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Report

Desk Study Report

Project: Miramar Cottage, Sibford Gower

Client: Framptons Planning

Reference: M42463

Date: June 2018

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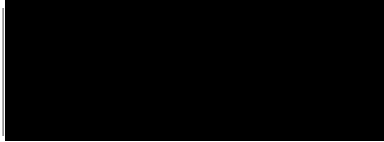
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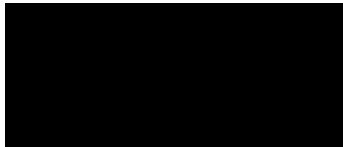
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Desk Study Report



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1 INTRODUCTION

1.1.1 **jnp**group was instructed by the Framptons Planning to undertake a desk study and site walkover of a site known as Miramar Cottage, 5 The Colony, Sibford Gower (hereinafter referred to as 'the site'). This report is subject to the limitations presented in Appendix A.

1.1.2 It is understood that the existing buildings are to be redeveloped to form a single dwelling with a private garden, and the unlisted buildings within the conservation area to be demolished.

1.1.3 Any comments given are based on the understanding that the proposed redevelopment will be as detailed above.

1.2 Objectives

1.2.1 The scope of work comprised desk study research and a site walkover. This report contains details of the site, development of an initial conceptual model, and a preliminary risk assessment with regard to contaminated land issues in order to discharge Condition 11 of the planning permission (Application No.: 17/02192/F).

1.3 Methodology

1.3.1 This report has been compiled in accordance with the guidance given in the Environment Agency / Department of Environment, Food, and Rural Affairs (DEFRA) Contaminated Land Report 11 'Model Procedures for the Management of Land Contamination' (Environment Agency. 2004) and the Environment Agency's three reports entitled 'Guiding Principles for Land Contamination' (Environment Agency. 2010).

2 SITE DESCRIPTION

- 2.1.1 The site is located off Colony Road, in Sibford Gower, Banbury, approximately 11.16 km west of Banbury town centre (see Figure 1 Key Plan). The centre of the site is located at National Grid Reference SP 348 373. The site covers an area of approximately 0.05 hectares.
- 2.1.2 The site is generally level and is generally rectangular in shape, elongated in the north-west to south-east direction.
- 2.1.3 The site is situated to the east of Miramar Cottage on a southward facing slope and comprises a narrow grass access drive, off the main road, with one outbuilding and four livestock pens of a variety of sizes. The larger outbuilding and two of the pens are currently used for livestock with the remaining pens for storage.
- 2.1.4 Trees are present along the access drive and the north-western boundary, with shrubbery within and around the eastern boundary. The southern boundary follows the footprint of the existing building.
- 2.1.5 The surrounding land uses are summarised in the following table and the site photographs (included in Appendix B).

Table 2.1: Surrounding Land Use

Direction	Land Use
North	Open field
East	Residential and open field
South	Open field
West	Residential and open field

3 GEOLOGY, HYDROLOGY AND HYDROGEOLOGY

3.1 Geology

- 3.1.1 The geology of the site has been determined by reference to the 1:50,000 scale British Geological Survey (BGS) online Geoindex Tool (<http://mapapps2.bgs.ac.uk/geoindex/home.html>).
- 3.1.2 No artificial or Made Ground is indicated to be present underlying the site.
- 3.1.3 No superficial geology is indicated to be present underlying the site.
- 3.1.4 The underlying geology is indicated to be the Marlstone Rock Formation, which is described by the BGS as “Sandy, shell-fragmental and ooidal ferruginous limestone interbedded with ferruginous calcareous sandstone, and generally subordinate ferruginous mudstone beds”.
- 3.1.5 There are no faults denoted within 500m of the site.
- 3.1.6 The following table details the risk of geological hazard potential on or underlying the site as identified in the Groundsure Report (included in Appendix C).

Table 3.1: Geological Hazards

Hazard	Risk
Shrinking or swelling clay	Negligible
Landslide ground	Very Low
Ground dissolution	Negligible
Compressible soils	Negligible
Collapsible soils	Very Low
Running sand	Negligible






- 3.1.7 Based upon the above, geological hazards are not considered to present a constraint to development.

3.2 BGS Borehole Records






- 3.2.1 **jnp group** have consulted online borehole records held by the BGS. No records of boreholes exist within 250m of the site.

3.3 Background Soil Chemical Concentrations

- 3.3.1 The Groundsure Report provides an indication to the background concentrations of a number of metallic contaminants commonly recorded in soils:











-  arsenic 60 - 120 mg/kg;
-  cadmium < 1.8 mg/kg;
-  chromium >180 mg/kg;
-  lead < 100 mg/kg and;
-  nickel 60 – 80 mg/kg.

3.3.2 In addition, the UK Soil Observatory map viewer (<http://www.ukso.org/mapViewer.html>) provides an indication to the background concentrations of a number of metallic contaminants commonly recorded in soils:

-  arsenic 36.09 mg/kg;
-  cadmium 0.24 mg/kg;
-  chromium 112.61 mg/kg;
-  copper 18.93 mg/kg;
-  lead 45.29 mg/kg;
-  nickel 40.11 mg/kg and;
-  zinc 113.91 mg/kg.

3.3.3 Therefore, naturally elevated concentrations of arsenic are anticipated at the site or in close proximity due to the bedrock present at the site. However, naturally elevated concentrations of the other metals are not anticipated at the site or in close proximity.

3.4 Ground Workings, Mining History and Natural Cavities

-  No historic surface ground workings are recorded to be present within 250m of the site;
-  No historic underground workings within 1km of the site;
-  One current ground workings is listed within 1km of the site, this is detailed as follows:
 -  Temple Mills located 951m to the south of the site. The commodity produced is 'Limestone' and the current status is 'Ceased';
-  No coal mining within 1km of the site;
-  Non-coal mining for chalk may have occurred at the site and within close proximity. These occurrences are reported to be either localised (unlikely) or infrequent (rare);
-  There are no non-coal mining cavities located within 1km of the site;
-  There are no natural cavities located within 1km of the site;
-  No brine or gypsum extraction within 1km of the site;
-  No tin or clay mining areas within 1km of the site.

3.5 Hydrology

- 3.5.1 The nearest surface water feature, a surface water drain is located 14m to the north-west. One further surface water feature, a tributary of the River Stour is located approximately 117m to the south.
- 3.5.2 River quality data and chemical General Quality Assessment (GQA) data was not available for either of these features.
- 3.5.3 The site lies 163m south of a Zone 2 and Zone 3 floodplain.
- 3.5.4 The Risk of Flooding from Rivers and the Sea (RoFRaS) is very low.
- 3.5.5 The site is susceptible to clearwater flooding, however the Groundsure Report states this has 'limited potential' and a British Geological Survey confidence rating of low.

3.6 Hydrogeology


3.6.1 The Aquifer Maps contained in the Groundsure Report indicate that the site is underlain by a Secondary A-Aquifer. The aquifer status refers to the Marlstone Rock Formation.


The Environment Agency define a Secondary-A Aquifer as:

“Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.”

3.6.2 The overlying soils are classified as having an intermediate leaching potential, although this is uncertain, as a worst-case vulnerability classification is assumed by the Environment Agency (EA) for urban areas.

3.6.3 The Groundsure Report lists two groundwater abstraction licences, these are detailed as follows:

 Groundwater Midlands Region, located 1526m to the east of the site, at Sibford Ferris - Well. The current status of the water abstraction is unknown;

 Groundwater Midlands Region, located 1729m to the northwest of the site, at Coombe Slade Farm – Borehole. The current status of the water abstraction is unknown.

3.6.4 The site's proximity to groundwater Source Protection Zones (SPZs) was determined by reference to the Environment Agency's website. These zones show the risk of contamination from any activities that might cause pollution in the area, with the closer the activity, the greater the associated risk. The maps show three main zones (inner, outer and total catchment) to a groundwater source.

3.6.5 The site does not lie within a Source Protection Zone.

4 SITE HISTORY

4.1.1 The history of the site and the surrounding area has been determined from historical map extracts. Copies of these extracts are included in Appendix D. The historical land uses on site and in close proximity to the site are summarised in the following table:

Table 4.1: Site History Summary

Date	On-site Historical Land Use	Off-site Historical Land Use
1881-1886	The site is denoted as part of an open field.	<p>A road is denoted immediately to the north of the site.</p> <p>A small culvert is denoted approximately 5m to the north of the site.</p> <p>A small number of residential buildings and associated land is denoted >50m to the east and west of the site.</p> <p>The villages Sibford Gower, Sibford Ferris and Burdrop are denoted approximately 500-750m to the east and north-east of the site.</p> <p>A small tributary is denoted 110m to the south of the site.</p> <p>A number of farms and associated land are denoted between 500-750m to the south and west of the site.</p> <p>A 'well' is denoted immediately to the west of the site.</p>
1899-1900	'The Colony' is now denoted across the site.	<p>A small building is now denoted immediately to the east of the site.</p> <p>Five 'Springs' are denoted 100-500m to the north and north-east of the site.</p> <p>A 'Quarry' is now denoted approximately 1km to the south of the site.</p>
1905	No changes.	Little to no change.
1922	No changes.	Minor residential development in the villages to the east and north-east.
1973-1977	Several small outbuildings are now denoted on the site.	<p>Minor residential development to the surrounding villages.</p> <p>A small rectangular building is now denoted >10m to the east of the site.</p> <p>A 'Sewage Works' is now denoted approximately 400m to the east of the site.</p> <p>A residential property is now denoted >10m to the west of the site.</p> <p>A 'well' is no longer denoted immediately to the west of the site.</p>

Date	On-site Historical Land Use	Off-site Historical Land Use
1991-1993	No changes.	No changes.
2014	No changes.	Minor residential development to the north-east with associated access roads.

4.2 Site History Summary

- 4.2.1 The site was undeveloped open field land until approximately 1973, when several small outbuildings were erected on site to service the adjacent residential property.
- 4.2.2 The nearby area has remained mainly undeveloped with limited residential housing and surrounding open field in all directions of the site. The surrounding villages were developed prior to the 1880's and have undergone residential development since.

5 INFORMATION HELD BY STATUTORY AUTHORITIES

5.1.1 This section details any relevant information held in the registers maintained by statutory bodies as identified in the Groundsure Report (Appendix C).




5.2 Waste Management Facilities

5.2.1 The Groundsure Report identifies no licensed waste management facilities located within 1km of the site.

5.2.2 No historical landfills are located within 1 km of the site.

5.3 Historic IPC, IPPC Part A and B Activities and Enforcements

5.3.1 The Groundsure Report indicates that:




-  There are no historic IPC authorisations within 500m of the study site;
-  There are no Part A (1) and IPPC authorised activities within 1km of the site;
-  There are no Part A (2) and Part B activity and enforcements within 500m of the site.

5.4 Pollution Incidents to Controlled Waters

5.4.1 Records held by the Environment Agency identified no pollution incidents to controlled waters within 1km of the site.

5.5 Discharge Consents

5.5.1 The Groundsure Report identifies three licensed discharge consents within 1km of the site, these are summarised as follows:

-  10m to the south of the site, issued in March 2008, to discharge 'sewage discharges – final/treated effluent' into groundwater via soakaway. The status of this licence states 'new consent';
-  344m to the east of the site, licensed in March 2010 to discharge 'sewage discharges – final/treated effluent' into a tributary of the River Stour. The status of this licence states 'varied by application'
-  364m to the east of the site, licensed in October 1989 to discharge 'sewage discharges – final/treated effluent' into a tributary of the River Stour. The current status of this licence states 'modified'. This licence was revoked in October 2002.

5.6 Fuel Sites

5.6.1 The Groundsure Report identifies no active fuel station entry within 1 km of the site.

5.7 Historical and Contemporary Industrial Data

5.7.1 The Groundsure Report identifies no potentially contaminative industrial sites within 250m of the site.


5.8 Radon

5.8.1 The Groundsure Report states that the Health Protection Agency identified the site is a Radon Affected Area, as between 10 and 30% of homes above the action level. The British Geological Survey Information Services Group indicates that radon protection measures are necessary.

5.8.2 Reference to BRE211 'Radon: guidance on protective measures for new dwellings' indicates that the site lies within an area where geological information indicates that basic radon protection may be required. Therefore full radon protection measures are considered necessary.

5.9 Environmentally Sensitive Areas

5.9.1 The sensitive land use map within the Groundsure Report indicates:

 The site is located within a Nitrate Vulnerable Zone (NVZ). NVZs are designated areas where concentrations of nitrate in groundwater (due to agricultural practices) are above guideline values e.g. Drinking Water Standards. High concentrations of nitrate in groundwaters has given rise to environmental and health concerns and these have been reflected in the EC Nitrates Directive (91/676/EEC) which is aimed at reducing nitrate pollution in controlled waters from agriculture.

5.9.2 There is one Site of Special Scientific Interest (SSSI), 'Sharps Hill Quarry' is located 1775m to the south-west of the site.

