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	2	15	30
1.2 Additional Information – Historical Tank Database	0	0	25	40
1.3 Additional Information – Historical Energy Features Database	0	0	0	2
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	2	12	16

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	10	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	4	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	9	8
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	1	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	1
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	2

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	1	4	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 Records of Artificial Ground and Made Ground present beneath the study site	None identified
5.2 Records of Superficial Ground and Drift Geology present beneath the study site	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 Records of Strata Classification in the Superficial Geology within 500m of the study site	Identified
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)	0	0	1	2	1	3
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	1
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	1	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)	0	0	0	1	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 Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site	No	Yes	No	No	No	Yes
6.10 Ordnance Survey MasterMap Water Network entries within 500m of the site	4	24	104	48	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	Identified
7.2 Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site	Identified
7.3 Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site	High
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	Potential at Surface
7.8 BGS confidence rating for the Groundwater Flooding susceptibility areas	Moderate

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	0
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	1	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	1	1	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	1	0	0	0	2	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	Moderate
9.1.1 Maximum Shrink-Swell hazard rating identified on the study site	Moderate
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	Moderate
9.1.5 Maximum Collapsible Rocks hazard rating identified on the study site	Very Low
9.1.6 Maximum Running Sand hazard rating identified on the study site	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 not in a Radon Affected Area, as less than 1% 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?	No radon protective measures are necessary.

Section 10: Mining

10.1 Coal mining areas within 75m of the study site	None identified
10.2 Non-Coal Mining areas within 50m of the study site boundary	None identified
10.3 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.

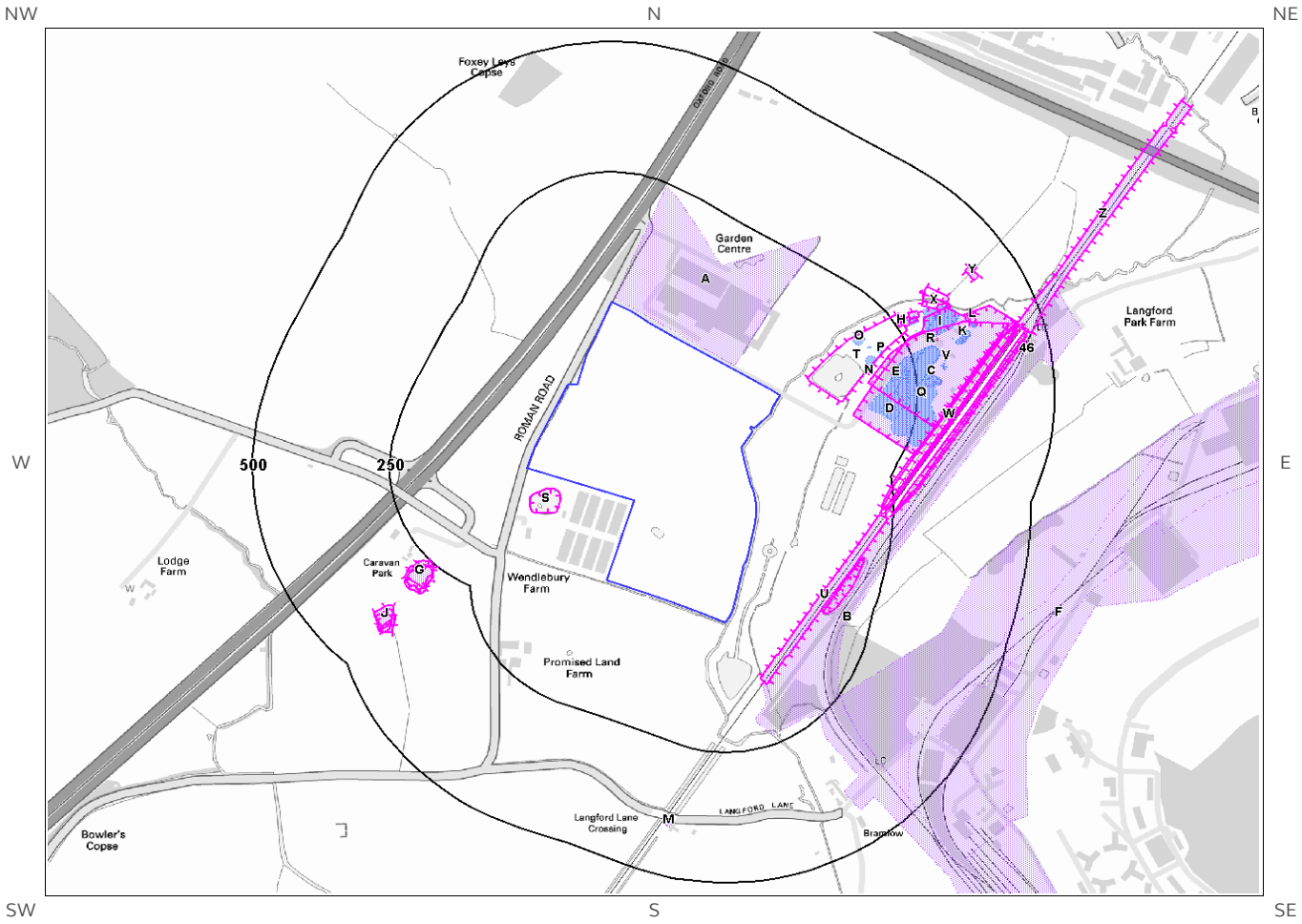
Note: Maps

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



Site Outline

250
500
Search Buffers (m)

Historical 1:10,000 and 1:10,560 scale mapping

Industrial Land Use

Potentially Infilled Land

Historical 1:2,500, 1:1,250 and 1:500 scale mapping

Energy Features

Petrol Stations

Tanks

Garages

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: 47

ID	Distance [m]	Direction	Use	Date
1A	7	NE	Nursery	1995
2A	7	NE	Nursery	1985
3U	112	SE	Cuttings	1880
4B	127	SE	Railway Sidings	1995
5B	127	SE	Railway Sidings	1970
6B	127	SE	Railway Sidings	1966
7B	127	SE	Railway Sidings	1985
8C	139	E	Sewage Works	1995
9C	139	E	Sewage Works	1985
10C	162	E	Sewage Farm	1970
11D	187	E	Unspecified Tanks	1995
12D	187	E	Unspecified Tanks	1985
13E	204	E	Unspecified Tanks	1995
14E	204	E	Unspecified Tanks	1985
15C	213	E	Unspecified Tanks	1995
16C	213	E	Unspecified Tanks	1970
17C	213	E	Unspecified Tanks	1985
18G	251	SW	Unspecified Pit	1882
19F	253	SE	Unspecified Depot	1970
20F	253	SE	Unspecified Depot	1995
21F	253	SE	Unspecified Depot	1985
22F	253	SE	Unspecified Depot	1966
23H	254	NE	Unspecified Heap	1966
24G	257	SW	Old Clay Pit	1898
25G	261	SW	Unspecified Pit	1880
26C	267	E	Unspecified Tanks	1995
27C	267	E	Unspecified Tanks	1985
28C	273	E	Unspecified Tanks	1970
29H	273	NE	Sewage Tank	1880
30H	277	NE	Sewage Tank	1882
31I	295	NE	Unspecified Tanks	1995
32I	295	NE	Unspecified Tanks	1985
33K	340	E	Unspecified Tanks	1970

34J	361	SW	Unspecified Ground Workings	1882
35J	368	SW	Unspecified Pit	1880
36K	373	E	Unspecified Tank	1995
37K	373	E	Unspecified Tank	1985
38L	374	NE	Sewage Tank	1919
39L	374	NE	Sewage Tank	1898
40L	374	NE	Sewage Tank	1950
41J	374	SW	Old Clay Pit	1898
42M	391	S	Railway Building	1970
43M	392	S	Railway Station	1995
44M	392	S	Railway Station	1985
45Y	412	NE	Unspecified Heap	1966
46	448	E	Railway Building	1966
47Z	450	E	Cuttings	1880

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: 65

ID	Distance (m)	Direction	Use	Date
48D	163	E	Tanks	1995
49D	163	E	Tanks	1995
50N	166	E	Unspecified Tank	1995
51N	166	E	Unspecified Tank	1995
52N	166	E	Unspecified Tank	1995
53N	166	E	Unspecified Tank	1995
54O	168	NE	Unspecified Tank	1995
55O	168	NE	Unspecified Tank	1995
56N	169	E	Unspecified Tank	1995
57N	169	E	Unspecified Tank	1995
58O	183	NE	Unspecified Tank	1995
59O	183	NE	Unspecified Tank	1995
60D	190	E	Tanks	1992
61D	190	E	Tanks	1993
62P	197	NE	Unspecified Tank	1995
63P	197	NE	Unspecified Tank	1995
64E	205	E	Tanks	1983
65E	207	E	Tanks	1992
66E	207	E	Tanks	1993
67C	231	E	Tanks	1966

68Q	232	E	Tanks	1996
69Q	232	E	Tanks	1995
70Q	232	E	Tanks	1996
71Q	232	E	Tanks	1995
72C	232	E	Tanks	1992
73C	265	E	Tanks	1992
74C	265	E	Tanks	1986
75H	272	NE	Urban District Council Sewage Tank	1922
76H	272	NE	Sewage Tank	1900
77H	272	NE	Sewage Tank	1881
78C	272	E	Tanks	1966
79H	275	NE	Unspecified Tank	1996
80H	275	NE	Unspecified Tank	1996
81H	277	NE	Unspecified Tank	1996
82H	277	NE	Unspecified Tank	1996
83R	290	E	Unspecified Tank	1996
84R	290	E	Unspecified Tank	1996
85R	290	E	Unspecified Tank	1995
86R	290	E	Unspecified Tank	1995
87I	294	NE	Tanks	1996
88I	294	NE	Tanks	1995
89I	294	NE	Tanks	1996
90I	294	NE	Tanks	1995
91I	295	NE	Tanks	1992
92I	295	NE	Tanks	1986
93C	298	E	Tanks	1996
94C	301	E	Unspecified Tank	1996
95V	306	E	Unspecified Tank	1996
96I	332	E	Unspecified Tank	1995
97I	332	E	Unspecified Tank	1996
98I	332	E	Unspecified Tank	1996
99I	332	E	Unspecified Tank	1995
100K	335	E	Tanks	1996
101K	335	E	Tanks	1995
102K	335	E	Tanks	1995
103K	335	E	Tanks	1996
104K	336	E	Tanks	1992
105K	336	E	Tanks	1986
106K	342	E	Tanks	1966
107K	373	E	Unspecified Tank	1996
108K	373	E	Unspecified Tank	1995
109K	373	E	Unspecified Tank	1996
110K	373	E	Unspecified Tank	1995
111K	374	E	Unspecified Tank	1992
112K	374	E	Unspecified Tank	1986

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: 2

ID	Distance (m)	Direction	Use	Date
113R	303	E	Electricity Substation	1986
114R	303	E	Electricity Substation	1992

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

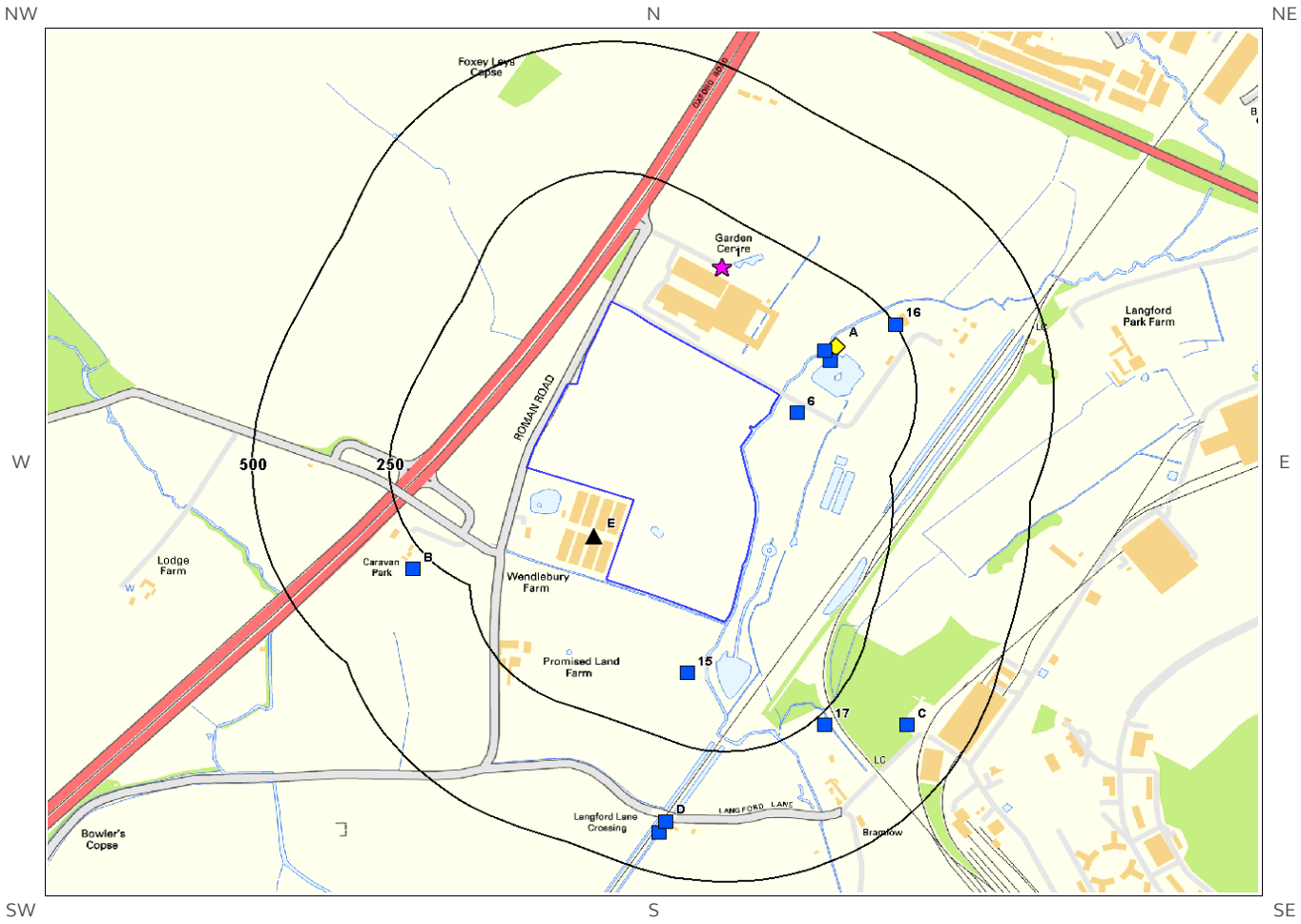
Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 30

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

ID	Distance(m)	Direction	Use	Date
115S	24	S	Pond	1985
116S	24	S	Pond	1995
117T	59	NE	Ponds	1985
118T	59	NE	Ponds	1995
119U	112	SE	Cuttings	1880
120C	139	E	Sewage Works	1985

121C	139	E	Sewage Works	1995
122U	160	E	Pond	1985
123U	160	E	Pond	1995
124V	162	E	Sewage Farm	1970
125W	226	E	Water Body	1880
126W	228	E	Water Body	1882
127W	241	E	Water Body	1882
128W	246	E	Pond	1880
129G	251	SW	Unspecified Pit	1882
130H	254	NE	Unspecified Heap	1966
131G	257	SW	Old Clay Pit	1898
132G	261	SW	Unspecified Pit	1880
133H	273	NE	Sewage Tank	1880
134H	277	NE	Sewage Tank	1882
135X	310	NE	Pond	1880
136X	317	NE	Pond	1882
137J	361	SW	Unspecified Ground Workings	1882
138J	368	SW	Unspecified Pit	1880
139L	374	NE	Sewage Tank	1919
140L	374	NE	Sewage Tank	1950
141L	374	NE	Sewage Tank	1898
142J	374	SW	Old Clay Pit	1898
143Y	412	NE	Unspecified Heap	1966
144Z	450	E	Cuttings	1880

2. Environmental Permits, Incidents and Registers Map



- Site Outline
- Search Buffers (m) (250, 500)
- Recorded Pollution Incident
- Dangerous Substances (List 1)
- Dangerous Substances (List 2)
- Water Industry Referrals
- Licenced Discharge Consents
- Red List Discharge Consents
- RAS 3 & 4 Authorisations
- Part A(1) Authorised Processes and Historic IPC Authorisations
- Part A(2) and Part B Authorised Processes
- COMAH / NIHHS Sites
- Sites Determined as Contaminated Land
- Hazardous Substance Consents and Enforcements

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:

10

The following Part A(1) and IPPC Authorised Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
34E	47	W	457430 220860	Operator: Faccenda Group Limited Installation Name: Wendlebury Farm Process: INTENSIVE FARMING; > 40,000 POULTRY	Permit Number: FP3238CF Original Permit Number: SP3637MV EPR Reference: - Issue Date: 3/4/2012 Effective Date: 3/4/2012 00:00:00 Last date noted as effective: 2018-03-01 Status: Superceded
35E	47	W	457430 220860	Operator: Faccenda Group Limited Installation Name: Wendlebury Farm Process: ASSOCIATED PROCESS	Permit Number: CP3631TR Original Permit Number: SP3637MV EPR Reference: - Issue Date: 30/6/2010 Effective Date: 30/6/2010 00:00:00 Last date noted as effective: 2018-03-01 Status: Superceded
36E	47	W	457430 220860	Operator: Faccenda Group Limited Installation Name: Wendlebury Farm Process: ASSOCIATED PROCESS	Permit Number: FP3238CF Original Permit Number: SP3637MV EPR Reference: - Issue Date: 3/4/2012 Effective Date: 3/4/2012 00:00:00 Last date noted as effective: 2018-03-01 Status: Superceded

ID	Distance (m)	Direction	NGR	Details	
37E	47	W	457430 220860	Operator: Faccenda Group Limited Installation Name: Wendlebury Farm Process: INTENSIVE FARMING; > 40,000 POULTRY	Permit Number: CP3631TR Original Permit Number: SP3637MV EPR Reference: - Issue Date: 30/6/2010 Effective Date: 30/6/2010 00:00:00 Last date noted as effective: 2018-03-01 Status: Superceded
38E	47	W	457430 220860	Operator: Faccenda Foods Limited Installation Name: Wendlebury Farm Poultry Unit Process: ASSOCIATED PROCESS	Permit Number: MP3935RW Original Permit Number: SP3637MV EPR Reference: - Issue Date: 4/12/2015 Effective Date: 4/12/2015 00:00:00 Last date noted as effective: 2018-03-01 Status: Effective
39E	47	W	457430 220860	Operator: Faccenda Foods Limited Installation Name: Wendlebury Farm Poultry Unit Process: INTENSIVE FARMING; > 40,000 POULTRY	Permit Number: MP3935RW Original Permit Number: SP3637MV EPR Reference: - Issue Date: 4/12/2015 Effective Date: 4/12/2015 00:00:00 Last date noted as effective: 2018-03-01 Status: Effective
40E	47	W	457430 220860	Operator: Faccenda Group Limited Installation Name: Wendlebury Farm Process: ASSOCIATED PROCESS	Permit Number: SP3637MV Original Permit Number: SP3637MV EPR Reference: - Issue Date: 24/8/2007 Effective Date: 24/8/2007 00:00:00 Last date noted as effective: 2018-03-01 Status: Superceded
41E	47	W	457430 220860	Operator: Faccenda Group Limited Installation Name: Wendlebury Farm Process: INTENSIVE FARMING; > 40,000 POULTRY	Permit Number: SP3637MV Original Permit Number: SP3637MV EPR Reference: - Issue Date: 24/8/2007 Effective Date: 24/8/2007 00:00:00 Last date noted as effective: 2018-03-01 Status: Superceded
42E	47	W	457430 220860	Operator: Faccenda Foods Limited Installation Name: Wendlebury Farm Process: ASSOCIATED PROCESS	Permit Number: ZP3136VD Original Permit Number: SP3637MV EPR Reference: - Issue Date: 23/6/2014 Effective Date: 23/6/2014 00:00:00 Last date noted as effective: 2018-03-01 Status: Superceded
43E	47	W	457430 220860	Operator: Faccenda Foods Limited Installation Name: Wendlebury Farm Process: INTENSIVE FARMING; > 40,000 POULTRY	Permit Number: ZP3136VD Original Permit Number: SP3637MV EPR Reference: - Issue Date: 23/6/2014 Effective Date: 23/6/2014 00:00:00 Last date noted as effective: 2018-03-01 Status: Superceded

