P3159.1.0

Site at Battisford Hall, Church Road, Battisford, Stowmarket, IP14 2HG

Combined Phase 1 and Phase 2 Geo-environmental Report

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Part 2 of 4

Appendix 1 Plans







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Appendix 2 Photographs



Photograph 1

Example of barns on the site and access track.



Photograph 2

Example of barns on the site and access track.



Photograph 3

Example of barns on the site and access track.



Photograph 4

Fuel pump located to the south of the site.

Photograph 5

Part of driveway to the south of the site.

Appendix 3 GroundSure Historical Maps and Reports



AGB Environmental Ltd Groundsure Reference: GS-5117457 A G B ENVIRONMENTAL LTD,341, EXNING NOAD, Vour Reference: Vour Reference: Q5486 NEWMARKET, CB8 0AT Report Date 8 Jun 2018 Report Delivery Email - pdf

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Method:

Enviro Insight

Address: BATTISFORD HALL, CHURCH ROAD, BATTISFORD, IP14 2HG

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,

, O

Managing Director Groundsure Limited

Enc. Groundsure Enviroinsight

Groundsure LOCATION INTELLIGENCE ENVIRONMENT

Address:	BATTISFORD HALL, CHURCH ROAD, BATTISFORD, IP14 2HG
Date:	8 Jun 2018
Reference:	GS-5117457
Client:	AGB Environmental Ltd

NW

W



SW

Aerial Photograph Capture date:15-May-2014Grid Reference:605626,254630Site Size:0.83ha

S

SE

NE

Е

Report Reference: GS-5117457 Client Reference: Q5486



Contents Page

Contents Page	3
Overview of Findings	6
Using this report	10
1. Historical Land Use	11
1. Historical Industrial Sites	12
1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping	12
1.2 Additional Information – Historical Tank Database	12
1.3 Additional Information – Historical Energy Features Database	12
1.4 Additional Information – Historical Petrol and Fuel Site Database	12
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	13
1.6 Potentially Infilled Land	13
2. Environmental Permits, Incidents and Registers Map	14
2. Environmental Permits, Incidents and Registers	15
2.1 Industrial Sites Holding Licences and/or Authorisations	15
2.1.1 Records of historic IPC Authorisations within 500m of the study site:	15
2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:	15
study site:	15 Ji une
2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:	15
2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:	15
2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:	16
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:	16
2.1.8 Records of Licensed Discharge Consents within 500m of the study site:	10
study site:	17
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:	17
2.2 Dangerous or Hazardous Sites	17
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents	17
2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:	17
2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:	18 19
2.4 Sites Determined as Contaminated Land Under Part 2A EPA 1990	10
S. Lanuniti and Other Waste Sites Map	19
3. Landfill and Other Waste Sites	20
3.1 Landfill Sites	20
3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study	site [.]
	20
3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:	20
3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:	20
3.2 Other Waste Sites	20
3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:	20
3.2.2 Records of Environment Agency/Natural Resources wates licensed waste sites within 1500m of the study	site. 21
4 Current Land Use Map	22
4 Current Land Uses	 23
4 1 Current Industrial Data	دے 22
4.2 Petrol and Fuel Sites	23
4.3 National Grid High Voltage Underground Electricity Transmission Cables	23
4.4 National Grid High Pressure Gas Transmission Pipelines	24



5. Geology	25
5.1 Artificial Ground and Made Ground	25
5.2 Superficial Ground and Drift Geology	25 25
5.5 Bedrock and Solid Geology	
	20
6a. Aquifer Within Superficial Geology	26
6b. Aquifer Within Bedrock Geology and Abstraction Licenses	27
6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses	28
6d. Hydrogeology – Source Protection Zones within confined aquifer	29
6e. Hydrology – Watercourse Network and River Quality	30
6.Hydrogeology and Hydrology	31
6.1 Aquifer within Superficial Deposits	31
6.2 Aquifer within Bedrock Deposits	31
6.3 Groundwater Abstraction Licences	
6.4 Surface Water Abstraction Licences	
6.5 Potable Water Abstraction Licences	
6.7 Source Protection Zones within Confined Aquifer	
6.8 Groundwater Vulnerability and Soil Leaching Potential	
6.9 River Quality	
6.9.1 Biological Quality:	
6.9.2 Chemical Quality:	36
6.10 Ordnance Survey MasterMap Water Network	36
6.11 Surface Water Features	
/a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers ar	nd the sea) 39
7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea	a (RoFRaS)
7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map	a (RoFRaS) 40
7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding	a (RoFRaS) 40 41
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding 	a (RoFRaS) 40 41 41
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41 41
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41 41 41
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41 41 41 41
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41 41 41 41 41
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41 41 41 41 42 42 42
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41 41 41 42 42 42 42
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41 41 41 41 41 42 42 42 42 42 43
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41 41 41 41 42 42 42 43 44
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41 41 41 41 42 42 42 42 42 43 44 44
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41 41 41 41 42 42 42 42 43 44 44
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41 41 41 41 42 42 42 43 44 44 44 44
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41 41 41 41 41 42 42 42 42 43 44 44 44 44 44 44
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41 41 41 41 41 42 42 42 42 42 43 44 44 44 44 44 44
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41 41 41 41 41 42 42 42 43 44 42 43 44 42 43 44 44 5 45
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41 41 41 41 41 42 42 42 42 42 42 43 44 44 44 44 44 44 44 5 45 45
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41 41 41 41 42 42 42 42 42 42 42 43 44 44 44 44 44 44 44 45 45 45 45 45 45
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41 41 41 41 42 42 42 42 42 42 42 42 42 42 42 42 42
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41 41 41 41 42 42 42 42 42 42 43 44 44 44 44 44 44 44 44 44 44 44 44
 7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea Map 7 Flooding 7.1 River and Coastal Zone 2 Flooding	a (RoFRaS) 40 41 41 41 41 41 41 42 42 42 42 42 42 42 42 42 42 42 43 44 44 44 44 44 44 44 44 44 44 44 44