5.9.3 There is one Area of Outstanding Natural Beauty (AONB), the 'Cotswolds' are located 932m to the west of the site.

6 UK CONTAMINATED LAND LEGISLATIVE FRAMEWORK

6.1 Legislation on Contaminated Land

6.1.1 Given that the site is being assessed with the potential for future development, the most applicable appraisal relates to the requirements of the Planning Regime as described in the National Planning Policy Framework. In order to proceed with an assessment of contamination issues it is essential that there is compliance with UK guidance as detailed within reports published by the Environment Agency 'Model Procedures for the Management of Land Contamination' (Environment Agency, 2004), and 'Guiding Principles for Land Contamination' (Environment Agency, 2010).

6.1.2 Part IIA of the Environmental Protection Act, 1990, which was enacted by Section 57 of the Environment Act 1995, and the associated Contaminated Land (England) Regulations 2000 (SI 2000/227), was introduced on 1 April 2000. It created a new statutory regime for the identification and remediation of land where contamination poses an unacceptable risk to human health and the environment. The guidance was subject to a review by DEFRA in 2012, and a revision was published.

6.1.3 Part IIA provides a statutory definition of contaminated land:

"any land which appears to the Local Authority in whose area it is situated to be in such a condition by reason of substances in, on or under the land, that significant harm is being caused, or that there is a significant possibility of significant harm being caused, or that pollution of controlled waters is being or is likely to be caused".

6.1.4 Controlled waters are considered to be all groundwaters, inland surface waters, and estuarine and coastal waters.

6.1.5 To determine whether land falls under the Part IIA definition of contaminated land, the site should be evaluated in the context of a risk based framework. The assessment of contaminated land is typically a two-phase process, which is initially based on a qualitative assessment of the likelihood of complete pollution linkages, with a quantitative element that seeks to determine the degree and the significance of the harm. Land is only defined as 'Contaminated Land' if a "significant pollutant linkage" is present.

6.1.6 A pollutant linkage must comprise the following:


Source - a contaminant at a concentration capable of causing adverse health or environmental effects.

Receptor - there must be a receptor (e.g. human, controlled waters, ecological, or property) present, which may be at risk of harm or impact from the source.


Pathway - there must be an exposure pathway through which the receptor comes into contact with the contamination source.

6.1.7 Each of these elements can exist independently, but they create risk only when they are linked together, so that a particular contaminant affects a particular receptor, through a particular pathway.

6.1.8 The responsible authority then needs to consider whether the identified pollution linkage:

 is resulting in significant harm being caused to the receptor in the pollutant linkage;

 presents a significant possibility of significant harm being caused to that receptor;



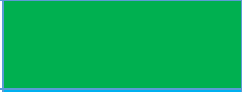

 is resulting in the pollution of controlled waters, which constitute the receptor; or is likely to result in such pollution.

6.1.9 If a pollutant linkage is demonstrated, then the Part IIA legislation provides powers for remedial action to be enforced by the Local Authority in whose area the contaminated land is situated.

6.1.10 In addition, **jnp group** has undertaken a preliminary risk assessment based on the **probability** of receptor exposure to the identified source and the **consequences** of such exposure.

6.1.11 **Risk management**, which can include site surfacing, formal management systems, legal requirements; is then considered to provide an overall residual risk. The categories of environmental risk used by **jnp group** are given in Table 6.1 that follows.

Table 6.1: Risk Matrix

Environmental Risks		
HIGH		Issues within this category likely to provide a significant cost or liability. Further detailed investigation may be required to clarify the risk.
MEDIUM		It is possible that issues within this category may provide a cost or liability. Further investigation may be required to clarify the risk.
LOW		It is unlikely that issues within this category will provide a significant cost or liability. Basic investigation may be required to clarify the risk.
NONE		No source – pathway – receptor linkage present.

7 CONCEPTUAL MODEL AND PRELIMINARY RISK ASSESSMENT


7.1 General


7.1.1 This section uses information from historical maps and a site walkover to provide a conceptual model and qualitative assessment of the potential risks posed to human health and environmental receptors from potential on-site and off-site sources of contamination. The assessment is presented as a 'source-pathway-receptor' model in accordance with Part IIA of the Environmental Protection Act 1990.


7.1.2 The conceptual model has been developed assuming that the site will be redeveloped for a single dwelling with a private garden.


7.2 Potential Sources of Contamination

Potential On-site Sources of Contamination


 The site remained undeveloped until approximately 1973, when several small outbuildings were erected on site, these have been used to house livestock. Contaminants associated with livestock husbandry may be present.

 A single oil drum is located on site, however no evidence of oil spills or contamination was visible.

 Heavy metals, hydrocarbons, asbestos and soil gas associated with limited Made Ground materials may be present as a result of previous phases of development including imported and site generated fill materials.

 In accordance with C733 guidance, any structure built, refurbished or modified during the Twentieth Century has the potential to contain asbestos containing materials (ACM). In addition, any demolition material either stockpiled or used as backfill on site also has the potential to contain asbestos containing materials (intact or broken up).

Potential Off-Site Sources of Contamination

 There are no potential off-site sources of contamination. The site is surrounded by residential properties and their associated gardens.

 From the earliest historical maps, the surrounding land was predominantly open field with limited residential developments.

7.3 Receptors


7.3.1 The site is to be redeveloped for a single dwelling with a private garden. In addition, the site overlies a Secondary A-Aquifer (Marlstone Rock Formation). The primary receptors, considered to be potentially at risk from any identified contamination are as follows:


Human Health

 Construction workers during the redevelopment phase;



 Residential end users.

Controlled Waters



 The Marlstone Rock Formation beneath the site is classified as a Secondary-A Aquifer. **jnp group** do consider groundwater to be a sensitive receptor;

 The nearest controlled surface water is approximately 117m to the south. **jnp group** do consider this to be a sensitive receptor.

Ecological

-  The site not located within an environmentally designated sensitive area;
-  Given the site setting sensitive species are considered unlikely to be present at the site (subject to any ecological survey undertaken).








Property

-  Concrete sulphate attack;
-  Build-up of gases with potential for explosion.


7.4 Pathways

7.4.1 Potential contaminant migration pathways considered relevant to the site are:





Human Health

-  Ingestion of contaminated soils and dust particles;
-  Direct physical contact with near surface soils and contaminated dust particles;
-  Inhalation of wind-blown contaminated dust;
-  Inhalation of vapours and gases, migrating vertically into the atmosphere;
-  Inhalation of vapours and gases, migrating vertically into buildings and confined spaces;
-  Consumption of vegetables cultivated in contaminated soils;
-  Consumption of soil attached to vegetables cultivated in contaminated soils.






Infrastructure

-  Water supply pipework.

Controlled Waters

-  Leaching of contaminants in Made Ground;
-  Lateral migration of contaminated groundwater into the tributary of the River Stour located approximately 117m to the south;
-  Vertical migration of contaminated shallow groundwater impacting deeper groundwater in the aquifer sequence;
-  Run-off of site-derived contamination into the tributary of the River Stour located approximately 117m to the south during construction.

Ecological

-  Migration of contamination through groundwater and subsequent uptake by plant roots;
-  Direct contact between ecological receptors and contaminated surface water;
-  Direct contact between ecological receptors and contaminated soils;
-  Ingestion of contaminated soils/surface waters by ecological receptors;
-  Inhalation of vapours or wind-blown dust by ecological receptors.

7.5 Pollutant Linkages

7.5.1 A 'pollutant linkage' describes the relationship between a contaminant, a pathway and a receptor, a 'pollutant' being the contaminant in a pollutant linkage. A contaminant, pathway and receptor must all

be present for a pollutant linkage to exist, which forms the basis for determination that a piece of land is Contaminated Land. Potential sources, pathways and receptors have been assessed. The following table summarises the significant pollutant linkages potentially active at the site.

Table 7.1: Potential Source-Pathway-Receptor Linkages for Human Health Risk Assessment

Source	Pathway	Receptor	
Contaminated soils	Ingestion of soil	On site female child: 0 - 6 yrs old On site construction worker	
	Ingestion of household dust	On site female child: 0 - 6 yrs old	
	Ingestion of contaminated vegetables	On site female child: 0 - 6 yrs old	
	Ingestion of soil attached to vegetables	On site female child: 0 - 6 yrs old	
	Dermal contact		On site female child: 0 - 6 yrs old On site construction worker
		Dermal contact with household dust	On site female child: 0 - 6 yrs old
	Inhalation of fugitive soil dust		On site construction worker On site female child: 0 - 6 yrs old
		Inhalation of fugitive household dust	On site female child: 0 - 6 yrs old
	Inhalation of vapours in outdoor air		On site female child: 0 - 6 yrs old On site construction worker
		Inhalation of vapours in indoor air	On site female child: 0 - 6 yrs old
	Contact with contaminated soils	Water supply pipework	
	Ground Gas and Landfill Gas	Vertical and Lateral Migration	End Users
Residential Housing			
Services and Infrastructure			

Table 7.2: Source Pathway Receptor Linkages for Controlled Waters Risk Assessment

Source	Pathway	Receptor
Contaminated soils	Leaching Mechanisms	Groundwater stored in the Marlstone Rock Formation
	Runoff during construction works	Tributary of the River Stour
Contaminated groundwater	Vertical migration	Groundwater stored in the Marlstone Rock Formation
Contaminated groundwater	Lateral and vertical migration (baseflow)	Tributary of the River Stour

7.6 Preliminary Risk Assessment

7.6.1 From the information obtained from the desk study jnp group has undertaken a preliminary risk assessment.

Table 7.3: Preliminary Risk Assessment


Issue	Risk		Justification
LAND	LOW		Contamination associated with animal husbandry and any Made Ground underlying the site.
GROUNDWATER	MEDIUM		The site is located on productive strata (Secondary A-Aquifer) but is not within a SPZ..
SURFACE WATER	LOW		The nearest surface water course is located 14m to the north-west. No significant source of contamination identified.
ECOLOGY	NONE		Based on the assumption that there are no sensitive/ protected species on site (subject to any ecological survey undertaken).


7.6.2 The conceptual model has been refined and the plausible pollutant linkages evaluated against generic criteria in accordance with joint DEFRA / Environment Agency publication 'Model Procedures for the Management of Land Contamination' (Environment Agency. 2004).

CONCLUSIONS OF DESK STUDY

7.7 Conclusions

7.7.1 The desk study has identified that: the geological succession below the site comprises Marlstone Rock Formation. It identifies that the site has no past and current potentially contaminative use as outbuildings and open field.


 Full radon protection measures are considered necessary;


 The site lies 163m south of a Zone 2 and Zone 3 floodplain and is at a low risk to flooding;

7.7.2 Based on information contained within desk study, it is the opinion of **jnp group** that the potential site conditions provide a **MEDIUM to LOW** environmental risk, however, further investigation and assessment is required.


7.8 Recommendations

7.8.1 Based on the conclusions from the desk study and the intended redevelopment of the site **jnp group** recommend that the following works are undertaken:

 It is recommended that appropriate asbestos surveys are undertaken prior to the demolition of the existing buildings. In addition, validation testing should be undertaken post demolition to ensure the site is asbestos free;

 Chemical testing of Made Ground and natural soils beneath the site for a general suite of contamination appropriate to the sites recent use;

 Chemical testing of the natural ground to inform foundation design;

 Testing of the soils to identify volume change potential of any cohesive material, concrete classification, and design CBR values.

