand the historical uses on the site. Details of these sources are stated in the relevant sections below.

#### 3.2 SITE HISTORY

The earliest historical maps available, circa 1875, show the site to remain as undeveloped land until 1922 when one unnamed building had been established in the centre of the site. A quarry is shown to be located on the north-western perimeter from maps dated 1923 to 1966, after which it is no longer shown. By 1970, the building in the centre of the site had been removed and replaced by a complex of buildings labelled Vicarage Farm. By 1988 the buildings had been relabelled as Club House and the surrounding land had become the golf course. Vicarage Farm had been moved to a building located adjacent to the site boundary to the north. The clubhouse complex of buildings is then shown to develop over the following years with the changing or addition of buildings and leisure courts. The current site layout has been established by 2017.

#### 3.3 SURROUNDING AREA HISTORY

The land use of the surrounding area has remained predominately the same since maps dated circa 1875 with the majority of land use as amenity space / farm land. The south of the site is bordered by a roman road Akemen Street, now named Green Lane.

A summary of the environmentally pertinent facilities in the surrounding area (250 m radius of search) is listed in Table 3-1.

**Table 3-1: Summary of Pertinent History of Area Surrounding the Site**

Surrounding Features	Direction	Distance (m) (approximate)	Dates*
Pump house	North-East	140	Pre 1899 – 1922
Allotments	North	30	Pre 1899
Allotment Gardens	East	20	Pre 1923 - 2017
Coal Yard	North-East	90	Pre 1968 – 1981
Tank	North-East	10	Pre 1968 -1981
Vicarage Farm	North	10	Pre 1985 - Present
Quarry	South-East	100	Pre 1875
M40	West	Adjacent	1991 - Present

\* Denotes the dates the historical maps were published, although the published date given on the maps is often some years later than the surveyed date.

## 4 ENVIRONMENTAL SETTING

### 4.1 GEOLOGY

British Geological Survey (BGS) Geological maps Sheet No. 219, Buckingham, 1:50,000, Solid and Drift Edition (2002) (online) and BGS 'Geology of Britain' online viewer were reviewed. A summary of anticipated geology beneath the site is provided below in Table 4-1. Descriptions and thicknesses are based on BGS Geological descriptions and the historical borehole logs (BGS ref. SP52SW76, SP52SW29, SP52SE2, SP52SW22, SP52SW24, SP52SW25, SW52SW26 and SP52SW23).

The 1:50,000 BGS map indicates that superficial deposits are absent. The underlying geology comprises of bedrock deposits of the Cornbash Formation overlying the Forest Marble Formation. A series of boreholes located along the M40 corridor confirm this and generally describe topsoil (av. thickness 0.30 m) underlain by weathered limestone or colluvium (av. thickness 1.20 m) underlain by interbedded limestone, mudstone and clay of the Forest Marble Formation and Cornbash Formation.

Limestone was recorded at the surface in the east of the site during the walkover.

Due to the engineered topography of the golf course, it is anticipated that Made Ground is present across the site.

**Table 4-1: Geological Description**

Geological Unit/Stratum	Aquifer Designation**	Typical thickness* (m)	Typical Strata Description
Cornbash Formation	Secondary A aquifer	1.00 – 4.00	Medium- to fine-grained limestone, rubbly. Generally bluish grey when fresh, but weathers to olive or yellowish brown. Thin argillaceous partings or interbeds of calcareous mudstone may occur.
Forest Marble Formation	Secondary A aquifer	2.00 – 7.00	Grey silicate mudstone with beds of limestone

\* British Geological Survey (BGS) Geological map Sheet No. 219, Buckingham, 1:50,000 Drift Edition (2002)

\*\*Environment Agency designation

### 4.2 HYDROLOGY

The site is located within the Oxon Ray catchment area which is part of the larger Thames River catchment. There are several water bodies situated within the site, comprising drainage ditches and engineered ponds, lakes and swamps associated with the golf course.

The closest river off-site is Gagle Brook located approximately 280 m to the north-east.

### 4.3 HYDROGEOLOGY

There are no superficial deposits recorded on-site. The bedrock deposits of the Cornbash Formation and Forest Marble Formation; part of the larger Great Oolite Group, are classified by the EA as a Secondary A aquifer. The group consists of a significant limestone aquifer producing large yields. Groundwater is likely to be present within the deposits on-site.

The site is located within a High Risk zone for Groundwater Vulnerability. The EA designates this by determining the vulnerability of groundwater to a pollutant discharged at ground level based on the geological, hydrological, hydrogeological and soil properties of the area. The soils within the area are designated with a High Leaching Potential. The site is also located within a Soluble Rock Risk zone, as classified by the EA.

The site is not located within a Source Protection Zone.

There are no groundwater abstraction wells located within 500 m of the site.



#### 4.4 DESIGNATED ECOLOGICAL, HERITAGE AND ENVIRONMENTALLY SENSITIVE SITES

Statutory ecological designations, World Heritage Sites, Scheduled Ancient Monuments or Registered Battlefields have not previously been recorded within the site.

The site is located within a surface water Nitrate Vulnerability Zone.

#### 4.5 FLOODING

*Risk of flooding from rivers and sea*

The site is located within an area of **very low** risk (< 0.1% chance) of flooding from rivers or seas, as classified by the EA.

*Risk of flooding from surface waters*

The site has a **very low** risk (< 0.1% chance) of flooding from rivers or seas, as classified by the EA.

*Risk of flooding from Ground waters*

The majority of the site is located within an area defined by the BGS as having a **low** susceptibility to groundwater flooding. There is the potential risk for groundwater flooding of property situated below ground level in the eastern extent of the site.

#### 4.6 RADON

The Envirocheck report indicates that the site is located within an Intermediate Probability radon affected area where 1-3% of homes are at or above the Action Level for radon gas. The BGS consider no radon protective measures are necessary in the construction of new dwellings or extensions.



## 5 REGULATORY INFORMATION AND CONSULTATION

### 5.1 REGULATORY DATABASE

Reference was made to the Envirocheck data provision service. This includes information and data collated from several organisations, including the Environment Agency (EA), the Local Authority, the British Geological Survey (BGS), and Department for Environment, Food & Rural Affairs (DEFRA), Health & Safety Executive (HSE), and the National Radiological Protection Board (NRPB).

Whilst Envirocheck reporting includes data from a number of environmental regulatory databases, WSP considers that those databases listed in Table 5-1 below represent those of potential contaminant concern, off-site.

There is one industrial land uses identified within 250 m of the site:

- W.I.G. Engineering Limited, a structural steelwork fabricator, is located to the south of the site, adjacent to the main site access.

**Table 5-1: Summary of Database Searches (all distances are approximate)**

Descriptor	On-site	0-50 m	0-150 m	Details
Potentially infilled land	1	0	1	A small scale opencast limestone quarry is reported to have been located within the north-eastern extent of the site. A further quarry is reported to have been located approximately 80 m to the east of the site.
Discharge consents	0	1	0	Sewage discharge/ final treated effluent into a tributary of Gagle Brook. The operator is W.I.G Engineering Ltd and is located at Barnfield Farm Akeman Street on the southern perimeter of the site.

### 5.2 BURIED SERVICES

The Line Search Before U Dig (LSBUD) portal was accessed on 6 February 2018 to acquire preliminary below ground service plans from public sources. The site is shown to lie within Scotia Gas Networks operational boundary but to have no gas pipelines within the area.

It should be noted that these service searches may not include all service information and a full utilities search and survey should be undertaken in order to determine the location of buried services on site.

### 5.3 UNEXPLODED ORDNANCE (UXO)

A preliminary UXO enquiry with Zetica dated 8 February 2018 reported that the site is located within an area with a very low WWII regional bombing density. However, there is record of at least four High Explosive bombs to have fallen the immediate vicinity of the site. The report therefore recommends the need for a further detailed UXO desk study report to further assess the UXO hazard level of the site. The Zetica report is included in **Appendix D**.

### 5.4 REGULATORY LIASION

The EA and the EHO for the Cherwell District Council were contacted by WSP (via email on the 6 February 2018) regarding any general environmentally pertinent information held relating to the site; a response has not yet been received from either bodies.

## 5.5 PLANNING HISTORY

A search was made of the Cherwell District Council North Oxfordshire's planning portal on 15 February 2018. A total of 33 planning applications for the Bicester Hotel Golf Club premises are reported on the council's database: 23 applications are listed as permitted, 5 are listed as refused and 4 as other (withdrawn, pending consideration or as a screening opinion).

Recent planning applications deemed of particular relevance to this report are listed below. The comprehensive list of applications is available on the planning portal.

- Application 17/00185/F: Erection of extension to front of existing activity hall, formation of outdoor swimming lake and creation of earth bund. Decision issued 8 May 2017 – Permitted.
- Application 15/01068/F: Erection of two storey extension to existing hotel to form 62 new bedrooms (60 net increase). Decision issued 12 February 2016 – Permitted.
- Application 13/01102/F: Two storey extension to existing hotel with roof accommodation to form 51 new bedrooms. Decision issued 4 October 2013 – Permitted
  - The local Environmental Protection Officer was consulted regarding this application and responded with: *'My records do not indicate contamination may affect this development. I recommend applying condition J16 or informative ZZ in case there is any unsuspected contamination found during the development.'* - 09/08/13 (Appendix D).

A total of eight property constraints are recorded on the council's planning portal and those of particular pertinence regarding this report are summarised below. The comprehensive list is available on the Cherwell District Council North Oxfordshire's planning portal.

**Table 5-2 - Bicester Hotel Golf Club Property Constraints**

Constraint Type	Name	Description
Water Utility	Thames Water	Water Utility Company Coverage. Captured by Cherwell District Council based on boundaries from paper map.
Air Safeguard Maps - Construction Height	Oxford (Kidlington) Airport - All Development Exceeding 90 m	Consult Airport on all buildings, structures, erections and works exceeding 90 metres in height.
Air Safeguard Maps - Construction Height	London Oxford Airport - All Development Exceeding 45 m	Consult Airport on all buildings, structures, erections and works exceeding 45 metres in height.
Agricultural Land Classification	Agricultural Land Classification - Grade 3	ALC based on 1:250,000 scale maps from 1976.
Aquifer	Groundwater Vulnerability (Aquifers) – Minor	Groundwater Vulnerability (Aquifers) – Minor.
Air Safeguard Maps - Construction Height	All Yellow Safeguarding Areas - Exceeding 45.7 m	Consult MOD on the erection of buildings, structures and works exceeding 45.7 m in height - All Sites.

## 6 PRELIMINARY CONCEPTUAL SITE MODEL

### 6.1 INTRODUCTION

The preliminary Conceptual Site Model (CSM) is based upon the environmental conditions of the site as described in the previous sections and was developed in the context of the proposed development.

The assessment followed a risk-based approach; with the potential environmental risk assessed qualitatively using the 'source-pathway-receptor' contaminant linkage concept introduced in the guidance documents (principally the EA's CLR 11) on the practical implementation of the Environmental Protection Act 1990.

Environmental risk can be defined as the combination of the consequence of a harmful effect and the probability of its occurrence. The existence of a contaminant linkage is primarily dependant on site usage and environmental conditions.

The environmental risk assessment has been carried out by identifying and evaluating the significance of the following:

- Potential sources of contamination: these include any actual or potentially contaminating materials and activities, located either on or in the vicinity of the site;
- Potential Receptors of Contamination: these include future land users, activities or persons at the site; and
- Potential pathways for contamination migration: these are the routes or mechanisms by which contaminants may migrate from the source to the receptor.

### 6.2 POTENTIAL SOURCES OF CONTAMINATION

Table 6-1 provides a summary of the potential sources of contamination that may be present on the site as well as the likely nature of such sources.

**Table 6-1: Potential Sources of Contamination**

Potential Source	Potential Contaminants of Concern	Likely / Anticipated Distribution
<b>ON-SITE</b>		
Made Ground	Range of contaminants including metals, inorganics (e.g. cyanide), petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), ground gas (methane and carbon dioxide) and asbestos.	Site wide due to formation of the golf course, former quarry and former farm and clubhouse buildings
Electrical substation	PCBs and mineral oils	Centre of site
Bunded fuel tanks, propane gas tanks and engine oil bottles	A range of hydrocarbons including PAHs, BTEX and TPH. Potential gas explosion risk.	Centre of site
Stored chemicals associated with clubhouse	Sodium hypochlorite and fertilisers	Centre of site
Material stockpiles	Potential for range of contaminants including metals, inorganics (e.g. cyanide), petroleum hydrocarbons, PAHs, ground gas (methane and carbon dioxide) and asbestos.	South-west and centre
<b>OFF-SITE</b>		

Potential Source	Potential Contaminants of Concern	Likely / Anticipated Distribution
Made Ground	Range of contaminants including metals, inorganics, petroleum hydrocarbons, PAHs, ground gas (methane and carbon dioxide) and asbestos.	Surrounding the site, particularly to the north/east
Unmarked tank	Potential for range of contaminants including metals, various organics, inorganics, asbestos, hydrocarbons and solvents.	10 m, north-east
Coal Yard	Range of petroleum hydrocarbons, PAHs, heavy metals, creosote and asbestos.	90 m, north-east
W.I.G Engineering and associated bunded fuel tank and rusted steel drums	A range of hydrocarbons including PAHs, BTEXs and petroleum hydrocarbons, heavy metals and solvents.	Adjacent, south
M40 motorway	Hydrocarbons and heavy metals	Adjacent, eastern boundary
Farming industry and allotments	A range of contaminants including various chemicals (e.g. pesticides and herbicides), petroleum hydrocarbons and sewage waste.	Surrounding the site

### 6.3 POTENTIAL RECEPTORS

In the context of the future proposed development, the following potential receptors were identified:

#### HUMAN HEALTH

- Future site users (e.g. residents and visitors);
- Construction workers and future maintenance workers; and,
- Third party neighbours.