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:

4

The following List 2 Dangerous Substance Inventory Site records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
2A	138	NE	457871 221227	Name: Haul Waste Disposal Ltd Status: Active Receiving Water: Langford Brook	Authorised Substances: Chromium, Copper, Lead, Nickel, Zinc
3A	138	NE	457871 221227	Name: Powdertech (bicester) Ltd Status: Active Receiving Water: -	Authorised Substances: Zinc
4A	138	NE	457871 221227	Name: Hardide Ltd Status: Active Receiving Water: Langford Brook	Authorised Substances: Chromium, Copper, Lead, Nickel, Silver, Zinc
5A	138	NE	457871 221227	Name: Bicester Stw Status: Active Receiving Water: Langford Brook	Authorised Substances: Iron

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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:

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

ID	Distance (m)	Direction	NGR	Details	
6	45	SE	457800 221100	Address: BICESTER STW, BICESTER, OXON Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CTCR.1293 Permit Version: 1	Receiving Water: LANGFORD BROOK Status: REVOKED - UNSPECIFIED Issue date: 09/10/1972 Effective Date: 31-Jan-1985 Revocation Date: 01/11/1989
7A	112	NE	457860 221200	Address: BICESTER STW, BICESTER, OXON Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CNTD.0023 Permit Version: 3	Receiving Water: LANGFORD BROOK Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 21/12/2000 Effective Date: 21-Dec-2000 Revocation Date: 31/03/2005
8A	112	NE	457860 221200	Address: BICESTER STW, BICESTER, OXON Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CNTD.0023 Permit Version: 1	Receiving Water: LANGFORD BROOK Status: BY DIRECT. OF SEC OF STATE, (WATER ACT 1989 SCHED Issue date: 02/11/1989 Effective Date: 02-Nov-1989 Revocation Date: 31/03/1990
9A	112	NE	457860 221200	Address: BICESTER STW, BICESTER, OXON Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CNTD.0023 Permit Version: 2	Receiving Water: LANGFORD BROOK Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 02/11/1989 Effective Date: 01-Apr-1990 Revocation Date: 20/12/2000
10A	118	NE	457850 221220	Address: BICESTER STW, BICESTER, OXON Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CNTD.0023 Permit Version: 4	Receiving Water: LANGFORD BROOK Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 31/03/2005 Effective Date: 01-Apr-2005 Revocation Date: 29/03/2006
11A	118	NE	457850 221220	Address: BICESTER STW, BICESTER, OXON Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CNTD.0023 Permit Version: 8	Receiving Water: LANGFORD BROOK Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 01/04/2010 Effective Date: 01-Apr-2010 Revocation Date: -
12A	118	NE	457850 221220	Address: BICESTER STW, BICESTER, OXON Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CNTD.0023 Permit Version: 5	Receiving Water: LANGFORD BROOK Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 30/03/2006 Effective Date: 30-Mar-2006 Revocation Date: 28/06/2007
13A	118	NE	457850 221220	Address: BICESTER STW, BICESTER, OXON Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CNTD.0023 Permit Version: 7	Receiving Water: LANGFORD BROOK Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 28/01/2009 Effective Date: 01-Apr-2009 Revocation Date: 31/03/2010

ID	Distance (m)	Direction	NGR	Details	
14A	118	NE	457850 221220	Address: BICESTER STW, BICESTER, OXON Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: CNTD.0023 Permit Version: 6	Receiving Water: LANGFORD BROOK Status: VARIED BY APPLICATION - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 29/06/2007 Effective Date: 29-Jun-2007 Revocation Date: 31/03/2009
15	118	S	457600 220600	Address: BICESTER (TOWN) STW, BICESTER, OX, BICESTER (TOWN) STW, BICESTER, OXON Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: CTCR.1723 Permit Version: 1	Receiving Water: LANGFORD BROOK Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV Issue date: 14/12/1980 Effective Date: 31-Jan-1985 Revocation Date: 07/03/2005
16	251	NE	457980 221270	Address: BICESTER SEWAGE TREATMENT WORKS, OXFORD ROAD, BICESTER, OXFORDSHIRE Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: CAWM.0807 Permit Version: 1	Receiving Water: THE LANGFORD BROOK Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY Issue date: 12/11/2004 Effective Date: 01-Jun-2004 Revocation Date: -
17	269	SE	457850 220500	Address: BICESTER GARRISON, HQ STATION, ARNC, BICESTER GARRISON, HQ STATION, A, RNCOTT, BICESTER, OXON Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: CATM.2739 Permit Version: 1	Receiving Water: LANGFORD BROOK Status: NEW CONSENT, BY APPLICATION (WRA 91, SECTION 88) Issue date: 21/03/1997 Effective Date: 21-Mar-1997 Revocation Date: 10/08/2006
18B	286	SW	457100 220800	Address: Oxford Road Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: TEMP.1653 Permit Version: 1	Receiving Water: GAGLE BROOK Status: TEMPORARY CONSENTS (WATER ACT 1989, SECTION 113) Issue date: 02/11/1989 Effective Date: 02-Nov-1989 Revocation Date: 02/09/2010
19B	286	SW	457100 220800	Address: Oxford Road Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: TEMP.1653 Permit Version: 2	Receiving Water: Gagle Brook Status: SURRENDERED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03-Sep-2010 Revocation Date: 13/10/2015
20C	386	SE	458000 220500	Address: M.O.D. Site 12E Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: TEMP.1422 Permit Version: 2	Receiving Water: Langford Brook Status: SURRENDERED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03-Sep-2010 Revocation Date: 13/10/2015
21C	386	SE	458000 220500	Address: M.O.D. Site 12E Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: TEMP.1422 Permit Version: 1	Receiving Water: LANGFORD BROOK Status: TEMPORARY CONSENTS (WATER ACT 1989, SECTION 113) Issue date: 02/11/1989 Effective Date: 02-Nov-1989 Revocation Date: 02/09/2010
22D	400	S	457561 220315	Address: ALCHESTER HOUSE, LANGFORD LANE CROSSING, WENDLEBURY, BICESTER, OXFORDSHIRE, OX25 2NS Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CAWM.1163 Permit Version: 1	Receiving Water: TRIB OF THE GAGLE BROOK Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY Issue date: 24/06/2005 Effective Date: 14-Jun-2005 Revocation Date: -

ID	Distance (m)	Direction	NGR	Details	
23D	423	S	457548 220294	Address: ALCHESTER HOUSE, LANGFORD LANE CROSSING, WENDLEBURY, BICESTER, OXFORDSHIRE, OX25 2NS Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CAWM.1163 Permit Version: 1	Receiving Water: TRIB OF THE GAGLE BROOK Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY Issue date: 24/06/2005 Effective Date: 14-Jun-2005 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

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:

1

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
1	160	NE	457662 221381	Incident Date: 09-Dec-2002 Incident Identification: 125299 Pollutant: Other Pollutant Pollutant Description: Microbiological	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

0

Database searched and no data found.

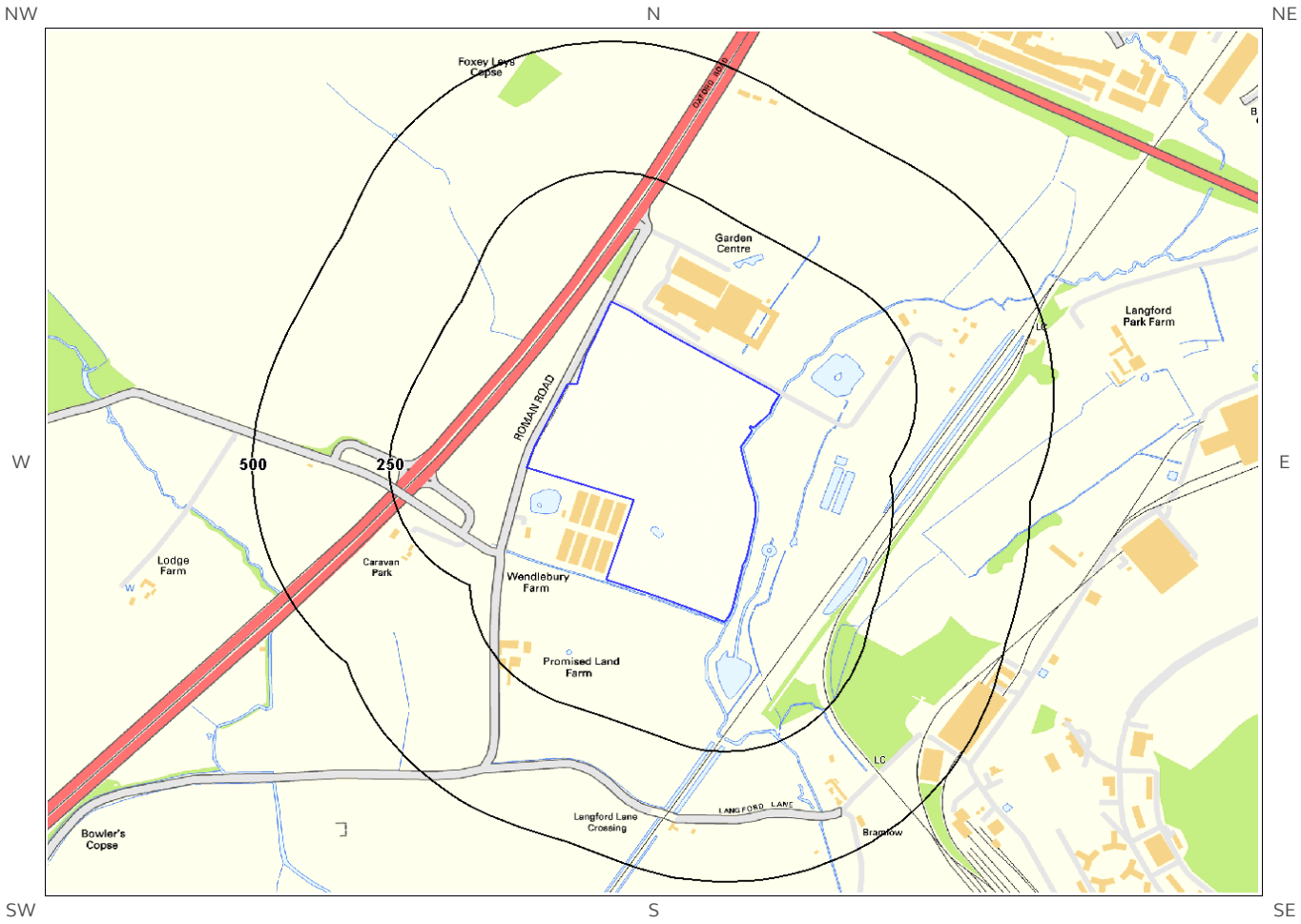
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

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



Site Outline

250
500
Search Buffers (m)

EA/NRW Active Landfill

EA/NRW Historic Landfill

BGS / DoE Survey Landfill

Historic and Planned Waste Sites

EA/NRW Licensed Waste Site

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:

1

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
Not shown	1312	NE	458800 221900	Site Address: London Road, Bicester, Oxfordshire Waste Licence: - Site Reference: 13.6.5821, TP0100 Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: Ploughley Rural District Council Licence Holder: - First Recorded: - Last Recorded: 31-Dec-1969

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:

2

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
Not shown	1150	NE	458622 221906	Site Address: McGregor Railway Services Ltd, Station Yard, London Road, Bicester, Oxfordshire, OX26 6HU Type: Metal Recycling Site (mixed MRS's) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MCG001 EPR reference: EA/EPR/CP3599EP/S003 Operator: McGregor Railway Services Ltd Waste Management licence No: 86100 Annual Tonnage: 0.0	Issue Date: 27/10/1994 Effective Date: - Modified: 28/05/2008 Surrendered Date: 18/11/2009 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: S. M. Mcgregor Correspondence Address: -
Not shown	1150	NE	458622 221906	Site Address: McGregor Railway Services Ltd, Station Yard, London Road, Bicester, Oxfordshire, OX26 6HU Type: Metal Recycling Site (mixed MRS's) Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MCG001 EPR reference: EA/EPR/CP3599EP/S003 Operator: McGregor Railway Services Ltd Waste Management licence No: 86100 Annual Tonnage: 0.0	Issue Date: 27/10/1994 Effective Date: - Modified: 28/05/2008 Surrendered Date: 18/11/2009 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: S. M. Mcgregor Correspondence Address: -

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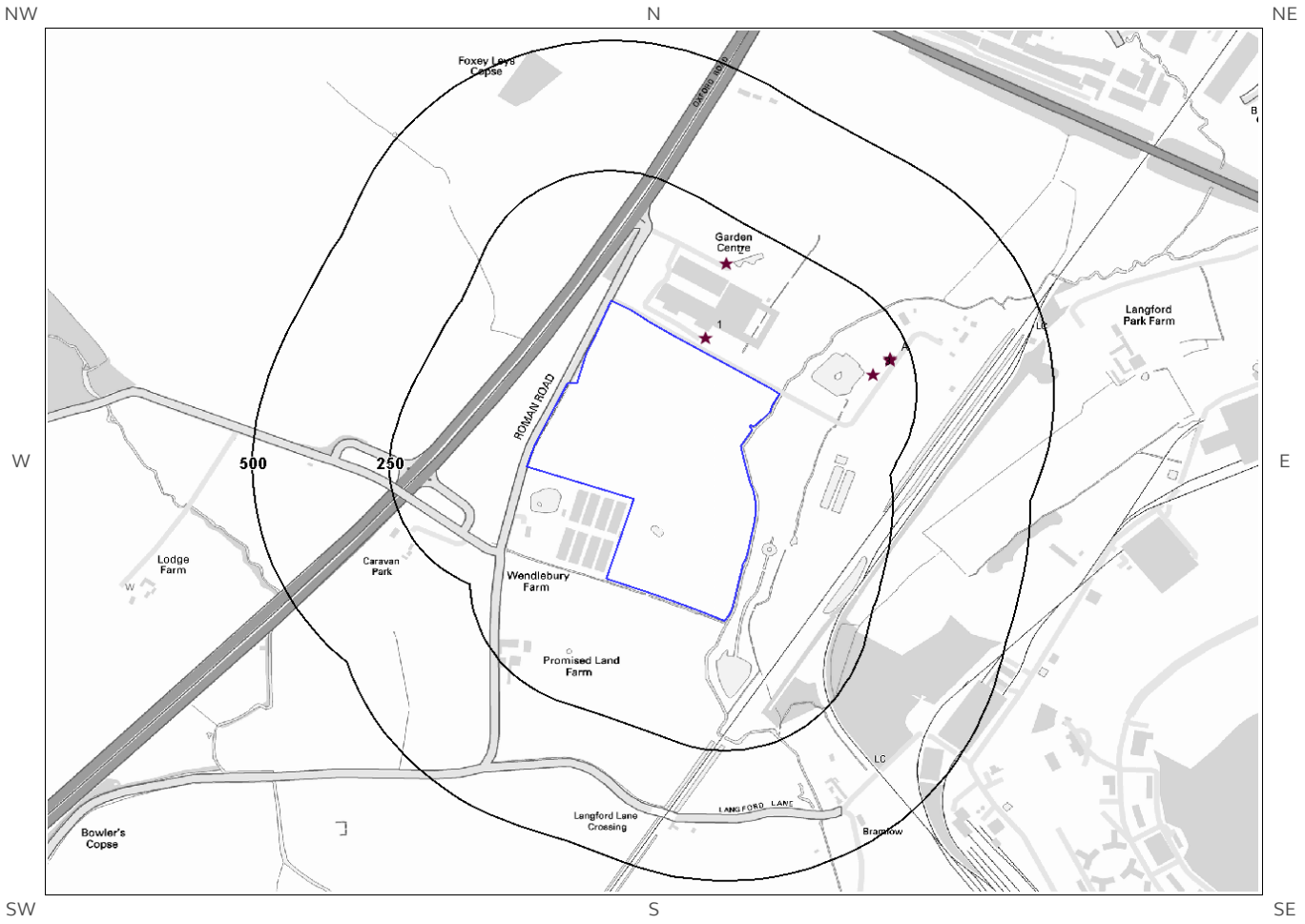
4. Current Land Use Map



Site Outline

Search Buffers (m)
250
500

Current Industrial Sites

Petrol & Fuel Sites

Electricity Transmission Cables

Gas Transmission Pipelines

4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 5

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

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	26	NE	Electricity Sub Station	457633 221244	OX25	Electrical Features	Infrastructure and Facilities
2	169	NE	Electricity Sub Station	457671 221387	OX25	Electrical Features	Infrastructure and Facilities
3	175	E	Works	457939 221173	OX25	Unspecified Works Or Factories	Industrial Features
4A	211	E	Sewage Works	457969 221201	OX25	Waste Storage, Processing and Disposal	Infrastructure and Facilities
5A	212	E	Sewage Works	457969 221203	OX25	Waste Storage, Processing and Disposal	Infrastructure and Facilities

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

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

Lex Code	Description	Rock Type
RTD1-XSV	RIVER TERRACE DEPOSITS, 1	SAND AND GRAVEL
RTD1-XSV	RIVER TERRACE DEPOSITS, 1	SAND AND GRAVEL
ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

5.3 Bedrock and Solid Geology

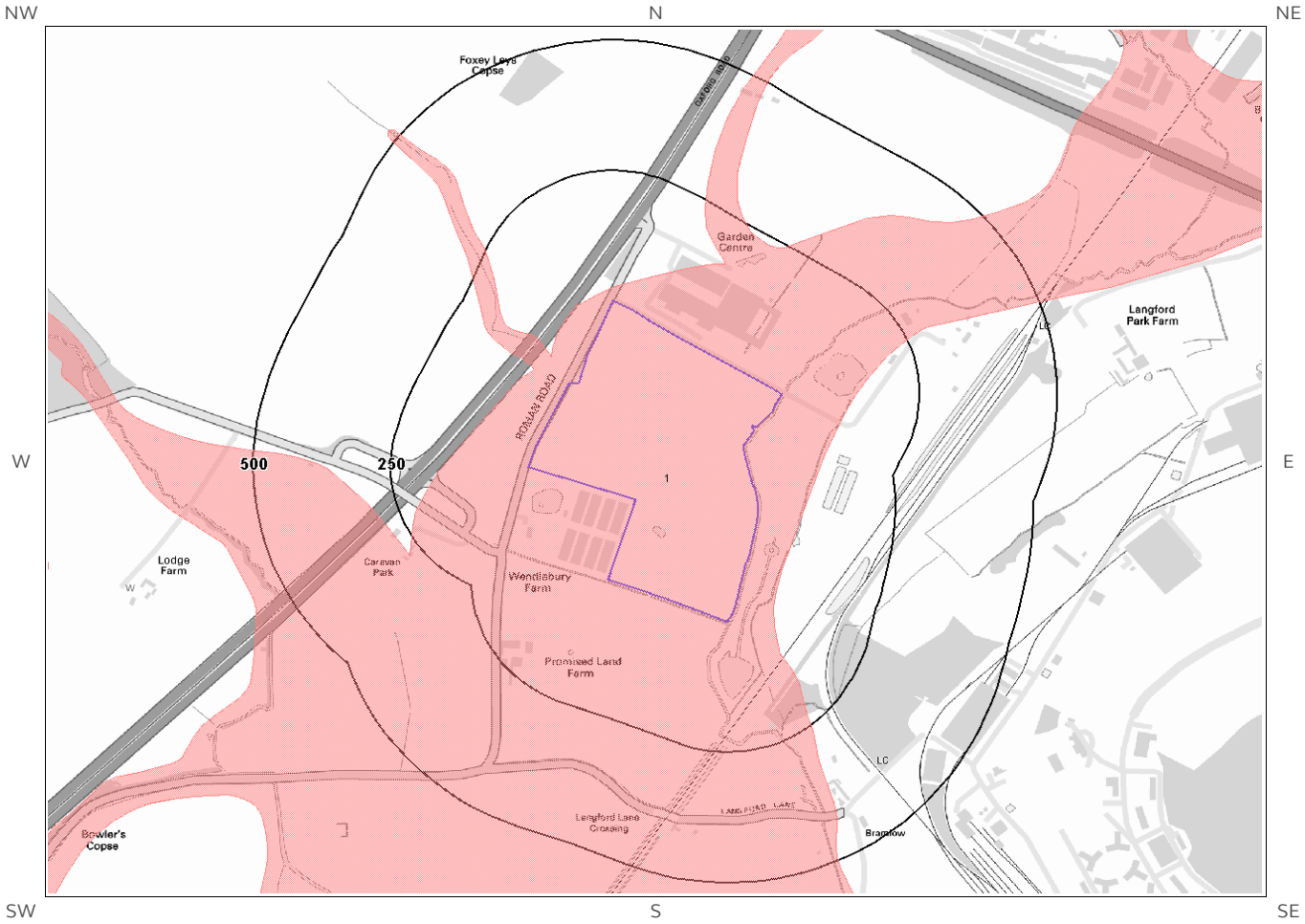
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
KLS-SDSL	KELLAWAYS SAND MEMBER	SANDSTONE AND SILTSTONE, INTERBEDDED
KLC-MDST	KELLAWAYS CLAY MEMBER	MUDSTONE