	JCATION INTELLIGENCE
8.14 Records of Green Belt land within 2000m of the study site:	46
9. Natural Hazards Findings	47
9.1 Detailed BGS GeoSure Data	
9.1.1 Shrink Swell	47
9.1.2 Landslides	47
9.1.3 Soluble Rocks	47
9.1.4 Compressible Ground	48
9.1.5 Collapsible Rocks	48
9.1.6 Running Sand	48
9.2 Radon	
9.2.1 Radon Affected Areas	49
9.2.2 Radon Protection	
10. Mining	50
10.1 Coal Mining	
10.2 Non-Coal Mining	
10.3 Brine Affected Areas	50
Contact Details	51
Standard Terms and Conditions	53



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	1	1	1
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	7	1	1
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	0	2	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	e	0-50m	51-25	0 2	51-500
4.1 Current Industrial Sites Data	2		0	0	No	ot 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 Records of Artificial Ground and Made Ground present beneath the study site			None ic	lentified		
5.2 Records of Superficial Ground and Drift Geology present beneath the study site			lden	tified		
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.						
Section 6: Hydrogeology and Hydrology			0-5	00m		
6.1 Records of Strata Classification in the Superficial Geology within 500m of the study site			Iden	tified		
6.2 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)	1	0	0	0	4	2
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	4	2
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	1	0
6.6 Source Protection Zones (within 500m of the study site)	1	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)	2	0	0	3	Not searched	Not searched



Section 6: Hydrogeology and Hydrology			0-5	00m		
	On-site	0-50m	51-250	251-500	501-1000	1000- 1500
6.9 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	0	8	12	Not searched	Not searched
6.11 Surface water features within 250m of the study site	Yes	Yes	Yes	Not searched	Not searched	Not searched

Section 7: Flooding

7.1 Enviroment Agency Zone 2 floodplains within 250m of the study site	None identified
7.2 Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site	None identified
7.3 Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site	Very Low
7.4 Flood Defences within 250m of the study site	None identified
7.5 Areas benefiting from Flood Defences within 250m of the study site	None identified
7.6 Areas used for Flood Storage within 250m of the study site	None identified
7.7 Maximum BGS Groundwater Flooding susceptibility within 50m of the study site	Limited potential
7.8 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	1	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	2	7
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	0	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	2	0	0	0	0	0
8.14 Records of Green Belt land	0	0	0	0	0	0
Section 9: Natural Hazards						
9.1 Maximum risk of natural ground subsidence			Lo	WC		
9.1.1 Maximum Shrink-Swell hazard rating identified on the study site			Lo	w		
9.1.2 Maximum Landslides hazard rating identified on the study site	Very Low					
9.1.3 Maximum Soluble Rocks hazard rating identified on the study site	Negligible					
9.1.4 Maximum Compressible Ground hazard rating identified on the study site	Negligible					
9.1.5 Maximum Collapsible Rocks hazard rating identified on the study site	2 Very Low					
9.1.6 Maximum Running Sand hazard rating identified on the study site	Very Low					
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 r	not in a Rado ar	on Affected e above the	Area, as less Action Leve	s than 1% of el.	properties
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?	No radon protective measures are necessary.					
Section 10: Mining						
10.1 Coal mining areas within 75m of the study site			None io	dentified		
10.2 Non-Coal Mining areas within 50m of the study site boundary			Iden	tified		
10.3 Brine affected areas within 75m of the study site			None io	dentified		



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





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: 3

ID	Distance [m]	Direction	Use	Date
1C	15	S	Unspecified Pit	1971
2D	237	SW	Cemetery	1971
3E	497	NE	Unspecified Ground Workings	1903

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: 9

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

ID	Distance(m)	Direction	Use	Date
4A	2	S	Pond	1905
5A	3	S	Pond	1884
6B	4	SE	Fish Pond	1884
7B	4	SE	Fish Pond	1905
88	5	S	Ponds	1953
9A	5	S	Ponds	1971
10C	15	S	Unspecified Pit	1971
11D	237	SW	Cemetery	1971
12E	497	NE	Unspecified Ground Workings	1903



2. Environmental Permits, Incidents and Registers Map





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:

Database searched and no data found.