#### CONTROLLED WATERS

- On-site water features;
- Gagle Brook; and,
- The Oolite Group (Secondary A Aquifer).

#### BUILDING FABRIC AND SERVICES

- Future below ground services (e.g. potable water supply pipes); and,
- Future building structures.

### 6.4 PLAUSIBLE PRELIMINARY CONTAMINANT LINKAGES

Table 6-2 provides an evaluation of the potential contaminant linkages that were considered to be plausible on the basis of the information currently available for the site.

**Table 6-2: Plausible Contaminant Linkages**

Potential Contaminant Sources	Receptor	Pathways	Comments
<b>ON-SITE</b>			
<ul style="list-style-type: none"> <li>→ Made Ground</li> <li>→ Electrical substation</li> <li>→ Bunded fuel tanks, propane gas tanks and engine oil bottles</li> <li>→ Stored chemicals</li> <li>→ Material stockpiles</li> </ul>	<p style="text-align: center;"><b>Human Health</b></p> <ul style="list-style-type: none"> <li>→ Future site users</li> <li>→ Construction workers and future maintenance workers</li> <li>→ Third party neighbours</li> </ul>	<ul style="list-style-type: none"> <li>→ Dermal contact</li> <li>→ Ingestion of impacted soil particles on-site, and windblown to adjacent properties</li> <li>→ Inhalation of dust and asbestos fibres, and windblown to adjacent properties</li> <li>→ Migration of ground gas and volatile vapours into buildings</li> </ul>	<p>Potentially contaminative historical and current sources have been identified at the site as listed in Table 6-1 above.</p> <p>The risk posed to human health from the storage vessels and electrical substation is considered to be <b>low</b> due to their well-maintained condition and bunding. The fertiliser bottles and engine oil bottles were reported to be stored in areas of soft landscaping and are therefore considered more likely to have released contaminants to the ground if spilled. The risks from these storage vessels to future site users are considered to be <b>low to moderate</b>.</p> <p>The risk to future site users is considered to be <b>low</b> where the proposed development involves extensive hardstanding / building cover. The risk is also considered <b>low</b> within the centre of the site where the current building complex is proposed to remain in place.</p> <p>The proposed development is predominantly within the north-western region of the site. Historical maps report a small former quarry and no record of development within this area since the earliest available maps. Although Made Ground may be present associated with the landscaping of the golf course, there is a low likelihood that contamination will be present. The risk to site workers is therefore considered to be <b>low</b>.</p>



Potential Contaminant Sources	Receptor	Pathways	Comments
			<p>The risk to future ground / maintenance workers is considered to be <b>low to moderate</b> due to the potential for direct contact (e.g. dermal exposure or inhalation) with asbestos and potentially contaminated soils.</p>
	<p><b>Controlled Waters</b></p> <ul style="list-style-type: none"> <li>→ Secondary A Aquifer</li> <li>→ Surface water features</li> </ul>	<ul style="list-style-type: none"> <li>→ Vertical and lateral leaching from impacted soil</li> <li>→ Vertical and lateral migration via groundwater</li> <li>→ Infiltration into potential future potable water pipework</li> </ul>	<p>In areas of soft landscaping, contaminants present on the ground surface or within Made Ground may leach vertically and laterally within the Secondary A Aquifer. Alternatively contamination may migrate laterally into the surface water features on-site.</p> <p>The likelihood that contamination is present within the Made Ground generated in the landscaping of the golf course is low, however if contamination is present, leaching of contaminants into the aquifer below may likely occur.</p> <p>Where hardstanding is present, infiltration of precipitation will be restricted and therefore inhibit vertical migration of contaminants from the surface. In the case where the hardstanding may be of permeable design, the risk of water infiltration should be reassessed.</p> <p>The site exists within zone of High Risk for Groundwater Vulnerability due to presence of soils with a High Leaching Potential. In addition the site exists within a zone of Soluble Rock Risk.</p> <p>Spills and / or leaks from the fertilisers and engine oil containers, storage vessels and electrical substation on-site present a <b>low to moderate</b> risk to the Secondary A Aquifer.</p>

Potential Contaminant Sources	Receptor	Pathways	Comments
			<p>The on-site water features are not anticipated to be lined and therefore are likely in hydraulic continuity with the underlying aquifer. If contamination was present in the surface water features it could migrate into the Secondary A Aquifer.</p> <p>The overall risk considered to controlled waters on-site is <b>low to moderate</b>.</p>
	<ul style="list-style-type: none"> <li>→ Future Structures</li> <li>→ Below ground services (e.g. potable water supply pipes)</li> <li>→ Future building structures</li> </ul>	<ul style="list-style-type: none"> <li>→ Direct contact with impacted soils and groundwater</li> <li>→ Migration of ground gas into buildings</li> </ul>	<p>There is a potential for the chemical attack of below ground concrete and permeation of hydrocarbons into plastic pipes.</p> <p>Organic material potentially present within Made Ground could produce ground gas, which can migrate into buildings and pose an explosion risk.</p> <p>Given the site history and the anticipated composition of Made Ground on the site, the risk to below ground structures is considered to be <b>low</b>.</p>
<b>OFF-SITE</b>			
<p>Made Ground</p> <p>Range of historic and current land uses including: Tanks</p>	<p><b>Human Health</b></p> <ul style="list-style-type: none"> <li>→ Future site users</li> <li>→ Construction workers and future maintenance workers</li> </ul>	<ul style="list-style-type: none"> <li>→ Migration of ground gas</li> <li>→ Lateral migration of contaminants via impacted groundwater</li> </ul>	<p>A number of potentially contaminative historical and current site uses have been identified within the surrounding area.</p> <p>Made Ground is likely to be present in areas adjacent to the site, in particular to the east of the site associated with</p>



Potential Contaminant Sources	Receptor	Pathways	Comments
Coal yard Steelwork fabricator M40 motorway Farming land Allotments	Controlled Waters → Gagle Brook → Secondary A Aquifer		<p>Chesterton village. There is the potential for the lateral migration of contaminants or ground gas onto site. Due to the predominantly residential nature of surrounding historic developments, the surrounding Made Ground is considered to pose a <b>low</b> risk to the site.</p> <p>Groundwater within the underlying Secondary A Aquifer is anticipated to flow south / south-westward, down gradient. Farm land, the historic coal yard and historic tank are located to the north / east of the site and therefore are located upgradient of the site. Contaminants generated by these facilities have the potential to migrate laterally through the underlying bedrock onto the site, down gradient. Due to the age of the sources and/or their relative scale, the risk posed by these facilities is considered to be <b>low</b>. Contaminants present to the south / west of the site, such as those generated by the M40 motorway and the steelwork fabricator, are located downgradient of the site and are therefore unlikely to pose a risk to human health or controlled waters on-site.</p> <p>The overall risk to human health, controlled waters and future structures from off-site sources is considered to be <b>low</b>.</p>



## 7 CONCLUSIONS AND RECOMMENDATIONS

---

Based on the information contained within this report, WSP make the following conclusions in the context of the proposed commercial redevelopment.

### KEY FINDINGS

- The site is currently operated as a golf course with associated buildings and leisure facilities within the centre of the site. The site covers an approximate area of 49.74 ha and is irregular in shape.
- BGS maps indicate superficial deposits are absent and the site is underlain by bedrock deposits of the Cornbush Formation underlain by the Forest Marble Formation. The bedrock geology is classified as a Secondary A Aquifer consisting of limestone capable of producing large water yields.
- There are multiple engineered surface water features on-site, generally associated with the golf course. The nearest river is Gagle Brook located approximately 280 m to the north-east. A drainage ditch was noted to flow along the southern boundary of the site and extended off-site to the east from the south-east corner of the site.
- Historical maps indicate that the site has had minimal development since the earliest maps with the exception of a farm developed in the centre of the site, established by 1970, and later its replacement with the Bicester clubhouse and golf course. The site's surrounding area is shown to have been predominantly used as pasture land / amenity space with some environmentally pertinent land uses including a coal yard, tank, farm land, allotments and the M40 motorway.
- Currently on-site are a number of potentially contaminative sources including storage vessels of fuels, propane gas, fertiliser, engine oil and an electrical substation.

### RISK ASSESSMENT

- The risk posed to future site users as a result of potential contamination from identified sources is considered to be **low** due to the presence of hardstanding within likely source areas and maintained condition of the current potential sources.
- The risk to future construction workers and maintenance workers is considered to be **low to moderate** due to the potential for direct contact (e.g. dermal exposure or inhalation) with asbestos and potentially contaminated groundwater and soils. The risk posed by ground gas is considered to be **low** due to the potential for migration onto site from Made Ground of unknown composition.
- The risk posed to the underlying Secondary A Aquifer is considered to be **low to moderate** due to the high risk classification of groundwater vulnerability on-site and the storage of potentially contaminative materials on-site.
- The overall risk to human health, controlled waters and future structures from off-site sources is considered to be **low**.

### 7.1 RECOMMENDATIONS

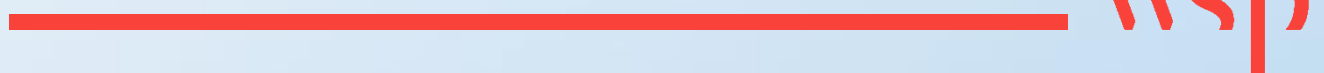
WSP recommends that a ground investigation compliant with BS10175 and a Generic Quantitative Risk Assessment (GQRA) are undertaken. These assessments are likely to be a requirement of a planning application and will allow assessment of the identified plausible contaminant linkages. It is recommended that a ground investigation is designed based on the following technical objectives:

- Characterisation of the underlying ground and groundwater conditions;
- Undertake soil sampling for contamination analysis;
- Undertake ground gas and groundwater monitoring;
- Provide an assessment of risks to human health and controlled waters; and,

Provide a preliminary outline assessment of potential geotechnical constraints and possible foundation options for the proposed development.

# Appendix A

**REPORT LIMITATIONS AND CIRIA**



**RISK DEFINITIONS**

## CIRIA RISK DEFINITIONS

**Table A1 - Classifications of Probability**

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

**Table A2 - Classifications of Consequence**

Classification	Definition
Severe	Short-term (acute) risk to human health likely to result in "significant harm" as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem.
Medium	Chronic damage to Human Health ("significant harm" as defined in DETR, 2000). Pollution of sensitive water resources. A significant change in a particular ecosystem, or organism forming part of such ecosystem.
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services (significant harm as defined in the Draft Circular on Contaminated Land, DETR, 2000). Damage to sensitive buildings/structures/services or the environment.
Minor	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve, Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc.). Easily repairable effects of damage to buildings, structures and services

The risk categories presented in this report, taking into account both probability and severity, are based on the matrix presented in **Table A3** below, following CIRIA C552.

**Table A3 - Adopted Risk Categories / Comparison of Consequence Against Probability**

Probability	Consequence			
	Severe	Medium	Mild	Minor
High Likelihood	Very High Risk	High Risk	Moderate Risk	Low to Moderate Risk
Likely	High Risk	Moderate Risk	Low to Moderate Risk	Low Risk
Low Likelihood	Moderate Risk	Low to Moderate Risk	Low Risk	Very Low Risk
Unlikely	Low to Moderate Risk	Low Risk	Very Low Risk	Very Low Risk

## REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

### GENERAL

1. WSP UK Limited has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed and outlined in the body of the report.
2. Unless explicitly agreed otherwise, in writing, this report has been prepared under WSP UK Limited standard Terms and Conditions as included within our proposal to the Client.
3. Project specific appointment documents may be agreed at our discretion and a charge may be levied for both the time to review and finalise appointments documents and also for associated changes to the appointment terms. WSP UK Limited reserves the right to amend the fee should any changes to the appointment terms create an increase risk to WSP UK Limited.
4. The report needs to be considered in the light of the WSP UK Limited proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

### PHASE 1 GEO ENVIRONMENTAL AND PRELIMINARY RISK ASSESSMENTS

**Coverage:** *This section covers reports with the following titles or combination of titles: phase 1; desk top study; geo environmental assessment; development appraisal; preliminary environmental risk assessment; constraints report; due diligence report; geotechnical development review; environmental statement; environmental chapter; project scope summary report (PSSR), program environmental impact report (PEIR), geotechnical development risk register; and, baseline environmental assessment.*

5. The works undertaken to prepare this report comprised a study of available and easily documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the Site and correspondence with relevant authorities and other interested parties. Due to the short timescales associated with these projects responses may not have been received from all parties. WSP UK Limited cannot be held responsible for any disclosures that are provided post production of our report and will not automatically update our report.
6. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only for the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, WSP UK Limited reserves the right to review such information and, if warranted, to modify the opinions accordingly.
7. It should be noted that any risks identified in this report are perceived risks based on the information reviewed. Actual risks can only be assessed following intrusive investigations of the site.
8. WSP UK Limited does not warrant work / data undertaken / provided by others.

## REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

### INTRUSIVE INVESTIGATION REPORTS

**Coverage:** *The following report titles (or combination) may cover this category of work: geo environmental site investigation; geotechnical assessment; GIR (Ground Investigation reports); preliminary environmental and geotechnical risk assessment; and, geotechnical risk register.*

9. The investigation has been undertaken to provide information concerning either:
  - i. The type and degree of contamination present at the site in order to allow a generic quantitative risk assessment to be undertaken; or
  - ii. Information on the soil properties present at the site to allow for geotechnical development constraints to be considered.
10. The scope of the investigation was selected on the basis of the specific development and land use scenario proposed by the Client and may be inappropriate to another form of development or scheme. If the development layout was not known at the time of the investigation the report findings may need revisiting once the development layout is confirmed.
11. For contamination purposes, the objectives of the investigation are limited to establishing the risks associated with potential contamination sources with the potential to cause harm to human health, building materials, the environment (including adjacent land), or controlled waters.
12. For geotechnical investigations the purpose is to broadly consider potential development constraints associated with the physical property of the soils underlying the site within the context of the proposed future or continued use of the site, as stated within the report.
13. The amount of exploratory work, soil property testing and chemical testing undertaken has necessarily been restricted by various factors which may include accessibility, the presence of services; existing buildings; current site usage or short timescales. The exploratory holes completed assess only a small percentage of the area in relation to the overall size of the Site, and as such can only provide a general indication of conditions.
14. The number of sampling points and the methods of sampling and testing do not preclude the possible existence of contamination where concentrations may be significantly higher than those actually encountered or ground conditions that vary from those identified. In addition, there may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report.
15. The inspection, testing and monitoring records relate specifically to the investigation points and the timeframe that the works were undertaken. They will also be limited by the techniques employed. As part of this assessment, WSP UK Limited has used reasonable skill and care to extrapolate conditions between these points based upon assumptions to develop our interpretation and conclusions. The assumption made in forming our conclusions is that the ground and groundwater conditions (both chemically and physically) are the same as have been encountered during the works undertaken at the specific points of investigation. Conditions can change between investigation points and these interpretations should be considered indicative.
16. The risk assessment and opinions provided are based on currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective

## REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

effects of any future changes or amendments to these values. Specific assumptions associated with the WSP UK Limited risk assessment process have been outlined within the body or associated appendix of the report.

17. Additional investigations may be required in order to satisfy relevant planning conditions or to resolve any engineering and environmental issues.
18. Where soil contamination concentrations recorded as part of this investigation are used for commentary on potential waste classification of soils for disposal purposes, these should be classed as indicative only. Due consideration should be given to the variability of contaminant concentrations taken from targeted samples versus bulk excavated soils and the potential variability of contaminant concentrations between sampling locations. Where major waste disposal operations are considered, targeted waste classification investigations should be designed.
19. The results of the asbestos testing are factually reported and interpretation given as to how this relates to the previous use of the site, the types of ground encountered and site conceptualisation. This does not however constitute a formal asbestos assessment. These results should be treated cautiously and should not be relied upon to provide detailed and representative information on the delineation, type and extent of bulk ACMs and / or trace loose asbestos fibres within the soil matrix at the site.
20. If costs have been included in relation to additional site works, and / or site remediation works these must be considered as indicative only and must be confirmed by a qualified quantity surveyor.

## EUROCODE 7: GEOTECHNICAL DESIGN

21. On 1st April 2010, BS EN 1997-1:2004 (Eurocode 7: Geotechnical Design – Part 1) became the mandatory baseline standard for geotechnical ground investigations.
22. In terms of geotechnical design for foundations, slopes, retaining walls and earthworks, EC7 sets guidance on design procedures including specific guidance on the numbers and spacings of boreholes for geotechnical design, there are limits to methods of ground investigation and the quality of data obtained and there are also prescriptive methods of assessing soil strengths and methods of design. Unless otherwise explicitly stated, the work has not been undertaken in accordance with EC7. A standard geotechnical interpretative report will not meet the requirements of the Geotechnical Design Report (GDR) under Eurocode 7. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. The report is likely to represent a Ground Investigation Report (GIR) under the Eurocode 7 guidance.

## DETAILED QUANTITATIVE RISK ASSESSMENTS AND REMEDIAL STRATEGY REPORTS

23. These reports build upon previous report versions and associated notes. The scope of the investigation, further testing and monitoring and associated risk assessments were selected on the basis of the specific development and land use scenario proposed by the Client and may not be appropriate to another form of development or scheme layout. The risk assessment and opinions provided are based on currently available approaches in the generation of Site Specific Assessment Criteria relating to contamination concentrations and are not considered to represent a risk in a specific land use scenario to a specific receptor. No liability can be accepted for the retrospective effects of any future changes or amendments to these values, associated models or associated guidance.

## REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

24. The outputs of the Detailed Quantitative Risk Assessments are based upon WSP UK Limited manipulation of standard risk assessment models. These are our interpretation of the risk assessment criteria.
25. Prior to adoption on site they will need discussing and agreeing with the Regulatory Authorities prior to adoption on site. The regulatory discussion and engagement process may result in an alternative interpretation being determined and agreed. The process and timescales associated with the Regulatory Authority engagement are not within the control of WSP UK Limited. All costs and programmes presented as a result of this process should be validated by a quantity surveyor and should be presumed to be indicative.

## GEOTECHNICAL DESIGN REPORT (GDR)

26. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. All the relevant information needs to be provided to allow for a GDR to be produced.

## MONITORING (INCLUDING REMEDIATION MONITORING REPORTS)

27. These reports are factual in nature and comprise monitoring, normally groundwater and ground gas and data provided by contractors as part of an earthworks or remedial works.
28. The data is presented and will be compared with assessment criteria.

# Appendix B

**SITE DRAWINGS**









**Key**

Site Boundary



**wsp**

TITLE:

DP9 Bicester

FIGURE No:

Figure 2 - Site Boundary



**Key**

- Site Boundary
- Soil Stockpiles
- Bunded Fuel Tank / Liquid Container Storage
- Propane Gas Tanks
- Fly Tip / Waste Storage Areas
- Substation / Gas Governor / Plant Room
- Historical Quarry
- Historical Tank

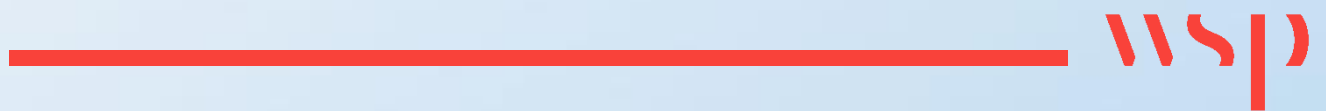


TITLE:  
DP9 Bicester

FIGURE No:  
Figure 3 - Potential Contamination Sources

# Appendix C

**LANDMARK ENVIROCHECK REPORT**



## Envirocheck<sup>®</sup> Report:

### Datasheet

#### Order Details:

**Order Number:**

154470925\_1\_1

**Customer Reference:**

70042711

**National Grid Reference:**

454880, 221230

**Slice:**

A

**Site Area (Ha):**

49.74

**Search Buffer (m):**

1000

#### Site Details:

Bicester Hotel Golf & Spa, Chesterton

BICESTER

OX26 1TE

#### Client Details:

Mr S Barber

WSP UK Ltd

WSP House

70 Chancery House

London

WC2A 1AF

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	14
Hazardous Substances	-
Geological	15
Industrial Land Use	20
Sensitive Land Use	21
Data Currency	22
Data Suppliers	27
Useful Contacts	28

### Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination. For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

In the attached datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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### Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
<b>Agency &amp; Hydrological</b>					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 2	1		1	
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls					
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature		Yes			
Pollution Incidents to Controlled Waters	pg 3				1
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions					
Water Industry Act Referrals					
Groundwater Vulnerability	pg 3	Yes	n/a	n/a	n/a
Drift Deposits			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 3	Yes	n/a	n/a	n/a
Superficial Aquifer Designations			n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 3	18	8	30	28

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
<b>Waste</b>					
BGS Recorded Landfill Sites					
Historical Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 14	2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 14	1	1		1
Potentially Infilled Land (Water)	pg 14				1
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
<b>Hazardous Substances</b>					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					



Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
<b>Geological</b>					
BGS 1:625,000 Solid Geology	pg 15	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 15	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 16	1	1		1
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 17	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 17		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 17	Yes		n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 18	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 18		Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards				n/a	n/a
Radon Potential - Radon Affected Areas	pg 18	Yes	n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
<b>Industrial Land Use</b>					
Contemporary Trade Directory Entries	pg 20			1	2
Fuel Station Entries					
Points of Interest - Commercial Services					
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 20			1	2
Points of Interest - Public Infrastructure					
Points of Interest - Recreational and Environmental					
Gas Pipelines					
Underground Electrical Cables					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
<b>Sensitive Land Use</b>					
Ancient Woodland					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 21	1			
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16SE (NE)	0	1	455600 221550
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11SE (S)	0	1	454879 221100
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11SE (S)	0	1	454900 221100
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NW (E)	0	1	455450 221400
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NW (E)	0	1	455400 221350
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NW (E)	0	1	455250 221350
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11NW (W)	0	1	454850 221227
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11NW (NW)	0	1	454700 221400
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A15SE (N)	0	1	455000 221650
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11NE (NW)	0	1	454879 221227
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11NE (E)	0	1	455000 221227
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15NE (N)	7	1	454950 221900
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15NE (N)	33	1	455000 221900
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11SE (S)	38	1	454900 221050
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	A16SE (NE)	47	1	455700 221700
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A11SE (S)	137	1	454900 220950
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (E)	190	1	455750 221150
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16SE (NE)	212	1	455700 221850
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16SE (NE)	225	1	455850 221800
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16NE (NE)	241	1	455600 221950
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A16SE (NE)	243	1	455800 221850
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7NE (S)	243	1	454950 220850

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (SE)	245	1	455500 220800
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A16NE (NE)	258	1	455700 221900
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(NE)	295	1	455900 221850
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (E)	334	1	455800 220950
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A16NE (NE)	335	1	455650 222000
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(NE)	339	1	456000 221800
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16NE (NE)	401	1	455800 222050
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16NW (NE)	404	1	455550 222100
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (SE)	427	1	455550 220700
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A16NE (NE)	428	1	455650 222100
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(NE)	451	1	456100 221850
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(NE)	474	1	456150 221800
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Limited Potential for Groundwater Flooding to Occur	(NW)	487	1	454400 222350
	<b>BGS Groundwater Flooding Susceptibility</b> Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(E)	498	1	456150 221250
1	<b>Discharge Consents</b> Operator: W I G Engineering Ltd Property Type: REAL ESTATE ACTIVITIES/BUYING/SELLING/RENTING Location: Barnfield Farm Akeman Street, Chesterton, Nr Bicester, Oxon Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Cawm.0442 Permit Version: 1 Effective Date: 6th March 2002 Issued Date: 4th September 2002 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Tributary Of Gaggle Brook <b>Status: New Consent (Water Resources Act 1991, Section 88 &amp; Schedule 10 as amended by Environment Act 1995)</b> Positional Accuracy: Located by supplier to within 10m	A12SW (E)	0	2	455370 221160

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	<p><b>Discharge Consents</b></p> <p>Operator: Thames Water Utilities Ltd  Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY)  Location: Bignell View  Authority: Environment Agency, Thames Region  Catchment Area: Not Supplied  Reference: Temp.0447  Permit Version: 1  Effective Date: 2nd November 1989  Issued Date: 2nd November 1989  Revocation Date: 26th November 2002  Discharge Type: Sewage Discharges - Pumping Station - Water Company  Discharge: Freshwater Stream/River  Environment:  Receiving Water: Gagle Brook  <b>Status: Revoked (Water Resources Act 1991, Section 88 &amp; Schedule 10 as amended by Environment Act 1995)</b>  Positional Accuracy: Located by supplier to within 100m</p>	A16NE (NE)	290	2	455800 221900
	<p><b>Nearest Surface Water Feature</b></p>	A12NW (E)	0	-	455431 221363
3	<p><b>Pollution Incidents to Controlled Waters</b></p> <p>Property Type: Not Given  Location: LITTLE CHESTERTON  Authority: Environment Agency, Thames Region  Pollutant: Storm Sewage  Note: Not Supplied  Incident Date: 31st October 1998  Incident Reference: THWE1998041388  Catchment Area: Not Given  Receiving Water: Not Given  Cause of Incident: Not Given  Incident Severity: Category 3 - Minor Incident  Positional Accuracy: Located by supplier to within 100m</p>	A8SE (SE)	910	2	455800 220300
	<p><b>Groundwater Vulnerability</b></p> <p>Soil Classification: Soils of High Leaching Potential (H3)- Coarse textured or moderately shallow soils which readily transmit non-absorbed pollutants and liquid discharges but which have some ability to attenuate absorbed pollutants because of their large clay or organic matter contents  Map Sheet: Sheet 30 Northern Cotswolds  Scale: 1:100,000</p>	A11NE (NW)	0	2	454879 221227
	<p><b>Drift Deposits</b></p> <p>None</p>				
	<p><b>Bedrock Aquifer Designations</b></p> <p>Aquifer Designation: Secondary Aquifer - A</p>	A11NE (NW)	0	1	454879 221227
	<p><b>Bedrock Aquifer Designations</b></p> <p>Aquifer Designation: Secondary Aquifer - A</p>	A11NE (E)	0	1	455000 221227
	<p><b>Superficial Aquifer Designations</b></p> <p>No Data Available</p>				
	<p><b>Extreme Flooding from Rivers or Sea without Defences</b></p> <p>None</p>				
	<p><b>Flooding from Rivers or Sea without Defences</b></p> <p>None</p>				
	<p><b>Areas Benefiting from Flood Defences</b></p> <p>None</p>				
	<p><b>Flood Water Storage Areas</b></p> <p>None</p>				
	<p><b>Flood Defences</b></p> <p>None</p>				
4	<p><b>OS Water Network Lines</b></p> <p>Watercourse Form: Inland river  Watercourse Length: 20.2  Watercourse Level: On ground surface  Permanent: True  Watercourse Name: Not Supplied  Catchment Name: Thames  Primacy: 1</p>	A12NW (E)	0	3	455431 221363

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 67.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A12NW (E)	0	3	455451 221358
6	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 51.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A12NW (E)	0	3	455516 221340
7	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 25.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A12NE (E)	0	3	455566 221329
8	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 33.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A12NE (E)	0	3	455591 221323
9	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 42.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A15SE (NE)	0	3	455102 221595
10	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 21.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16SW (NE)	0	3	455217 221674
11	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 157.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A15SE (N)	0	3	454994 221671
12	<b>OS Water Network Lines</b> Watercourse Form: Lake Watercourse Length: 27.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A15SE (NE)	0	3	455200 221676
13	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 26.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A15SE (NE)	0	3	455173 221695