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

6 Hydrogeology and Hydrology

6a. Aquifer Within Superficial Geology



Site Outline

250
500
Search Buffers (m)

Principal Aquifer

Secondary (A) Aquifer - Permeable Layers

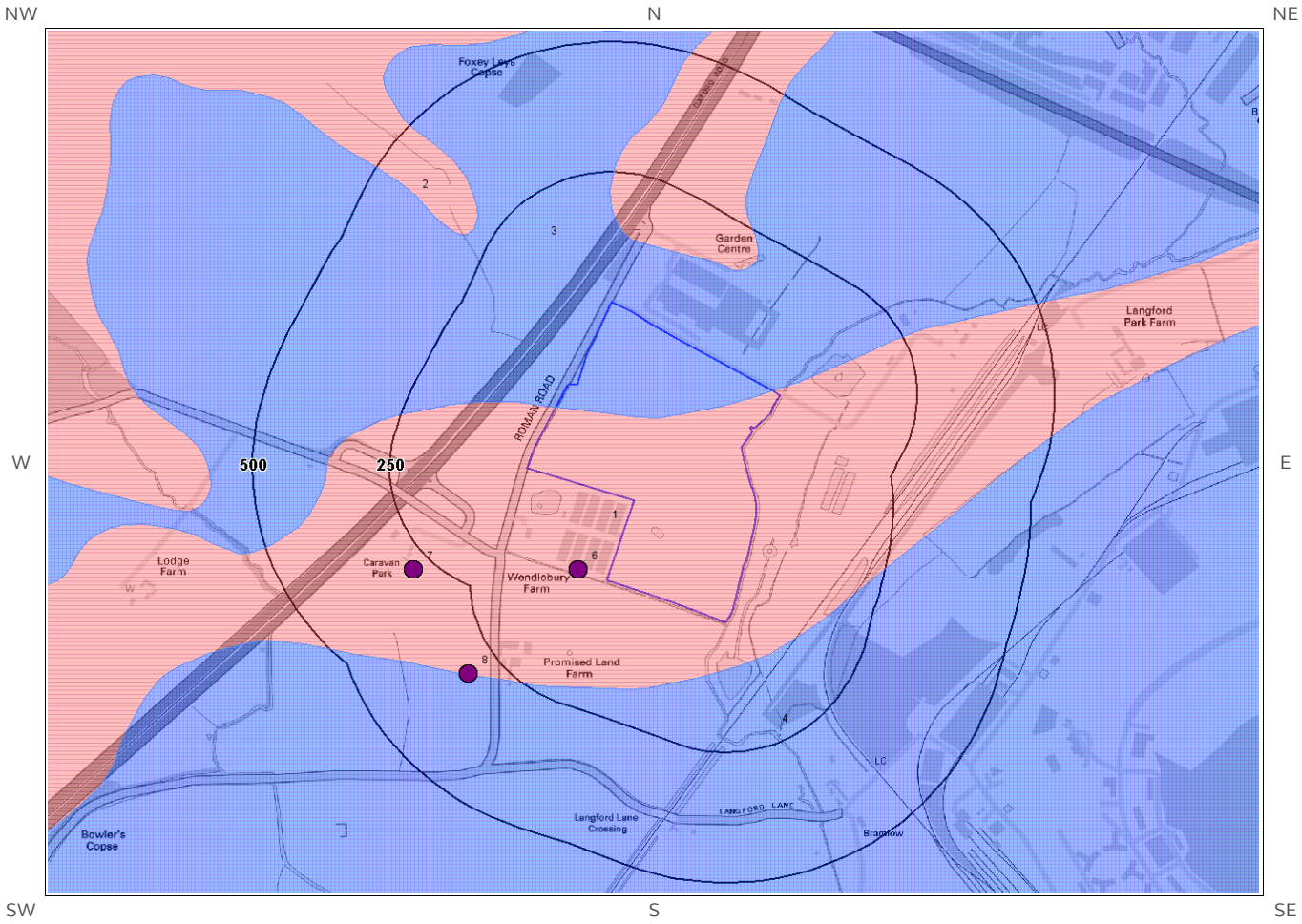
Secondary (B) Aquifer - Lower Permeability Layers

Secondary Aquifer - Undifferentiated Layers

Unproductive

Unknown (lakes and landslip)

6b. Aquifer Within Bedrock Geology and Abstraction Licenses



Site Outline

250
500
Search Buffers (m)

Principal Aquifer

Secondary (A) Aquifer - Permeable Layers

Secondary (B) Aquifer - Lower Permeability Layers

Groundwater Abstraction Licence

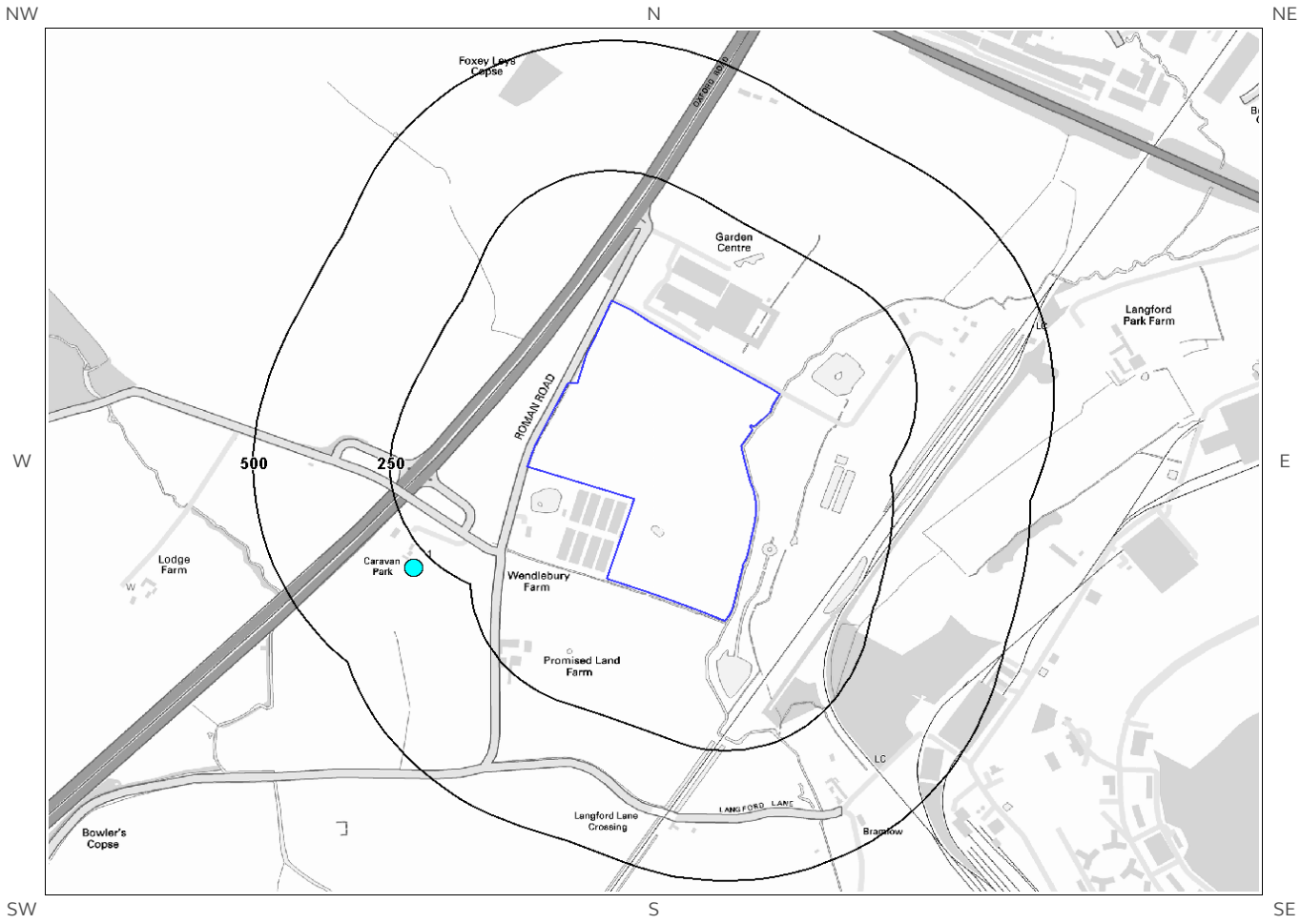
Secondary Aquifer - Undifferentiated Layers

Unproductive

Unknown (lakes and landslip)

Surface Water Abstraction Licence

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



Site Outline

250
500
Search Buffers (m)

Source Protection Zone 1 - Inner Catchment

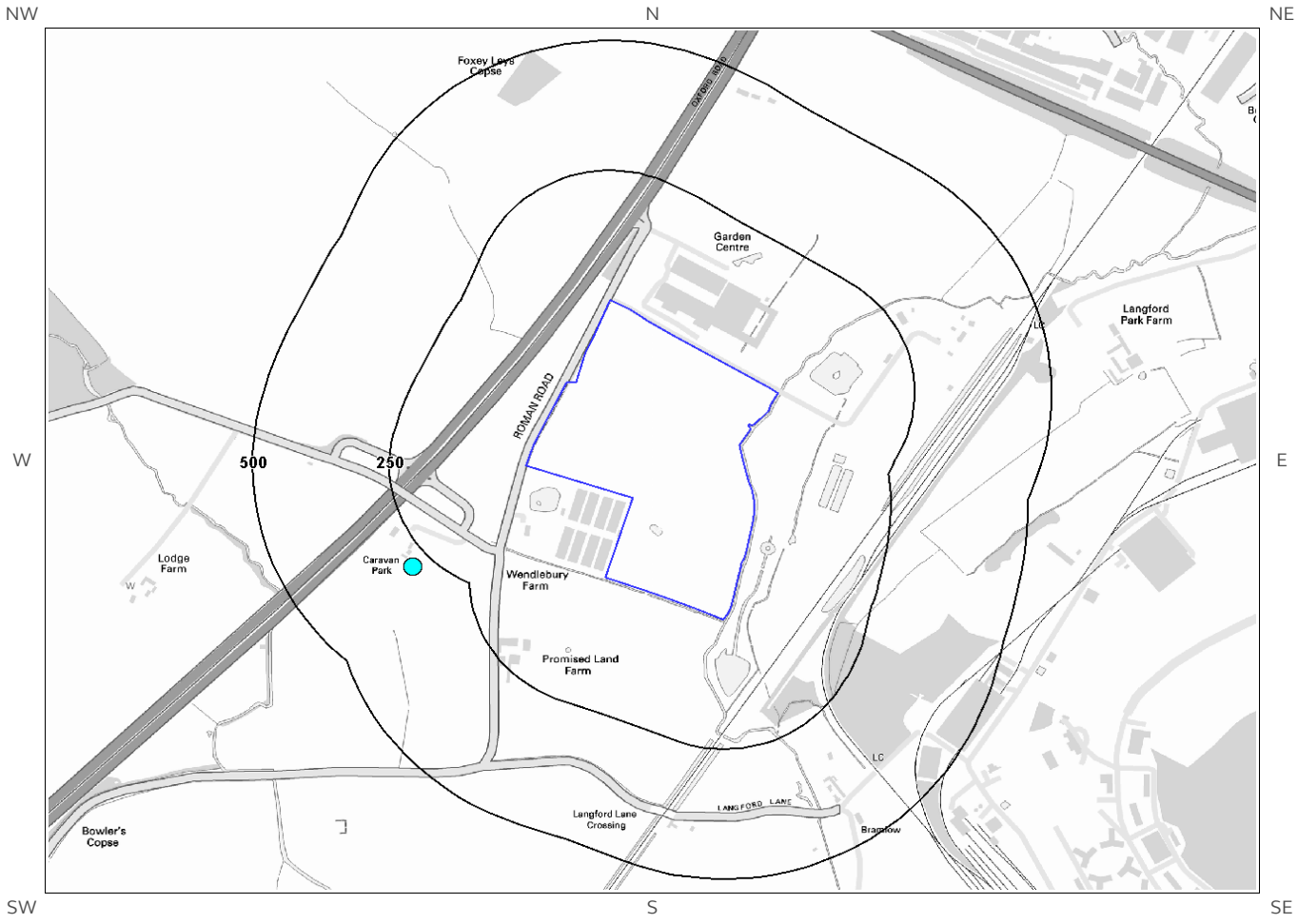
Source Protection Zone 2 - Outer Catchment

Source Protection Zone 3 - Total Catchment

Source Protection Zone 4 - Zone of Special Interest

Potable Water Abstraction Licence

6d. Hydrogeology – Source Protection Zones within confined aquifer



Source Protection Zone 1 - Inner Catchment

Source Protection Zone 2C - Outer Catchment within Confined Aquifer

Source Protection Zone 3C - Total Catchment within Confined Aquifer

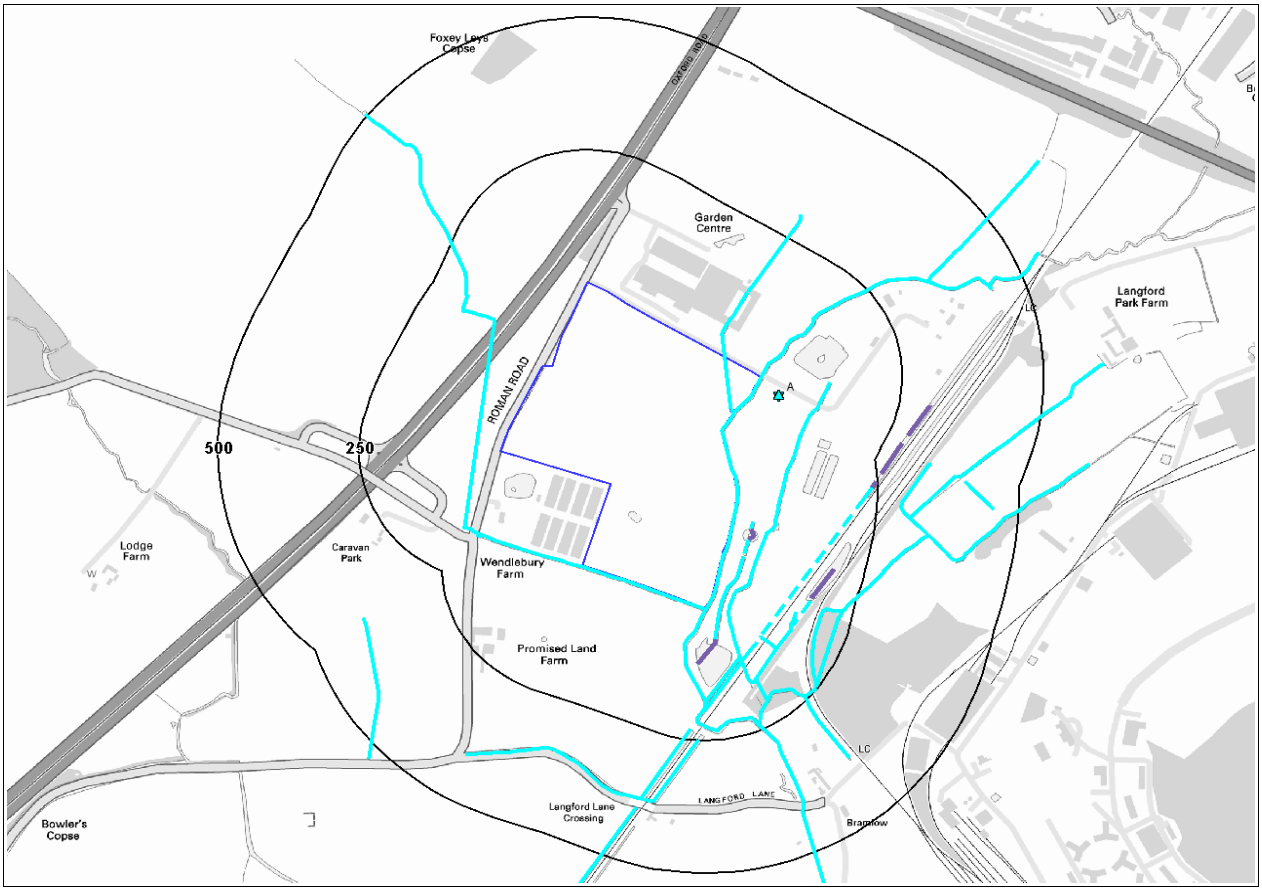
Site Outline

250
500
Search Buffers (m)

Potable Water Abstraction Licence

6e. Hydrology – Watercourse Network and River Quality

NW N NE



W E

SW S SE

Site Outline

250
500
Search Buffers (m)

Tidal River
Inland River
Underground or Elevated Tidal River
Underground or Elevated Inland River
Foreshore
General Quality Assessment: Chemistry

Canal
Underground or Elevated Canal
Lock or Flight of Locks
Lake, Reservoir, or Marsh
Drain or Transfer
General Quality Assessment: Biology

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	Distance (m)	Direction	Designation	Description
1	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

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	Distance (m)	Direction	Designation	Description
1	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
3	0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
4	87	S	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
2	127	N	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

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	
6	58	W	457400 220800	Status: Active Licence No: 28/39/14/0295 Details: General Farming & Domestic Direct Source: Thames Groundwater Point: Wendlebury Lane, Bicester (a) Data Type: Point Name: FACCENDA CHICKEN LTD	Annual Volume (m^3): 16593 Max Daily Volume (m^3): 68.2 Original Application No: WRA/5248 Original Start Date: 8/7/1983 Expiry Date: - Issue No: 100 Version Start Date: 8/7/1983 Version End Date:
7	286	SW	457100 220800	Status: Historical Licence No: 28/39/14/0300 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Bicester Trailer Park, Oxford Road, Wendlebury Data Type: Point Name: M & L ROSSITER	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: WRA./5517 Original Start Date: 19/3/1987 Expiry Date: - Issue No: 100 Version Start Date: 19/3/1987 Version End Date:
8	311	SW	457200 220600	Status: Historical Licence No: 28/39/14/0329 Details: General Farming & Domestic Direct Source: Thames Groundwater Point: Promised Land Farm, Bicester (a) Data Type: Point Name: PROMISED LAND FARM	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: WR.A/6293 Original Start Date: 16/11/1994 Expiry Date: - Issue No: 100 Version Start Date: 16/11/1994 Version End Date:
Not shown	859	NE	457990 222000	Status: Historical Licence No: 28/39/14/0349 Details: Pollution Remediation Direct Source: Thames Groundwater Point: Pringle Drive Filling Station Bicester Oxon Data Type: Point Name: ARCADIS GERAGHTY & MILLER INT INC.	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: WRW/A/1145 Original Start Date: 28/9/2004 Expiry Date: 31/3/2018 Issue No: 1 Version Start Date: 28/9/2004 Version End Date:
Not shown	1095	NW	456700 222100	Status: Historical Licence No: 28/39/14/0123 Details: General Farming & Domestic Direct Source: Thames Groundwater Point: Whitelands, Bicester (a) Data Type: Point Name: A D WOODLEY LTD	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: WR.A/1071 Original Start Date: 9/1/1967 Expiry Date: - Issue No: 100 Version Start Date: 9/1/1967 Version End Date:
Not shown	1145	SW	456400 220300	Status: Historical Licence No: 28/39/14/0326 Details: General Farming & Domestic Direct Source: Thames Groundwater Point: Bowlers Copse, Wendlebury (a) Data Type: Point Name: PAIN	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: WR.A/6034 Original Start Date: 29/12/1993 Expiry Date: - Issue No: 100 Version Start Date: 29/12/1993 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	1892	SW	455900 219700	Status: Historical Licence No: 28/39/14/0064 Details: General Farming & Domestic Direct Source: Thames Groundwater Point: Home Farm, Wendlebury (a) Data Type: Point Name: MILLER	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: WR.A/3179 Original Start Date: 10/10/1966 Expiry Date: - Issue No: 100 Version Start Date: 1/1/1985 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	
Not shown	1120	SE	457560 219140	Status: Active Licence No: 28/39/14/0350 Details: Make-Up Or Top Up Water Direct Source: Thames Surface Water - Non Tidal Point: Langford Brook At Merton Grounds Farm, Merton Data Type: Line Name: Emma Keeble and Francois Rodriges-Pereire	Annual Volume (m^3): 16256 Max Daily Volume (m^3): 145.47 Application No: NPS/WR/025972 Original Start Date: 6/5/2005 Expiry Date: 31/3/2018 Issue No: 3 Version Start Date: 9/6/2017 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	Distance (m)	Direction	NGR	Details	
1	286	SW	457100 220800	Status: Historical Licence No: 28/39/14/0300 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Bicester Trailer Park, Oxford Road, Wendlebury Data Type: Point Name: M & L ROSSITER	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: WRA./5517 Original Start Date: 19/3/1987 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 — None identified

Database searched and no data found.