8 REFERENCES

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Figures / Drawings



Figure 1

Site Location Plan



john newton & partners
jnp group

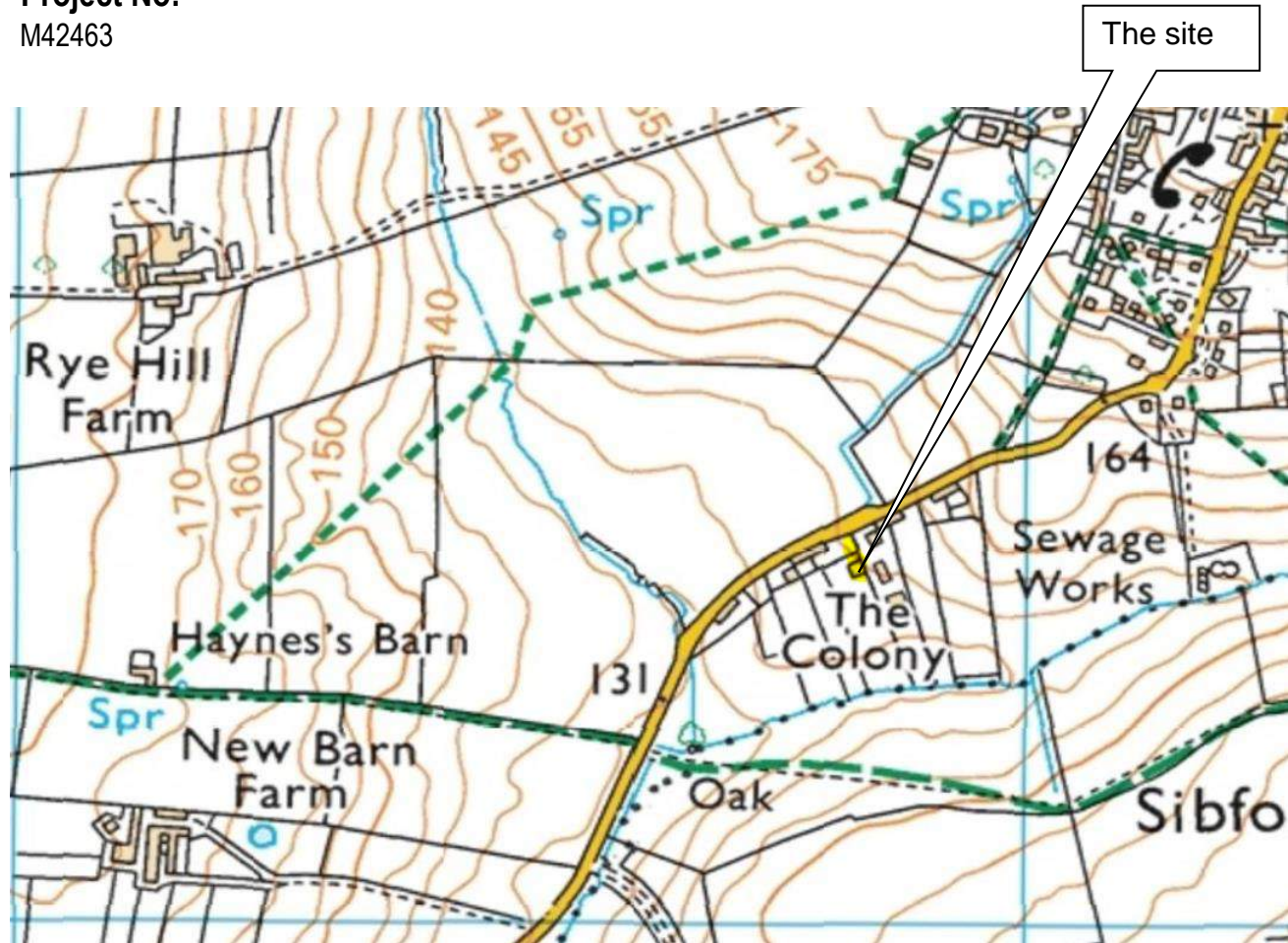
Consulting Engineers

Project:

Miramar Cottage, Sibforf Gower

Project No:

M42463



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Appendix A

Limitations



1 INTRODUCTION

- 1.1.1 This report is confidential and has been prepared solely for the benefit of the client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from **jnp group**; a charge may be levied against such approval. **jnp group** accepts no responsibility or liability for the consequences of this document being used for any purpose or project other than for which it was commissioned, and: this document to any third party with whom and agreement has not been executed.
- 1.1.2 Any comments given within this report are based on the understanding that the proposed works to be undertaken will be as described in the introduction and the information referred to and provided by others and will be assumed to be correct and will not have been checked by **jnp group** and **jnp group** will not accept any liability or responsibility for any inaccuracy in such information.
- 1.1.3 Any deviation from the recommendations or conclusions contained in this report should be referred to **jnp group** in writing for comment and **jnp group** reserve the right to reconsider their recommendations and conclusions contained within. **jnp group** will not accept any liability or responsibility for any changes or deviations from the recommendations noted in this report without prior consultation and our full approval.
- 1.1.4 The details contained within this report reflect the site conditions prevailing at the time of investigation. **jnp group** warrants the accuracy of this report up to and including that date. Additional information, improved practice or changes in legislation may necessitate this report having to be reviewed in whole or in part after that date. If necessary, this report should be referred back to **jnp group** for re-assessment and, if necessary, re-appraisal.
- 1.1.5 This report is only valid when used in its entirety. Any information or advice included in the report should not be relied upon until considered in the context of the whole report. Whilst this report and the opinion made herein are correct to the best of **jnp groups'** belief, **jnp group** cannot guarantee the accuracy or completeness of any information provided by third parties.
- 1.1.6 The report represents the finding and opinions of experience geotechnical and geoenvironmental engineers. **jnp group** does not provide legal advice and the advice of lawyers may also be required.
- 1.1.7 It should be noted that the following were not included as part of the agreed scope of works with the client: detailed ecological surveys and assessment; groundwater monitoring and sampling; geotechnical requirements etc.
- 1.1.8 **jnp group** has provided advice and made recommendations based on the findings of the work undertaken, however this is subject to the approval / acceptance by the relevant Regulatory Authorities.

1.2 Objectives

- 1.2.1 The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the site. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only to 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, **jnp group** reserves the right to review such information and, if warranted, to modify the opinions accordingly. 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 a physical investigation of the site.
-

Appendix B

Photographs of Site



Front of site (looking south)



Side entrance to outbuilding (looking south)



Outbuilding and second gate to main paddock (looking west)



Western side of outbuilding and pens (looking south-east)



Western side of outbuilding and pens (looking east)



Outbuilding and pens (looking east)



Animal pens (looking south)



Internal layout of outbuilding



Small outbuilding (looking east)



Animal pens (looking east)



Appendix C

Groundsure Report





Groundsure

LOCATION INTELLIGENCE

JNP Group

3rd Floor, Marlborough House, 48 Holly Walk,
LEAMINGTON SPA, CV32 5SY

Groundsure
Reference:

GS-4851259

Your Reference:

M42463_PO1175

Report Date

3 Apr 2018

Report Delivery
Method:

Email - pdf

Enviro Insight

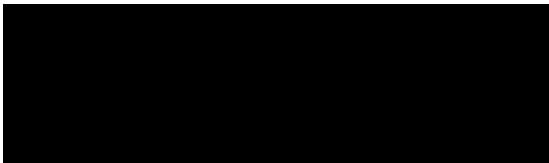
Address: MIRAMAR COTTAGE, 5 THE COLONY, COLONY ROAD, SIBFORD GOWER, OX15 5RY

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Enviro Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,

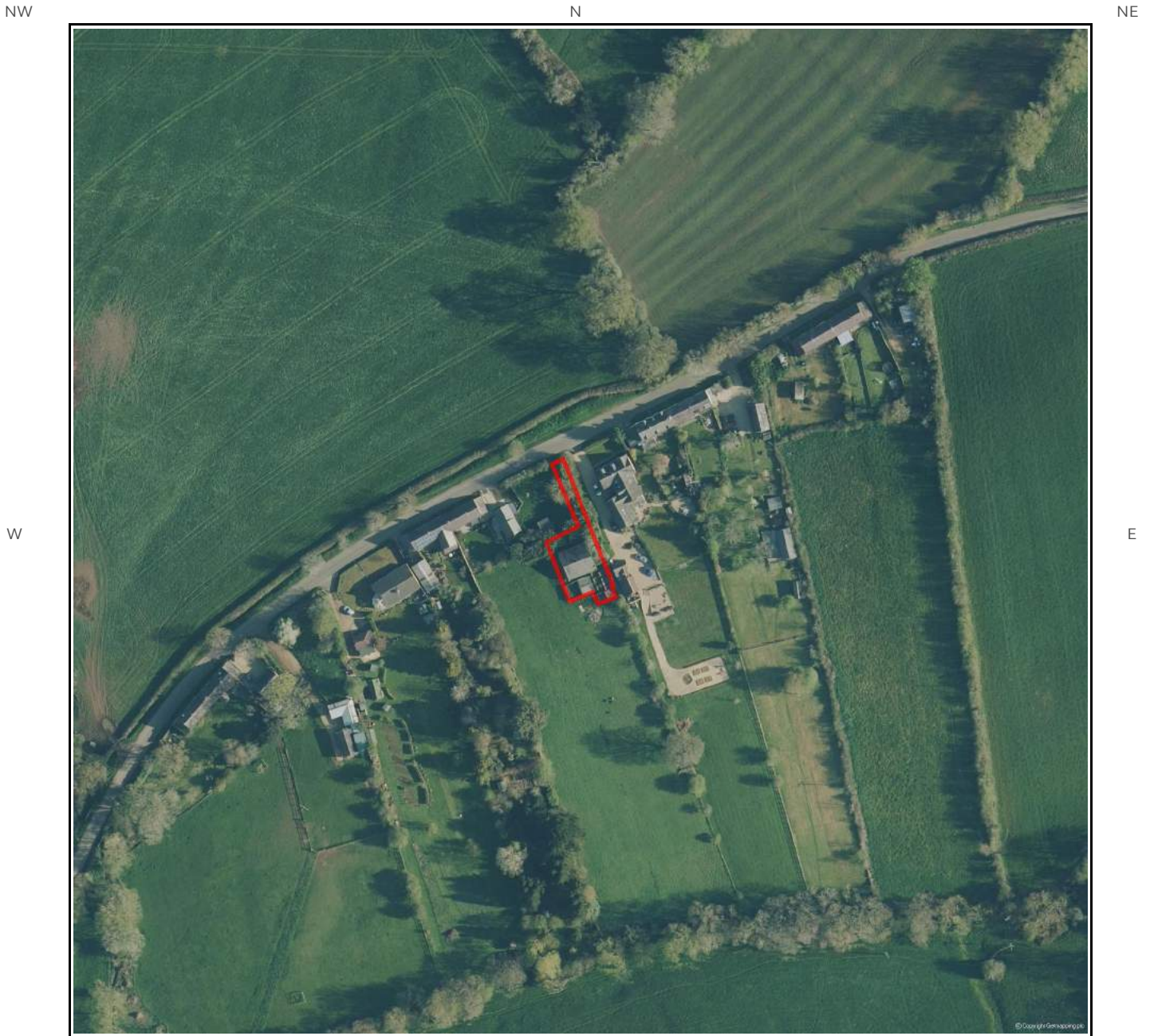


Managing Director
Groundsure Limited

Enc.
Groundsure Enviroinsight

Enviro Insight

Address: MIRAMAR COTTAGE, 5 THE COLONY, COLONY ROAD, SIBFORD GOWER, OX15 5RY
Date: 3 Apr 2018
Reference: GS-4851259
Client: JNP Group



Aerial Photograph Capture date: 05-May-2016
Grid Reference: 434833,237380
Site Size: 0.05ha

Report Reference: GS-4851259
Client Reference: M42463_PO1175

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Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	0	0	0	5
1.2 Additional Information – Historical Tank Database	0	0	0	0
1.3 Additional Information – Historical Energy Features Database	0	0	0	0
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	0	0
1.6 Potentially Infilled Land	0	0	0	4
Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	0	0
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	0	1	0	5
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	0
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	0	0
2.3.2 National Incidents Recording System, List 1	0	0	0	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency/Natural Resources Wales Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency/Natural Resources Wales Historic Landfill Sites	0	0	0	0	0	0
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	0
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	0	0	0	0	0	0

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	0	0	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	0	0
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology	
5.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	None identified
5.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	None identified
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 6: Hydrogeology and Hydrology	0-500m					
6.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Identified					
6.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Identified					
	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	3
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	1	0	1	0	Not searched	Not searched

Section 6: Hydrogeology and Hydrology

0-500m

	On-site	0-50m	51-250	251-500	501-1000	1000-1500
6.9 Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site?	No	No	No	No	No	No
6.10 Ordnance Survey MasterMap Water Network entries within 500m of the site	0	8	18	20	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	Yes	Yes	Not searched	Not searched	Not searched

Section 7: Flooding

7.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	Identified					
7.2 Are there any Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site	Identified					
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Very Low					
7.4 Are there any Flood Defences within 250m of the study site?	None identified					
7.5 Are there any areas benefiting from Flood Defences within 250m of the study site?	None identified					
7.6 Are there any areas used for Flood Storage within 250m of the study site?	None identified					
7.7 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Limited potential					
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Low					

Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	1
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	0	0
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	0
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	1	0
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	1	0	0	0	0	2
8.14 Records of Green Belt land	0	0	0	0	0	0

Section 9: Natural Hazards

9.1 What is the maximum risk of natural ground subsidence?

Low

9.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?

Low

9.1.2 What is the maximum Landslides hazard rating identified on the study site?

Very Low

9.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?

Negligible

9.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?

Negligible

9.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?

Very Low

9.1.6 What is the maximum Running Sand hazard rating identified on the study site?

Negligible

9.2 Radon

9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?

The site is in a Radon Affected Area, as between 10 and 30% of properties are above the Action Level.

9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?

Full radon protective measures are necessary.