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 5.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A15SE (NE)	0	3	455166 221697
15	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 1.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A15SE (NE)	0	3	455171 221694
16	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 10.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A15SE (NE)	0	3	455166 221697
17	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 39.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A15SE (NE)	0	3	455131 221715
18	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 3.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A15SE (NE)	0	3	455170 221706
19	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 3.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A15SE (NE)	0	3	455131 221715
20	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 72.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A15SE (NE)	0	3	455171 221710
21	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 133.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A15SE (NE)	0	3	455124 221719
22	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 265.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A12NE (E)	1	3	455623 221316

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
23	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 241.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A12SE (E)	2	3	455555 221174
24	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 12.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16SE (E)	9	3	455720 221563
25	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 145.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A12SW (E)	81	3	455544 221071
26	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 133.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16SW (NE)	96	3	455353 221789
27	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 10.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NW (NE)	209	3	455419 221906
28	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 246.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A12SW (SE)	215	3	455515 220951
29	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 61.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NW (NE)	219	3	455424 221916
30	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 29.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NW (NE)	270	3	455454 221969
31	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 141.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NW (NE)	270	3	455323 222021



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
32	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 549.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A11SW (SW)	276	3	454608 220960
33	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 1478.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Gagle Brook Catchment Name: Thames Primacy: 1	A16NE (NE)	279	3	455715 221949
34	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 77.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NW (NE)	280	3	455260 222045
35	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 66.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NW (NE)	292	3	455261 222045
36	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 175.1 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NW (NE)	295	3	455469 221995
37	<b>OS Water Network Lines</b> Watercourse Form: Lake Watercourse Length: 108.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NE (NE)	324	3	455716 221974
38	<b>OS Water Network Lines</b> Watercourse Form: Lake Watercourse Length: 117.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NE (NE)	337	3	455710 221983
39	<b>OS Water Network Lines</b> Watercourse Form: Lake Watercourse Length: 111.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 2	A16NE (NE)	337	3	455713 221981
40	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 123.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A11SW (SW)	340	3	454547 221026

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
41	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 124.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A11SW (SW)	340	3	454543 221032
42	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 153.4 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A7NE (S)	366	3	454982 220731
43	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 205.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A10SE (W)	379	3	454474 221128
44	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 204.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A10SE (W)	379	3	454474 221128
45	<b>OS Water Network Lines</b> Watercourse Form: Lake Watercourse Length: 46.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NE (NE)	387	3	455696 222038
46	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 44.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NE (NE)	389	3	455630 222065
47	<b>OS Water Network Lines</b> Watercourse Form: Lake Watercourse Length: 17.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NE (NE)	426	3	455683 222085
48	<b>OS Water Network Lines</b> Watercourse Form: Lake Watercourse Length: 27.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 2	A16NE (NE)	426	3	455683 222085
49	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 23.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Gagle Brook Catchment Name: Thames Primacy: 1	A16NE (NE)	428	3	455658 222097

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
50	<b>OS Water Network Lines</b> Watercourse Form: Lake Watercourse Length: 33.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NE (NE)	429	3	455725 222074
51	<b>OS Water Network Lines</b> Watercourse Form: Lake Watercourse Length: 17.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NE (NE)	439	3	455675 222103
52	<b>OS Water Network Lines</b> Watercourse Form: Lake Watercourse Length: 35.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NE (NE)	439	3	455678 222101
53	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 7.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NE (NE)	447	3	455668 222114
54	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 29.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Gagle Brook Catchment Name: Thames Primacy: 1	A16NE (NE)	451	3	455662 222120
55	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 67.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8NE (SE)	459	3	455590 220716
56	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 16.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NE (NE)	477	3	455653 222151
57	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 33.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Gagle Brook Catchment Name: Thames Primacy: 1	A16NE (NE)	477	3	455657 222149
58	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 32.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A7NE (S)	497	3	455081 220614

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
59	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 46.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8NE (SE)	500	3	455622 220672
60	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 7.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NE (NE)	502	3	455645 222178
61	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 19.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Gagle Brook Catchment Name: Thames Primacy: 1	A16NE (NE)	505	3	455652 222179
62	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 529.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Gagle Brook Catchment Name: Thames Primacy: 1	A16NE (NE)	511	3	455636 222190
63	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 9.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NE (NE)	522	3	455651 222197
64	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 174.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8NE (SE)	524	3	455614 220655
65	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 1127.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A7NE (S)	526	3	455103 220590
66	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 26.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NE (NE)	530	3	455650 222206
67	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 161.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A16NE (NE)	530	3	455650 222206

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
68	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 311.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8NE (SE)	632	3	455699 220526
69	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 23.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8SE (SE)	680	3	455667 220495
70	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 101.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8SE (SE)	690	3	455667 220495
71	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 397.2 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A6NE (SW)	751	3	454316 220585
72	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 316.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A6NE (SW)	763	3	454286 220612
73	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 97.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8SE (SE)	790	3	455696 220399
74	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 306.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A7SW (S)	796	3	454586 220348
75	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 106.3 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8SE (SE)	886	3	455728 220307
76	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 3.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A6NW (SW)	889	3	454048 220786

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
77	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 5.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A6NW (SW)	889	3	454048 220786
78	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 165.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A7SE (S)	902	3	455092 220206
79	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 117.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A3NE (S)	923	3	454932 220165
80	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 153.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8SW (SE)	931	3	455498 220208
81	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 14.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8SW (SE)	946	3	455484 220203
82	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 240.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8SW (SE)	949	3	455484 220203
83	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 35.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A3NW (S)	955	3	454819 220133
84	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 11.2 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A3NW (S)	955	3	454819 220133
85	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 546.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A3NW (S)	965	3	454825 220123

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
86	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 40.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A3NW (S)	969	3	454785 220122
87	<b>OS Water Network Lines</b> Watercourse Form: Inland river Watercourse Length: 31.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Thames Primacy: 1	A8SE (SE)	989	3	455722 220201

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>Local Authority Landfill Coverage</b> Name: Cherwell District Council - Has supplied landfill data		0	4	454879 221227
	<b>Local Authority Landfill Coverage</b> Name: Oxfordshire County Council - Has supplied landfill data		0	5	454879 221227
88	<b>Potentially Infilled Land (Non-Water)</b> Bearing Ref: N Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1996	A15SE (N)	0	-	455040 221835
89	<b>Potentially Infilled Land (Non-Water)</b> Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1996	A12SE (E)	81	-	455647 221171
90	<b>Potentially Infilled Land (Non-Water)</b> Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A13SE (NW)	892	-	453840 221675
91	<b>Potentially Infilled Land (Water)</b> Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1955	A8SE (SE)	976	-	455884 220257



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>BGS 1:625,000 Solid Geology</b> Description: Great Oolite Group	A11NE (NW)	0	1	454879 221227
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A11NW (W)	0	1	454857 221219
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 30 - 45 mg/kg	A11NE (NW)	0	1	454879 221227
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A11NE (E)	0	1	454910 221237
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A15NE (N)	106	1	455000 221986
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A16NE (NE)	343	1	455610 222031
	<b>BGS Estimated Soil Chemistry</b> Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8NE (SE)	376	1	455713 220723

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p><b>BGS Estimated Soil Chemistry</b></p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic &lt;15 mg/kg</p> <p>Concentration:</p> <p>Cadmium &lt;1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: &lt;100 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A8SW (SE)	606	1	455429 220505
	<p><b>BGS Estimated Soil Chemistry</b></p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium &lt;1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 90 - 120 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: &lt;100 mg/kg</p> <p>Nickel 30 - 45 mg/kg</p> <p>Concentration:</p>	A8SE (SE)	796	1	455692 220391
	<p><b>BGS Estimated Soil Chemistry</b></p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic &lt;15 mg/kg</p> <p>Concentration:</p> <p>Cadmium &lt;1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 60 - 90 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: &lt;100 mg/kg</p> <p>Nickel 15 - 30 mg/kg</p> <p>Concentration:</p>	A7SE (S)	849	1	455033 220250
	<p><b>BGS Estimated Soil Chemistry</b></p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium &lt;1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 90 - 120 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: &lt;100 mg/kg</p> <p>Nickel 30 - 45 mg/kg</p> <p>Concentration:</p>	A8SW (S)	885	1	455219 220250
	<p><b>BGS Estimated Soil Chemistry</b></p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Soil Sample Type: Rural Soil</p> <p>Arsenic 15 - 25 mg/kg</p> <p>Concentration:</p> <p>Cadmium &lt;1.8 mg/kg</p> <p>Concentration:</p> <p>Chromium 90 - 120 mg/kg</p> <p>Concentration:</p> <p>Lead Concentration: &lt;100 mg/kg</p> <p>Nickel 30 - 45 mg/kg</p> <p>Concentration:</p>	A3NE (S)	936	1	454907 220150
92	<p><b>BGS Recorded Mineral Sites</b></p> <p>Site Name: Chesterton Belt</p> <p>Location: Chesterton, Oxford, Oxfordshire</p> <p>Source: British Geological Survey, National Geoscience Information Service</p> <p>Reference: 57367</p> <p>Type: Opencast</p> <p><b>Status: Ceased</b></p> <p>Operator: Not Supplied</p> <p>Operator Location: Not Supplied</p> <p>Periodic Type: Jurassic</p> <p>Geology: Cornbrash Formation</p> <p>Commodity: Limestone</p> <p>Positional Accuracy: Located by supplier to within 10m</p>	A15SE (N)	0	1	455041 221824

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
93	<b>BGS Recorded Mineral Sites</b> Site Name: Chesterton Location: Chesterton, Bicester, Oxfordshire Source: British Geological Survey, National Geoscience Information Service Reference: 10917 Type: Opencast <b>Status: Ceased</b> Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Jurassic Geology: Cornbrash Formation Commodity: Limestone Positional Accuracy: Approximate location provided by supplier	A15NE (N)	119	1	455000 222000
94	<b>BGS Recorded Mineral Sites</b> Site Name: Simm'S Farm Location: Simms Farm, Chesterton, Oxford, Oxfordshire Source: British Geological Survey, National Geoscience Information Service Reference: 57391 Type: Opencast <b>Status: Ceased</b> Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Jurassic Geology: Cornbrash Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A13SE (NW)	939	1	453795 221707
	<b>BGS Measured Urban Soil Chemistry</b> No data available				
	<b>BGS Urban Soil Chemistry Averages</b> No data available				
	<b>Coal Mining Affected Areas</b> In an area that might not be affected by coal mining				
	<b>Non Coal Mining Areas of Great Britain</b> No Hazard				
	<b>Potential for Collapsible Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11NE (NW)	0	1	454879 221227
	<b>Potential for Collapsible Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11NE (E)	0	1	455000 221227
	<b>Potential for Compressible Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11NE (NW)	0	1	454879 221227
	<b>Potential for Compressible Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11NE (E)	0	1	455000 221227
	<b>Potential for Compressible Ground Stability Hazards</b> Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A15NE (N)	28	1	455000 221895
	<b>Potential for Compressible Ground Stability Hazards</b> Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A15SE (N)	28	1	455060 221866
	<b>Potential for Ground Dissolution Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A15SE (N)	0	1	454993 221697
	<b>Potential for Ground Dissolution Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A15SE (NE)	0	1	455135 221616
	<b>Potential for Ground Dissolution Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11NE (NW)	0	1	454879 221227
	<b>Potential for Ground Dissolution Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11NW (W)	0	1	454857 221219
	<b>Potential for Ground Dissolution Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11NE (E)	0	1	455000 221227

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>Potential for Ground Dissolution Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A15NE (N)	36	1	455000 221904
	<b>Potential for Ground Dissolution Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A15NE (N)	36	1	455046 221882
	<b>Potential for Ground Dissolution Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	121	1	455000 220981
	<b>Potential for Ground Dissolution Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A16NW (NE)	186	1	455436 222020
	<b>Potential for Landslide Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11NE (NW)	0	1	454879 221227
	<b>Potential for Landslide Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11NE (E)	0	1	455000 221227
	<b>Potential for Running Sand Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11NE (NW)	0	1	454879 221227
	<b>Potential for Running Sand Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11NE (E)	0	1	455000 221227
	<b>Potential for Running Sand Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A15NE (N)	28	1	455000 221895
	<b>Potential for Running Sand Ground Stability Hazards</b> Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A15SE (N)	28	1	455060 221866
	<b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11NE (NW)	0	1	454879 221227
	<b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b> Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11NE (E)	0	1	455000 221227
	<b>Radon Potential - Radon Affected Areas</b> Affected Area: The property is in an Intermediate probability radon area (1 to 3% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A11NE (NW)	0	1	454879 221227
	<b>Radon Potential - Radon Affected Areas</b> Affected Area: The property is in an Intermediate probability radon area (1 to 3% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A15SE (NE)	0	1	455075 221550
	<b>Radon Potential - Radon Affected Areas</b> Affected Area: The property is in an Intermediate probability radon area (1 to 3% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	0	1	455000 221175
	<b>Radon Potential - Radon Affected Areas</b> Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A11NE (E)	0	1	454975 221250
	<b>Radon Potential - Radon Affected Areas</b> Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A11NE (E)	0	1	455000 221227
	<b>Radon Potential - Radon Protection Measures</b> Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A11NE (NW)	0	1	454879 221227
	<b>Radon Potential - Radon Protection Measures</b> Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A15SE (NE)	0	1	455075 221550

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>Radon Potential - Radon Protection Measures</b> Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A11SE (SE)	0	1	455000 221175
	<b>Radon Potential - Radon Protection Measures</b> Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A11NE (E)	0	1	454975 221250
	<b>Radon Potential - Radon Protection Measures</b> Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A11NE (E)	0	1	455000 221227