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
463	NW	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.

6.9 River Quality

Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site — Identified

6.9.1 Biological Quality:

Biological Quality data describes water quality in terms of 83 groups of macroinvertebrates, some of which are pollution sensitive. The results are graded from A ('Very Good') to F ('Bad').

The following Biological Quality records are shown on the Hydrology Map (6e):

ID	Distance (m)	Direction	NGR	River Quality Grade	Biological Quality Grade				
					2005	2006	2007	2008	2009
92A	45	SE	457800 221100	River Name: Langford Brook Reach: Bicester Stw - Ray End/Start of Stretch: Start of Stretch NGR	B	B	B	B	B
93A	45	SE	457800 221100	River Name: Langford Brook Reach: Stratton Audley - Bicester Stw End/Start of Stretch: End of Stretch NGR	B	B	B	B	B

6.9.2 Chemical Quality:

Chemical quality data is based on the General Quality Assessment Headline Indicators scheme (GQAHI). In England, each chemical sample is measured for ammonia and dissolved oxygen. In Wales, the samples are measured for biological oxygen demand (BOD), ammonia and dissolved oxygen. The results are graded from A ('Very Good') to F ('Bad').

The following Chemical Quality records are shown on the Hydrology Map (6e):

ID	Distance (m)	Direction	NGR	River Quality Grade	Chemical Quality Grade				
					2005	2006	2007	2008	2009
94A	45	SE	457800 221100	River Name: Langford Brook Reach: Bicester Stw - Ray End/Start of Stretch: Start of Stretch NGR	C	C	C	C	B
95A	45	SE	457800 221100	River Name: Langford Brook Reach: Stratton Audley - Bicester Stw End/Start of Stretch: End of Stretch NGR	C	C	C	C	C
Not shown	1158	NE	458837 221580	River Name: Langford Brook Reach: Stratton Audley - Bicester Stw End/Start of Stretch: Sample Point NGR	C	C	C	C	C

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	0 On Site	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
2	0 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.8
16	0 On Site	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
17	0 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.8
3	1 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.6
18	1 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.6
4	2 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.8
5	2 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.5
19	2 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.8
20	2 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.5
6	3 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.2

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
21	3 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.2
7	20 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.6
22	20 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.6
8	35 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.4
23	35 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.4
9	36 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.3
10	36 E	-	Lake, loch or reservoir.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.1
11	36 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.6
12	36 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
24	36 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.3
25	36 E	-	Lake, loch or reservoir.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.1
26	36 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.6

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
27	36 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
13	37 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.1
14	37 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.7
28	37 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.1
29	37 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.7
15	44 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
30	44 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
16	63 S	-	Lake, loch or reservoir.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.6
31	63 S	-	Lake, loch or reservoir.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.6
17	66 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
32	66 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
18	69 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.3

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
33	69 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.3
19	102 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
34	102 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
20	106 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.4
35	106 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.4
21	111 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.4
22	111 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
36	111 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.4
37	111 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
23	112 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
24	112 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
25	112 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground 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
38	112 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
39	112 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
40	112 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
26	113 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
41	113 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.9
27	114 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
42	114 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
28	115 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
29	115 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.3
43	115 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
44	115 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.3
30	119 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames 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
31	119 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
45	119 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
46	119 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
32	121 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
47	121 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
33	122 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
34	122 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
48	122 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
49	122 NW	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
35	126 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
50	126 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
36	133 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames 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
51	133 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
37	134 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.3
52	134 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.3
38	143 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
53	143 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
39	149 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
40	149 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
54	149 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
55	149 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
41	150 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
56	150 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
42	152 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames 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
43	152 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
57	152 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
58	152 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
44	154 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
45	154 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
59	154 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
60	154 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
46	161 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
61	161 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
47	163 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
62	163 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
48	172 E	-	Lake, loch or reservoir.	Catchment Area: Thames 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
63	172 E	-	Lake, loch or reservoir.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
49	178 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.2
64	178 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.2
50	195 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
51	195 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.0
65	195 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
66	195 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.0
52	199 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.8
67	199 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.8
53	207 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.3
68	207 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 3.3
54	218 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames 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
69	218 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
55	226 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
70	226 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
56	227 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
71	227 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
57	228 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
72	228 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
58	230 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.9
59	230 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
73	230 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.9
74	230 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
60	232 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames 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
75	232 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
61	235 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.6
76	235 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.6
62	237 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.9
77	237 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.9
63	239 E	-	Lake, loch or reservoir.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
78	239 E	-	Lake, loch or reservoir.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
64	243 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 0.3
65	243 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.6
79	243 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 0.3
80	243 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.6
66	247 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames 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
81	247 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
67	249 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.3
82	249 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.3
68	293 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
83	293 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
69	309 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
70	309 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
84	309 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
85	309 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
71	311 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
86	311 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
72	345 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames 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
73	345 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
87	345 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
88	345 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
74	348 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.0
75	348 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
89	348 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.0
90	348 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
76	370 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames 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	370 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
77	376 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
78	376 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
79	376 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground 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
Not shown	376 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames 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	376 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames 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	376 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
80	390 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
95	390 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
81	395 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
82	395 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.2
96	395 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	395 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.2
83	398 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
98	398 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
84	400 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground 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
85	400 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
99	400 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
100	400 W	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
86	401 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.7
101	401 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.7
87	405 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
102	405 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
88	435 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
103	435 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
89	439 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
90	439 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.0
104	439 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
105	439 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.0
91	441 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
106	441 SW	-	Inland river not influenced by normal tidal action.	Catchment Area: Thames Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided

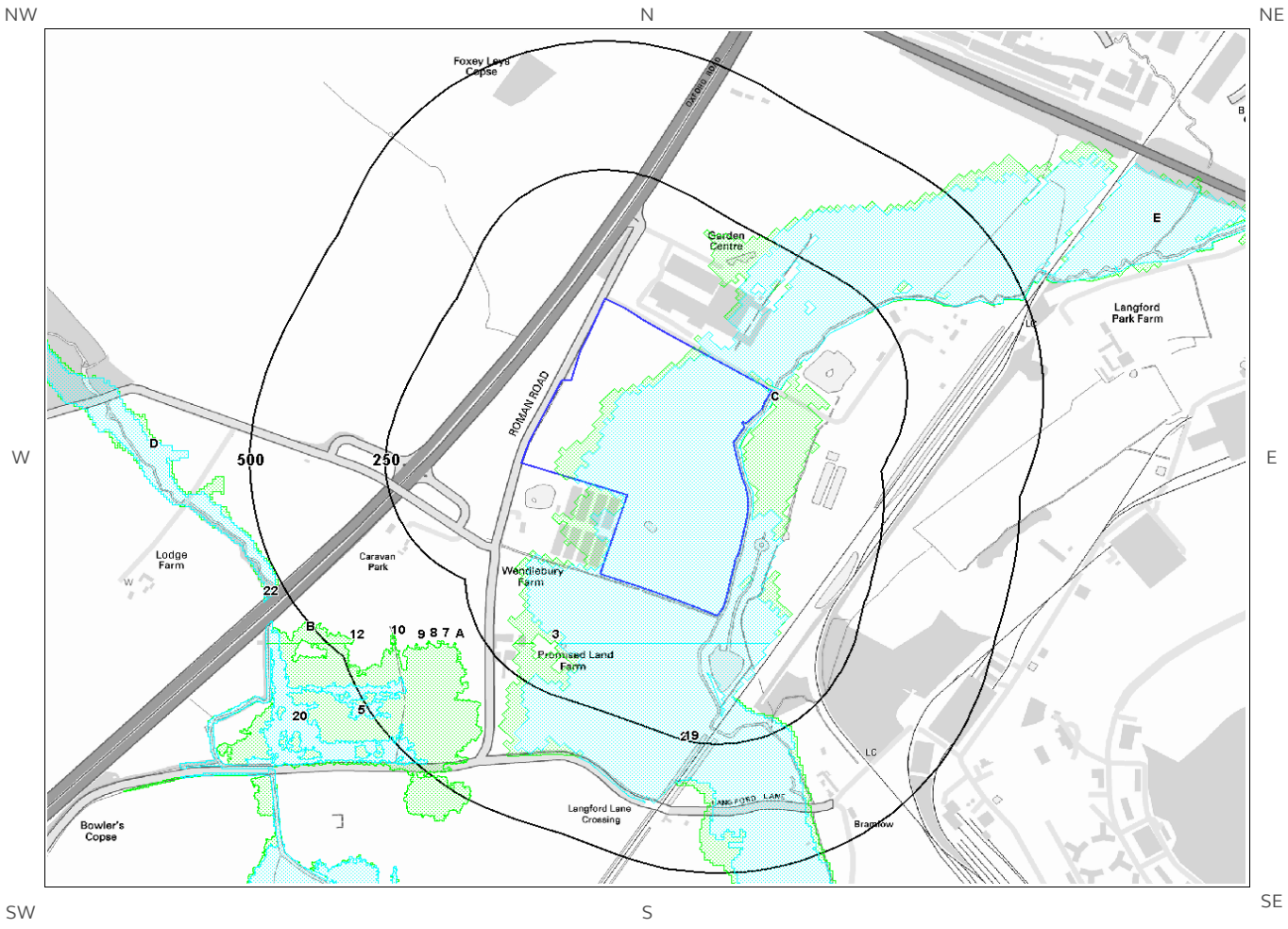
6.11 Surface Water Features

Surface water features within 250m of the study site — Identified

The following surface water records are not represented on mapping:

Distance (m)	Direction
0	On Site
1	SW
8	NE
18	E
23	E
24	S
36	E
66	NE
70	E
85	NW
103	NW
111	SE
116	E
134	NW
137	E
140	SE
145	SE
158	S
161	E
188	SE
196	E
198	SE
215	S
227	E
229	S
231	E
232	E
236	S
247	E

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



Site Outline

100
250
Search Buffers (m)

Zone 2 Floodplain

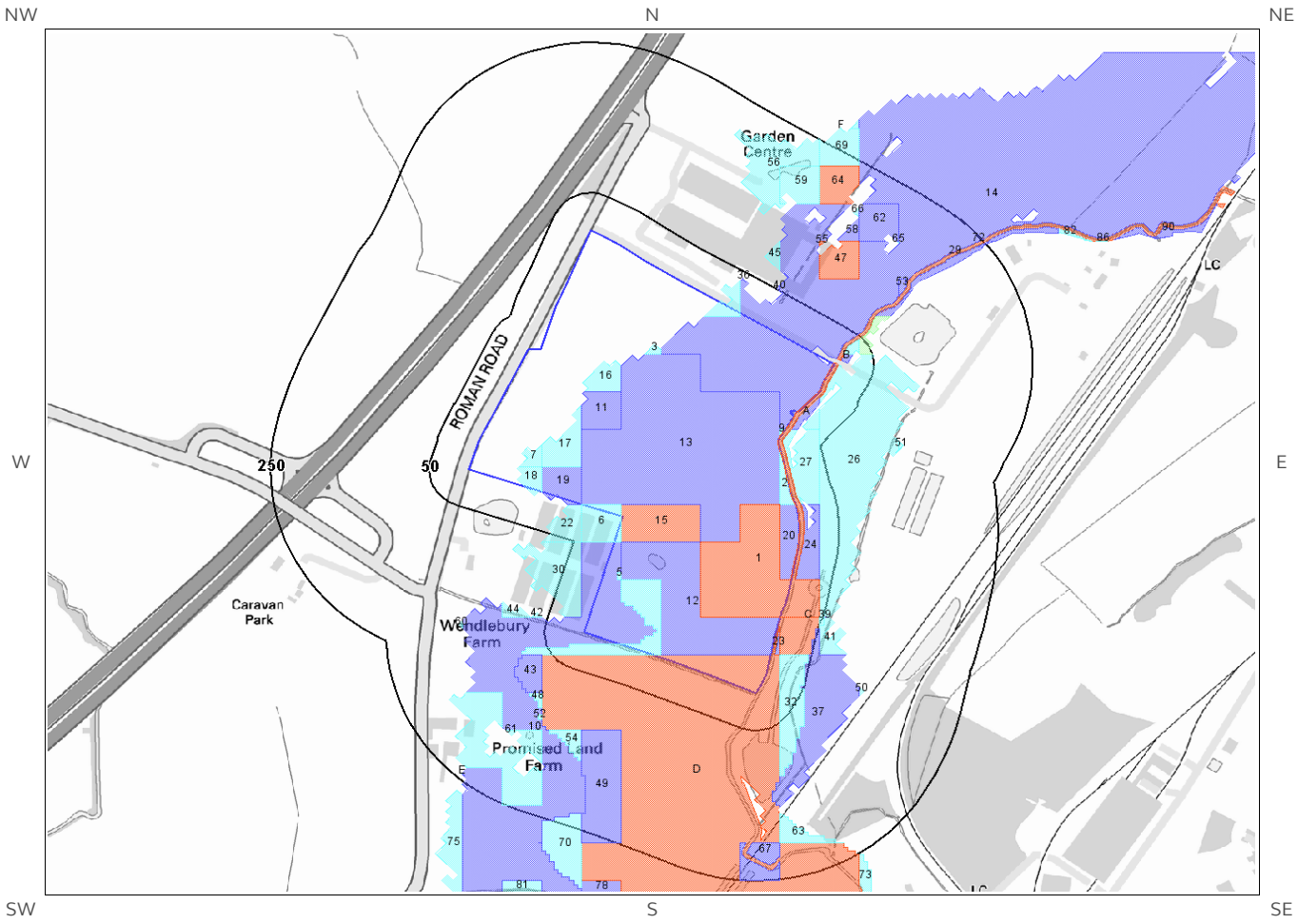
Zone 3 Floodplain

Flood Defences

Area used for Flood Storage

Area Benefiting from Flood Defences

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



Site Outline

100
250
Search Buffers (m)

RoFRaS Rating

- Very Low
- Low
- Medium
- High

Report Reference: EMS-482678_647815
Client Reference: EMS_482678_647815

7 Flooding

7.1 River and Coastal Zone 2 Flooding

Environment Agency/Natural Resources Wales Zone 2 floodplain within 250m — 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
1C	0	On Site	29-May-2018	Zone 2 - (Fluvial /Tidal Models)
2	55	S	29-May-2018	Zone 2 - (Fluvial /Tidal Models)
3	162	SW	29-May-2018	Zone 2 - (Fluvial /Tidal Models)

7.2 River and Coastal Zone 3 Flooding

Environment Agency/Natural Resources Wales Zone 3 floodplain within 250m — 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
1C	0	On Site	30-May-2018	Zone 3 - (Fluvial Models)
2	55	S	30-May-2018	Zone 3 - (Fluvial Models)

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

Highest risk of flooding onsite — High

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 High (1 in 30 or greater) chance of flooding in any given year.

Any relevant data within 250m is represented on the RoFRaS Flood map. Data to 50m is reported in the table below.

ID	Distance (m)	Direction	RoFRas flood Risk
1	0.0	On Site	High
2	0.0	On Site	Low
3	0.0	On Site	Low
4	0.0	On Site	Low
5	0.0	On Site	Low
6	0.0	On Site	Low
7	0.0	On Site	Low
8	0.0	On Site	Low
9	0.0	On Site	Low
10	0.0	On Site	Medium
11	0.0	On Site	Medium
12	0.0	On Site	Medium
13	0.0	On Site	Medium
14	0.0	On Site	Medium
15	0.0	On Site	High
16	0.0	On Site	Low
17	0.0	On Site	Low
18	0.0	On Site	Low
19	0.0	On Site	Medium
20	0.0	On Site	Medium
21D	0.0	On Site	High
22	0.0	S	Low
23	2.0	E	Medium
24	4.0	E	Medium
25A	4.0	SE	Medium
26	4.0	SE	Low
27	5.0	SE	Low
28C	6.0	E	Low
29	8.0	NE	High
30	10.0	W	Low
31B	10.0	NE	Medium
32	11.0	E	Low
33A	15.0	SE	Low

34B	19.0	NE	Low
35	36.0	NE	Very Low
36	41.0	NE	Medium
37	42.0	E	Medium
38C	47.0	E	Low
39	47.0	E	Medium
40	50.0	NE	Medium

7.4 Flood Defences

Flood Defences within 250m of the study site — None identified

Database searched and no data found.

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 — None identified

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 — Superficial Deposits 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 Highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions

Potential at Surface

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

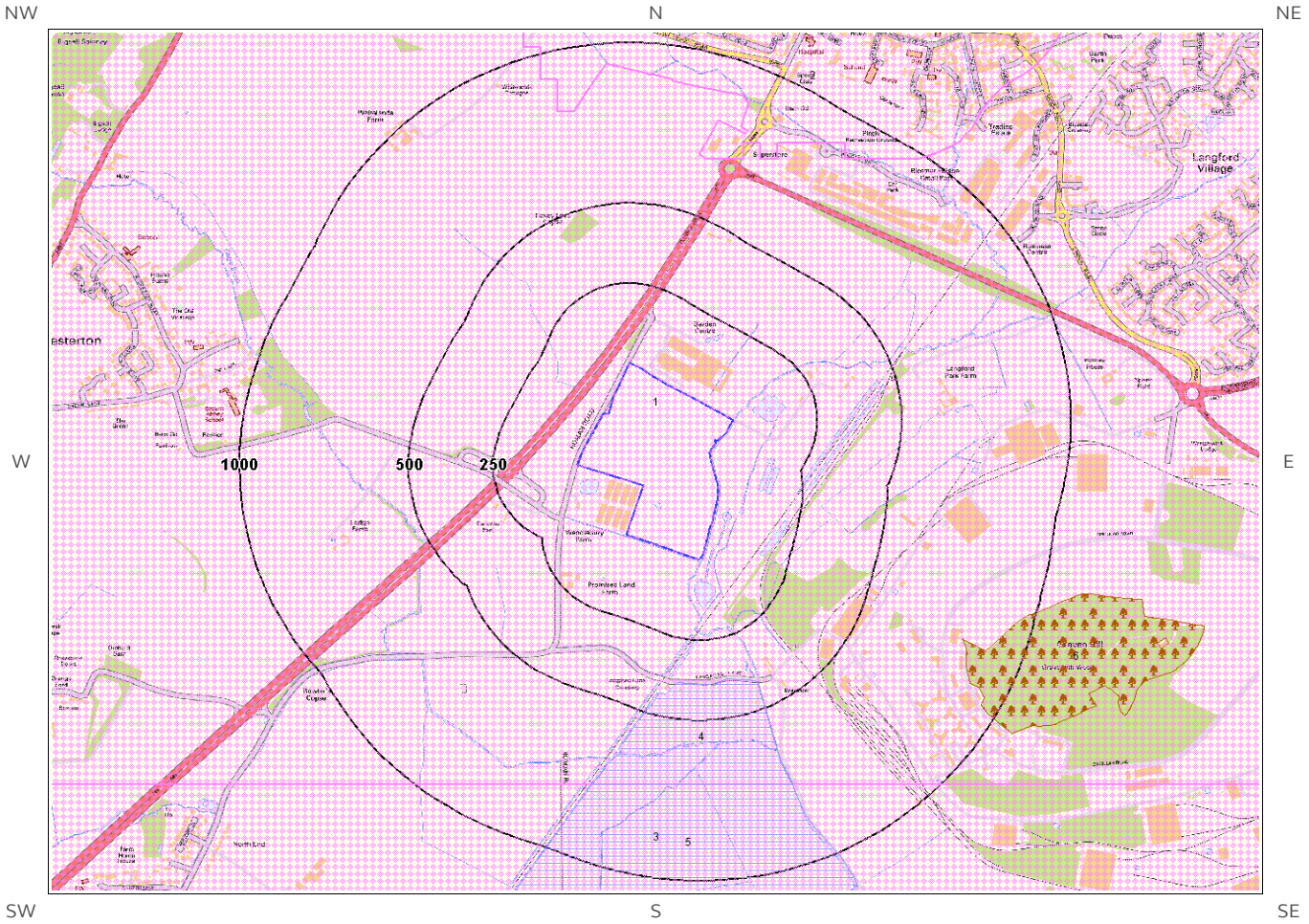
7.8 Groundwater Flooding Confidence Areas

British Geological Survey confidence rating in this result	Moderate

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



Site Outline

100
250
Search Buffers (m)

AONB

National Park

SSSI

Special Protection Areas

Nitrate Vulnerable Zones

Green Belt

Environmentally Sensitive Areas

Special Areas of Conservation

World Heritage Sites

Nitrate Sensitive Areas

Ancient Woodland

National Nature Reserve

Local Nature Reserves

Ramsar Sites

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:

0

Database searched and no data found.