Section 10: Mining

10.1 Are there any coal mining areas within 75m of the study site?

None identified

10.2 Are there any Non-Coal Mining areas within 50m of the study site boundary?

None identified

10.3 Are there any brine affected areas within 75m of the study site?

None identified

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

6. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

7. Flooding

Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

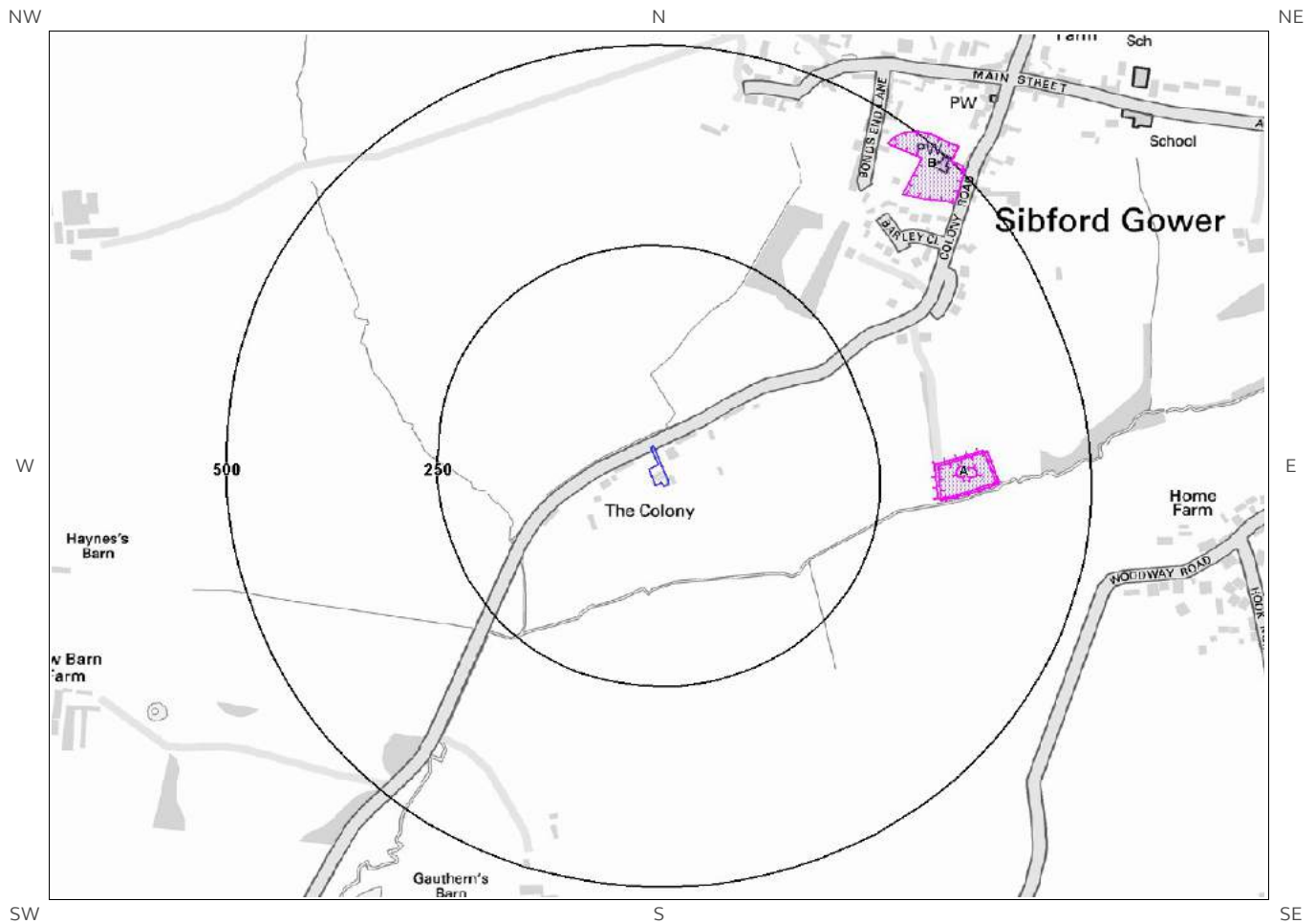
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

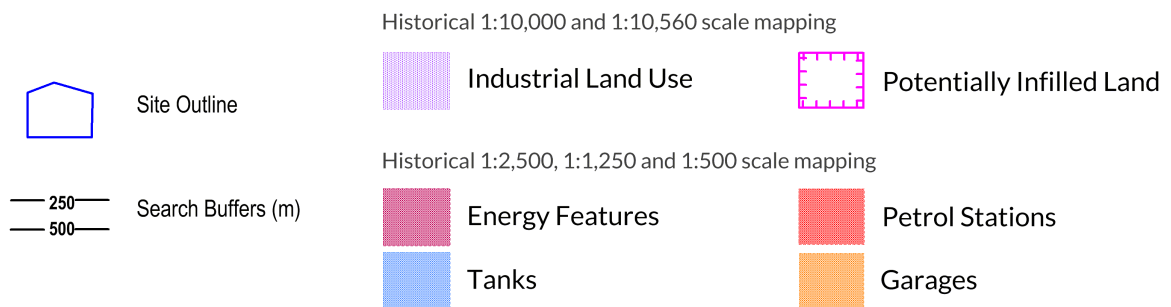
Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Historical Land Use



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1. Historical Industrial Sites

1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 5

ID	Distance [m]	Direction	Use	Date
1A	315	E	Sewage Works	1973
2A	320	E	Sewage Works	1976
3A	340	E	Filter Bed	1973
4A	341	E	Unspecified Tanks	1976
5B	431	NE	Burial Ground	1881

1.2 Additional Information – Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary: 0

Database searched and no data found.

1.3 Additional Information – Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical energy features within 500m of the search boundary: 0

Database searched and no data found.

1.4 Additional Information – Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary: 0

Database searched and no data found.

1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 0

Database searched and no data found.

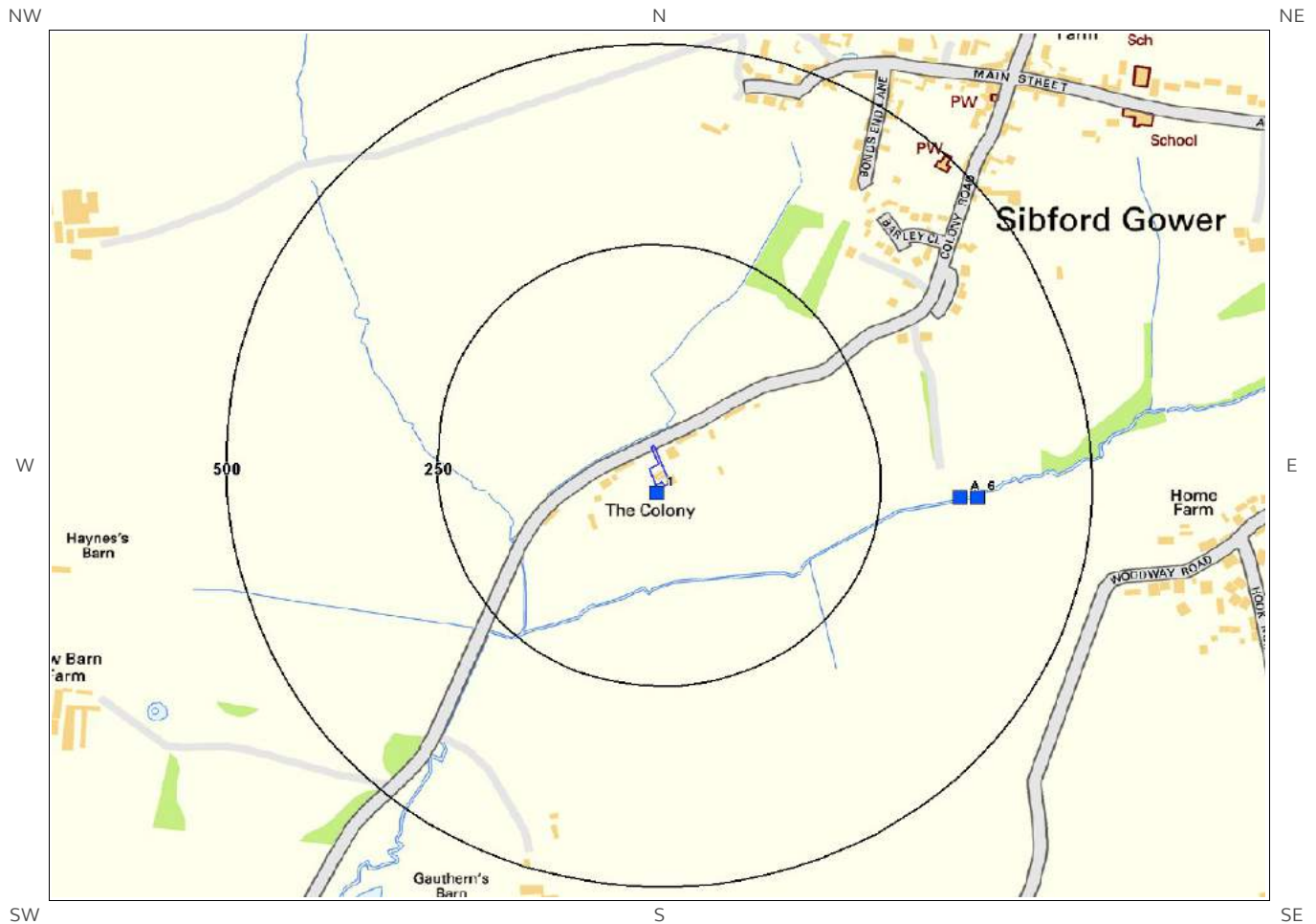
1.6 Potentially Infilled Land

Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 4















The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

ID	Distance(m)	Direction	Use	Date
6A	315	E	Sewage Works	1973
7A	320	E	Sewage Works	1976
8A	340	E	Filter Bed	1973
9B	431	NE	Burial Ground	1881

2. Environmental Permits, Incidents and Registers Map



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- | | | | | | |
|---|-------------------------------|---|--|---|---|
|  | Site Outline |  | Recorded Pollution Incident |  | RAS 3 & 4 Authorisations |
|  | Dangerous Substances (List 1) |  | Part A(1) Authorised Processes and Historic IPC Authorisations |  | Part A(2) and Part B Authorised Processes |
|  | Dangerous Substances (List 2) |  | Water Industry Referrals |  | COMAH / NIHHS Sites |
|  | Licensed Discharge Consents |  | Sites Determined as Contaminated Land |  | Hazardous Substance Consents and Enforcements |
|  | Red List Discharge Consents | | | | |
|  | Search Buffers (m) | | | | |

2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency/Natural Resources Wales and Local Authorities reveal the following information:

2.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

6

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
1	10	S	434831 237356	Address: 5 THE COLONY, SIBFORD GOWER, BANBURY, OXFORDSHIRE, OXFORDSHIRE, OX15 5RY Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: NPSWQD000863 Permit Version: 1	Receiving Water: GROUNDWATERS VIA SOAKAWAY Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 03/03/2008 Effective Date: 03-Mar-2008 Revocation Date: -
2A	344	E	435190 237350	Address: SIBFORD FERRIS STW, SIBFORD GOWER, OXFORDSHIRE, OXFORDSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: S/14/26023/R Permit Version: 4	Receiving Water: TRIB RIVER STOUR Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 31/03/2010 Effective Date: 31-Mar-2010 Revocation Date: -
3A	344	E	435190 237350	Address: SIBFORD FERRIS STW, SIBFORD GOWER, OXFORDSHIRE, OXFORDSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: S/14/26023/R Permit Version: 1	Receiving Water: TRIB RIVER STOUR Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 25/10/2002 Effective Date: 25-Oct-2002 Revocation Date: 03/04/2006
4A	344	E	435190 237350	Address: SIBFORD FERRIS STW, SIBFORD GOWER, OXFORDSHIRE, OXFORDSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: S/14/26023/R Permit Version: 3	Receiving Water: TRIB RIVER STOUR Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 24/09/2009 Effective Date: 01-Jan-2010 Revocation Date: 30/03/2010
5A	344	E	435190 237350	Address: SIBFORD FERRIS STW, SIBFORD GOWER, OXFORDSHIRE, OXFORDSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: S/14/26023/R Permit Version: 2	Receiving Water: TRIB RIVER STOUR Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 25/10/2002 Effective Date: 04-Apr-2006 Revocation Date: 31/12/2009

ID	Distance (m)	Direction	NGR	Details	
6	364	E	435210 237350	Address: SIBFORD FERRIS STW, SIBFORD FERRIS, SIBFORD FERRIS, OXFORDSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: S/14/20062/R Permit Version: 1	Receiving Water: TRIB OF RIVER STOUR Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 31/10/1989 Effective Date: 31-Oct-1989 Revocation Date: 24/10/2002

2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site:

0

Database searched and no data found.

2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents

2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

0

Database searched and no data found.

2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

Database searched and no data found.

