STUART GUY CONSULTING



Stage One Environmental Desk Study

of Land adjacent to 355 High Road

Whaplode, Spalding, PE12 6TG

3rd March 2017

REPORT NUMBER 17-02-01

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STUART GUY CONSULTING

Report number 17-02-01 **Date 3rd March 2017**

Environmental Risk Assessment of Land adjacent to

355 High Road, Whaplode, Spalding, PE12 6TG

Non - technical Summary

The site (about 1.8 ha) is located in a mainly rural setting with only a few residential properties nearby. The area is flat and level with the site having stubble from cereal crops on it from last year. The plan is to construct 33 dwellings on the site around an existing detached house. The Sitecheck Data report identified one historical source of potential contamination that could impact on the site, but that was some distance from the site and it had been redeveloped. An historical haulage business was further away and made ground with unknown materials was also noted, but that was even further from the site and was a wooded grassed area near to the church. The site visit confirmed that no sources of potential contamination were on or near the site that could impact on the site.

The ground under the site is largely impermeable and the nearest surface water is a ditch some flowing along two sides of the site. The top soil was sticky silty clayey sand which would allow little lateral migration of any substances.

There were no credible sources of potential contamination that could impact on this site and therefore, the risk of harm to the occupiers of the site and to the environment was acceptable.

No further investigation is necessary on this site.

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Report number 17-02-01 **Date 3rd March 2017**

Stage One Environmental Desk Study of Land adjacent to

355 High Road, Whaplode, Spalding, PE12 6TG

Planning Application No. H23-0508-16

1. Scope of the Risk Assessment

1.1 Under instructions from Peter Pitt of D Brown Building Contractors Limited, Seas End, Moulton Loosegate, PE12 6JX, I have prepared this risk assessment based on the following:

A Sitecheck Data Report dated 28th February 2017, reference SCD_115933665_1_1
A visit to the site on 1st March 2017

1.2 The purpose of this report is to assess whether this site, or potential contaminants from adjacent sites, could present a significant risk of harm to the occupiers of the site or to the environment.

2 Sitecheck Data Report + Google Satellite Image

2.1 The Sitecheck Data report searches features that are recorded on maps or in trade directories of the surrounding area and points to features that may be of concern. As with all automated systems, this tends to identify many features that are not relevant and therefore interpretation of the results is required.

2.2 The Google satellite image shows fields to the west and south and low density housing to the north and east.

2.3 Under current land use for the site, nothing is noted.

2.4 Under current land use for the surrounding area, two discharge consents held by Anglian Water are at about 240 m to the east and at about 240 m to the south and a trade discharge is marked at about 250 m to the north.

2.5 Under historical land use for the site, nothing is noted.

2.6 Under historical land use for the surrounding area, tanks are marked at about 230 m to the north west, a factory or works is noted at about 100 m to the east, a road haulage business is marked at about 210 m to the south east and unknown filled ground (such as pond or stream) is marked at about 210 m to the east and at about 220 m to the south east.

2.7 Groundwater vulnerability is classified as non aquifer with negligibly permeable formations and soil leaching potential is not classified. The nearest surface water feature is ditch flowing along the southern and western boundaries.

2.8 Radon above the action level is estimated to affect less than 1 % of homes and no radon protection measures are recommended.

2.9 In summary, the site is in a rural area with residential buildings on two sides and fields to the other two sides, groundwater vulnerability is classified as non aquifer and the nearest surface water feature is ditch that flows along two boundaries.

3 Site Visit on 1st March 2017

3.1 The site was visited when the weather was dry and sunny. The whole area is flat and level and house number 355 is located in the middle of the site adjacent to High Road (photos 1 & 2). The planned development is to construct 33 houses on the 1.8 ha site around the existing number 355. The fields have stubble on them from cereal crops grown in the previous year (photo 3) and the soil appears to be silty slightly clayey sand The ditches along the southern and western boundary have been maintained and the water in the bottom is clear (photos 4 & 5). A pile of bushes/saplings that appeared to have originated from the High Road boundary and some clean wood and chipboard panels were on site between the western boundary and garden fence of number 355 (photo 6).