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

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

0

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:

Database searched and no data found.

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

Database searched and no data found.

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

7

0

0

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

ID	Distance (m)	Direction	NGR	Det	ails
1	185	SW	605500 254400	Address: CHURCH HOUSE, CHURCH ROAD, BATTISFORD, STOWMARKET, IP14 5LF Effluent Type: UNSPECIFIED Permit Number: PR4LF326 Permit Version: 1	Receiving Water: soakaway Status: PRE NRA LEGISLATION WHERE ISSUE DATE < 01-SEP-89 (HISTORIC ONLY) Issue date: 05/11/1985 Effective Date: 05-Nov-1985 Revocation Date: 02/06/1997
2	208	S	605623 254329	Address: 3 & 4 CHURCH ROAD, BATTISFORD, STOWMARKET, SUFFOLK, IP14 2HQ Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: PRENF20494 Permit Version: 1	Receiving Water: TRIB OF THE RIVER GIPPING Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY Issue date: 09/03/2007 Effective Date: 09-Mar-2007 Revocation Date: -
3	271	SW	605380 254420	Address: GARDEN HOUSE, CHURCH ROAD, BATTISFORD, STOWMARKET, SUFFOLK, IP14 2HF Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: PRENF08571 Permit Version: 1	Receiving Water: Trib River Gipping Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 Issue date: 13/09/1993 Effective Date: 13-Sep-1993 Revocation Date: 31/10/1996
4A	350	SW	605300 254390	Address: THE OLD SUNDAY SCHOOL, BATTISFORD, SUFFOLK, IP14 2HE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: PRENF01167 Permit Version: 1	Receiving Water: Trib River Bat Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 Issue date: 13/07/1989 Effective Date: 13-Jul-1989 Revocation Date: 22/01/1992
5A	350	SW	605300 254390	Address: THE OLD SUNDAY SCHOOL, BATTISFORD, SUFFOLK, IP14 2HE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: PRENF01167 Permit Version: 2	Receiving Water: Trib River Bat Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 Issue date: 23/01/1992 Effective Date: 23-Jan-1992 Revocation Date: -



ID	Distance (m)	Direction	NGR	Deta	ails
6B	404	SW	605220 254410	Address: ROSE FARM BARN, BATTISFORD, NEEDHAM MARKET, IPSWICH, SUFFOLK, IP6 8HD Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: PRENF01516 Permit Version: 1	Receiving Water: Trib River Gipping Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 Issue date: 16/08/1989 Effective Date: 16-Aug-1989 Revocation Date: 21/01/1992
78	404	SW	605220 254410	Address: ROSE FARM BARN, BATTISFORD, NEEDHAM MARKET, IPSWICH, SUFFOLK, IP6 8HD Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: PRENF01516 Permit Version: 2	Receiving Water: TRIB RIVER GIPPING Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 Issue date: 22/01/1992 Effective Date: 22-Jan-1992 Revocation Date: -

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

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

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

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

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





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:

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

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.



0

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

Database searched and no data found.



4. Current Land Use Map





4. Current Land Uses

4.1 Current Industrial Data

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

2

0

 \cap

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Directio n	Company	NGR	Address	Activity	Category
1A	0	On Site	Silo	605599 254639	IP14	Hoppers and Silos	Farming
2A	0	On Site	Silo	605598 254645	IP14	Hoppers and Silos	Farming

4.2 Petrol and Fuel Sites

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

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:

Database searched and no data found.

Report Reference: GS-5117457 Client Reference: Q5486

23



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

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

Lex Code	Description	Rock Type
LOFT-DMTN	LOWESTOFT FORMATION	DIAMICTON

5.3 Bedrock and Solid Geology

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

Lex Code	Description	Rock Type
NCK-CHLK	NEWHAVEN CHALK FORMATION	CHALK
RCG-S	RED CRAG FORMATION	SAND

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



6 Hydrogeology and Hydrology 6a. Aquifer Within Superficial Geology





6b. Aquifer Within Bedrock Geology and Abstraction Licenses



Groundwater Abstraction Licence

Report Reference: GS-5117457 Client Reference: Q5486 Surface Water Abstraction Licence



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





Source Protection Zone 4 - Zone of Special Interest



250

500

Search Buffers (m)