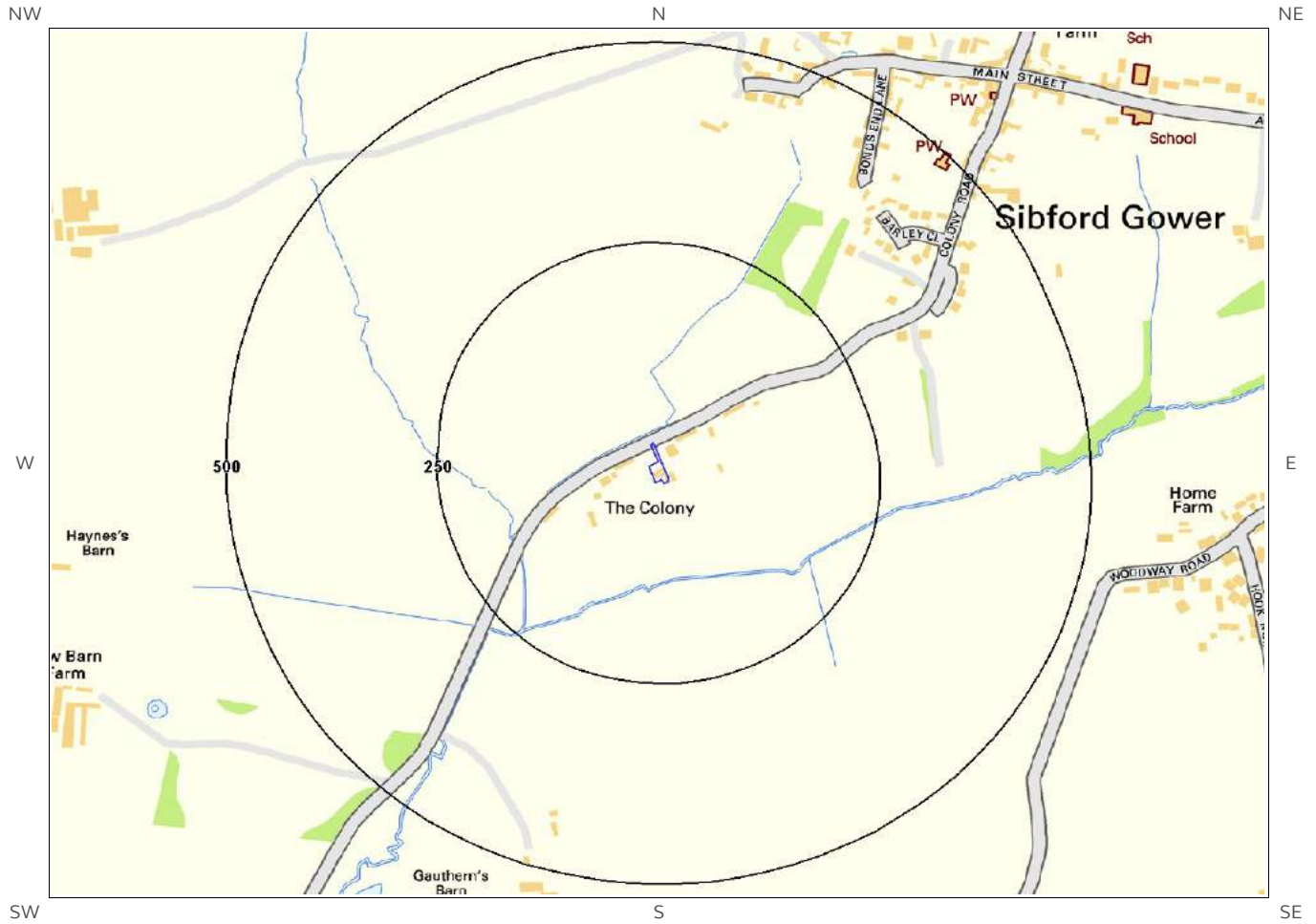
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site?










0

Database searched and no data found.

3. Landfill and Other Waste Sites Map



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- | | | | | | |
|---|------------------------|---|---------------------------|---|---|
|  | Site Outline |  | EA/NRW Active Landfill |  | Historic and Planned Waste Sites |
|  | 250 Search Buffers (m) |  | EA/NRW Historic Landfill |  | EA/NRW Licensed Waste Site |
|  | 500 Search Buffers (m) |  | BGS / DoE Survey Landfill |  | Local Authority/Historical Mapping Landfill Records |

3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency/Natural Resources Wales landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study site:

0

Database searched and no data found.

3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

0

Database searched and no data found.

3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

0

Database searched and no data found.

3.2 Other Waste Sites

3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

0

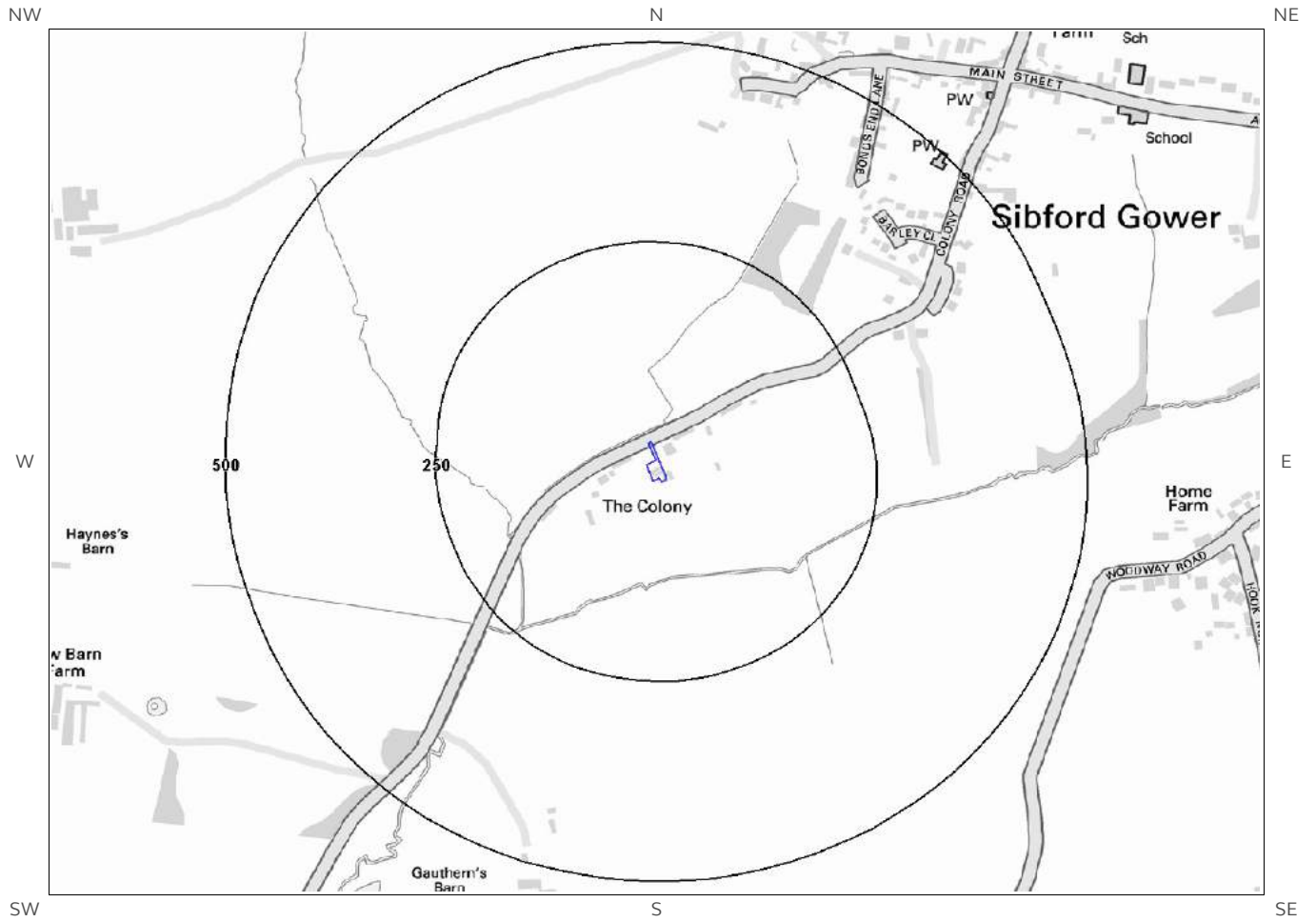
Database searched and no data found.

3.2.2 Records of Environment Agency/Natural Resources Wales licensed waste sites within 1500m of the study site:

0

Database searched and no data found.

4. Current Land Use Map



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- | | | | | | |
|---|--------------------|---|--------------------------|--|---------------------------------|
|  | Site Outline |  | Current Industrial Sites |  | Electricity Transmission Cables |
|  | Search Buffers (m) |  | Petrol & Fuel Sites |  | Gas Transmission Pipelines |

4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 0

Database searched and no data found.

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site: 0

Database searched and no data found.

4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site: 0

Database searched and no data found.

4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site: 0

Database searched and no data found.

5. Geology

5.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

5.2 Superficial Ground and Drift Geology

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

5.3 Bedrock and Solid Geology

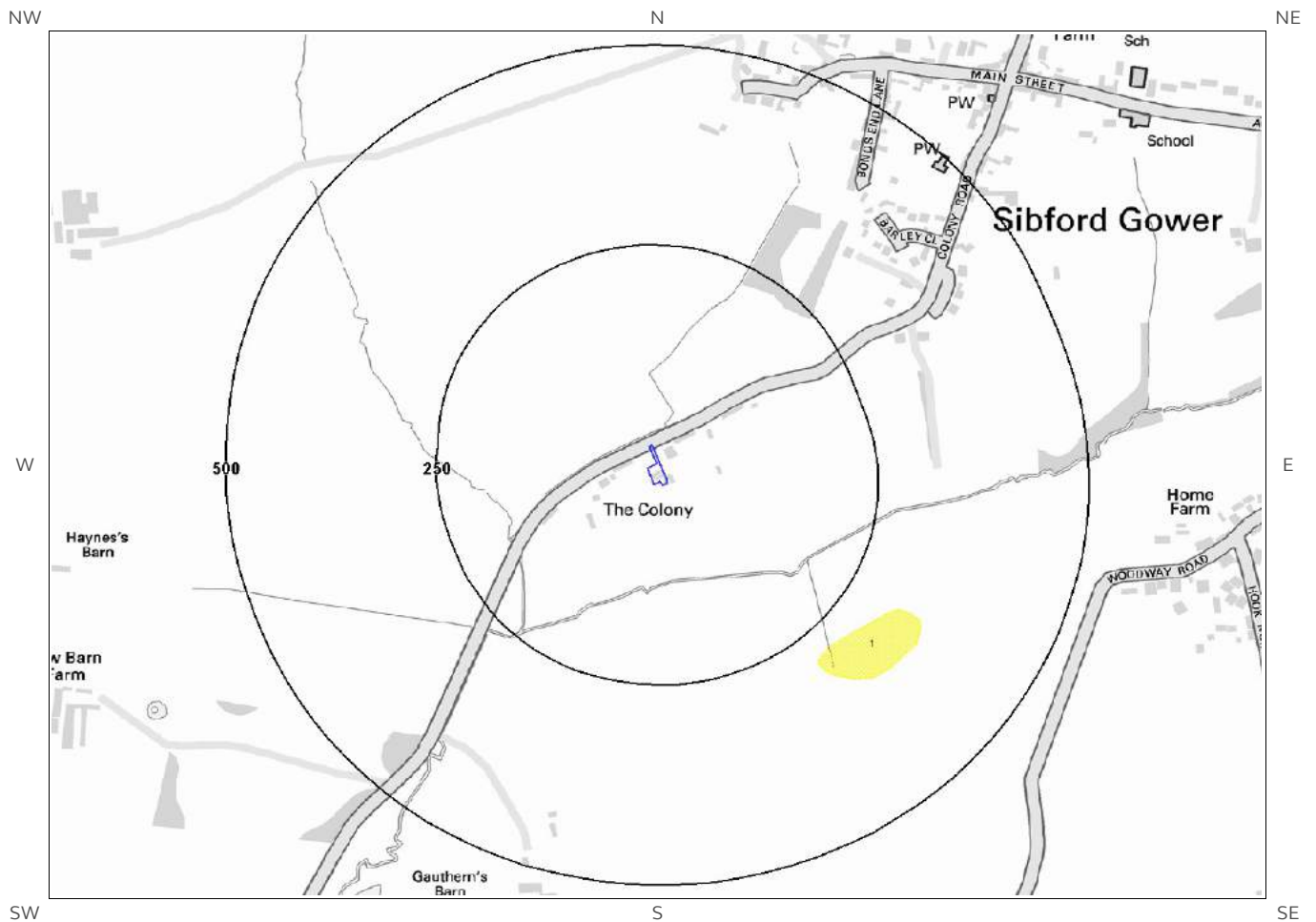
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
MRB-FLIR	MARLSTONE ROCK FORMATION	FERRUGINOUS LIMESTONE AND IRONSTONE
WHM-MDST	WHITBY MUDSTONE FORMATION	MUDSTONE

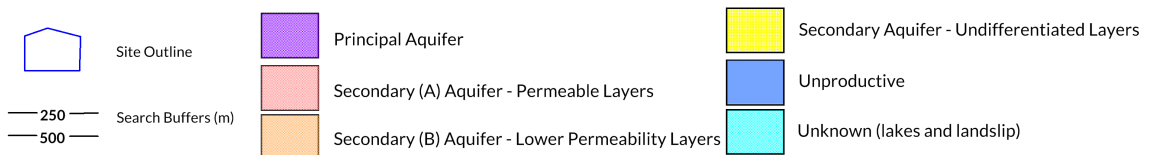
(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