3.2 The site of the historical factory or works now has large modern buildings on it and the site of the road haulage business and the unknown filled ground appears to be a wooded and grassed area near to the church. The fields between this site and the historical factory and road haulage business are flat and the soil appears to largely impermeable. An agricultural farm machinery business is located on the other side of High Road some 400 m from the site, but this does not present any risk of contamination.

4. Conceptual Model

4.1 The site (~ 1.8 ha) comprises a field that has been under cultivation with the stubble from cereal crops being present from last year. The whole area is flat and the soil in the field is largely impermeable. No evidence was found for tipping of waste on the site. The historical factory or works has been redeveloped as large commercial units, probably for processing of agricultural products. No sources of potential contamination were identified on or near to the site.

4.2 The ground is level and flat, the ground under the site is largely impermeable, as is the top soil, and the nearest surface water features are the ditches that flow along the southern and western boundaries.

4.3 The suggested model of ‘source, pathway, target’ in which all three components have to be present will be considered for this site. In this context, the source will be a potential contaminant, the receptor will be human or environmental and the pathway will be some process whereby mass transfer from source to receptor occurs.

4.4 Possible pollutant linkages:

Contaminant	Pathway	Receptor
No identified sources of potential contamination that can impact on the development	Not applicable	Occupiers of the site Groundwater & aquifer

5 Conclusions and Recommendations

5.1 No sources of potential contamination were identified on site or near to it.

5.2 No further site investigation is necessary.

6 Summary

6.1 The development is to construct 33 new homes on the site which has been used for agricultural purposes. The setting for the development is mainly rural with only a few houses near to it. The Sitecheck Data report identified three historical sources of potential contamination that could impact on the site, but the site visit found the area to be level and flat, the soil was largely impermeable and the nearest potential source had been re-developed. The other two sources were a long way from the site and very unlikely to have any impact on the site. The visit confirmed that no sources of potential contamination were present on, or near, to the site.

6.2 No further site investigation is necessary on this site.

6.3 Those workers whose main job it is to grade sites or excavate significant quantities of soil could be subject to cumulative exposure to various substances on many sites and they should wear overalls and gloves, even if the soils do not present a significant risk to the health of the workforce. For example, the presence of water contaminated with Weil's disease is a small probability and working on many sites increases the risk of infection to a worker. Localised contamination from small amounts of chemicals that could have been discarded is an unlikely event, but if heavily discoloured or highly odorous materials are encountered, then appropriate advice should be sought.

Stuart Guy, BSc, PhD, C Chem, MRSC, C Eng, MIMMM

Photo 1 Western side of site with house number 355 in middle of site



Photo 2 Eastern side of site looking towards road, number 355 on left



Photo3 Field looking from southeast corner of the site



Photo 4 Ditch on southern boundary looking to west



Photo 5 Ditch on western boundary looking to High Road



Photo 6 Bushes/saplings from road boundary and scrapped clean wood



Sitecheck Data

Land adjacent to, 355 High Road, Whaplode, SPALDING, PE12 6TG

Prepared for:
DR S Guy
Stuart Guy Consulting
5 Willow Heights
Cradley Heath
West Midlands
B64 7PL