6d. Hydrogeology – Source Protection Zones within confined aquifer



- 500



6e. Hydrology – Watercourse Network and River Quality





6.Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

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	Distanc e (m)	Direction	Designation	Description		
3	0	On Site	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		
4	327	Ν	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		
1	333	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		
2	415	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		

6.2 Aquifer within Bedrock Deposits

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	Distanc e (m)	Direction	Designation	Description
1	0	On Site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	327	Ν	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers



6.3 Groundwater Abstraction Licences

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	Distanc e (m)	Direction	ion NGR	Details			
5	0	On Site	605600 254640	Status: Historical Licence No: 7/35/08/*G/0037 Details: General Farming & Domestic Direct Source: Ground Water Source Of Supply Point: Bore At Battisford Hall Data Type: Point Name: HARWOODS BATTISFORD LTD	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 1/2/1966 Expiry Date: - Issue No: 100 Version Start Date: 1/2/1966 Version End Date:		
6	636	SE	606110 254100	Status: Historical Licence No: 7/35/08/*G/0037 Details: General Farming & Domestic Direct Source: Ground Water Source Of Supply Point: Well At Vale Fm,battisford Data Type: Point Name: HARWOODS BATTISFORD LTD	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 1/2/1966 Expiry Date: - Issue No: 100 Version Start Date: 1/2/1966 Version End Date:		
Not shown	806	Ν	605880 255450	Status: Historical Licence No: 7/35/08/*G/0204 Details: General Farming & Domestic Direct Source: Ground Water Source Of Supply Point: Bore At Badley Green Farm Data Type: Point Name: BADLEY GREEN FARM LTD	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 1/9/1991 Expiry Date: - Issue No: 100 Version Start Date: 1/9/1991 Version End Date:		
Not shown	806	Ν	605880 255450	Status: Historical Licence No: 7/35/08/*G/0204 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Ground Water Source Of Supply Point: Bore At Badley Green Farm Data Type: Point Name: BADLEY GREEN FARM LTD	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 1/9/1991 Expiry Date: - Issue No: 100 Version Start Date: 1/9/1991 Version End Date:		
Not shown	877	E	606550 254370	Status: Historical Licence No: 7/35/08/*G/0042 Details: General Farming & Domestic Direct Source: Ground Water Source Of Supply Point: Well At Gibbon's Fm,battisford Data Type: Point Name: WATSON	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 1/2/1966 Expiry Date: - Issue No: 100 Version Start Date: 1/8/1976 Version End Date:		
Not shown	1215	Ν	606040 255830	Status: Historical Licence No: 7/35/08/*G/0079 Details: General Farming & Domestic Direct Source: Ground Water Source Of Supply Point: Bore At Badley Hall,need.mkt. Data Type: Point Name: SCOTT	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 1/3/1966 Expiry Date: - Issue No: 100 Version Start Date: 1/3/1966 Version End Date:		



ID	Distanc e (m)	Direction	NGR	Details	
Not shown	1941	Ν	605020 256530	Status: Historical Licence No: 7/35/08/*G/0038 Details: General Farming & Domestic Direct Source: Ground Water Source Of Supply Point: Bore At Holyoak Fm,combs Data Type: Point Name: BROOM	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 1/2/1966 Expiry Date: - Issue No: 100 Version Start Date: 1/2/1966 Version End Date:

6.4 Surface Water Abstraction Licences

Surface Water Abstraction Licences within 2000m of the study site

Identified

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

ID	Distance (m)	Direction	NGR	Details	
12A	573	W	605030 254855	Status: Historical Licence No: AN/035/0008/004 Details: Spray Irrigation - Storage Direct Source: Surface Water Source Of Supply Point: Trib River Gipping Manor Farm Battisford Point B Data Type: Point Name: J E KNOCK & PARTNERS	Annual Volume (m ³): 16000 Max Daily Volume (m ³): 1000 Application No: NPS/WR/008211 Original Start Date: 1/11/2009 Expiry Date: 31/3/2014 Issue No: 2 Version Start Date: 25/5/2012 Version End Date:
13A	573	W	605030 254855	Status: Active Licence No: AN/035/0008/010 Details: Spray Irrigation - Storage Direct Source: Surface Water Source Of Supply Point: Trib River Gipping Manor Farm Battisford Point B Data Type: Point Name: J E KNOCK & PARTNERS	Annual Volume (m ³): 16000 Max Daily Volume (m ³): 1000 Application No: NPS/WR/020847 Original Start Date: 1/4/2014 Expiry Date: 31/3/2026 Issue No: 2 Version Start Date: 7/12/2016 Version End Date:
14	711	W	604860 254720	Status: Historical Licence No: AN/035/0008/004 Details: Spray Irrigation - Storage Direct Source: Surface Water Source Of Supply Point: Un-named Trib Of River Gipping Battisford Data Type: Point Name: J E KNOCK & PARTNERS	Annual Volume (m ³): 16000 Max Daily Volume (m ³): 105.96 Application No: NPSWR001863 Original Start Date: 1/11/2009 Expiry Date: 31/3/2014 Issue No: 1 Version Start Date: 1/11/2009 Version End Date:
Not shown	902	SW	604900 254000	Status: Active Licence No: 7/35/08/*S/0222 Details: Spray Irrigation - Storage Direct Source: Surface Water Source Of Supply Point: Ditch Tributary Of R Gipping, At Manor Farm, Battisford Data Type: Point Name: J E KNOCK & PARTNERS	Annual Volume (m ³): 9100 Max Daily Volume (m ³): 9100 Application No: NPS/WR/020848 Original Start Date: 20/12/1999 Expiry Date: 31/3/2020 Issue No: 2 Version Start Date: 23/10/2015 Version End Date:
Not shown	1181	W	604405 254413	Status: Active Licence No: AN/035/0008/010 Details: Spray Irrigation - Storage Direct Source: Surface Water Source Of Supply Point: Trib River Gipping Manor Farm Battisford Point A Data Type: Point Name: J E KNOCK & PARTNERS	Annual Volume (m ³): 16000 Max Daily Volume (m ³): 1000 Application No: NPS/WR/020847 Original Start Date: 1/4/2014 Expiry Date: 31/3/2026 Issue No: 2 Version Start Date: 7/12/2016 Version End Date:



ID	Distance (m)	Direction	NGR	Details		
Not shown	1299	W	604288 254397	Status: Historical Licence No: AN/035/0008/004 Details: Spray Irrigation - Storage Direct Source: Surface Water Source Of Supply Point: Trib River Gipping Manor Farm Battisford Point A Data Type: Point Name: J E KNOCK & PARTNERS	Annual Volume (m ³): 16000 Max Daily Volume (m ³): 1000 Application No: NPS/WR/008211 Original Start Date: 1/11/2009 Expiry Date: 31/3/2014 Issue No: 2 Version Start Date: 25/5/2012 Version End Date:	

6.5 Potable Water Abstraction Licences

Potable Water Abstraction Licences within 2000m of the study site

Identified

The following Potable Water Abstraction Licences records are represented as points, lines and regions on the SPZ and Potable Water Abstraction Licences Map (6c):

ID	Distanc e (m)	Direction	NGR	Details		
Not shown	806	Ν	605880 255450	Status: Historical Licence No: 7/35/08/*G/0204 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Ground Water Source Of Supply Point: Bore At Badley Green Farm Data Type: Point Name: BADLEY GREEN FARM LTD	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 1/9/1991 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:	

6.6 Source Protection Zones

Source Protection Zones within 500m of the study site

Identified

The following Source Protection Zones records are represented on the SPZ and Potable Water Abstraction Map (6c):

ID	Distanc e (m)	Direction	Zone	Description
1	0	On Site	3	Total catchment



6.7 Source Protection Zones within Confined Aquifer

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

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	11	Soils which can possibly transmit a wide range of pollutants.
0	On Site	Minor Aquifer/Low Leaching Potential	L	Soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have the ability to attenuate diffuse pollutants.
303	SE	Minor Aquifer/High Leaching Potential	H1	Soils which readily transmit liquid discharges because they are shallow or susceptible to rapid flow directly to rock, gravel or groundwater.
424	E	Major Aquifer/Intermediate Leaching Potential	11	Soils which can possibly transmit a wide range of pollutants.
483	SE	Major Aquifer/High Leaching Potential	H1	Soils which readily transmit liquid discharges because they are shallow or susceptible to rapid flow directly to rock, gravel or groundwater.

6.9 River Quality

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.



Database searched and no data found.

6.10 Ordnance Survey MasterMap Water Network

Ordnance Survey MasterMap Water Network entries within 500m of the study site

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	1 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.7
2	1 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.7
12	1 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.7
13	1 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.7
3	124 W	-	Lake, loch or reservoir.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.7
14	124 W	-	Lake, loch or reservoir.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.7
4	168 SW	_	Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided



ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
15	168 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
5	245 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.8
6	245 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.8
16	245 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.8
17	245 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.8
7	267 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	267 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
8	272 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	272 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
9	285 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
10	285 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
20	285 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided



ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
21	285 - N		Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
11	404 - NE		Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.8
12	404 - NE		Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.8
Not shown	404 - NE		Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.8
Not shown	404 NE		Inland river not influenced by normal tidal action.	Catchment Area: Gipping Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.8

6.11 Surface Water Features

Surface water features within 250m of the study site

Identified

The following surface water records are not represented on mapping:

Distance (m)	Direction
0	S
5	SE
168	SW
169	S
243	Ν
248	SW



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





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





7 Flooding

7.1 River and Coastal Zone 2 Flooding

Environment Agency/Natural Resources Wales Zone 2 floodplain within 250m None 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:

Database searched and no data found.