6 Hydrogeology and Hydrology

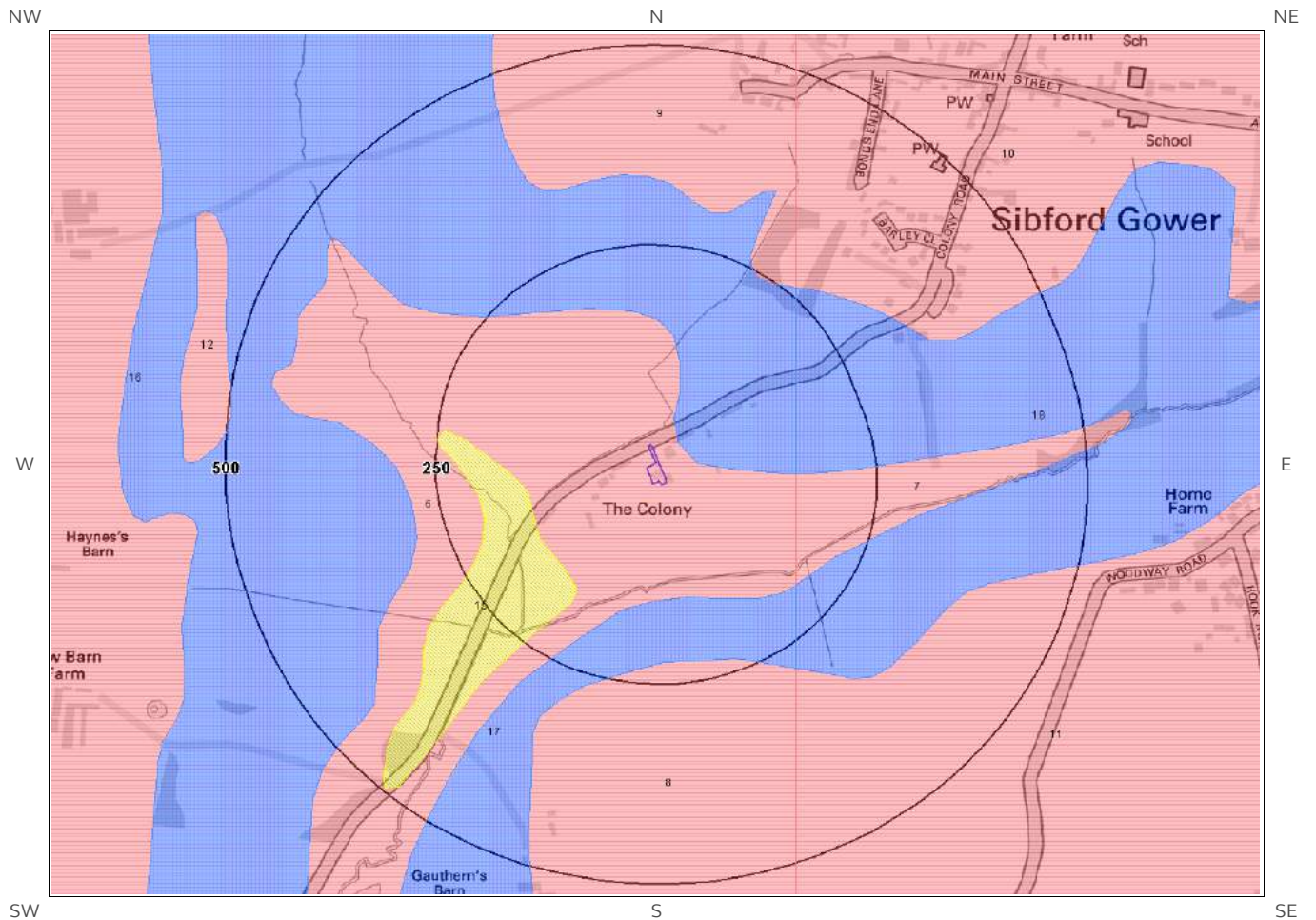
6a. Aquifer Within Superficial Geology



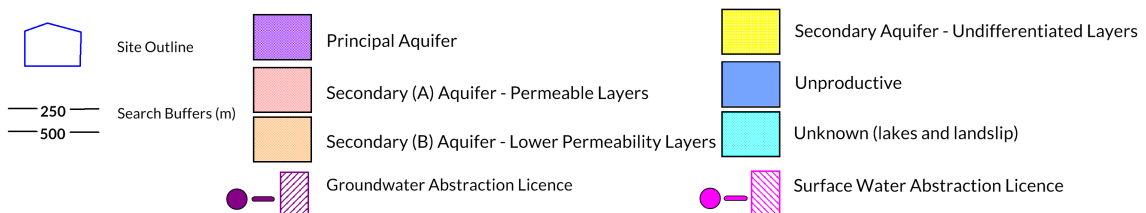
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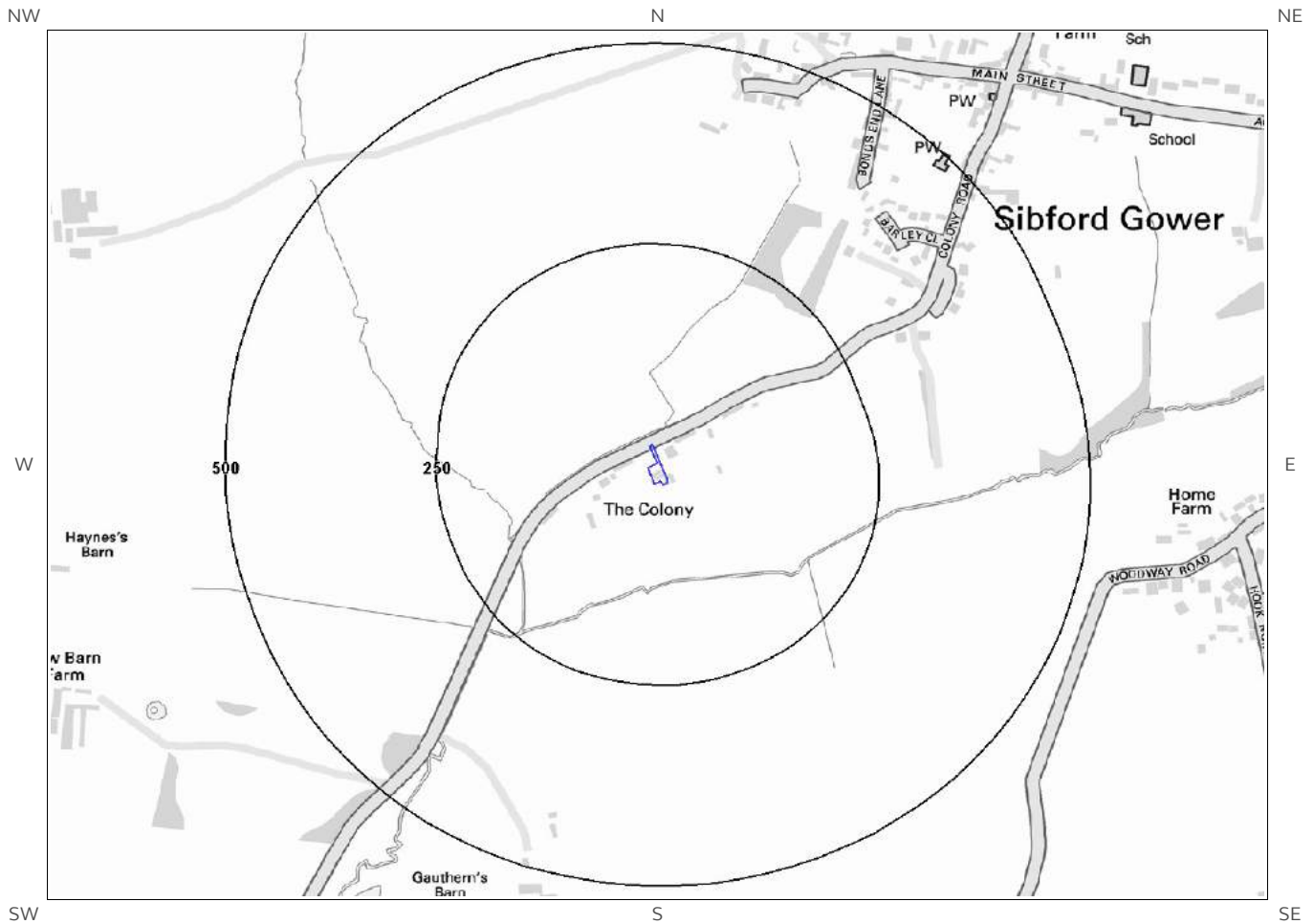
6b. Aquifer Within Bedrock Geology and Abstraction Licenses



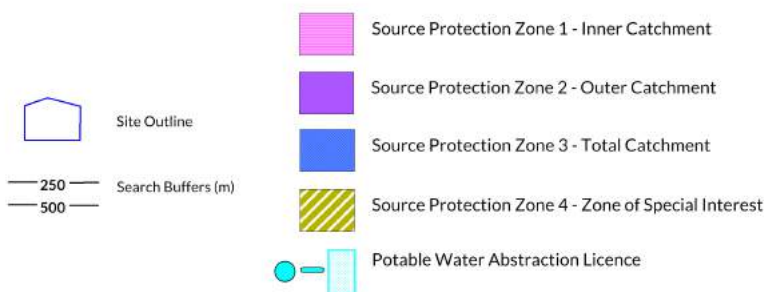
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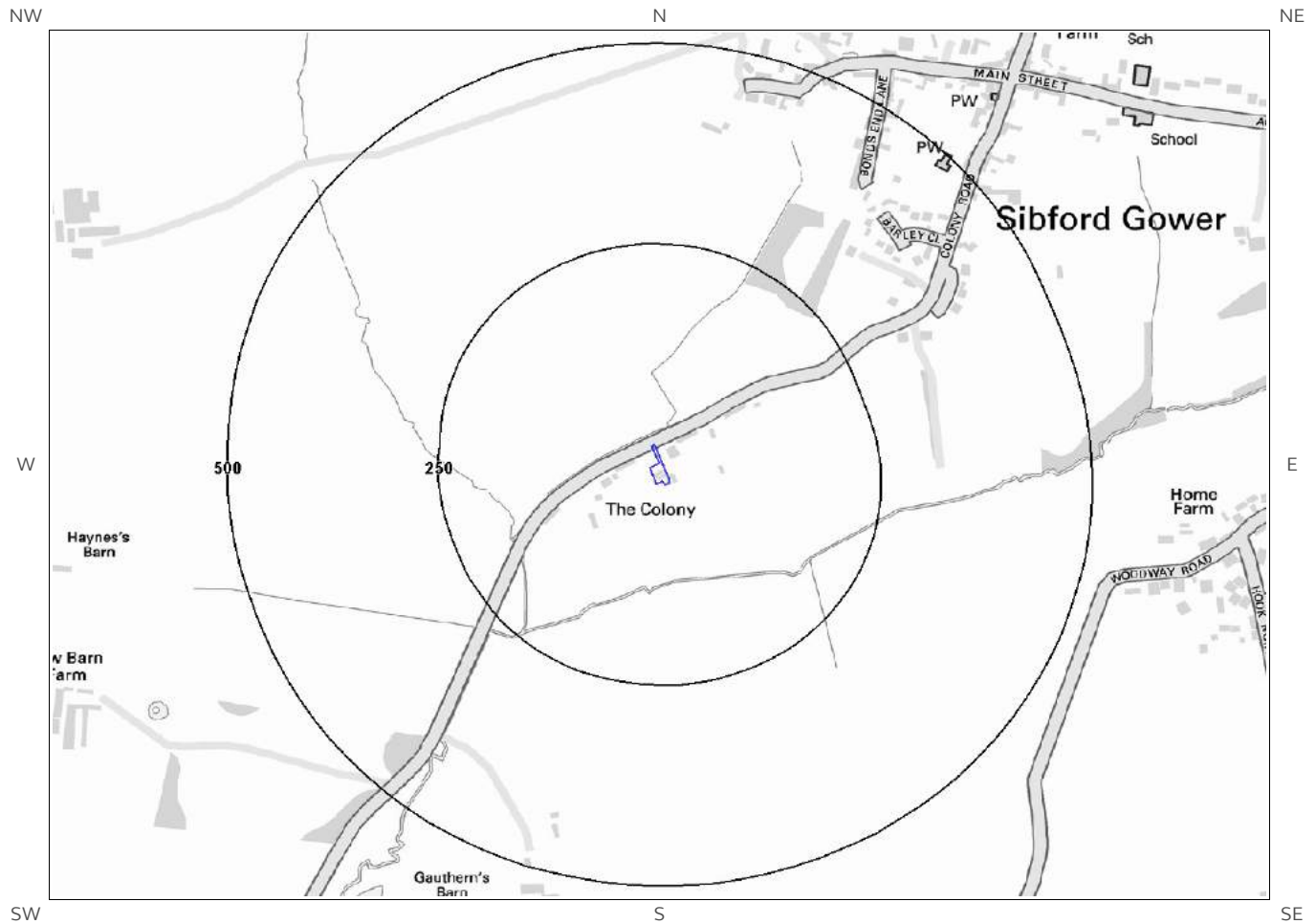
6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