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
95	<p><b>Contemporary Trade Directory Entries</b></p> <p>Name: Pfi Systems Ltd            Location: Parkside, Chesterton, Bicester, Oxfordshire, OX26 1UF            Classification: Medical Equipment Manufacturers  <b>Status: Inactive</b>            Positional Accuracy: Automatically positioned to the address</p>	A16SE (NE)	258	-	455830 221852
96	<p><b>Contemporary Trade Directory Entries</b></p> <p>Name: Seahawes.Com            Location: Little Chesterton, Bicester, Oxfordshire, OX25 3PD            Classification: Reclamation Centres  <b>Status: Inactive</b>            Positional Accuracy: Manually positioned within the geographical locality</p>	A8SE (SE)	922	-	455784 220283
97	<p><b>Contemporary Trade Directory Entries</b></p> <p>Name: P J May            Location: 2, Grange Farm Cottage, Little Chesterton, Bicester, Oxfordshire, OX25 3PD            Classification: Commercial Vehicle Dealers  <b>Status: Inactive</b>            Positional Accuracy: Automatically positioned to the address</p>	A8SE (SE)	949	-	455833 220269
98	<p><b>Points of Interest - Manufacturing and Production</b></p> <p>Name: Sheep Wash            Location: OX26            Category: Farming            Class Code: Sheep Dips and Washes            Positional Accuracy: Positioned to address or location</p>	A15NE (N)	373	6	455158 222202
99	<p><b>Points of Interest - Manufacturing and Production</b></p> <p>Name: J D Farms            Location: Simms Farm, Chesterton, Bicester, OX26 1TA            Category: Farming            Class Code: Arable Farming            Positional Accuracy: Positioned to address or location</p>	A13SE (NW)	969	6	453756 221812
99	<p><b>Points of Interest - Manufacturing and Production</b></p> <p>Name: J D Farms            Location: Simms Farm Cottage, Chesterton, Bicester, OX26 1TA            Category: Farming            Class Code: Livestock Farming            Positional Accuracy: Positioned to address or location</p>	A13SE (NW)	987	6	453738 221808

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
100	<p><b>Nitrate Vulnerable Zones</b></p> <p>Name: Cherwell (Ray To Thames) And Woodeaton Brook Nvz</p> <p>Description: Surface Water</p> <p>Source: Environment Agency, Head Office</p>	A11NE (NW)	0	9	454879 221227

Agency & Hydrological	Version	Update Cycle
<b>Contaminated Land Register Entries and Notices</b> Cherwell District Council - Environmental Health Department	October 2014	Annual Rolling Update
<b>Discharge Consents</b> Environment Agency - Thames Region	October 2017	Quarterly
<b>Enforcement and Prohibition Notices</b> Environment Agency - Thames Region	March 2013	As notified
<b>Integrated Pollution Controls</b> Environment Agency - Thames Region	October 2008	Variable
<b>Integrated Pollution Prevention And Control</b> Environment Agency - South East Region - West Thames Area Environment Agency - Thames Region	October 2017 October 2017	Quarterly Quarterly
<b>Local Authority Integrated Pollution Prevention And Control</b> Cherwell District Council - Environmental Health Department	October 2014	Variable
<b>Local Authority Pollution Prevention and Controls</b> Cherwell District Council - Environmental Health Department	October 2014	Annual Rolling Update
<b>Local Authority Pollution Prevention and Control Enforcements</b> Cherwell District Council - Environmental Health Department	October 2014	Variable
<b>Nearest Surface Water Feature</b> Ordnance Survey	September 2017	
<b>Pollution Incidents to Controlled Waters</b> Environment Agency - Thames Region	September 1999	Not Applicable
<b>Prosecutions Relating to Authorised Processes</b> Environment Agency - Thames Region	March 2013	As notified
<b>Prosecutions Relating to Controlled Waters</b> Environment Agency - Thames Region	March 2013	As notified
<b>Registered Radioactive Substances</b> Environment Agency - Thames Region	January 2015	
<b>River Quality</b> Environment Agency - Head Office	November 2001	Not Applicable
<b>River Quality Biology Sampling Points</b> Environment Agency - Head Office	July 2012	Annually
<b>River Quality Chemistry Sampling Points</b> Environment Agency - Head Office	July 2012	Annually
<b>Substantiated Pollution Incident Register</b> Environment Agency - South East Region - West Thames Area Environment Agency - Thames Region - West Area	October 2017 October 2017	Quarterly Quarterly
<b>Water Abstractions</b> Environment Agency - Thames Region	October 2017	Quarterly
<b>Water Industry Act Referrals</b> Environment Agency - Thames Region	October 2017	Quarterly
<b>Groundwater Vulnerability</b> Environment Agency - Head Office	April 2015	Not Applicable
<b>Drift Deposits</b> Environment Agency - Head Office	January 1999	Not Applicable
<b>Bedrock Aquifer Designations</b> British Geological Survey - National Geoscience Information Service	August 2015	As notified
<b>Superficial Aquifer Designations</b> British Geological Survey - National Geoscience Information Service	August 2015	As notified
<b>Source Protection Zones</b> Environment Agency - Head Office	October 2017	Quarterly



Agency & Hydrological	Version	Update Cycle
<b>Extreme Flooding from Rivers or Sea without Defences</b> Environment Agency - Head Office	November 2017	Quarterly
<b>Flooding from Rivers or Sea without Defences</b> Environment Agency - Head Office	November 2017	Quarterly
<b>Areas Benefiting from Flood Defences</b> Environment Agency - Head Office	November 2017	Quarterly
<b>Flood Water Storage Areas</b> Environment Agency - Head Office	November 2017	Quarterly
<b>Flood Defences</b> Environment Agency - Head Office	November 2017	Quarterly
<b>OS Water Network Lines</b> Ordnance Survey	October 2017	Quarterly
<b>Surface Water 1 in 30 year Flood Extent</b> Environment Agency - Head Office	October 2013	As notified
<b>Surface Water 1 in 100 year Flood Extent</b> Environment Agency - Head Office	October 2013	As notified
<b>Surface Water 1 in 1000 year Flood Extent</b> Environment Agency - Head Office	October 2013	As notified
<b>Surface Water Suitability</b> Environment Agency - Head Office	October 2013	As notified
<b>BGS Groundwater Flooding Susceptibility</b> British Geological Survey - National Geoscience Information Service	May 2013	As notified

Waste	Version	Update Cycle
<b>BGS Recorded Landfill Sites</b> British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
<b>Historical Landfill Sites</b> Environment Agency - Head Office	October 2017	Quarterly
<b>Integrated Pollution Control Registered Waste Sites</b> Environment Agency - Thames Region	October 2008	Not Applicable
<b>Licensed Waste Management Facilities (Landfill Boundaries)</b> Environment Agency - South East Region - West Thames Area Environment Agency - Thames Region - West Area	October 2017 October 2017	Quarterly Quarterly
<b>Licensed Waste Management Facilities (Locations)</b> Environment Agency - South East Region - West Thames Area Environment Agency - Thames Region - West Area	October 2017 October 2017	Quarterly Quarterly
<b>Local Authority Landfill Coverage</b> Cherwell District Council - Environmental Health Department Oxfordshire County Council	May 2000 May 2000	Not Applicable Not Applicable
<b>Local Authority Recorded Landfill Sites</b> Cherwell District Council - Environmental Health Department Oxfordshire County Council	May 2000 May 2000	Not Applicable Not Applicable
<b>Potentially Infilled Land (Non-Water)</b> Landmark Information Group Limited	December 1999	Not Applicable
<b>Potentially Infilled Land (Water)</b> Landmark Information Group Limited	December 1999	Not Applicable
<b>Registered Landfill Sites</b> Environment Agency - Thames Region - West Area	March 2003	Not Applicable
<b>Registered Waste Transfer Sites</b> Environment Agency - Thames Region - West Area	March 2003	Not Applicable
<b>Registered Waste Treatment or Disposal Sites</b> Environment Agency - Thames Region - West Area	March 2003	Not Applicable
Hazardous Substances	Version	Update Cycle
<b>Control of Major Accident Hazards Sites (COMAH)</b> Health and Safety Executive	September 2017	Bi-Annually
<b>Explosive Sites</b> Health and Safety Executive	March 2017	Variable
<b>Notification of Installations Handling Hazardous Substances (NIHHS)</b> Health and Safety Executive	November 2000	Not Applicable
<b>Planning Hazardous Substance Enforcements</b> Cherwell District Council Oxfordshire County Council	February 2016 February 2016	Variable Variable
<b>Planning Hazardous Substance Consents</b> Cherwell District Council Oxfordshire County Council	February 2016 February 2016	Variable Variable

Geological	Version	Update Cycle
<b>BGS 1:625,000 Solid Geology</b> British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
<b>BGS Estimated Soil Chemistry</b> British Geological Survey - National Geoscience Information Service	October 2015	As notified
<b>BGS Recorded Mineral Sites</b> British Geological Survey - National Geoscience Information Service	November 2017	Bi-Annually
<b>CBSCB Compensation District</b> Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
<b>Coal Mining Affected Areas</b> The Coal Authority - Property Searches	March 2014	As notified
<b>Mining Instability</b> Ove Arup & Partners	October 2000	Not Applicable
<b>Non Coal Mining Areas of Great Britain</b> British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
<b>Potential for Collapsible Ground Stability Hazards</b> British Geological Survey - National Geoscience Information Service	June 2015	As notified
<b>Potential for Compressible Ground Stability Hazards</b> British Geological Survey - National Geoscience Information Service	June 2015	As notified
<b>Potential for Ground Dissolution Stability Hazards</b> British Geological Survey - National Geoscience Information Service	June 2015	As notified
<b>Potential for Landslide Ground Stability Hazards</b> British Geological Survey - National Geoscience Information Service	June 2015	As notified
<b>Potential for Running Sand Ground Stability Hazards</b> British Geological Survey - National Geoscience Information Service	June 2015	As notified
<b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b> British Geological Survey - National Geoscience Information Service	June 2015	As notified
<b>Radon Potential - Radon Affected Areas</b> British Geological Survey - National Geoscience Information Service	July 2011	As notified
<b>Radon Potential - Radon Protection Measures</b> British Geological Survey - National Geoscience Information Service	July 2011	As notified
Industrial Land Use	Version	Update Cycle
<b>Contemporary Trade Directory Entries</b> Thomson Directories	November 2017	Quarterly
<b>Fuel Station Entries</b> Catalist Ltd - Experian	November 2017	Quarterly
<b>Gas Pipelines</b> National Grid	July 2014	Quarterly
<b>Points of Interest - Commercial Services</b> PointX	December 2017	Quarterly
<b>Points of Interest - Education and Health</b> PointX	December 2017	Quarterly
<b>Points of Interest - Manufacturing and Production</b> PointX	December 2017	Quarterly
<b>Points of Interest - Public Infrastructure</b> PointX	December 2017	Quarterly
<b>Points of Interest - Recreational and Environmental</b> PointX	December 2017	Quarterly
<b>Underground Electrical Cables</b> National Grid	December 2015	Bi-Annually

Sensitive Land Use	Version	Update Cycle
<b>Ancient Woodland</b> Natural England	October 2017	Bi-Annually
<b>Areas of Adopted Green Belt</b> Cherwell District Council	November 2017	As notified
<b>Areas of Unadopted Green Belt</b> Cherwell District Council	November 2017	As notified
<b>Areas of Outstanding Natural Beauty</b> Natural England	August 2017	Bi-Annually
<b>Environmentally Sensitive Areas</b> Natural England	January 2017	
<b>Forest Parks</b> Forestry Commission	April 1997	Not Applicable
<b>Local Nature Reserves</b> Natural England	August 2017	Bi-Annually
<b>Marine Nature Reserves</b> Natural England	August 2017	Bi-Annually
<b>National Nature Reserves</b> Natural England	August 2017	Bi-Annually
<b>National Parks</b> Natural England	August 2017	Bi-Annually
<b>Nitrate Vulnerable Zones</b> Environment Agency - Head Office Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	December 2017 October 2015	Bi-Annually
<b>Ramsar Sites</b> Natural England	August 2017	Bi-Annually
<b>Sites of Special Scientific Interest</b> Natural England	August 2017	Bi-Annually
<b>Special Areas of Conservation</b> Natural England	August 2017	Bi-Annually
<b>Special Protection Areas</b> Natural England	August 2017	Bi-Annually

A selection of organisations who provide data within this report


Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	 <b>British Geological Survey</b> NATURAL ENVIRONMENT RESEARCH COUNCIL
Centre for Ecology and Hydrology	 <b>Centre for Ecology &amp; Hydrology</b> NATURAL ENVIRONMENT RESEARCH COUNCIL
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Peter Brett Associates	

Contact	Name and Address	Contact Details
1	<b>British Geological Survey - Enquiry Service</b> British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	<b>Environment Agency - National Customer Contact Centre (NCCC)</b> PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	<b>Ordnance Survey</b> Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
4	<b>Cherwell District Council - Environmental Health Department</b> Bodicote House, Bodicote, Banbury, Oxfordshire, OX15 4AA	Telephone: 01295 252535 extn 4511 Fax: 01295 270028 Website: www.cherwell-dc.gov.uk
5	<b>Oxfordshire County Council</b> County Hall, New Road, Oxford, Oxfordshire, OX1 1ND	Telephone: 01865 792422 Fax: 01865 810106 Email: environmental.services@oxfordshire.gov.uk Website: www.oxfordshire.gov.uk
6	<b>PointX</b> 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
7	<b>Natural England</b> County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
8	<b>Cherwell District Council</b> Bodicote House, Bodicote, Banbury, Oxfordshire, OX15 4AA	Telephone: 01295 252535 Fax: 01295 270028 Website: www.cherwell-dc.gov.uk
9	<b>Environment Agency - Head Office</b> Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
-	<b>Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards</b> Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	<b>Landmark Information Group Limited</b> Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk




Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

## Geology 1:50,000 Maps Legends









### Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	WMGR	Infilled Ground	Artificial Deposit	Cenozoic - Cenozoic

### Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Flandrian - Flandrian
	RTD2	River Terrace Deposits, 2	Sand and Gravel	Quaternary - Quaternary
	RTD1	River Terrace Deposits, 1	Sand and Gravel	Quaternary - Quaternary

### Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	KLC	Kellaways Clay Member	Mudstone	Callovian - Callovian
	KLS	Kellaways Sand Member	Sandstone and Siltstone, Interbedded	Callovian - Callovian
	PET	Peterborough Member	Mudstone	Callovian - Callovian
	CB	Cornbrash Formation	Limestone	Callovian - Bathonian
	FMB	Forest Marble Formation	Limestone and Mudstone, Interbedded	Bathonian - Bathonian
	FMB	Forest Marble Formation	Limestone	Bathonian - Bathonian
	WHL	White Limestone Formation	Limestone	Bathonian - Bathonian
		Faults		

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### Geology 1:50,000 Maps

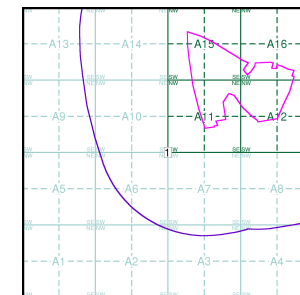
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

### Geology 1:50,000 Maps Coverage

Map ID:	1
Map Sheet No:	219
Map Name:	Buckingham
Map Date:	2002
Bedrock Geology:	Available
Superficial Geology:	Available
Artificial Geology:	Available
Faults:	Not Supplied
Landslip:	Available
Rock Segments:	Not Supplied

### Geology 1:50,000 Maps - Slice A



### Order Details:

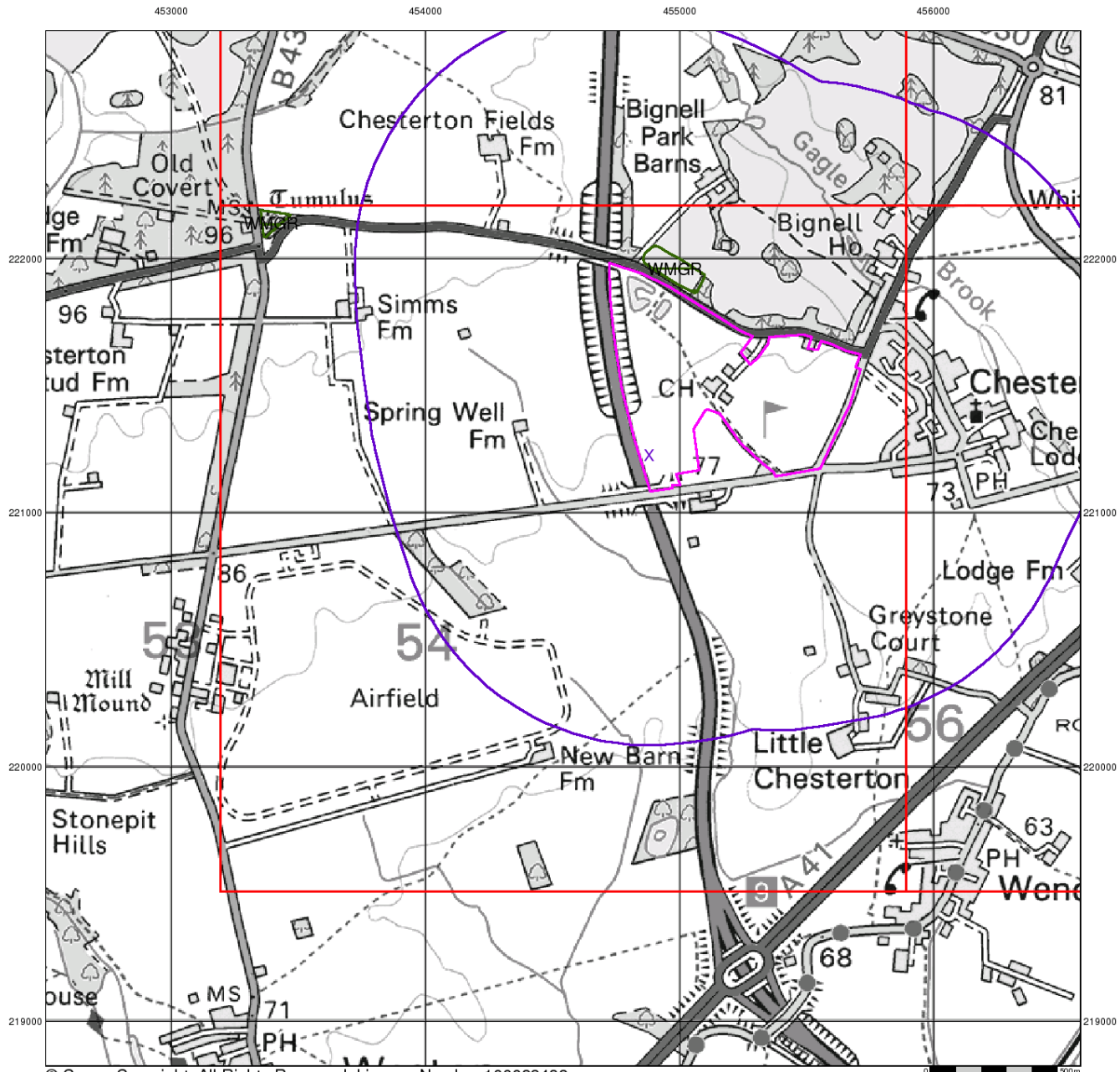
Order Number:	154470925_1_1
Customer Reference:	70042711
National Grid Reference:	454880, 221230
Slice:	A
Site Area (Ha):	49.74
Search Buffer (m):	1000

### Site Details:

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## Artificial Ground and Landslip

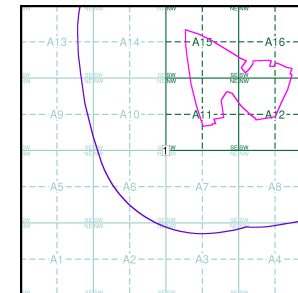
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

## Artificial Ground and Landslip Map - Slice A



### Order Details:

Order Number: 154470925\_1\_1  
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 National Grid Reference: 454880, 221230  
 Slice: A  
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 Search Buffer (m): 1000

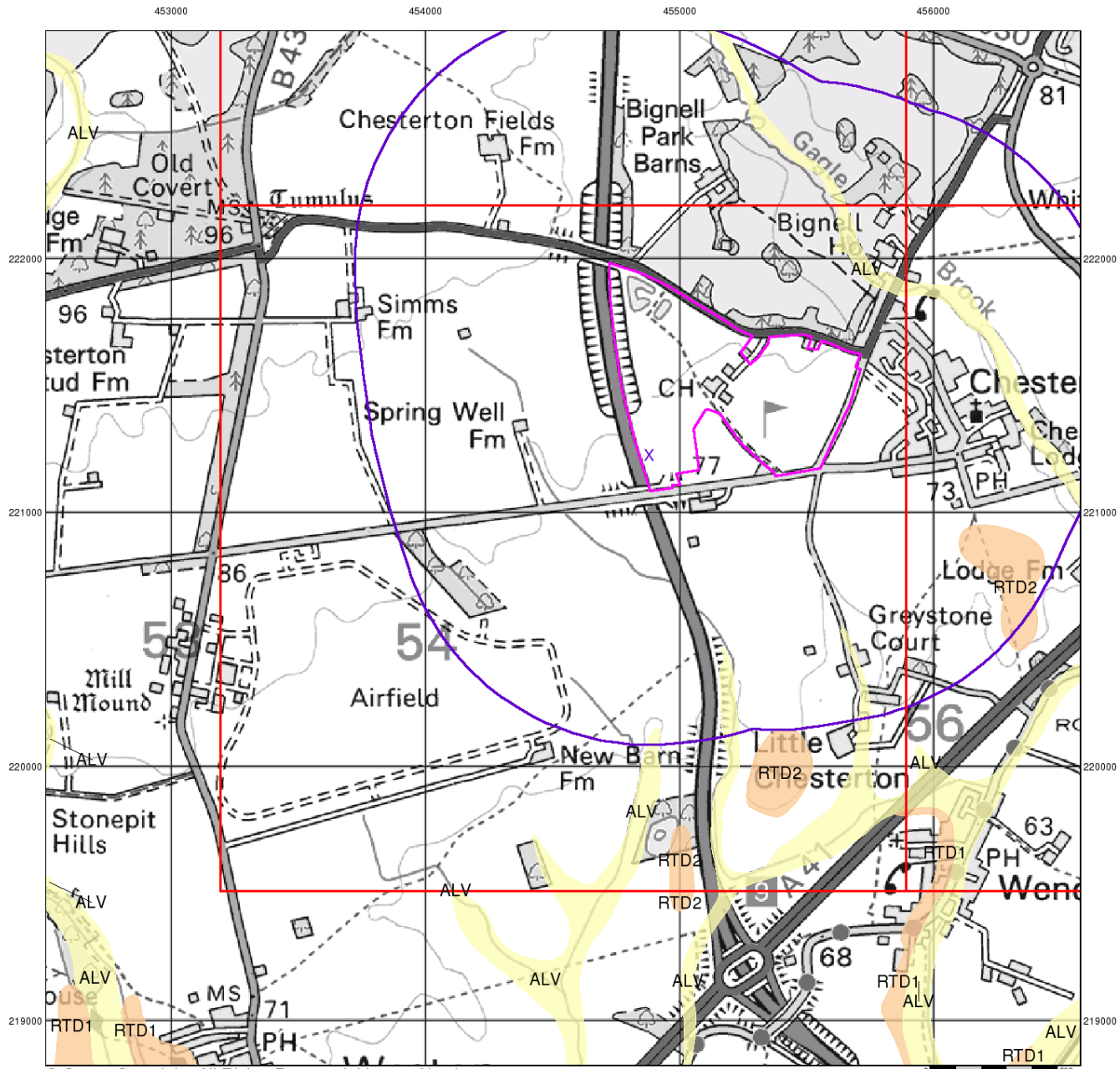
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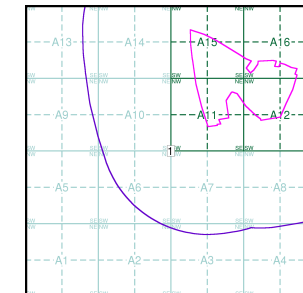
## Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

## Superficial Geology Map - Slice A



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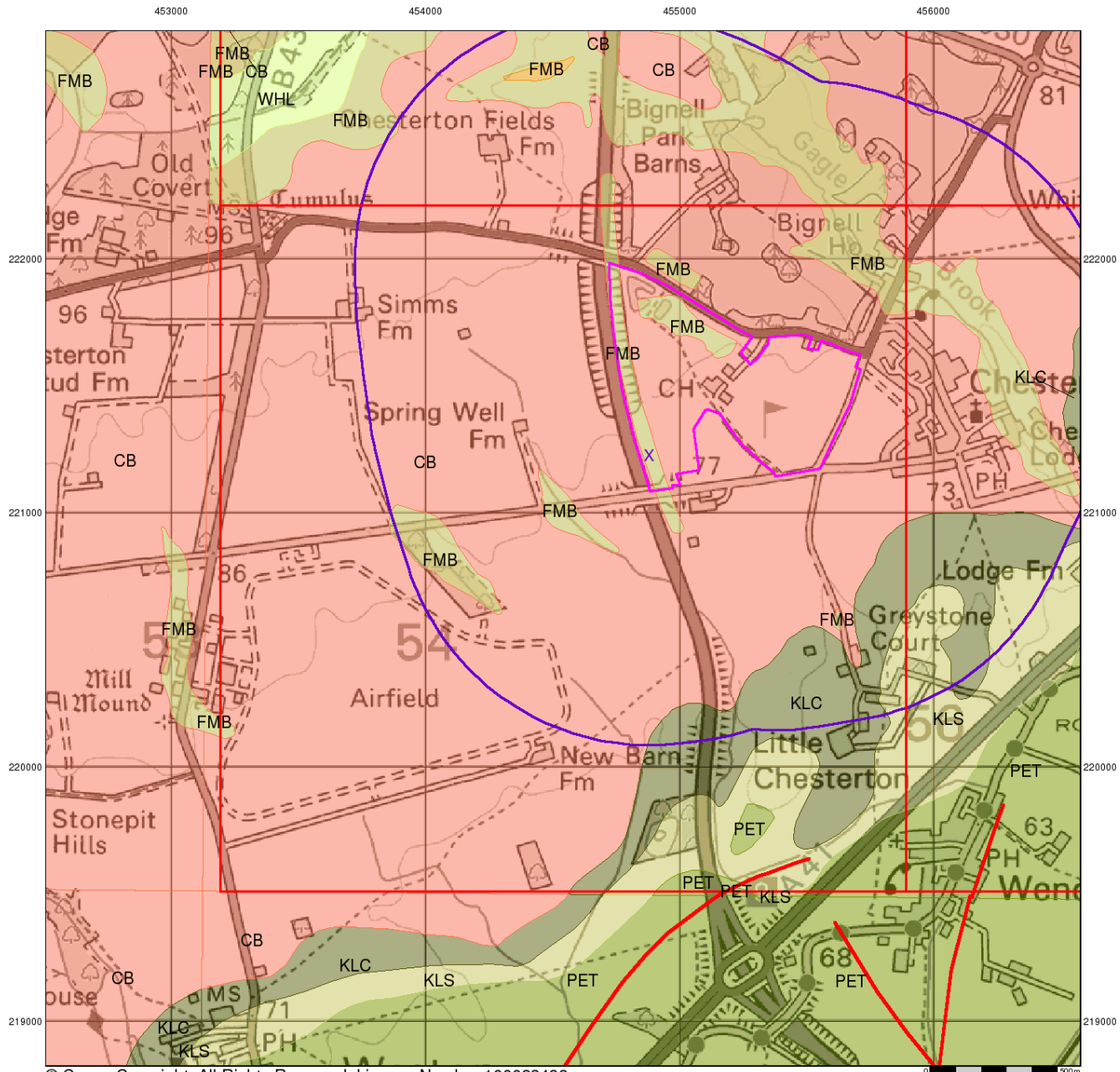
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## Bedrock and Faults