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.

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

1

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
6	811	E	UNKNOWN	Ancient and Semi-Natural Woodland

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

2

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

ID	Distance (m)	Direction	ESA Name	Data Source
4	379	S	Upper Thames Tributaries	Natural England
5	700	S	Upper Thames Tributaries	Natural England

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

3

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
1	0	On Site	Existing	DEFRA
2	678	N	Existing	DEFRA
3	700	S	Existing	DEFRA

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

0

Database searched and no data found.

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 — Moderate

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

Hazard
Ground conditions predominantly high plasticity. Do not plant or remove trees or shrubs near to buildings without expert advice about their effect and management. 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 probable increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a probable increase in insurance risk during droughts or where vegetation with high moisture demands is present.

9.1.2 Landslides

Maximum Landslide* hazard rating identified on the study site — Very Low

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

Hazard
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.

9.1.3 Soluble Rocks

Maximum Soluble Rocks* hazard rating identified on the study site — Negligible

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

Hazard
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.

9.1.4 Compressible Ground

Maximum Compressible Ground* hazard rating identified on the study site — Moderate

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

Hazard
Significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Extra construction costs are likely. For existing property possible increase in insurance risk from compressibility, especially if water conditions or loading of the ground change significantly.

9.1.5 Collapsible Rocks

Maximum Collapsible Rocks* hazard rating identified on the study site — Very Low

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

Hazard
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.

9.1.6 Running Sand

Maximum Running Sand*[*] hazard rating identified on the study site — Low

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

Hazard
Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property no significant increase in insurance risk due to running sand problems is likely.

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

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

Database searched and no data found.

10.2 Non-Coal Mining

Non-Coal Mining areas within 50m of the study site boundary — None identified

Database searched and no data found.

10.3 Brine Affected Areas

Brine affected areas within 75m of the study site — None identified
Guidance: No Guidance Required.

Contact Details

emapsite
Telephone: 0118 9736883
sales@emapsite.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

Local Authority
Authority: Cherwell District Council
Phone: 01295 252 535
Web: http://www.cherwell-dc.gov.uk/
Address: Bodicote House, Bodicote, Banbury, Oxfordshire, OX15 4AA

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

Standard Terms and Conditions

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

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

APPENDIX C

TRIAL PIT LOG

TP1

Project	The Promised Land, Bicester	**Project No.**	AG2875-18
Client	Albion Land Ltd	**Sheet**	1 of 1
Date	02/07/2018	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 2.35m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
				(0.30)	E	Grass over dark brown sandy friable CLAY with rootlets. (TOPSOIL)		
ES	0.20			0.30				
				(0.10)	M	Firm brown CLAY with occasional rootlets. (SUBSOIL)		
D	0.50			0.40				
				(0.20)		Light brown and orangish brown SAND and GRAVEL. Gravel is fine to coarse, subrounded to subangular quartzite. (RIVER TERRACE DEPOSITS)		
				0.60				
D	0.80					Firm closely fissured bluish grey and brown mottled silty CLAY. (KELLAWAYS FORMATION)		
HV	0.80	Cu = 52						
					M			
HV	1.40	Cu = 72		(1.60)				
D	2.00					*At 1.95m bgl: stiff and dark bluish grey*		
HV	2.00	Cu = 85						
				2.20				
				(0.15)	M	Stiff thinly laminated dark grey CLAY with rare fossil shell fragments and occasional sand sized gypsum crystals. (KELLAWAYS FORMATION)		
D	2.30			2.35				
HV	2.30	Cu = 75			VH	End of Trial Pit at 2.35m		

Method: JCB 3CX

Groundwater: Seepage from 0.50m bgl.

Stability: Stable

Remarks: Trial pit backfilled with arisings on completion.

Length:	2.40m
Width:	0.70m
Logged:	FHJ
Checked:	GPW

APPLiED GEOLOGY

TRIAL PIT LOG

TP2

Project	The Promised Land, Bicester	**Project No.**	AG2875-18
Client	Albion Land Ltd	**Sheet**	1 of 1
Date	02/07/2018	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 2.55m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
				(0.25)	E	Grass over dark brown sandy friable CLAY with rootlets. (TOPSOIL)		
				0.25				
D	0.30			(0.15)	M	Stiff fissured brown CLAY with occasional rootlets. (SUBSOIL)		
				0.40				
D	0.50					Light brown and orangish brown slightly clayey SAND and GRAVEL. Gravel is fine to coarse, subrounded to subangular quartzite and limestone. (RIVER TERRACE DEPOSITS)		
B	0.60							
				(0.65)	M			
				1.05				
D	1.20					Firm closely fissured bluish grey and brown silty CLAY. (KELLAWAYS FORMATION)		
HV	1.20	Cu = 48						
				(1.20)	M			
D	1.70							
HV	1.80	Cu = 78				*From 1.80m bgl: stiff*		
				2.25	M			
D	2.30					Stiff dark grey silty CLAY with frequent fossil shell fragments and occasional pockets of fine sand. (KELLAWAYS FORMATION)		
HV	2.30	Cu = 82		(0.30)				
				2.55	VH	End of Trial Pit at 2.55m		

Method: JCB 3CX

Groundwater: Seepage from 0.60m bgl.

Stability: Stable

Remarks: Trial pit backfilled with arisings on completion.

Length:	2.50m
Width:	0.70m
Logged:	FHJ
Checked:	GPW

APPLiED GEOLOGY

TRIAL PIT LOG

TP3

Project	The Promised Land, Bicester	**Project No.**	AG2875-18
Client	Albion Land Ltd	**Sheet**	1 of 1
Date	02/07/2018	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 3.05m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
				(0.20)	E	Grass over stiff dark brown sandy friable CLAY with rootlets. (TOPSOIL)		
				0.20		Firm brown and orangish brown mottled silty CLAY. (ALLUVIUM)		
ES	0.30							
D	0.50							
HV	0.50	Cu = 48						
				(1.00)	M			
						Between 1.00m and 1.10m bgl: band of orangish brown sandy gravelly silt		
				1.20		Firm bluish grey silty CLAY with rare fine to coarse sand sized gypsum crystals. (KELLAWAYS FORMATION)		
D	1.30							
HV	1.30	Cu = 51						
				(1.35)	M			
HV	2.00	Cu = 60						
				2.55		Firm thinly laminated dark bluish grey CLAY with rare relict rootlets. (KELLAWAYS FORMATION) *From 2.70m bgl: occasional pockets of fine to medium sand, damp with occasional fossil shell fragments.*		
D	2.60							
HV	2.60	Cu = 78						
				(0.50)	M			
D	2.90							
				3.05		End of Trial Pit at 3.05m		

Method: JCB 3CX

Groundwater: Seepage from 2.70m bgl. Groundwater at 2.90m bgl on completion.

Stability: Stable

Remarks: Trial pit backfilled with arisings on completion.

Length:	2.60m
Width:	0.70m
Logged:	FHJ
Checked:	GPW

TRIAL PIT LOG

TP4

Project	The Promised Land, Bicester	**Project No.**	AG2875-18
Client	Albion Land Ltd	**Sheet**	1 of 1
Date	02/07/2018	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 3.10m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
				(0.25)	E	Grass over firm dark brown sandy friable CLAY with rootlets. (TOPSOIL)		
ES	0.20			0.25				
D	0.40			(0.35)	M	Firm light greyish brown sandy CLAY with occasional fossil shell fragments. (ALLUVIUM)		
				0.60				
D	0.80			(0.65)	M	Orangish brown slightly clayey sandy gravelly SILT. Gravel is fine to coarse, subrounded to subangular quartzite. (RIVER TERRACE DEPOSITS)		
				1.25				
D	1.30					Firm dark bluish grey CLAY with occasional relict rootlets and rare fine sand sized gypsum crystals. (KELLAWAYS FORMATION)		
HV	1.30	Cu = 45						
HV	1.60	Cu = 55						
HV	2.00	Cu = 68				*From 2.00m bgl: no rootlets*		
				(1.85)	M	*From 2.20m bgl: closely fissured*		
HV	2.40	Cu = 65						
D	2.80							
HV	2.80	Cu = 72						
				3.10		End of Trial Pit at 3.10m		

Method: JCB 3CX

Groundwater: Fast inflow from 0.80m bgl.

Stability: Collapse on both sides from 0.50m bgl. Continual collapse during excavation.

Remarks: Trial pit backfilled with arisings on completion.

Length:	2.60m
Width:	0.90m
Logged:	FHJ
Checked:	GPW

APPLiED GEOLOGY

TRIAL PIT LOG

TP5

Project	The Promised Land, Bicester	**Project No.**	AG2875-18
Client	Albion Land Ltd	**Sheet**	1 of 1
Date	02/07/2018	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 3.95m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
				(0.35)	E	Grass over firm to stiff dark brown sandy friable CLAY with rootlets. (TOPSOIL)		
ES	0.30			0.35				
HV	0.40	Cu = 40				Soft to firm becoming firm light brown and orangish brown silty CLAY. (ALLUVIUM)		
D	0.50							
				(0.80)				
HV	0.80	Cu = 18			E	*At 0.80m bgl: soft to firm*		
				1.15				
B	1.20					Orangish brown and light grey slightly clayey silty SAND and GRAVEL. Gravel is fine to coarse, subrounded to subangular quartzite and limestone. (RIVER TERRACE DEPOSITS)		
				(0.60)	M	*From 1.60m bgl: bluish grey*		
D	1.70			1.75				
HV	1.90	Cu = 50				Firm thinly laminated bluish grey silty CLAY. (KELLAWAYS FORMATION)		
D	2.00							
HV	2.50	Cu = 60		(1.75)	M			
				3.50				
D	3.70			(0.45)		Stiff closely fissured grey CLAY with occasional fossil shell fragments and rare fine sand sized gypsum crystals. (KELLAWAYS FORMATION)		
HV	3.70	Cu = 80			M			
				3.95		End of Trial Pit at 3.95m		

Method: JCB 3CX

Groundwater: Fast inflow from 1.20m bgl. Water level at 3.2m bgl after ten minutes.

Stability: Collapse on both sides from 1.15m to 1.75m bgl.

Remarks: Trial pit backfilled with arisings on completion.

Length:	2.50m
Width:	0.70m
Logged:	FHJ
Checked:	GPW

APPLIED GEOLOGY

TRIAL PIT LOG

TP6

Project	The Promised Land, Bicester	**Project No.**	AG2875-18
Client	Albion Land Ltd	**Sheet**	1 of 1
Date	03/07/2018	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 3.60m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
				(0.25)	E	Grass over firm dark brown sandy friable CLAY with rootlets and occasional shell fragments. (TOPSOIL)		
				0.25				
ES	0.30					Firm light greyish brown sandy friable CLAY with frequent shell fragments. (ALLUVIUM)		
D	0.40			(0.25)				
				0.50	M	Soft to firm light grey and orangish brown mottled silty CLAY. (ALLUVIUM)		
				(0.25)	M			
HV	0.75	Cu = 30		0.75		Orangish brown and occasional light grey silty SAND and GRAVEL. Sand is fine to coarse. Gravel is fine to coarse subrounded to subangular limestone. (RIVER TERRACE DEPOSITS)		▼
D	0.90							
				(0.75)	M			
				1.50		Firm bluish grey silty CLAY with occasional relict rootlets. (KELLAWAYS FORMATION)		
D	1.60							
HV	1.60	Cu = 60						
				(0.90)	M			
				2.40		Stiff thinly laminated bluish grey silty CLAY. (KELLAWAYS FORMATION)		
HV	2.50	Cu = 80						
D	2.80							
				(1.20)	H			
				3.60	VH	End of Trial Pit at 3.60m		

Method: JCB 3CX

Groundwater: Seepage from 0.90m bgl.

Stability: Collapse on both sides from 0.90m to 1.50m bgl.

Remarks: Trial pit backfilled with arisings on completion.

Length:	2.60m
Width:	0.70m
Logged:	FHJ
Checked:	GPW

APPLiED GEOLOGY

TRIAL PIT LOG

TP7

Project	The Promised Land, Bicester	**Project No.**	AG2875-18
Client	Albion Land Ltd	**Sheet**	1 of 1
Date	03/07/2018	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 2.80m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
				(0.25)	E	Grass over firm dark brown slightly gravelly friable CLAY with rootlets. Gravel is fine to coarse, subrounded to subangular limestone. (TOPSOIL)		
ES	0.20			0.25				
						Soft to firm orangish brown slightly sandy silty CLAY. (SUBSOIL)		
D	0.50			(0.45)	M			
				0.70				
						Orangish brown and light grey slightly gravelly sandy SILT. Gravel is fine to coarse, subrounded to angular limestone. (RIVER TERRACE DEPOSITS)		
				(0.50)	M			
				1.20				
						Firm bluish grey silty CLAY with occasional relict rootlets. (KELLAWAYS FORMATION)		
D	1.40							
HV	1.40	Cu = 50						
				(1.50)	M			
D	2.20					*From 2.20m bgl: stiff*		
HV	2.20	Cu = 90						
				2.70	H	Stiff bluish grey silty CLAY with thin indistinct laminations, rare fine sand sized gypsum crystals and shell fragments and occasional pyrite veins. (KELLAWAYS FORMATION)		
				(0.10)	VH			
				2.80		End of Trial Pit at 2.80m		

Method: JCB 3CX

Groundwater: Seepage from 1.00m bgl.

Stability: Stable

Remarks: Trial pit backfilled with arisings on completion.

Length:	2.70m
Width:	0.70m
Logged:	FHJ
Checked:	GPW

TRIAL PIT LOG

TP8

Project	The Promised Land, Bicester	**Project No.**	AG2875-18
Client	Albion Land Ltd	**Sheet**	1 of 1
Date	03/07/2018	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 2.90m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
ES	0.10			(0.15) 0.15	E	Grass over firm dark brown slightly sandy friable CLAY with rootlets. (TOPSOIL)		
D	0.30			(0.25) 0.40	M	Stiff brown slightly gravelly friable CLAY. Gravel is fine to coarse, subrounded to subangular limestone. (SUBSOIL)		
D	0.60			(0.80) 1.20	M	Firm orangish brown occasional mottled light greyish brown slightly sandy silty CLAY. (ALLUVIUM)		
D	1.50			(0.50) 1.70	M	Orangish brown sandy SILT. (RIVER TERRACE DEPOSITS)		
D HV	2.00 2.00	Cu = 50		(1.20)	M	Firm bluish grey and occasional mottled greenish brown silty CLAY with occasional relict rootlets and rare fine sand sized gypsum crystals. (KELLAWAYS FORMATION)		
D HV	2.80 2.80	Cu = 75		2.90	VH	*From 2.80m bgl: stiff* End of Trial Pit at 2.90m		

Method: JCB 3CX

Groundwater: Groundwater rising from rock sitting at 2.75m bgl 5 minutes after excavation.

Stability: Stable

Remarks: Trial pit backfilled with arisings on completion.

Length:	2.50m
Width:	0.70m
Logged:	FHJ
Checked:	GPW

TRIAL PIT LOG

TP9

Project	The Promised Land, Bicester	**Project No.**	AG2875-18
Client	Albion Land Ltd	**Sheet**	1 of 1
Date	03/07/2018	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 3.40m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
				(0.15)	E	Grass over firm dark brown slightly sandy friable CLAY with rootlets and occasional shell fragments.		
D	0.20			0.15		(TOPSOIL)		
				(0.20)	M	Stiff brown friable CLAY with occasional rootlets.		
				0.35		(SUBSOIL)		
				(0.15)	M	Soft to firm orangish brown and light brown slightly sandy silty CLAY.		
				0.50		(ALLUVIUM)		
D	0.60					Orangish brown silty SAND and GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded limestone (damp). (RIVER TERRACE DEPOSITS)		
					M			
B	1.20			(1.30)				
						From 1.50m bgl: light greyish brown		
				1.80				
D	1.90					Firm bluish grey silty CLAY. (KELLAWAYS FORMATION)		
HV	1.90	Cu = 60						
D	2.50					*From 2.50m bgl: stiff with occasional fine sand sized gypsum crystals*		
HV	2.50	Cu = 85		(1.60)	M			
HV	3.00	Cu = 90						
					VH	*From 3.30m bgl: indistinct thin laminations and occasional cobbles of limestone*		
D	3.40			3.40		End of Trial Pit at 3.40m		

Method: JCB 3CX

Groundwater: Seepage from 1.30m bgl.

Stability: Slight collapse from 0.70m to 1.80m bgl.

Remarks: Trial pit backfilled with arisings on completion.

Length:	2.60m
Width:	0.70m
Logged:	FHJ
Checked:	GPW

APPLiED GEOLOGY

TRIAL PIT LOG

TP10

Project	The Promised Land, Bicester	**Project No.**	AG2875-18
Client	Albion Land Ltd	**Sheet**	1 of 1
Date	03/07/2018	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 3.70m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
D	0.10			(0.20)		Grass over firm dark brown friable CLAY with rootlets and frequent shell fragments.		
				0.20	E	(TOPSOIL)		
D	0.30			(0.25)		Firm greyish brown and orangish brown mottled silty CLAY with occasional rootlets.		
HV	0.40	Cu = 90		0.45	M	(SUBSOIL)		
D	0.60					Soft to firm orangish brown sandy CLAY.		
HV	0.60	Cu = 40		(0.45)	M	(ALLUVIUM)		
				0.90		Orangish brown silty SAND and GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, subrounded to subangular limestone.		
D	1.10			(0.40)	M	(RIVER TERRACE DEPOSITS)		
D	1.30			1.30		Soft to firm bluish grey silty CLAY with occasional relict rootlets.		
HV	1.30	Cu = 35				(KELLAWAYS FORMATION)		
D	1.80					*From 1.80m bgl: firm*		
HV	1.80	Cu = 50		(1.30)	M			
HV	2.60	Cu = 80		2.60		Stiff thinly laminated bluish grey silty CLAY.		
D	2.70					(KELLAWAYS FORMATION)		
				(1.10)	M			
				3.70		End of Trial Pit at 3.70m		

Method: JCB 3CX

Groundwater: Seepage from 1.20m bgl.

Stability: Collapse on west wall from 1.60m to 1.80m bgl.

Remarks: Trial pit backfilled with arisings on completion.