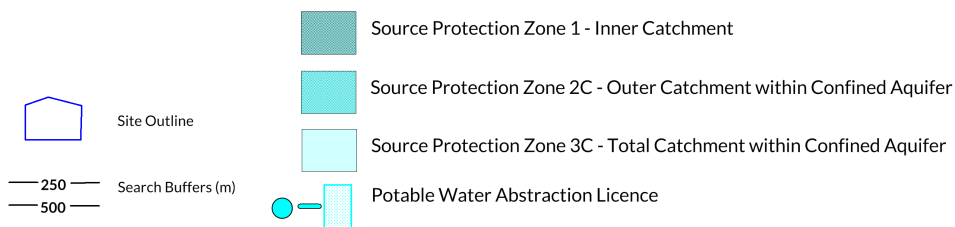
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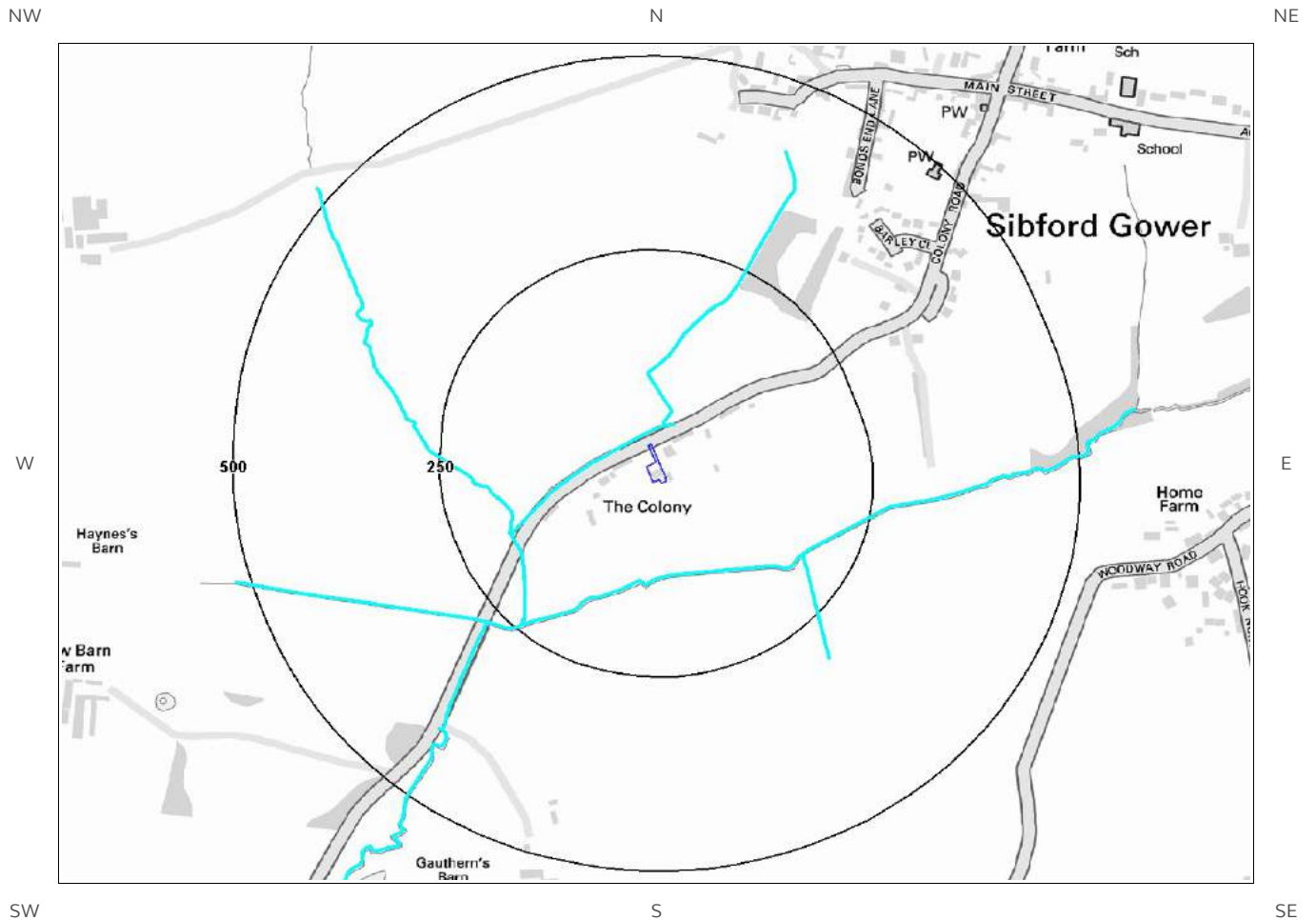
6d. Hydrogeology – Source Protection Zones within confined aquifer



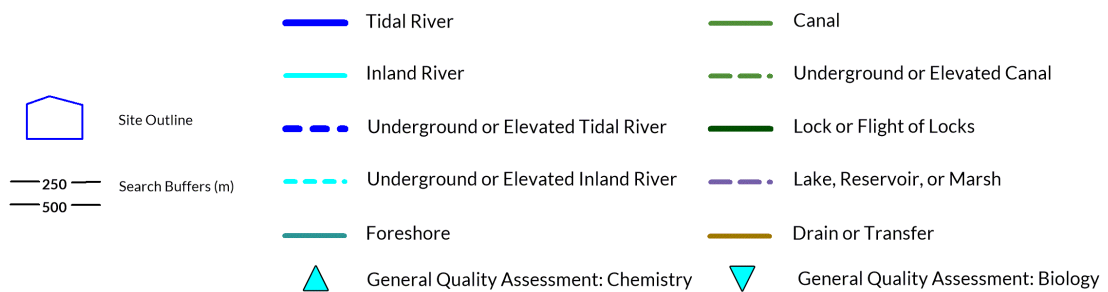
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6e. Hydrology – Watercourse Network and River Quality



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6. Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (6a):

ID	Distance (m)	Direction	Designation	Description
1	281	SE	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

6.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	Designation	Description
6	0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
16	31	E	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
15	143	W	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
17	143	S	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
7	153	E	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
18	154	E	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
8	222	S	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

ID	Distance (m)	Direction	Designation	Description
9	244	NE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
10	261	NE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
11	278	SE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
12	497	W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

6.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site? Identified

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details
Not shown	1562	E	436400 237200	Status: Historical Licence No: 18/54/14/0113 Details: General Farming & Domestic Direct Source: Groundwater Midlands Region Point: Land At Sibford Ferris - Well Data Type: Point Name: BISHOP Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/2/1967 Expiry Date: - Issue No: 100 Version Start Date: 16/2/1967 Version End Date:
Not shown	1729	NW	433340 238300	Status: Historical Licence No: 18/54/14/0189 Details: General Farming & Domestic Direct Source: Groundwater Midlands Region Point: Coombe Slade Farm - Borehole Data Type: Point Name: SPITZLEY Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 31/3/1993 Expiry Date: - Issue No: 100 Version Start Date: 31/3/1993 Version End Date:
Not shown	1729	NW	433340 238300	Status: Historical Licence No: 18/54/14/0189 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Groundwater Midlands Region Point: Coombe Slade Farm - Borehole Data Type: Point Name: SPITZLEY Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 31/3/1993 Expiry Date: - Issue No: 100 Version Start Date: 31/3/1993 Version End Date:

6.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site? None identified

Database searched and no data found.

6.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site? None identified

Database searched and no data found.

6.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site? None identified

Database searched and no data found.

6.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site? None identified

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency/Natural Resources Wales information on groundwater vulnerability and soil leaching potential within 500m of the study site? Identified

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Minor Aquifer/Intermediate Leaching Potential	I1	Soils which can possibly transmit a wide range of pollutants.
236	S	Minor Aquifer/Intermediate Leaching Potential	I1	Soils which can possibly transmit a wide range of pollutants.

6.9 River Quality

Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site? None identified

6.9.1 Biological Quality:

Database searched and no data found.

6.9.2 Chemical Quality:

Database searched and no data found.

6.10 Ordnance Survey MasterMap Water Network

Are there any Ordnance Survey MasterMap Water Network entries within 500m of the study site? Yes

This watercourse information is provided by Ordnance Survey MasterMap Water Network. The data provides a detailed centre line following the curve of the waterway precisely, so all distances provided in the report should be understood as measurements to the centreline rather than a measurement to the nearest point of the watercourse. Underground watercourses are inferred from entry and exit points so caution is advised in using these to indicate precise locations of underground watercourses when planning site investigation and development.

The following Ordnance Survey MasterMap Water Network records are represented on the Hydrology Map (6e):

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
1	14.0 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
2	28.0 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
3	28.0 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
4	28.0 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
5	119.0 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: 2.8
6	119.0 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: 2.8

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
7	173.0 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
8	182.0 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: 2.2
9	243.0 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: 2.5
10	268.0 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
11	268.0 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
12	388.0 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
13	388.0 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
14	399.0 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
15	404.0 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
16	408.0 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: 3.2
17	408.0 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: 1.9
18	188.0 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: 2.8

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
19	188.0 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: 2.8
20	190.0 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
21	190.0 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: 3.1
22	367.0 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
23	367.0 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
3	14.0 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
4	28.0 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
5	28.0 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
6	28.0 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
7	119.0 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: 2.8
8	119.0 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: 2.8
9	173.0 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
10	182.0 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: 2.2
11	243.0 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: 2.5
12	268.0 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
13	268.0 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
Not shown	388.0 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
Not shown	388.0 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
Not shown	399.0 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
Not shown	404.0 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
Not shown	408.0 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: 3.2
Not shown	408.0 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: 1.9
20	188.0 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: 2.8
21	188.0 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: 2.8

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
22	190.0 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
23	190.0 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: 3.1
Not shown	367.0 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided
Not shown	367.0 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Severn Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section: Not Provided

6.11 Surface Water Features

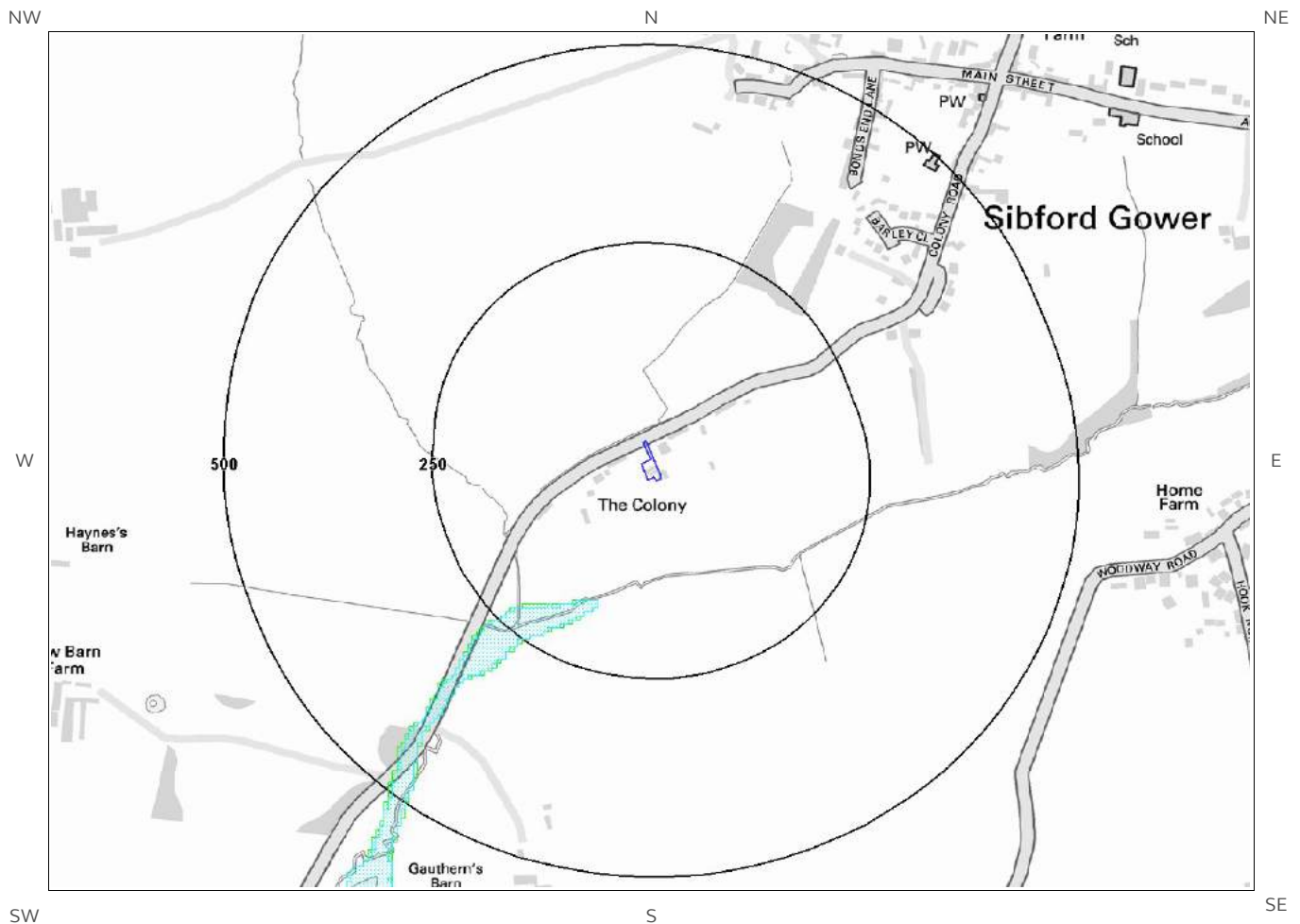
Are there any surface water features within 250m of the study site?