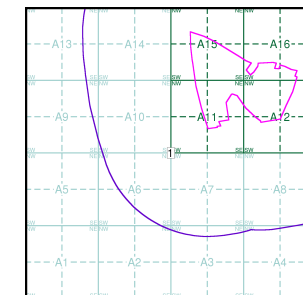
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

## Bedrock and Faults Map - Slice A



### Order Details:

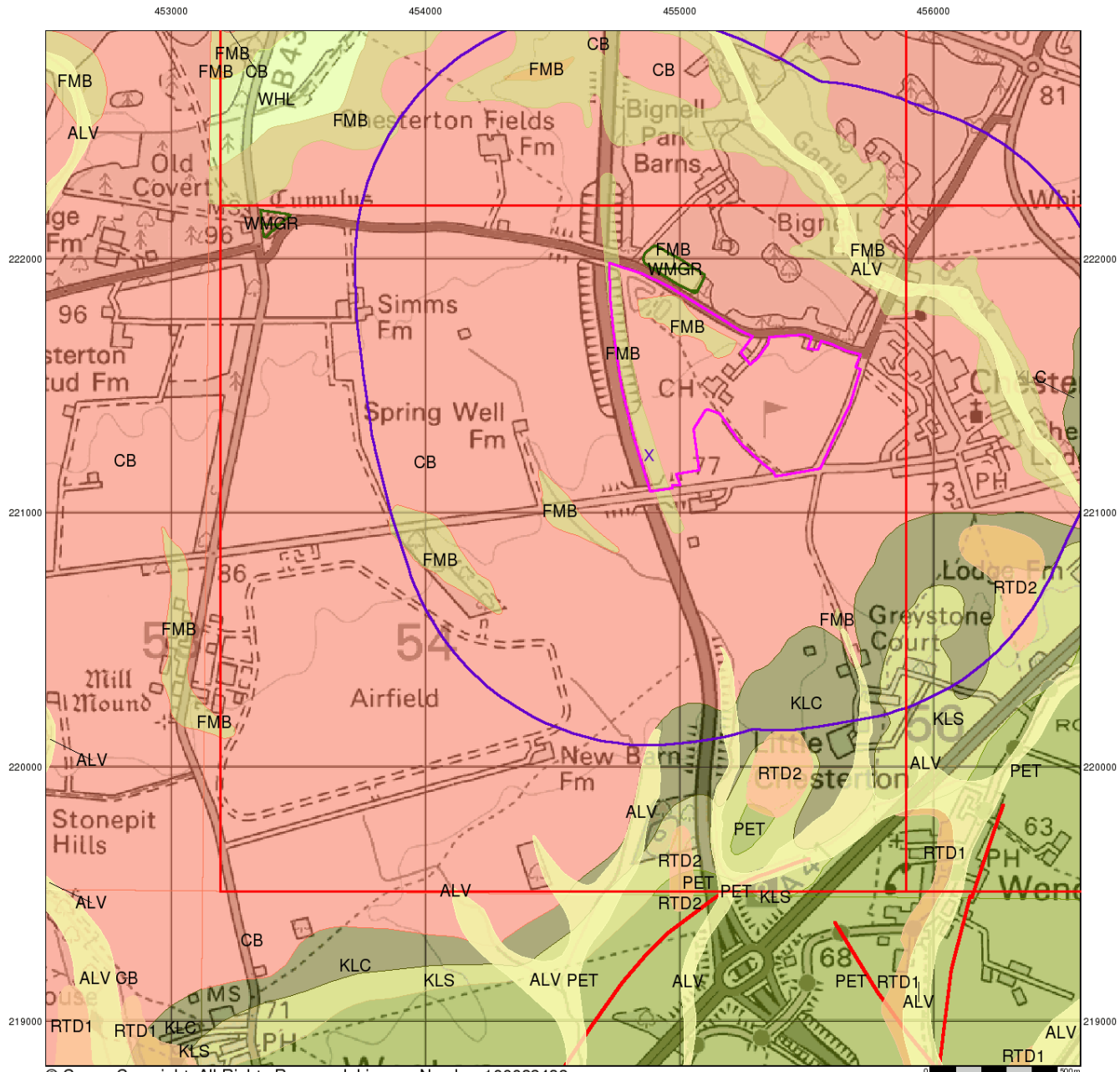
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 National Grid Reference: 454880, 221230  
 Slice: A  
 Site Area (Ha): 49.74  
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## Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

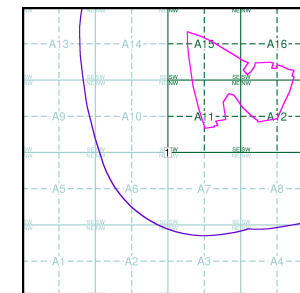
## Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

## Contact

British Geological Survey  
 Kingsley Dunham Centre  
 Keyworth  
 Nottingham  
 NG12 5GG  
 Telephone: 0115 936 3143  
 Fax: 0115 936 3276  
 email: enquiries@bgs.ac.uk  
 website: www.bgs.ac.uk

## Combined Geology Map - Slice A



## Order Details:

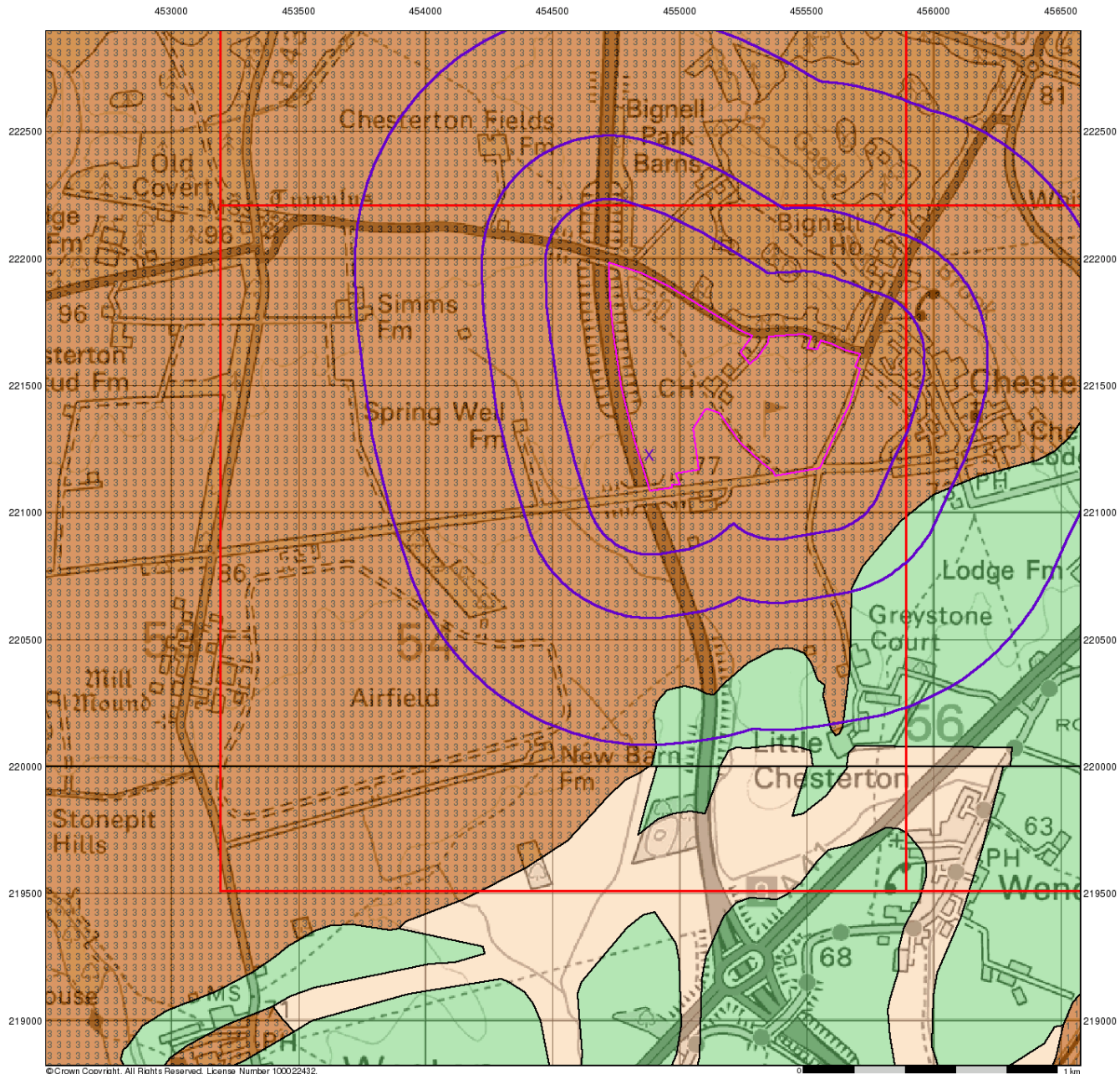
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 Customer Reference: 70042711  
 National Grid Reference: 454880, 221230  
 Slice: A  
 Site Area (Ha): 49.74  
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## Groundwater Vulnerability

### General

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

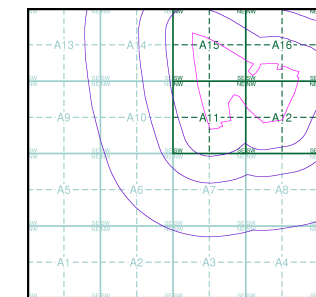
### Agency and Hydrological

#### Geological Classes

- Major Aquifer (Highly Permeable)**
  - High (H) 1, 2, 3, U
  - Intermediate (I) 1, 2
  - Low
- Minor Aquifer (Variably Permeable)**
  - High (H) 1, 2, 3, U
  - Intermediate (I) 1, 2
  - Low
- Non Aquifer (Negligibly Permeable)**
  -
- Water or Sea**
  -
- Drift Deposit**
  -

#### Soil Classes

### Site Sensitivity Context Map - Slice A



### Order Details

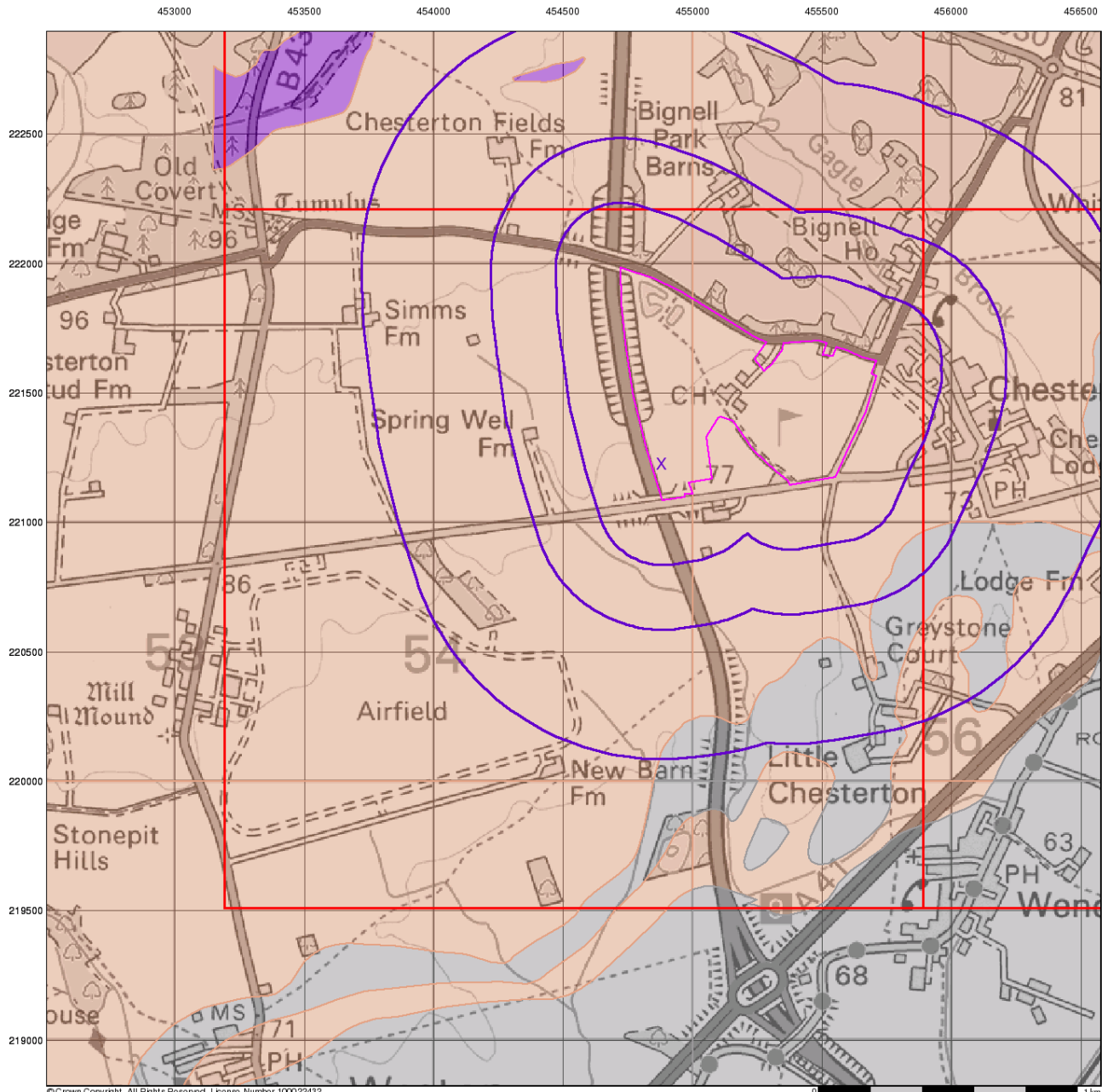
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 Customer Ref: 70042711  
 National Grid Reference: 454880, 221230  
 Slice: A  
 Site Area (Ha): 49.74  
 Search Buffer (m): 1000