Length:	2.80m
Width:	0.70m
Logged:	FHJ
Checked:	GPW

APPLiED GEOLOGY

TRIAL PIT LOG

TP11

Project	The Promised Land, Bicester	**Project No.**	AG2875-18
Client	Albion Land Ltd	**Sheet**	1 of 1
Date	03/07/2018	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 3.90m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
				(0.20)	E	Grass over stiff dark brown friable CLAY with rootlets. (TOPSOIL)		
				0.20				
D	0.30			(0.15)	M	Stiff light brown friable CLAY with rare rootlets and occasional shell fragments. (SUBSOIL)		
				0.35				
D	0.50			(0.25)	M	Firm greyish brown and orangish brown mottled silty CLAY. (ALLUVIUM)		
HV	0.50	Cu = 52		0.60				
						Orangish brown and occasional light grey silty gravelly fine to coarse SAND. Gravel is fine to coarse, subangular to subrounded quartzite and limestone. (KELLAWAYS FORMATION)		
B	0.80							
				(1.15)	M			
				1.75				
						Firm to stiff bluish grey silty CLAY with rare relict rootlets. (KELLAWAYS FORMATION)		
D	1.90							
HV	1.90	Cu = 70						
						From 2.40m bgl: no rootlets		
D	2.80			(2.15)				
HV	2.80	Cu = 75			M	*From 2.80m bgl: stiff*		
						From 3.50m bgl: rare fine sand sized gypsum crystals		
D	3.60							
				3.90		End of Trial Pit at 3.90m		

Method: JCB 3CX

Groundwater: Seepage from 1.30m bgl.

Stability: Slight collapse on long sides from 1.30m to 1.80m bgl.

Remarks: Trial pit backfilled with arisings on completion.

Length:	2.70m
Width:	0.70m
Logged:	FHJ
Checked:	GPW

APPLIED GEOLOGY

TRIAL PIT LOG

TP12

Project	The Promised Land, Bicester	**Project No.**	AG2875-18
Client	Albion Land Ltd	**Sheet**	1 of 1
Date	02/07/2018	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 4.10m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
				(0.20)	E	Grass over stiff dark brown sandy friable CLAY with rootlets. (TOPSOIL)		
ES	0.20			0.20 (0.15)	M	Stiff light brown silty friable CLAY with occasional rootlets. (SUBSOIL)		
D	0.40			0.35		Firm greyish brown and occasional mottled orangish brown CLAY. (ALLUVIUM)		
HV	0.40	Cu = 48						
HV	0.60	Cu = 45			M			
				(0.85)				
				1.20		Stiff light grey and orange-brown slightly gravelly sandy CLAY. Gravel is fine to coarse, subrounded limestone. (ALLUVIUM)		
D	1.40			(0.40)	M			
				1.60		Firm dark blue-grey silty CLAY with occasional fine to medium sand sized gypsum crystals and rare relict rootlets. (KELLAWAYS FORMATION)		
D	1.70							
HV	2.00	Cu = 70						
D	2.20					*From 2.20m bgl: no rootlets*		
HV	2.50	Cu = 75				*From 2.50m bgl: firm to stiff and closely fissured*		
				(2.50)	M			
HV	3.00	Cu = 85				*From 3.00m bgl: stiff*		
D	3.50							
				4.10		End of Trial Pit at 4.10m		

Method: JCB 3CX

Groundwater: Groundwater not encountered.

Stability: Stable

Remarks: Trial pit backfilled with arisings on completion.

Length:	2.80m
Width:	0.70m
Logged:	FHJ
Checked:	GPW

APPLIED GEOLOGY

TRIAL PIT LOG

TP13

Project	The Promised Land, Bicester	**Project No.**	AG2875-18
Client	Albion Land Ltd	**Sheet**	1 of 1
Date	03/07/2018	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 4.00m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
				(0.20)	E	Grass over firm dark brown friable CLAY with rootlets and occasional shell fragments. (TOPSOIL)		
				0.20				
ES	0.30					Soft light brown silty CLAY with occasional rootlets and rare shell fragments. (ALLUVIUM)		
				(0.50)	M			
				0.70				
D	0.80					Light grey silty SAND and GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, subrounded to subangular limestone. (RIVER TERRACE DEPOSITS)		▼
				(0.65)	M			
				1.35				
D	1.40					Soft bluish grey sandy SILT. (KELLAWAYS FORMATION)		
				(1.25)	E			
D	2.00					*From 2.10m bgl: occasional shell fragments.*		
B	2.20							
				2.60				
HV	2.80	Cu = 72				Firm to stiff becoming stiff dark grey silty CLAY with rare fine to medium sand sized gypsum crystals. (KELLAWAYS FORMATION)		
D	3.00							
HV	3.00	Cu = 85						
				(1.40)	M			
				4.00		End of Trial Pit at 4.00m		

Method: JCB 3CX

Groundwater: Groundwater encountered at 0.90m bgl.

Stability: Continual collapse from 0.70m to 1.35m bgl.

Remarks: Trial pit backfilled with arisings on completion.

Length:	2.80m
Width:	0.70m
Logged:	FHJ
Checked:	GPW

APPLiED GEOLOGY

TRIAL PIT LOG

TP14

Project	The Promised Land, Bicester	**Project No.**	AG2875-18
Client	Albion Land Ltd	**Sheet**	1 of 1
Date	03/07/2018	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 3.90m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
				(0.15)	E	Grass over stiff dark brown slightly sandy friable CLAY with rootlets. (TOPSOIL)		
				0.15				
D	0.30			(0.25)	M	Stiff dark brown mottled orangish brown friable CLAY with rare rootlets. (SUBSOIL)		
ES	0.30			0.40				
						Orangish brown silty SAND and GRAVEL. Sand is fine to coarse. Gravel is fine to coarse subrounded to subangular flint. (RIVER TERRACE DEPOSITS)		
D	0.70			(0.70)	M			
				1.10				
D	1.20				M	Stiff bluish grey slightly gravelly very sandy CLAY. Gravel is fine to coarse, subangular limestone. (KELLAWAYS FORMATION)		
				(0.50)				
				1.60		Bluish grey silty fine SAND. (KELLAWAYS FORMATION)		
D	1.80							
					M			
				(1.60)				
						From 2.50m bgl: occasional cobbles of compacted sand - broken up by hand		
D	2.60							
						From 2.80m bgl: occasional pockets of very soft sandy silt		
D	3.00							
				3.20				
D	3.30					Stiff grey silty CLAY with indistinct thin laminations. (KELLAWAYS FORMATION)		
HV	3.30	Cu = 80		(0.70)	H			
				3.90		End of Trial Pit at 3.90m		

Method: JCB 3CX

Groundwater: Seepage from 0.70m bgl.

Stability: Collapse on both long sides from 1.10m to 2.70m bgl.

Remarks: Trial pit backfilled with arisings on completion.

Length:	2.70m
Width:	0.70m
Logged:	FHJ
Checked:	GPW

APPLiED GEOLOGY

TRIAL PIT LOG

TP15

Project	The Promised Land, Bicester	**Project No.**	AG2875-18
Client	Albion Land Ltd	**Sheet**	1 of 1
Date	02/07/2018	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 2.85m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
				(0.20)	E	Grass over stiff dark brown sandy friable CLAY with rootlets. (TOPSOIL)		
				0.20				
D	0.30			(0.25)	M	Firm greyish brown and orangish brown silty CLAY. (ALLUVIUM)		
				0.45				
B	0.60					Orangish brown and light grey slightly clayey silty SAND and GRAVEL. Gravel is fine to coarse, subangular to subrounded flint and limestone. (RIVER TERRACE DEPOSITS)		
					M			
				(0.70)				
				1.15				
D	1.20					Firm dark bluish grey slightly sandy silty CLAY with rare relict rootlets and rare fossil shell fragments. (KELLAWAYS FORMATION)		
HV	1.20	Cu = 45						
					M			
				(0.95)				
				2.10				
B	2.30					Bluish grey silty slightly gravelly fine to coarse SAND. Gravel is fine to coarse, subangular to subrounded limestone. (KELLAWAYS FORMATION)		
				(0.60)	M			
				2.70				
D	2.80			(0.15)	M	Firm bluish grey slightly sandy CLAY with occasional rootlets and rare fossil shell fragments. (KELLAWAYS FORMATION)		
HV	2.80	Cu = 60		2.85		End of Trial Pit at 2.85m		

Method: JCB 3CX

Groundwater: Seepage from 1.90m bgl.

Stability: Collapse on west side from 0.20m to 1.00m bgl.

Remarks: Trial pit backfilled with arisings on completion.

Length:	2.80m
Width:	0.70m
Logged:	FHJ
Checked:	GPW

APPLiED GEOLOGY

TRIAL PIT LOG

TP16

Project	The Promised Land, Bicester	**Project No.**	AG2875-18
Client	Albion Land Ltd	**Sheet**	1 of 1
Date	02/07/2018	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 3.30m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
				(0.20)	E	Grass over stiff dark brown slightly sandy friable CLAY with rootlets. (TOPSOIL)		
				0.20				
ES	0.30					Stiff greyish brown and orangish brown mottled silty friable CLAY with occasional rootlets.		
D	0.40			(0.35)	M	(ALLUVIUM)		
				0.55				
D	0.70					Greyish brown silty SAND and GRAVEL. Gravel is fine to coarse, subrounded limestone.		
					M	(RIVER TERRACE DEPOSITS)		
				(0.75)				
				1.30				
D	1.40					Firm dark bluish grey silty CLAY with rare fossil shell fragments.		
HV	1.40	Cu = 55				(KELLAWAYS FORMATION)		
				(0.65)	M			
				1.95				
D	2.10					Firm bluish grey very sandy CLAY with occasional fine to coarse subrounded to subangular limestone gravel. (KELLAWAYS FORMATION)		
				(1.35)	M			
D	3.00							
				3.30		End of Trial Pit at 3.30m		

Method: JCB 3CX

Groundwater: Seepage from 1.20m bgl.

Stability: Stable

Remarks: Trial pit backfilled with arisings on completion.

Length:	2.70m
Width:	0.70m
Logged:	FHJ
Checked:	GPW

APPLiED GEOLOGY

TRIAL PIT LOG

TP17

Project	The Promised Land, Bicester	**Project No.**	AG2875-18
Client	Albion Land Ltd	**Sheet**	1 of 1
Date	02/07/2018	**Scale**	1:25
Ground Level	**Coordinates**	**Total Depth**	3.40m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
				(0.25)	E	Grass over stiff dark brown friable CLAY with rootlets. (TOPSOIL)		
				0.25				
D	0.40			(0.30)	M	Stiff light brown and orangish brown mottled silty friable CLAY with frequent fossil shell fragments. (ALLUVIUM)		
D	0.60			0.55		Light grey silty SAND and GRAVEL. Gravel is fine to coarse, subrounded to subangular limestone. Sand is fine to coarse (wet). (RIVER TERRACE DEPOSITS)		
				(0.75)	M			
				1.30		Bluish grey silty fine to medium SAND with rare fine to coarse subrounded limestone gravel. (KELLAWAYS FORMATION)		
D	1.50							
				(2.00)	M			
B	2.40							
				3.30				
D	3.40			(0.10)	H	Stiff grey slightly sandy CLAY with rare fossil shell fragments. (KELLAWAYS FORMATION)		
				3.40		End of Trial Pit at 3.40m		

Method: JCB 3CX

Groundwater: Seepage at 0.60m and 3.00m bgl.

Stability: Collapse on both long sides from 0.60m to 1.20m bgl.

Remarks: Trial pit backfilled with arisings on completion.

Length:	2.80m
Width:	0.70m
Logged:	FHJ
Checked:	GPW

APPLiED GEOLOGY

TRIAL PIT LOG

TP18

Project	The Promised Land, Bicester	**Project No.**	AG2875-18
Client	Albion Land Ltd	**Sheet**	1 of 1
Date	03/07/2018	**Scale**	1:25
Ground Level		**Coordinates**	**Total Depth** 3.80m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
ES	0.10			(0.15) 0.15	E	Grass over stiff dark brown slightly sandy slightly gravelly friable CLAY with rootlets. Gravel is fine to coarse, subrounded to subangular limestone. (TOPSOIL)		
D	0.30			(0.30) 0.45	M	Soft to firm light brown silty CLAY with occasional shell fragments. (ALLUVIUM)		
B	0.60			(1.00) 1.45	M	Light grey silty SAND and GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, subrounded to subangular limestone (wet). (RIVER TERRACE DEPOSITS)		▼
D	1.50			(0.95) 2.40	M	Bluish grey slightly clayey silty SAND with frequent pockets of very soft (wet) sandy silt. (KELLAWAYS FORMATION)		
D	2.00					*From 2.20m bgl: occasional shell fragments*		
D	2.30							
D HV	2.60 2.60	Cu = 80		(1.40) 3.80	M	Stiff dark grey CLAY with thin indistinct laminations and rare shell fragments (wet). (KELLAWAYS FORMATION)		
						End of Trial Pit at 3.80m		

Method: JCB 3CX

Groundwater: Seepage from 0.35m bgl.

Stability: Collapse on long sides from 0.45m to 2.45m bgl.

Remarks: Trial pit backfilled with arisings on completion.

Length:	2.80m
Width:	0.70m
Logged:	FHJ
Checked:	GPW

APPLiED GEOLOGY

Exploratory Hole Log Key Sheet

Sample Notation

D	Small Disturbed sample
B	Bulk Disturbed sample
ES	Environmental sample
U	Undisturbed U100 sample
UT	Undisturbed UT100 sample
C	Core sample
W	Water sample

In Situ Test Notation

S	Standard Penetration Test
S (C)	Standard Penetration Test (cone)
HV	Hand Shear Vane Test
PID	Photoionization Detector Test
MEXE	Mexecone Cone Penetrometer Test
PP	Pocket Penetrometer Test
K	Permeability Test

Results Notation

Cu	Shear Strength	kN/m^2
N	SPT N Value	-
PID	VOC Concentration	ppm
( )	U/UT Blow Count	-

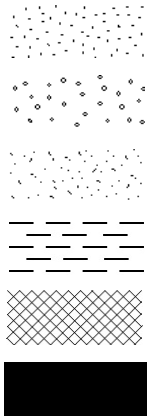
Rotary Core Notation

TCR	Total Core Recovery
SCR	Solid Core Recovery
RQD	Rock Quality Designation
FI	Fracture Index
If	Fracture Spacing
NI	Non Intact
NR	No Recovery
NA	Not Applicable

Ease of Dig

VE	Very Easy
E	Easy
M	Moderate
H	Hard
VH	Very Hard

Backfill Symbols



Sand

Gravel

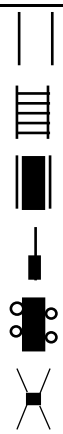
Concrete

Bentonite

Arisings

Grout

Installation Symbols



Plain Standpipe

Slotted Standpipe

Piezometer

Vibrating Wire Piezometer

Inclinometer

Extensometer
(with magnet locations)

Groundwater (GW)

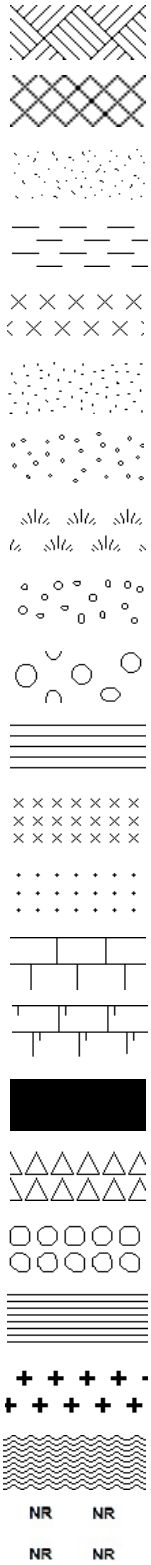
Rise

Groundwater Strike -
with Recorded Rise

Strike

Groundwater Strike -
No Recorded Rise

Legend Symbols



Topsoil

Made Ground

Concrete

Clay

Silt

Sand

Gravel

Peat

Cobbles

Boulders

Mudstone

Siltstone

Sandstone

Limestone

Chalk

Coal

Breccia

Conglomerate

Shale

Igenous Rock

Metamorphic Rock

NR NR
NR NR

No Recovery

Note: Most soils comprise a mixture of particle sizes. The soil type is graphically represented on the log and may be a combination of these symbols.

General Notes

1. Details of the standpipe/piezometer are given on the log. The 'Install' column shows a graphical representation of the installed including depth of instruments including slotted section or piezometer depth, and backfill details.

2. Standard Penetration Test is defined in BS EN ISO 17892. Total N value is shown on the logs, full details of the test increments, equipment references, water and casing levels shown on the SPT Summary Sheet.

APPLiED GEOLOGY

APPENDIX D

SOIL CHEMICAL RESULTS COMPARED AGAINST SCREENING VALUES FOR HUMAN HEALTH

Site: The Promised Land, Bicester
Job No: AG2875-18

Land Use: Residential with Plant Uptake
Dataset: All results
Soil Organic Matter (%) 6.0 %