7.2 River and Coastal Zone 3 Flooding

Environment Agency/Natural Resources Wales Zone 3 floodplain within 250m None 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.

Database searched and no data found.

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

Highest risk of flooding onsite

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

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

Very Low

7.5 Areas benefiting from Flood Defences

Areas benefiting from Flood Defences within 250m of the study site

None identified

7.6 Areas benefiting from Flood Storage

Areas used for Flood Storage within 250m of the study site

7.7 Groundwater Flooding Susceptibility Areas

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

Clearwater Flooding or Superficial Deposits Flooding

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

7.7.2 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

British Geological Survey confidence rating in this result

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.

Report Reference: GS-5117457 Client Reference: Q5486



None identified

Clearwater Flooding

low

42



8. Designated Environmentally Sensitive Sites Map





8. Designated Environmentally Sensitive Sites

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:

2

0

0

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
1	861	SE	Hascot Hill Pit	Natural England
Not shown	1919	Ν	Combs Wood	Natural England

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

Database searched and no data found.

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

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:

Database searched and no data found.

8.6 Records of Ancient Woodland within 2000m of the study site:

9

0

The following records of Designated Ancient Woodland provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
5	508	Ν	UNKNOWN	Ancient and Semi-Natural Woodland
6	579	NW	UNKNOWN	Ancient and Semi-Natural Woodland
7	1221	E	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1525	S	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1530	S	UNKNOWN	Ancient Replanted Woodland
Not shown	1542	E	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1738	NE	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1830	NE	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1920	Ν	UNKNOWN	Ancient and Semi-Natural Woodland

8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

Database searched and no data found.

8.8 Records of World Heritage Sites within 2000m of the study site:

Database searched and no data found.

0

0



8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

Database searched and no data found.

8.11 Records of National Parks (NP) within 2000m of the study site:

0

0

0

Database searched and no data found.

8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

Database searched and no data found.

8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

2

The following Nitrate Vulnerable Zone records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NVZ Name	Data Source
3	0	On Site	Existing	DEFRA
4	0	On Site	Existing	DEFRA

8.14 Records of Green Belt land within 2000m of the study site:

Database searched and no data found.

0

9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a **Groundsure Geo Insight**, available from **our website**. The following information has been found:

9.1.1 Shrink Swell

Maximum Shrink-Swell*^{*} hazard rating identified on the study site

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

9.1.2 Landslides

Maximum Landslide* hazard rating identified on the study site

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

Hazard

9.1.3 Soluble Rocks

Maximum Soluble Rocks* hazard rating identified on the study site

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

* This indicates an automatically generated 50m buffer and site.

Groundsure LOCATION INTELLIGENCE

Negligible

Very Low

Low

.

Hazard

9.1.4 Compressible Ground

Maximum Compressible Ground* hazard rating identified on the study site

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

Hazard

9.1.5 Collapsible Rocks

Maximum Collapsible Rocks* hazard rating identified on the study site

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

Hazard

9.1.6 Running Sand

Maximum Running Sand** hazard rating identified on the study site

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

This indicates an automatically generated 50m buffer and site.

Very Low

Very Low

Negligible

9.2 Radon



9.2.1 Radon Affected Areas

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 not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

The radon data in this report is supplied by the BGS/Public Health England and is the definitive map of Radon Affected Areas in Great Britain and Northern Ireland. The dataset was created using long-term radon measurements in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland, combined with geological data. The dataset is considered accurate to 50m to allow for the margin of error in geological lines, and the findings of this report supercede any answer given in the less accurate Indicative Atlas of Radon in Great Britain, which simplifies the data to give the highest risk within any given 1km grid square. As such, the radon atlas is considered indicative, whereas the data given in this report is considered definitive.

9.2.2 Radon Protection

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? No radon protective measures are necessary.



10. Mining

10.1 Coal Mining

Coal mining areas within 75m of the study site

None identified

Identified

Database searched and no data found.

10.2 Non-Coal Mining

Non-Coal Mining areas within 50m of the study site boundary

The following non-coal mining information is provided by the BGS:

Distance (m)	Direction	Name	Commodity	Assessment of likelihood
0.0	On Site	Not available	Chalk	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered

Past underground mine workings are uncommon, localised and of limited area. The rock types present in this area are such that minor mineral veins may be present within them on which it is possible that there have been attempts to work these by underground methods and/or it is possible that small scale underground extraction of other materials may have occurred. All such occurrences are likely to be restricted in size and infrequent. It should be noted, however, that there is always the possibility of the existence of other sub-surface excavations, such as wells, cess pits, follies, air raid shelters/bunkers and other military structures etc. that could affect surface ground stability but which are outside the scope of this dataset. However, if in a coalfield area you should still consider a Coal Authority mining search for the area of interest.