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## Bedrock Aquifer Designation

### General

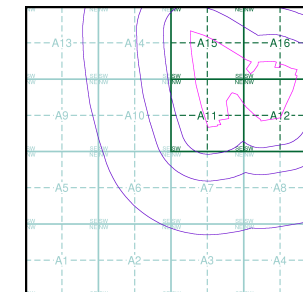
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

### 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

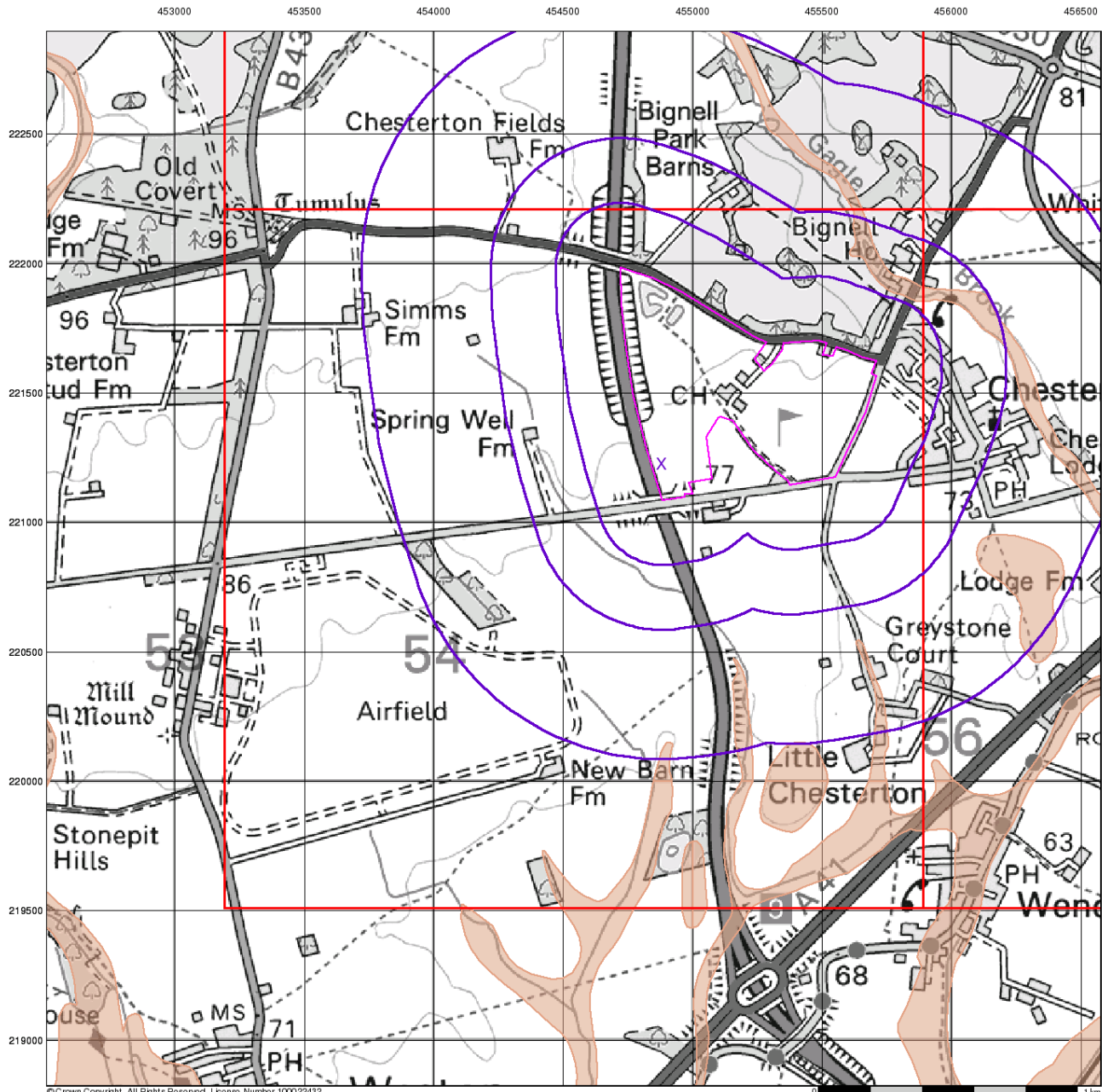
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 Customer Ref: 70042711  
 National Grid Reference: 454880, 221230  
 Slice: A  
 Site Area (Ha): 49.74  
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## Superficial Aquifer Designation

### General

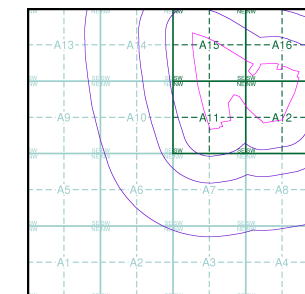
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

### Agency and Hydrological

#### Geological Classes

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

### Site Sensitivity Context Map - Slice A



### Order Details

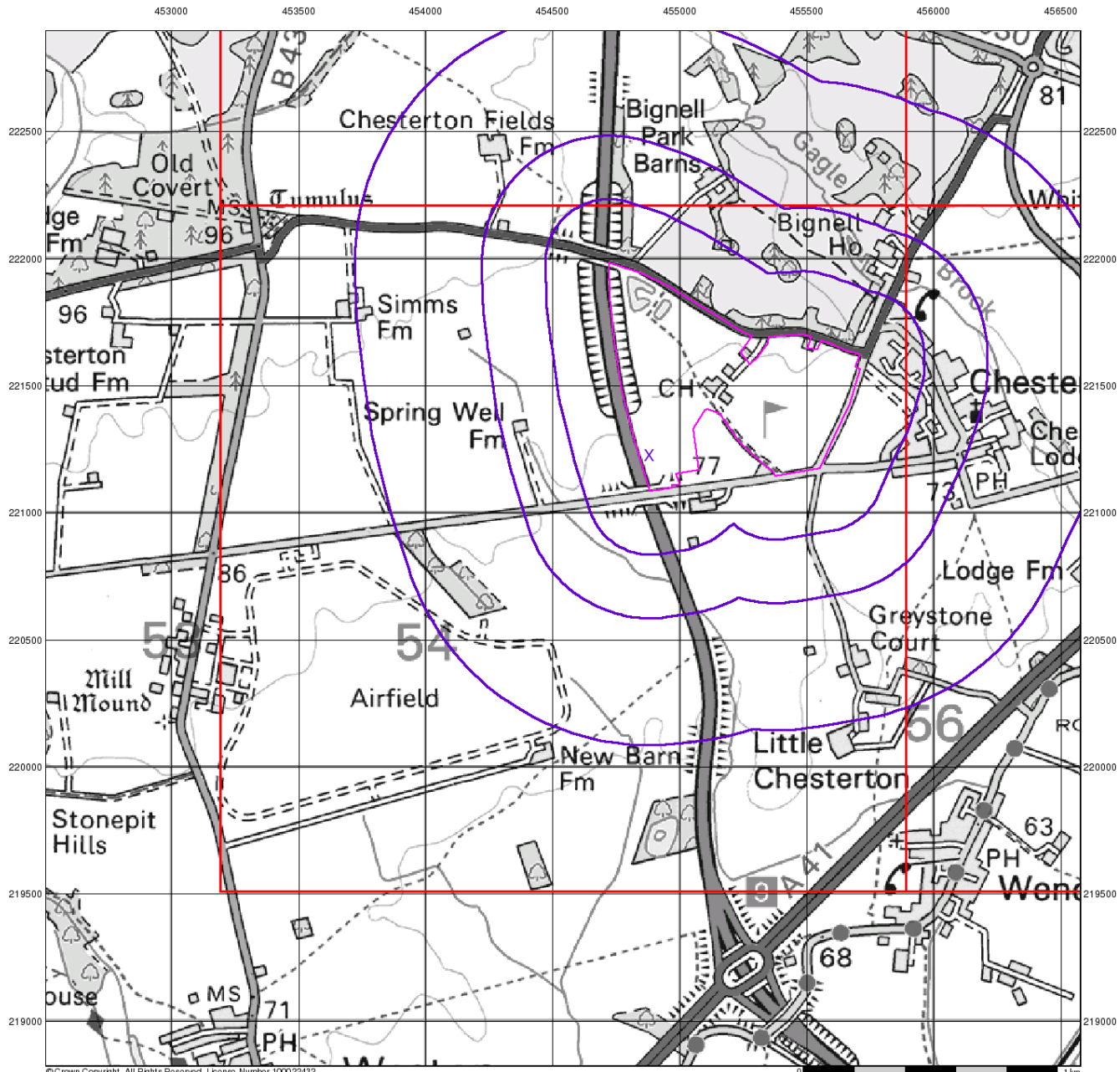
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 Slice: A  
 Site Area (Ha): 49.74  
 Search Buffer (m): 1000

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## Source Protection Zones

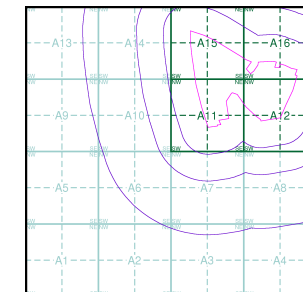
### General

-  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)
-  Source Protection Zone Borehole

### Site Sensitivity Context Map - Slice A



### Order Details

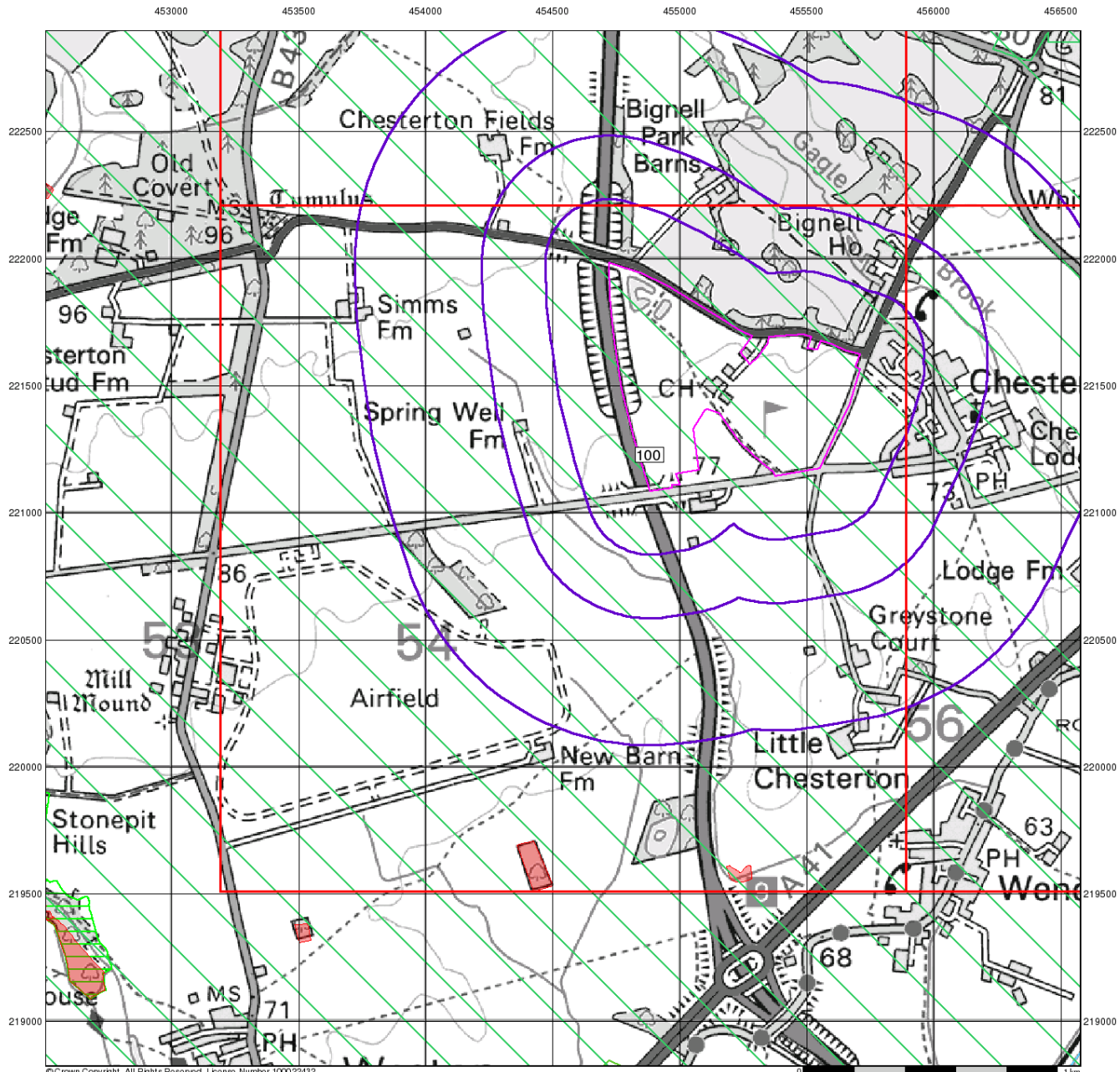
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 National Grid Reference: 454880, 221230  
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 Site Area (Ha): 49.74  
 Search Buffer (m): 1000

### Site Details

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## Sensitive Land Uses

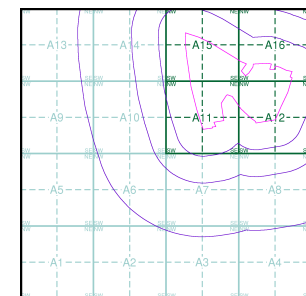
### General

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

### Sensitive Land Uses

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

### Site Sensitivity Context Map - Slice A



### Order Details

Order Number: 154470925\_1\_1  
 Customer Ref: 70042711  
 National Grid Reference: 454880, 221230  
 Slice: A  
 Site Area (Ha): 49.74  
 Search Buffer (m): 1000

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