Exploratory Hole Reference		TP1	TP3	TP4	TP5	TP8	TP12	TP13	TP14	TP16	TP18	No. of samples (n)	Residential with Plant Uptake	Residential without Plant Uptake	Allotments	Commercial / Industrial	Public Open Space (Residential)	Public Open Space (Parks)	Source/Justification
Depth (m)		0.20-0.20	0.30-0.30	0.20-0.20	0.30-0.30	0.10-0.10	0.20-0.20	0.30-0.30	0.30-0.30	0.30-0.30	0.10-0.10								
Strata		Topsoil	Alluvium	Topsoil	Topsoil	Topsoil	Topsoil	Alluvium	Alluvium	Alluvium	Topsoil								
	Units																		
Organic Matter (%)	%	7.9	1.3	7.3	4.5	8.5	7.9	4.7	3.5	3.4	6.9	10							
pH		7.9	8	7.9	8	7.2	7.8	8.3	8.2	7.8	7.9	10							
Arsenic	mg/kg	12	9.2	9.2	14	9.5	13	8.6	10	18	12	10	37	40	43	640	79	170	LQM/CIEH S4UL (2015)
Beryliium	mg/kg	1.1	1.3	0.92	1.4	0.7	1.3	0.85	1.3	1.8	1	10	1.7	2	35	12	2.2	63	LQM/CIEH S4UL (2015)
Boron	mg/kg	16	17	15	13	12	16	16	12	13	17	10	290	11000	45	240000	21000	46000	LQM/CIEH S4UL (2015)
Cadmium	mg/kg	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	10	11	85	1.9	190	120	560	LQM/CIEH S4UL (2015)
Chromium	mg/kg	33	40	32	43	22	39	30	41	61	30	10	910	910	18000	8600	1500	33000	LQM/CIEH S4UL (2015)
Chromium (Hexavalent)	mg/kg	**4**						**4**				2	6	6	1.8	33	7.7	220	LQM/CIEH S4UL (2015)
Copper	mg/kg	37	17	25	29	20	33	16	17	23	29	10	2400	7100	520	68000	12000	44000	LQM/CIEH S4UL (2015)
Lead	mg/kg	65	13	26	47	27	51	11	13	19	26	10	200	310	80	2330	630	1300	C4SL (2014)
Mercury	mg/kg	1.9	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	10	40	56	19	1100	120	240	LQM/CIEH S4UL (2015)
Nickel	mg/kg	24	19	16	25	15	22	14	22	32	17	10	130	180	53	980	230	800	LQM/CIEH S4UL (2015)
Selenium	mg/kg	**1**	**1**	2.5	2.3	1.1	1.8	1.6	**1**	**1**	2	10	250	430	88	12000	1100	1800	LQM/CIEH S4UL (2015)
Vanadium	mg/kg	49	57	37	54	32	50	36	52	83	47	10	410	1200	91	9000	2000	5000	LQM/CIEH S4UL (2015)
Zinc	mg/kg	110	68	55	87	74	96	34	44	110	55	10	3700	40000	620	730000	81000	170000	LQM/CIEH S4UL (2015)
Naphthalene	mg/kg	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	10	13	13	24	1100	4900	3000	LQM/CIEH S4UL (2015)
Acenaphthylene	mg/kg	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	10	1100	6000	200	100000	15000	30000	LQM/CIEH S4UL (2015)
Acenaphthene	mg/kg	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	10	920	6000	160	100000	15000	30000	LQM/CIEH S4UL (2015)
Fluorene	mg/kg	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	10	860	4500	160	71000	9900	20000	LQM/CIEH S4UL (2015)
Phenanthrene	mg/kg	**0.05**	**0.05**	**0.05**	0.39	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	10	440	1500	90	23000	3100	6300	LQM/CIEH S4UL (2015)
Anthracene	mg/kg	**0.05**	**0.05**	**0.05**	0.12	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	10	11000	37000	2200	540000	74000	150000	LQM/CIEH S4UL (2015)
Fluoranthene	mg/kg	0.31	**0.05**	**0.05**	0.72	0.41	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	10	890	1600	290	23000	3100	6400	LQM/CIEH S4UL (2015)
Pyrene	mg/kg	0.33	**0.05**	**0.05**	0.56	0.38	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	10	2000	3800	620	54000	7400	15000	LQM/CIEH S4UL (2015)
Benzo[a]anthracene	mg/kg	0.27	**0.05**	**0.05**	1.3	0.36	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	10							Genotoxic PAH see Benzo(a)pyrene
Chrysene	mg/kg	0.21	**0.05**	**0.05**	0.77	0.22	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	10							Genotoxic PAH see Benzo(a)pyrene
Benzo[b]fluoranthene	mg/kg	0.3	**0.05**	**0.05**	1.2	0.42	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	10							Genotoxic PAH see Benzo(a)pyrene
Benzo[k]fluoranthene	mg/kg	0.11	**0.05**	**0.05**	0.66	0.15	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	10							Genotoxic PAH see Benzo(a)pyrene
Benzo[a]pyrene	mg/kg	0.27	**0.05**	**0.05**	1.1	0.34	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	10	5	5.3	5.7	76	10	21	C4SL (2014)
Dibenzo[a,h]anthracene	mg/kg	**0.05**	**0.05**	**0.05**	0.36	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	10							Genotoxic PAH see Benzo(a)pyrene
Indeno[1,2,3-cd]pyrene	mg/kg	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	10							Genotoxic PAH see Benzo(a)pyrene
Benzo[g,h,i]perylene	mg/kg	**0.05**	**0.05**	**0.05**	0.27	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	10							Genotoxic PAH see Benzo(a)pyrene
Total of 16 PAHs	mg/kg																		
Phenols (Total)	mg/kg	**1**						**1**				2	380	1200	83	1300	1300	1300	LQM/CIEH S4UL (2015)
Benzene	mg/kg	**0.001**						**0.001**		**0.001**		3	0.37	1.4	0.075	90	73	110	LQM/CIEH S4UL (2015)
Toluene	mg/kg	**0.001**						**0.001**		**0.001**		3	660	3900	120	180000	56000	100000	LQM/CIEH S4UL (2015)
Ethylbenzene	mg/kg	**0.001**						**0.001**		**0.001**		3	260	440	91	27000	25000	27000	LQM/CIEH S4UL (2015)
m&p Xylene	mg/kg	**0.001**						**0.001**		**0.001**		3	310	430	160	30000	43000	31000	LQM/CIEH S4UL (2015)
o-Xylene	mg/kg	**0.001**						**0.001**		**0.001**		3	330	480	160	33000	43000	33000	LQM/CIEH S4UL (2015)
Aliphatic TPH >C5-C6	mg/kg	**0.001**						**0.001**		**0.001**		3	160	160	3900	12000	600000	180000	LQM/CIEH S4UL (2015)
Aliphatic TPH >C6-C8	mg/kg	**0.001**						**0.001**		**0.001**		3	530	530	13000	40000	620000	320000	LQM/CIEH S4UL (2015)
Aliphatic TPH >C8-C10	mg/kg	**0.001**						**0.001**		**0.001**		3	150	150	1700	11000	13000	21000	LQM/CIEH S4UL (2015)
Aliphatic TPH >C10-C12	mg/kg	**1**						**1**		**1**		3	760	770	7300	47000	13000	24000	LQM/CIEH S4UL (2015)
Aliphatic TPH >C12-C16	mg/kg	**2**						**2**		**2**		3	4300	4400	13000	90000	13000	26000	LQM/CIEH S4UL (2015)
Aliphatic TPH >C16-C21	mg/kg	**8**						**8**		**8**			-	-	-	-	-	-	-
Aliphatic TPH >C21-C35	mg/kg	8.7						**8**		11		3	110000	110000	270000	No Risk	250000	490000	LQM/CIEH S4UL (2015)
Aliphatic TPH >C35-C44	mg/kg	**8.4**						**8.4**		**8.4**		3	110000	110000	270000	No Risk	250000	490000	LQM/CIEH S4UL (2015)
Total Aliphatic Hydrocarbons	mg/kg	**10**						**10**		11		3							
Aromatic TPH >C5-C7	mg/kg	**0.001**						**0.001**		**0.001**			300	1400	57	86000	56000	92000	LQM/CIEH S4UL (2015)
Aromatic TPH >C7-C8	mg/kg	**0.001**						**0.001**		**0.001**		3	660	3900	120	180000	56000	100000	LQM/CIEH S4UL (2015)
Aromatic TPH >C8-C10	mg/kg	**0.001**						**0.001**		**0.001**		3	190	270	51	17000	5000	9300	LQM/CIEH S4UL (2015)
Aromatic TPH >C10-C12	mg/kg	**1**						**1**		**1**		3	380	1200	74	34000	5000	10000	LQM/CIEH S4UL (2015)
Aromatic TPH >C12-C16	mg/kg	**2**						**2**		**2**		3	660	2500	130	38000	5000	10000	LQM/CIEH S4UL (2015)
Aromatic TPH >C16-C21	mg/kg	**10**						**10**		**10**		3	930	1900	260	28000	3800	7800	LQM/CIEH S4UL (2015)
Aromatic TPH >C21-C35	mg/kg	**10**						**10**		**10**		3	1700	1900	1600	28000	3800	7900	LQM/CIEH S4UL (2015)
Aromatic TPH >C35-C44	mg/kg	**8.4**						**8.4**		**8.4**		3	1700	1900	1600	28000	3800	7900	LQM/CIEH S4UL (2015)
Total Aromatic Hydrocarbons	mg/kg	**10**						**10**		**10**									
Total Petroleum Hydrocarbons	mg/kg	**10**						**10**		11									
Pesticides/Herbicides Screen in Soil				Absent	-	Absent		Absent	Absent		Absent								LQM/CIEH S4UL (2015)
																			LQM/CIEH S4UL (2015)
Asbestos in Soil		Not-detected			Not-detected	Not-detected		Not-detected		Not-detected									LQM/CIEH S4UL (2015)

Key -

Value within sample set exceeds screening value

Statistical value exceeds screening value

LQM/CIEH S4UL Reference No. S4UL3159 (2015)

Values in **bold** are reported at the laboratory limit of detection

Benzo(a)pyrene has been used as a 'surrogate marker for genotoxic PAH' as discussed in Appendix E of CL:AIRE SP1010 'Development of C4SL for Assessment of Land Affected by Contamination', December 2013.

This allows assessment of the combined carcinogenic risk associated with genotoxic PAH using only b(a)p. Genotoxic PAHs include Benz(a)pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(ah)anthracene, Indeno(123cd)pyrene, Benzo(ghi)perylene and have been marked with a * on the table.

Frankie Hadley-Jones
Applied Geology Ltd
Unit 23
Abbey Park
Stareton
Kenilworth
Warwickshire
CV8 2LY

e: frankie.hadley-jones@appliedgeology.co.uk

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

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

Analytical Report Number : 18-91849

Project / Site name:	The Promised Land, Bicester	**Samples received on:**	06/07/2018
Your job number:	AG2875-18	**Samples instructed on:**	06/07/2018
Your order number:	13108	**Analysis completed by:**	13/07/2018
Report Issue Number:	1	**Report issued on:**	13/07/2018
Samples Analysed:	10 soil samples		

Signe[redacted]

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Analytical Report Number: 18-91849

Project / Site name: The Promised Land, Bicester
Your Order No: 13108

Lab Sample Number				997412	997413	997414	997415	997416
Sample Reference				TP1	TP3	TP4	TP5	TP8
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.20	0.30-0.30	0.20-0.20	0.30-0.30	0.10-0.10
Date Sampled				02/07/2018	02/07/2018	02/07/2018	02/07/2018	03/07/2018
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	11	12	13	17	12
Total mass of sample received	kg	0.001	NONE	1.0	1.1	1.0	1.1	1.0
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	-	Not-detected	Not-detected
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.9	8.0	7.9	8.0	7.2
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	46	35	40	24	38
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.023	0.017	0.020	0.012	0.019
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	22.8	17.4	20.2	12.2	18.8
Organic Matter	%	0.1	MCERTS	7.9	1.3	7.3	4.5	8.5
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	-	-	-	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.39	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.12	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.31	< 0.05	< 0.05	0.72	0.41
Pyrene	mg/kg	0.05	MCERTS	0.33	< 0.05	< 0.05	0.56	0.38
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.27	< 0.05	< 0.05	1.3	0.36
Chrysene	mg/kg	0.05	MCERTS	0.21	< 0.05	< 0.05	0.77	0.22
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.30	< 0.05	< 0.05	1.2	0.42
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.11	< 0.05	< 0.05	0.66	0.15
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.27	< 0.05	< 0.05	1.1	0.34
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.36	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.27	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	1.80	< 0.80	< 0.80	7.42	2.28

Analytical Report Number: 18-91849

Project / Site name: The Promised Land, Bicester
Your Order No: 13108

Lab Sample Number				997412	997413	997414	997415	997416
Sample Reference				TP1	TP3	TP4	TP5	TP8
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.20	0.30-0.30	0.20-0.20	0.30-0.30	0.10-0.10
Date Sampled				02/07/2018	02/07/2018	02/07/2018	02/07/2018	03/07/2018
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	9.2	9.2	14	9.5
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.1	1.3	0.92	1.4	0.70
Boron (total)	mg/kg	1	MCERTS	16	17	15	13	12
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	-	-	-	-
Chromium (III)	mg/kg	1	NONE	30	-	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	33	40	32	43	22
Copper (aqua regia extractable)	mg/kg	1	MCERTS	37	17	25	29	20
Lead (aqua regia extractable)	mg/kg	1	MCERTS	65	13	26	47	27
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.9	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24	19	16	25	15
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	2.5	2.3	1.1
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	49	57	37	54	32
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	110	68	55	87	74
Magnesium (water soluble)	mg/kg	5	NONE	7.0	< 5.0	5.9	6.1	7.1
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0	-	-	-	-
Toluene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
o-xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	8.7	-	-	-	-
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	-	-	-	-
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	-	-	-	-
TPHCWG - Total C5 - C44 Aliphatic & Aromatic	mg/kg	10	NONE	< 10	-	-	-	-
Pesticide and Herbicide Screen								
Pesticides/Herbicides Screen in Soil	P/A	N/A	NONE	-	-	Absent	-	Absent

Analytical Report Number: 18-91849

Project / Site name: The Promised Land, Bicester
Your Order No: 13108

Lab Sample Number				997417	997418	997419	997420	997421
Sample Reference				TP12	TP13	TP14	TP16	TP18
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.20	0.30-0.30	0.30-0.30	0.30-0.30	0.10-0.10
Date Sampled				02/07/2018	03/07/2018	03/07/2018	02/07/2018	03/07/2018
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	12	22	15	25	21
Total mass of sample received	kg	0.001	NONE	0.89	1.2	0.95	0.93	1.0
Asbestos in Soil	Type	N/A	ISO 17025	-	Not-detected	-	Not-detected	-
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.8	8.3	8.2	7.8	7.9
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	70	54	40	62	55
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.035	0.027	0.020	0.031	0.028
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	35.0	26.8	19.9	30.8	27.5
Organic Matter	%	0.1	MCERTS	7.9	4.7	3.5	3.4	6.9
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	< 1.0	-	-	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80

Analytical Report Number: 18-91849

Project / Site name: The Promised Land, Bicester
Your Order No: 13108

Lab Sample Number				997417	997418	997419	997420	997421
Sample Reference				TP12	TP13	TP14	TP16	TP18
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.20	0.30-0.30	0.30-0.30	0.30-0.30	0.10-0.10
Date Sampled				02/07/2018	03/07/2018	03/07/2018	02/07/2018	03/07/2018
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	8.6	10	18	12
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.3	0.85	1.3	1.8	1.0
Boron (total)	mg/kg	1	MCERTS	16	16	12	13	17
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	-	< 4.0	-	-	-
Chromium (III)	mg/kg	1	NONE	-	29	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	39	30	41	61	30
Copper (aqua regia extractable)	mg/kg	1	MCERTS	33	16	17	23	29
Lead (aqua regia extractable)	mg/kg	1	MCERTS	51	11	13	19	26
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22	14	22	32	17
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.8	1.6	< 1.0	< 1.0	2.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	50	36	52	83	47
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	96	34	44	110	55
Magnesium (water soluble)	mg/kg	5	NONE	10	5.9	6.1	8.2	8.9
Monoaromatics								
Benzene	ug/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
p & m-xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
o-xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	-	< 2.0	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	< 8.0	-	< 8.0	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	< 8.0	-	11	-
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-	< 8.4	-	< 8.4	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	< 10	-	11	-
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	-	< 10	-	11	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	-	< 2.0	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	< 10	-	< 10	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	< 10	-	< 10	-
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	< 8.4	-	< 8.4	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	< 10	-	< 10	-
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	-	< 10	-	< 10	-
TPHCWG - Total C5 - C44 Aliphatic & Aromatic	mg/kg	10	NONE	-	< 10	-	11	-
Pesticide and Herbicide Screen								
Pesticides/Herbicides Screen in Soil	P/A	N/A	NONE	-	Absent	Absent	-	Absent

Analytical Report Number : 18-91849

Project / Site name: The Promised Land, Bicester

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
997412	TP1	None Supplied	0.20-0.20	Brown loam and clay with vegetation.
997413	TP3	None Supplied	0.30-0.30	Brown loam and clay with vegetation.
997414	TP4	None Supplied	0.20-0.20	Brown loam and clay with vegetation.
997415	TP5	None Supplied	0.30-0.30	Brown loam and clay with vegetation.
997416	TP8	None Supplied	0.10-0.10	Brown loam and clay with vegetation.
997417	TP12	None Supplied	0.20-0.20	Brown loam and clay with vegetation.
997418	TP13	None Supplied	0.30-0.30	Brown clay and loam.
997419	TP14	None Supplied	0.30-0.30	Brown loam and clay with vegetation.
997420	TP16	None Supplied	0.30-0.30	Brown clay.
997421	TP18	None Supplied	0.10-0.10	Brown loam and clay with gravel and vegetation.

Analytical Report Number : 18-91849

Project / Site name: The Promised Land, Bicester

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS
Pesticides and Herbicides in soil screening	In-house method	In-house method		W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding.	L076-PL	D	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Chemtest
The right chemistry to deliver results
Chemtest Ltd.
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.co.uk

Final Report

Report No.:	18-21348-1
Initial Date of Issue:	26-Jul-2018
Client	Applied Geology
Client Address:	Unit 23, Abbey Park Stareton Kenilworth Warwickshire CV8 2LY
Contact(s):	Frankie Hadley Jones Lab Results
Project	AG2875-18 - The Promised Land, Bicester

Quotation No.:		**Date Received:**	19-Jul-2018
Order No.:	13163	**Date Instructed:**	19-Jul-2018
No. of Samples:	9		
Turnaround (Wkdays):	5	**Results Due:**	25-Jul-2018
Date Approved:	26-Jul-2018		

Approved By:

[redacted]

Details: Robert Monk, Technical Manager

Chemtest
The right chemistry to deliver results

Results - Soil

Project: AG2875-18 - The Promised Land, Bicester

Client: Applied Geology				**Chemtest Job No.:**	18-21348	18-21348	18-21348	18-21348	18-21348	18-21348	18-21348	18-21348	18-21348
Quotation No.:				**Chemtest Sample ID.:**	656613	656614	656615	656616	656617	656618	656619	656620	656621
Order No.: 13163				Client Sample Ref.:	TP4	TP7	TP12	TP18	TP13	TP8	TP2	TP6	TP17
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	1.30	2.20	1.70	2.60	1.40	1.50	0.50	0.90	1.50
				Bottom Depth (m):	1.30	2.20	1.70	2.60	1.40	1.50	0.50	0.90	1.50
				Date Sampled:	02-Jul-2018	03-Jul-2018	02-Jul-2018	03-Jul-2018	03-Jul-2018	03-Jul-2018	02-Jul-2018	03-Jul-2018	02-Jul-2018
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
Magnesium (Water Soluble)	N	2120	g/l	0.010	< 0.010	0.016	< 0.010	0.015					
Sulphate (Acid Soluble)	M	2430	%	0.010	0.080	0.40	0.11	0.16					
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	0.14	0.88	0.27	0.51	0.085	< 0.010	< 0.010	< 0.010	0.71
Moisture	N	2030	%	0.020	23	22	19	18	17	13	7.3	9.2	12
Soil Colour	N	2040		N/A	Black	Black	Black	Grey					
Other Material	N	2040		N/A	Stones	Stones	Stones	Stones					
Soil Texture	N	2040		N/A	Clay	Clay	Clay	Clay					
pH	M	2010		N/A	8.3	7.5	8.0	7.6	8.2	8.4	8.5	8.6	7.6
Magnesium (Water Soluble)	N	2120	mg/l	10.000							< 10	< 10	
Total Sulphur	M	2175	%	0.010	0.39	4.7	1.4	3.1					

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis
The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols
For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.co.uk

GEOLABS Limited
Unit D3 HRS Business Park
Granby Avenue
Birmingham
B33 0SJ

Applied Geology
Unit 23
Abbey Park
Stareton
Kenilworth
Warwickshire
CV8 2LY

Tel: +44(0) 121 296 4600
Fax: +44(0) 121 296 4599
email: admin@geolabs.co.uk
web: www.geolabs.co.uk

12 August 2018
Report No : GEO/27825/01

For the attention of Mr F Hadley-Jones

Dear Sirs

Date samples received	26/07/2018
Date written instructions received	26/07/2018
Date testing commenced	27/07/2018
Date of sample disposal	**09/09/2018**

Our ref **GEO / 27825**
Your Ref **AG2875-18**

Project **THE PROMISED LAND, BICESTER**

Further to your instructions we have pleasure in enclosing the results of the tests you requested in the attached figures.

LABORATORY TEST REPORT

Item No	Test Quantity	Description
1	~	Geotechnical Test Summary
2	8	Liquid & Plastic Limits and Water Content
3	5	Particle Size Distribution

Any opinions or interpretations expressed herein are outside the scope of UKAS accreditation. All results contained in this report are provisional unless signed by an approved signatory. The results contained in this report relate only to samples received in the laboratory. This report should not be reproduced except in full without the written permission of the laboratory.

All the necessary data required by the documented test procedures has been recorded and will be stored for a period of no less than 6 years. This data will be issued to yourselves at your request. All samples will be disposed of after the date shown above. Written confirmation will be required to retain the samples beyond this period and a storage charge may be applied.

We trust that the above meets your requirements and should you require any further information or assistance, please do not hesitate to contact us.