10.3 Brine Affected Areas

Brine affected areas within 75m of the study site Guidance: No Guidance Required.

None identified



Contact Details

Groundsure Helpline Telephone: 08444 159 000 info@groundsure.com



British Geological Survey Enquiries

Kingsley Dunham Centre Keyworth, Nottingham NG12 5GG Tel: 0115 936 3143. Fax: 0115 936 3276. Email:

Web:www.bgs.ac.uk BGS Geological Hazards Reports and general geological enquiries: enquiries@bgs.ac.uk

> **Environment Agency** National Customer Contact Centre, PO Box 544 Rotherham, S60 1BY Tel: 03708 506 506 Web: www.environment-agency.gov.uk Email: enquiries@environment-agency.gov.uk

Public Health England Public information access office Public Health England, Wellington House 133-155 Waterloo Road, London, SE1 8UG www.gov.uk/phe Email:enquiries@phe.gov.uk Main switchboard: 020 7654 8000

> The Coal Authority 200 Lichfield Lane Mansfield Notts NG18 4RG Tel: 0345 7626 848 DX 716176 Mansfield 5 www.coal.gov.uk

Ordnance Survey Adanac Drive, Southampton SO16 0AS Tel: 08456 050505

LOCATION INTELLIGENCE



British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL





The Coal Authority



Local Authority Authority: Mid Suffolk District Council Phone: 0845 606 6067 Web: http://www.midsuffolk.gov.uk/ Address: Council Offices, 131 High Street, Needham Market,

> Gemapping PLC Virginia Villas, High Street, Hartley Witney, Hampshire RG27 8NW Tel: 01252 845444





Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, Natural England/Natural Resources Wales who retain the Copyright and Intellectual Property Rights for the data.

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Groundsure's Terms and Conditions can be viewed online at this link:

https://www.groundsure.com/terms-and-conditions-may25-2018



AGB Environmental Ltd	Groundsure Reference:	GS-5117458
A G B ENVIRONMENTAL LTD,341, EXNING ROAD, NEWMARKET, CB8 0AT	Your Reference:	Q5486
	Report Date	8 Jun 2018
	Report Delivery Method:	Email - pdf

Geo Insight

Address: BATTISFORD HALL, CHURCH ROAD, BATTISFORD, IP14 2HG

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geo 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,

, O

Managing Director Groundsure Limited

Enc. Groundsure Geo Insight



Address:	BATTISFORD HALL, CHURCH ROAD, BATTISFORD, IP14 2HG
Date:	8 Jun 2018
Reference:	GS-5117458
Client:	AGB Environmental Ltd

Ν

NW

W



SW

Aerial Photograph Capture date:15-May-2014Grid Reference:605626,254630Site Size:0.83ha

S

SE

NE



Contents Page

Contents Page	
Overview of Findings	5
1:10,000 Scale Availability	
Availability of 1:10,000 Scale Geology Mapping	9
1 Geology (1:10,000 scale)	
1.1 Artificial Ground map (1:10,000 scale)	10
1. Geology 1:10,000 scale	
1.1 Artificial Ground	11
1.2 Superficial Deposits and Landslips map (1:10,000 scale)	12
1.2 Superficial Deposits and Landslips	13
1.2.1 Superficial Deposits/ Drift Geology	
1.2.2 Landslip	
1.3 Bedrock and linear features map (1:10,000 scale)	14
1.3 1 Bedrock/ Solid Geology	
1.3.2 Linear features	
2 Geology 1:50,000 Scale	
2.1 Artificial Ground map	16
2. Geology 1:50,000 scale	
2.1 Artificial Ground	
2.1.1 Artificial/ Made Ground	
2.1.2 Permeability of Artificial Ground	
2.2 Superficial Deposits and Landslips map (1:50,000 scale)	
2.2 Superficial Deposits and Landslips	
2.2.2 Permeability of Superficial Ground	
2.2.3 Landslip	
2.2.4 Landslip Permeability	19
2.3 Bedrock and linear features map (1:50,000 scale)	
2.3 Bedrock, Solid Geology & linear features	
2.3.1 Bedrock/Solid Geology	
2.3.3 Linear features	
3 Radon Data	
3.1 Radon Affected Areas	
3.2 Radon Protection	22
4 Ground Workings map	
4 Ground Workings	
4.1 Historical Surface Ground Working Features derived from Historical Mapping	
4.2 Historical Underground Working Features derived from Historical Mapping	
4.3 Current Ground Workings	25
5 Mining, Extraction & Natural Cavities	
5.1 Historical Mining	
5.2 Coal Mining	27
5.3 Johnson Poole and Bloomer	27
5.4 Non-Coal Mining	27
5.5 Non-Coal Mining Cavities	
5.6 Natural Cavities	
5.7 Brine Extraction	
5.8 Gypsum Extraction	
5.9 TIN Mining	
5. TO Cidy Milling	
o Natural Ground Subsidence	
6. I Shrink-Swell Clay Map	
0.2 Lanusines Map	
6.4 Compressible Denosits man	
6.5 Collansible Deposits map	۲۵ دو
6.6 Running Sand map	