Identified

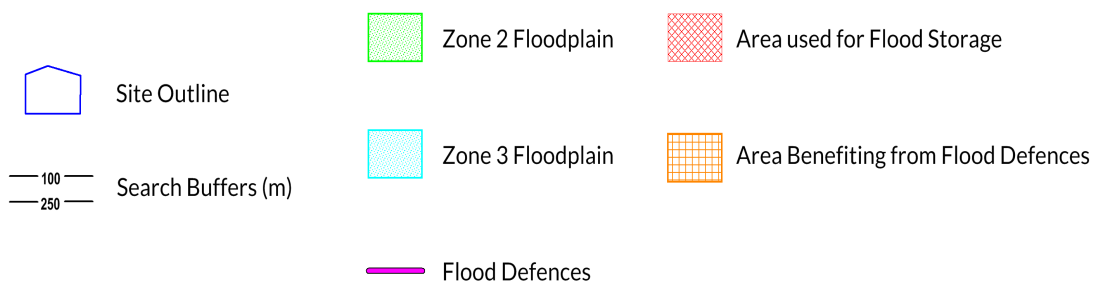
The following surface water records are not represented on mapping:

Distance (m)	Direction
14	NW
49	NE
117	S
163	W
173	W
191	SE
195	W

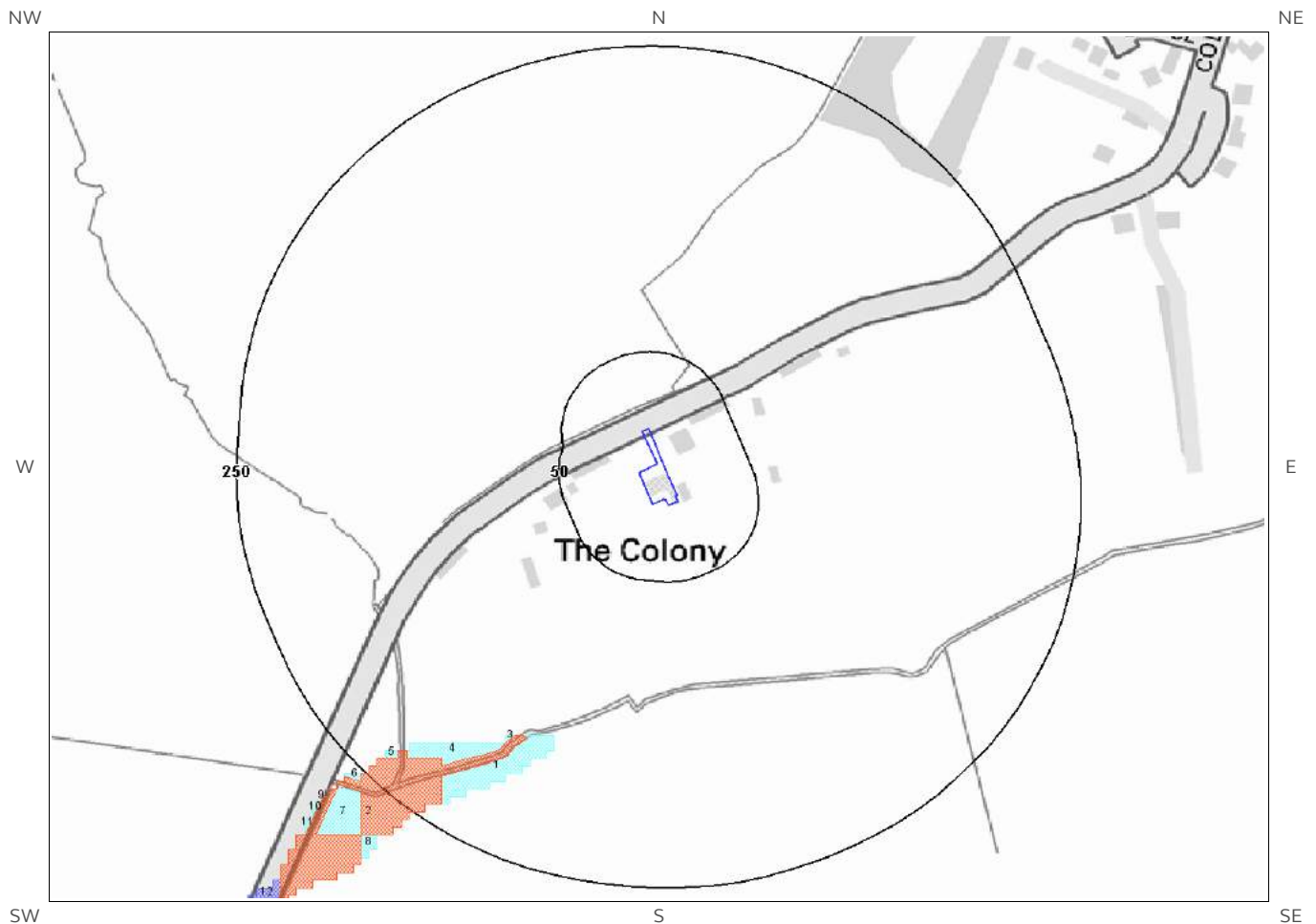
7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)



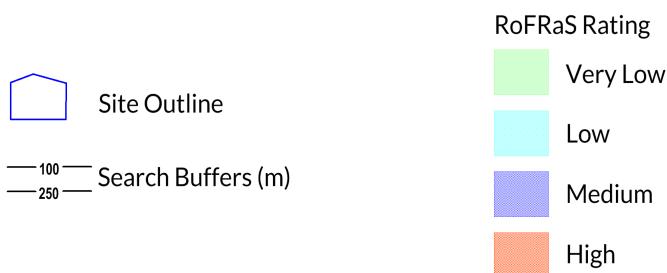
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7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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7 Flooding

7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 2 floodplain? Identified

Environment Agency/Natural Resources Wales Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

ID	Distance (m)	Direction	Update	Type
1	163	S	19-Mar-2018	Zone 2 - (Fluvial /Tidal Models)

7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 3 floodplain? Identified

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

ID	Distance (m)	Direction	Update	Type
1	163	S	19-Mar-2018	Zone 3 - (Fluvial Models)

7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

What is the highest risk of flooding onsite? Very Low

The Environment Agency/Natural Resources Wales RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Very Low (less than 1 in 1000) chance of flooding in any given year.

7.4 Flood Defences

Are there any Flood Defences within 250m of the study site? None identified
Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? None identified

7.6 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? None identified

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? Identified

Does this relate to Clearwater Flooding or Superficial Deposits Flooding? Clearwater Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Limited potential

Where limited potential for groundwater flooding to occur is indicated, this means that although given the geological conditions there may be a groundwater flooding hazard, unless other relevant information, e.g. records of previous flooding, suggests groundwater flooding has occurred before in this area, you need take no further action in relation to groundwater flooding hazard.

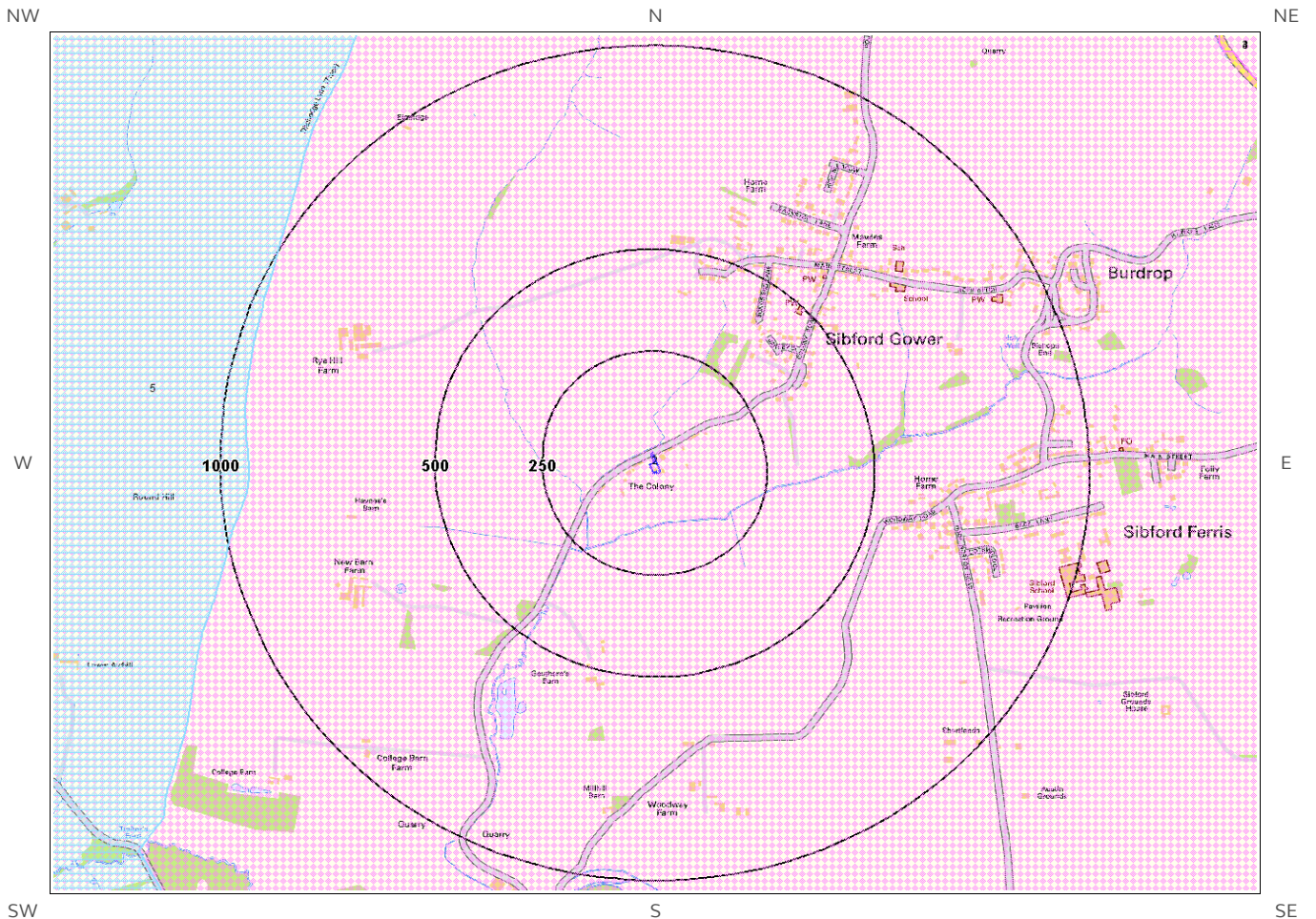
7.8 Groundwater Flooding Confidence Areas

What is the British Geological Survey confidence rating in this result? Low

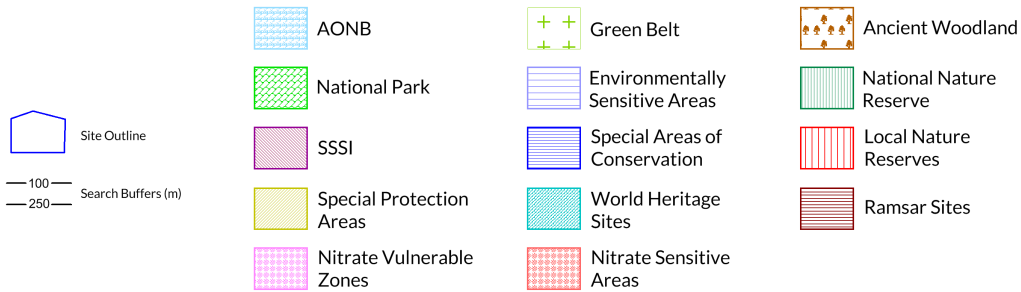
Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

8. Designated Environmentally Sensitive Sites Map



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8. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? Identified

8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

1

The following Site of Special Scientific Interest (SSSI) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	SSSI Name	Data Source
Not shown	1775	SW	Sharp's Hill Quarry	Natural England

8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

0

Database searched and no data found.

8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

0

Database searched and no data found.

8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.

8.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.