Yours faithfully
on behalf of **GEOLABS Limited**

[redacted]

J A Reynolds
Laboratory Manager

SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression				Chemical Tests			Other tests and comments
Borehole / Trial Pit	Depth (m)	Sample Ref	Type	Description	WC (%)	LL (%)	PL (%)	PI (%)	<425 µm (%)	Bulk Mg/m³	Dry Mg/m³	Condition	Cell Pressure kPa	Deviator Stress kPa	Shear Stress kPa	pH	2:1 W/S SO4 (g/L)	W/S Mg (mg/L)	
TP11	0.80-0.80		B	Yellowish brown very clayey, very sandy fine to coarse GRAVEL.															Particle Size Distribution
TP13	2.20-2.20		B	Grey very clayey SAND with some gravel. Gravel is fine to coarse.	23.8	26	16	10	86										Particle Size Distribution
TP15	2.30-2.30		B	Grey very clayey SAND with some gravel. Gravel is fine to coarse.	14.3	26	16	10	81										Particle Size Distribution
TP16	2.10-2.10		D	Dark grey slightly sandy CLAY with some gravel. Gravel is fine to medium.	15.0	28	13	15	90										
TP2	0.60-0.60		B	Yellowish brown clayey sandy fine to coarse GRAVEL.															Particle Size Distribution
TP3	0.50-0.50		D	Greenish grey slightly sandy CLAY with rare gravel. Gravel is fine to coarse.	26.4	73	22	51	96										
TP3	1.30-1.30		D	Greenish grey CLAY.	38.2	73	25	48	100										
TP6	1.60-1.60		D	Black CLAY with rare fine gravel.	35.2	72	24	48	99										
TP8	0.60-0.60		D	Yellowish brown sandy CLAY with some gravel. Gravel is fine to medium.	17.2	32	12	20	84										
TP8	2.00-2.00		D	Dark grey CLAY.	36.0	75	24	51	100										

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

Checked and Approved by

[redacted]eynolds - Laboratory Manager
12/08/2018

Project Number:

GEO / 27825

Project Name:

THE PROMISED LAND, BICESTER
AG2875-18

GEOLABS®

SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression				Chemical Tests			Other tests and comments
Borehole / Trial Pit	Depth (m)	Sample Ref	Type	Description	WC (%)	LL (%)	PL (%)	PI (%)	<425 µm (%)	Bulk Mg/m³	Dry Mg/m³	Condition	Cell Pressure kPa	Deviator Stress kPa	Shear Stress kPa	pH	2:1 W/S SO4 (g/L)	W/S Mg (mg/L)	
TP9	1.20-1.20		B	Yellowish brown clayey very sandy fine to medium GRAVEL.															Particle Size Distribution

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

Checked and Approved by

[redacted]

J A Reynolds - Laboratory Manager
12/08/2018

Project Number:

GEO / 27825

Project Name:

THE PROMISED LAND, BICESTER
AG2875-18

GEOLABS®

BS1377 : Part 2 : 1990 Clauses 4.4 & 5

LIQUID AND PLASTIC LIMITS

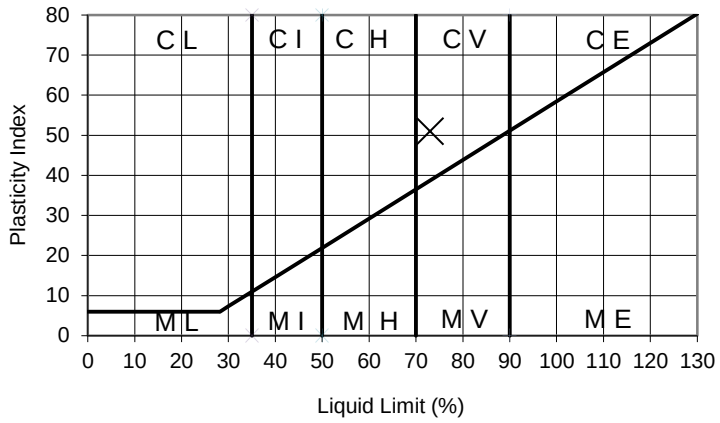
BH / TP	TP3
Depth (m)	0.50
Sample Type	D

Description:

Greenish grey slightly sandy CLAY with rare gravel. Gravel is fine to coarse.

Preparation : Sample as received

Water Content : (BS EN ISO 17892-1:2014)	26.4	%
Percentage passing 425µm sieve :	96	%
Liquid Limit :	73	%
Plastic Limit :	22	%
Plasticity Index :	51	
Equivalent Water Content of material passing 425µm sieve :	27	%
Liquidity Index :	0.11	



Checked and Approved by:

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J A Reynolds - Laboratory Manager
12/08/2018

Project Number:

GEO / 27825

Project Name:

THE PROMISED LAND, BICESTER
AG2875-18

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UKAS TESTING 1982

BS1377 : Part 2 : 1990 Clauses 4.4 & 5

LIQUID AND PLASTIC LIMITS

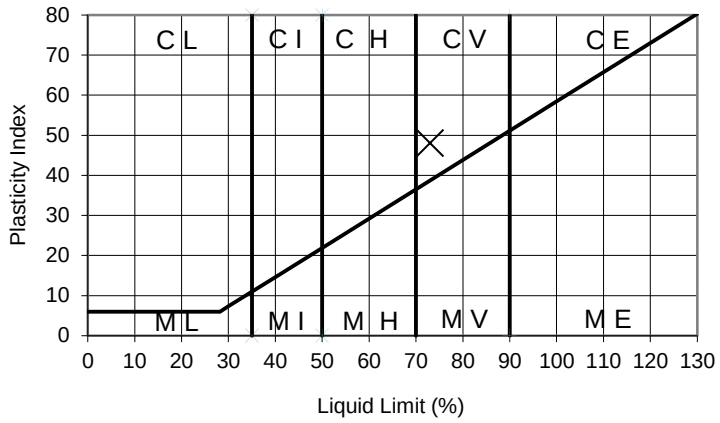
BH / TP	TP3
Depth (m)	1.30
Sample Type	D

Description:

Greenish grey CLAY.

Preparation : Sample as received

Water Content : (BS EN ISO 17892-1:2014)	38.2	%
Percentage passing 425µm sieve :	100	%
Liquid Limit :	73	%
Plastic Limit :	25	%
Plasticity Index :	48	
Equivalent Water Content of material passing 425µm sieve :	38	%
Liquidity Index :	0.28	



Checked and Approved by:

[redacted]

J A Reynolds - Laboratory Manager
12/08/2018

Project Number:

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BS1377 : Part 2 : 1990 Clauses 4.4 & 5

LIQUID AND PLASTIC LIMITS

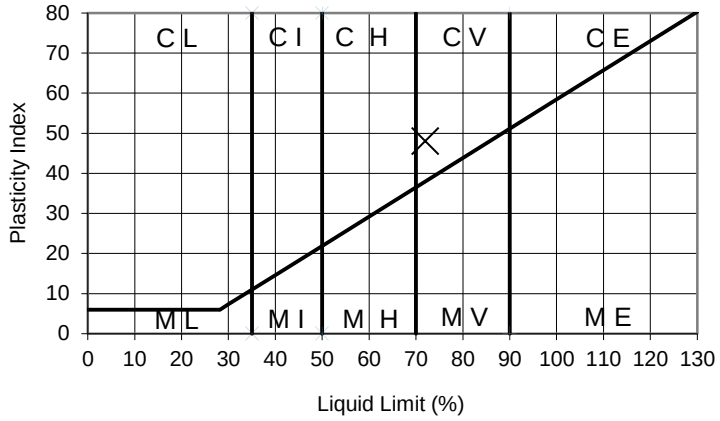
BH / TP	TP6
Depth (m)	1.60
Sample Type	D

Description:

Black CLAY with rare fine gravel.

Preparation : Sample as received

Water Content : (BS EN ISO 17892-1:2014)	35.2	%
Percentage passing 425µm sieve :	99	%
Liquid Limit :	72	%
Plastic Limit :	24	%
Plasticity Index :	48	
Equivalent Water Content of material passing 425µm sieve :	36	%
Liquidity Index :	0.24	



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THE PROMISED LAND, BICESTER
AG2875-18

BS1377 : Part 2 : 1990 Clauses 4.4 & 5

LIQUID AND PLASTIC LIMITS

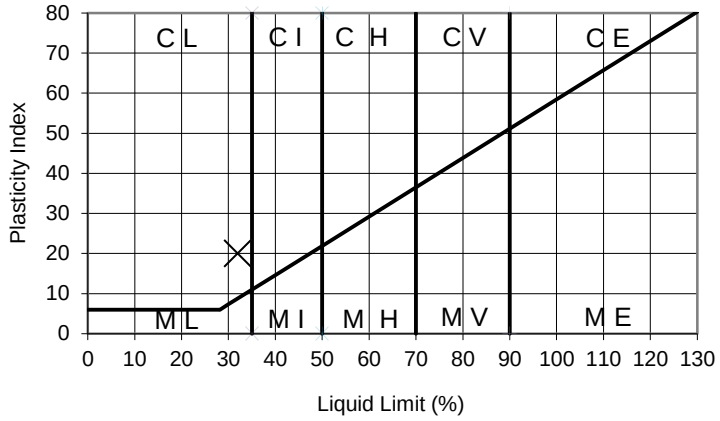
BH / TP	TP8
Depth (m)	0.60
Sample Type	D

Description:

Yellowish brown sandy CLAY with some gravel. Gravel is fine to medium.

Preparation : Sample washed and air dried

Water Content : (BS EN ISO 17892-1:2014)	17.2	%
Percentage passing 425µm sieve :	84	%
Liquid Limit :	32	%
Plastic Limit :	12	%
Plasticity Index :	20	
Equivalent Water Content of material passing 425µm sieve :	21	%
Liquidity Index :	0.43	



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BS1377 : Part 2 : 1990 Clauses 4.4 & 5

LIQUID AND PLASTIC LIMITS

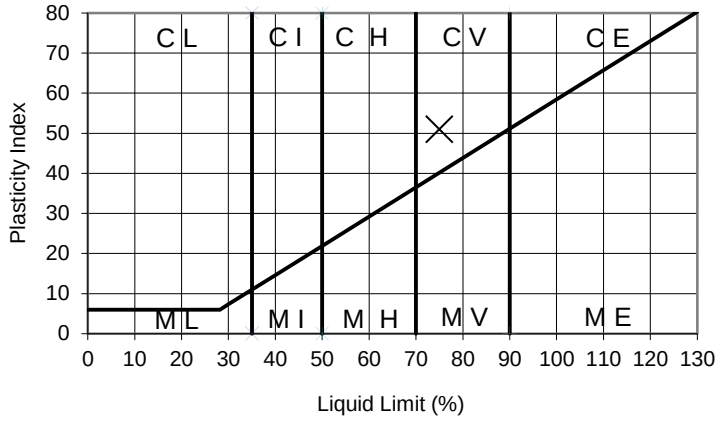
BH / TP	TP8
Depth (m)	2.00
Sample Type	D

Description:

Dark grey CLAY.

Preparation : Sample as received

Water Content : (BS EN ISO 17892-1:2014)	36.0	%
Percentage passing 425µm sieve :	100	%
Liquid Limit :	75	%
Plastic Limit :	24	%
Plasticity Index :	51	
Equivalent Water Content of material passing 425µm sieve :	36	%
Liquidity Index :	0.24	



Checked and Approved by:

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J A Reynolds - Laboratory Manager
12/08/2018

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UKAS TESTING 1982

BS1377 : Part 2 : 1990 Clauses 4.4 & 5

LIQUID AND PLASTIC LIMITS

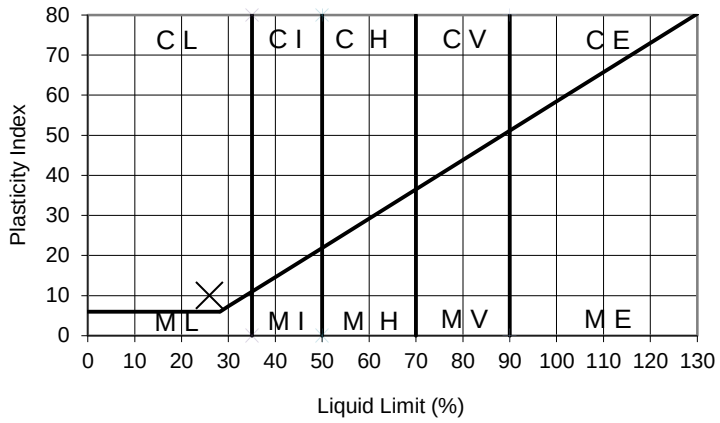
BH / TP	TP13
Depth (m)	2.20
Sample Type	B

Description:

Grey very clayey SAND with some gravel. Gravel is fine to coarse.

Preparation : Sample washed and air dried

Water Content : (BS EN ISO 17892-1:2014)	23.8	%
Percentage passing 425µm sieve :	86	%
Liquid Limit :	26	%
Plastic Limit :	16	%
Plasticity Index :	10	
Equivalent Water Content of material passing 425µm sieve :	28	%
Liquidity Index :	1.18	



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J A Reynolds - Laboratory Manager
12/08/2018

Project Number:

GEO / 27825

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THE PROMISED LAND, BICESTER
AG2875-18

GEOLABS

UKAS TESTING 1982

BS1377 : Part 2 : 1990 Clauses 4.4 & 5

LIQUID AND PLASTIC LIMITS

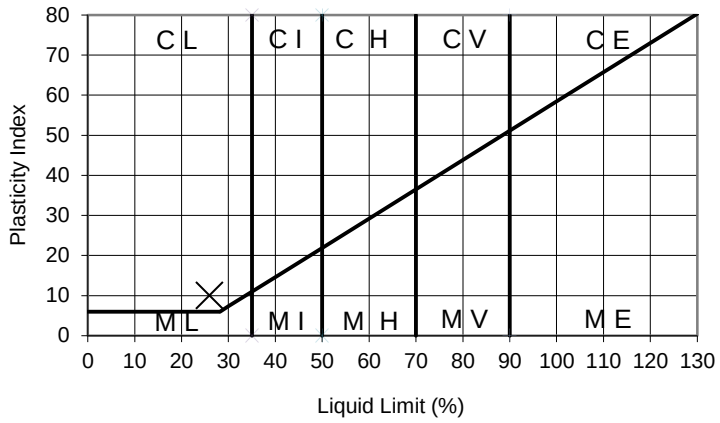
BH / TP	TP15
Depth (m)	2.30
Sample Type	B

Description:

Grey very clayey SAND with some gravel. Gravel is fine to coarse.

Preparation : Sample washed and air dried

Water Content : (BS EN ISO 17892-1:2014)	14.3	%
Percentage passing 425µm sieve :	81	%
Liquid Limit :	26	%
Plastic Limit :	16	%
Plasticity Index :	10	
Equivalent Water Content of material passing 425µm sieve :	18	%
Liquidity Index :	0.17	



Checked and Approved by:

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J A Reynolds - Laboratory Manager
12/08/2018

Project Number:

GEO / 27825

Project Name:

THE PROMISED LAND, BICESTER
AG2875-18

GEOLABS

UKAS TESTING 1982

BS1377 : Part 2 : 1990 Clauses 4.4 & 5

LIQUID AND PLASTIC LIMITS

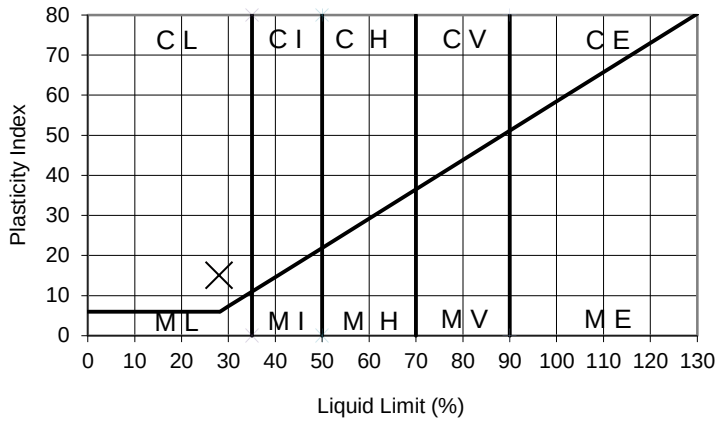
BH / TP	TP16
Depth (m)	2.10
Sample Type	D

Description:

Dark grey slightly sandy CLAY with some gravel. Gravel is fine to medium.

Preparation : Sample washed and air dried

Water Content : (BS EN ISO 17892-1:2014)	15.0	%
Percentage passing 425µm sieve :	90	%
Liquid Limit :	28	%
Plastic Limit :	13	%
Plasticity Index :	15	
Equivalent Water Content of material passing 425µm sieve :	17	%
Liquidity Index :	0.24	



Checked and Approved by:

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J A Reynolds - Laboratory Manager
12/08/2018

Project Number:

GEO / 27825

Project Name:

THE PROMISED LAND, BICESTER
AG2875-18

GEOLABS

UKAS TESTING 1982

BS EN ISO 17892-4 : 2016

PARTICLE SIZE DISTRIBUTION

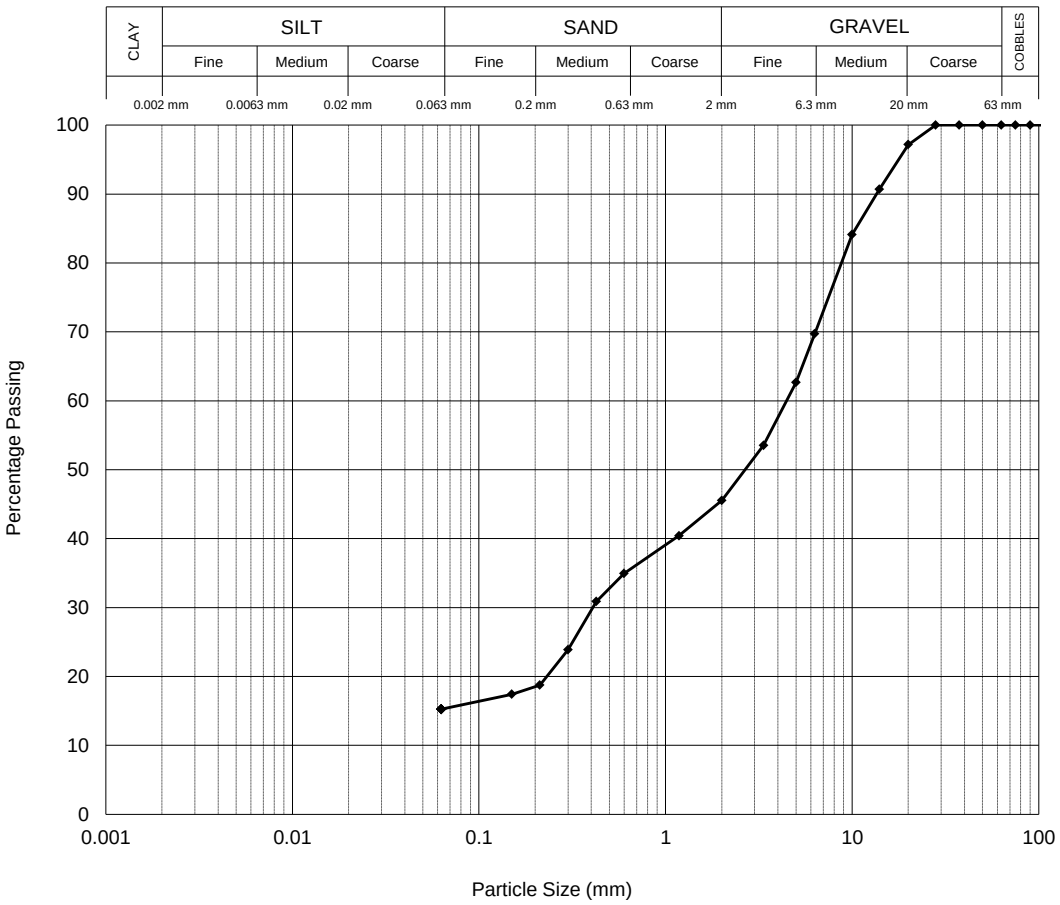
BH / TP No.	TP2
Depth (m)	0.60-0.60
Sample Type	B

Description

Yellowish brown clayey sandy fine to coarse GRAVEL.

BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

Sieve	
Size	% Pass
200.0 mm	100
125.0 mm	100
90.0 mm	100
75.0 mm	100
63.0 mm	100
50.0 mm	100
37.5 mm	100
28.0 mm	100
20.0 mm	97
14.0 mm	91
10.0 mm	84
6.30 mm	70
5.00 mm	63
3.35 mm	54
2.00 mm	46
1.18 mm	40
600 µm	35
425 µm	31
300 µm	24
212 µm	19
150 µm	17
63 µm	15



Particle Proportions	
Cobbles	0
Gravel	54
Sand	30
Silt & Clay	16

Checked and Approved by

J A Reynolds - Laboratory Manager
12/08/2018

Project Number:

GEO / 27825

Project Name:

THE PROMISED LAND, BICESTER
AG2875-18

GEOLABS

UKAS TESTING 1982