6 Natural Ground Subsidence	
6.1 Shrink-Swell Clays	36
6.2 Landslides	
6.3 Ground Dissolution of Soluble Rocks	37
6.4 Compressible Deposits	37
6.5 Collapsible Deposits	
6.6 Running Sands	
7 Borehole Records	
8 Estimated Background Soil Chemistry	
9 Railways and Tunnels map	
9 Railways and Tunnels	
9.1 Tunnels	
9.2 Historical Railway and Tunnel Features	
9.3 Historical Railways	43
9.4 Active Railways	43
9.5 Railway Projects	43



Overview of Findings

The Groundsure Geo Insight provides high quality geo-environmental information that allows geoenvironmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 and 1:10,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Non-coal mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and Groundsure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the 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: Geology 1:10,000 Scale

1.1 Artificial Ground	1.1 Is there any Artificial Ground/ Made Ground present beneath the study site at 1:10,000 scale?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site at 1:10,000 scale?*	Yes
	1.2.2 Are there any records of landslip within 500m of the study site boundary at 1:10,000 scale?	No
1.3 Bedrock, Solid Geology and linear features	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records of linear features within 500m of the study site boundary at 1:10,000 scale?	No
Section 2: Geolo	gy 1:50,000 Scale	
2.1 Artificial Ground	2.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	No
	2.1.2 Are there any records relating to permeability of artificial ground within the study site*boundary?	No
2.2 Superficial Geology and Landslips	2.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?*	Yes
	2.2.2 Are there any records of permeability of superficial ground within 500m of the study site?	Yes
	2.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	2.2.4 Are there any records relating to permeability of landslips within the study site* boundary?	No



Section 2: Geolo	ogy 1:50,000 Scale						
2.3 Bedrock, Solid Geology and linear features	2.3.1 For records of Bedrock and Solid Geolo site* see the detailed findings section.	gy beneath t	he study				
	2.3.2 Are there any records relating to permeability of bedrock ground within the study site boundary?			Yes			
	2.3.3 Are there any records of linear features within 500m of the study site boundary?			No			
Section 3: Rador	า						
3. Radon	3.11s the property in a Radon Affected Area a Protection Agency (HPA) and if so what perc above the Action Level?	Radon Affected Area as defined by the Health A) and if so what percentage of homes are ?			The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.		
	3.2Radon Protection			No radon j	protective me necessary.	easures are	
Section 4: Ground Workings		On-site	0-50m	51-250	251-500	501-1000	
4.1 Historical Surface Ground Working Features from Small Scale Mapping		0	7	1	Not Searched	Not Searched	
4.2 Historical Underground Workings from Small Scale Mapping		0	0	0	0	0	
4.3 Current Ground Workings		0	0	0	0	3	
Section 5: Minin	g, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000	
5.1 Historical Mining		0	0	0	0	0	
5.2 Coal Mining		0	0	0	0	0	
5.3 Johnson Poole and Bloomer Mining Area		0	0	0	0	0	
5.4 Non-Coal Mining]*	1	0	0	1	1	
5.5 Non-Coal Minin	g Cavities	0	0	0	0	0	
5.5 Natural Cavities		0	0	0	0	0	



Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.6 Brine Extraction	0	0	0	0	0
5.7 Gypsum Extraction	0	0	0	0	0
5.8 Tin Mining	0	0	0	0	0
5.9 Clay Mining	0	0	0	0	0
Section 6: Natural Ground Subsidence	On-site				
6.1 Shrink-Swell Clay	Low				
6.2 Landslides	Very Low				
6.3 Ground Dissolution of Soluble Rocks	Negligible				
6.4 Compressible Deposits	Negligible				
6.5 Collapsible Deposits	Very Low				
6.5 Running Sand	Very Low				
Section 7: Borehole Records	On-site 0-50m		5	1-250	
7 BGS Recorded Boreholes	0		0		1
Section 8: Estimated Background Soil Chemistry	On-site		0-50m	5	1-250
8 Records of Background Soil Chemistry	1		1		0
Section 9: Railways and Tunnels	On-site	0-50m	51-250	250-500	
9.1 Tunnels	0	0	0	Not Searched	
9.2 Historical Railway and Tunnel Features	0	0	0	Not Searched	
9.3 Historical Railways	0	0	0	Not Searched	
9.4 Active Railways	0	0	0	Not Searched	
9.5 Railway Projects	0	0	0	0	