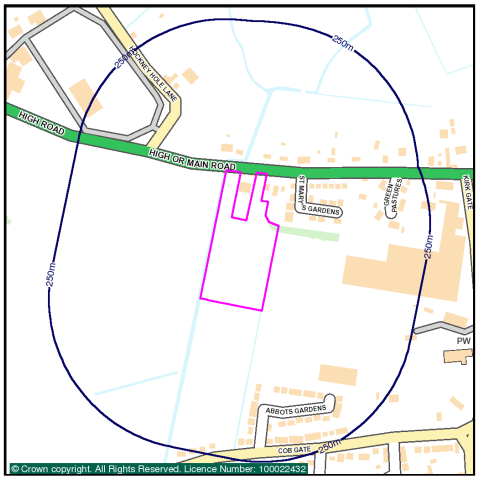
Report Reference: SCD_115933665_1_1

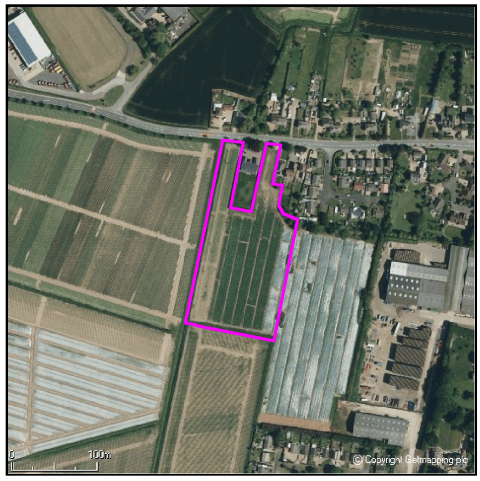
Report Date: 28-FEB-2017

Customer Reference: 17-02-01 Whaplode

National Grid Reference: 531990 324190

Site Area: 18449 m²





If you have any questions on the contents of this Report please contact Landmark Customer Helpdesk which is open from 9:00am - 5:30pm, Monday - Friday, via one of the following channels:

Telephone: 0844 844 9966
Fax: 0844 844 9980
Email: info@landmarkinfo.co.uk
Website: www.sitecheck.co.uk

Report Sections and Details	Page
Summary of Site	-
This section comprises contaminant, pathway and receptor information found on site. Other factors which may affect the site are also included.	
Aerial Photo	1
The aerial photo gives an overall view of the area. The smaller large-scale Ordnance Survey map includes the site boundary and search zone buffer at 250m.	
Location Map	2
The large-scale Ordnance Survey map includes the site boundary and search zone buffer at 250m. The smaller aerial photo also includes the site boundary.	
Summary Table	3
This section comprises of a summary table of the information found on site and in its vicinity.	
Current Land Use	7
This section contains a map, which shows current land use features. The following pages detail these features and identify the Reference Number and direction.	
Historical Land Use	9
This section contains a map, which shows historical land use features. The following pages detail these features and identify the Reference Number and direction. A table listing all the maps used to source this information is included.	
Sensitivity	12
This section contains a map, which shows pathway and receptor features. The following pages detail these features and identify the Reference Number and direction. This section also contains a separate Flood Map and flood details.	
Other Factors	15
This section contains information on other factors which may affect the site and its vicinity.	
Useful Information	16
This section contains information which may be of use when interpreting the report.	
Useful Contacts	17
All textual information is linked by the 'Contact Ref' to this quick reference list of contacts. These contacts may be able to supply additional information or answer any subsequent query relating to that record.	

If you would like any further assistance regarding this report then please contact
Landmark on (Tel) 0844 844 9966, (Fax) 0844 844 9980, Email: helpdesk@landmark.co.uk

Sensitivity Pathways	Page No.	Reference Number (Map ID)
Groundwater Vulnerability		
Geological Classification: Non Aquifer (Negligibly permeable) - Formations which are generally regarded as containing insignificant quantities of groundwater. However, groundwater flow through such rocks, although imperceptible, does take place and needs to be considered in assessing the risk associated with persistent pollutants, Soil Classification: Not classified, Map Scale: 1:100,000, Map Name: Sheet 24 North Northamptonshire, Contact Ref: 1	14	-
Extreme Flooding from Rivers or Sea without Defences		
Type: Extent of Extreme Flooding from Rivers or Sea without Defences, Flood Plain Type: Fluvial/Tidal Models, Contact Ref: 1	14	-
Flooding from Rivers or Sea without Defences		
Type: Extent of Flooding from Rivers or Sea without Defences, Flood Plain Type: Fluvial Models, Contact Ref: 1	14	-

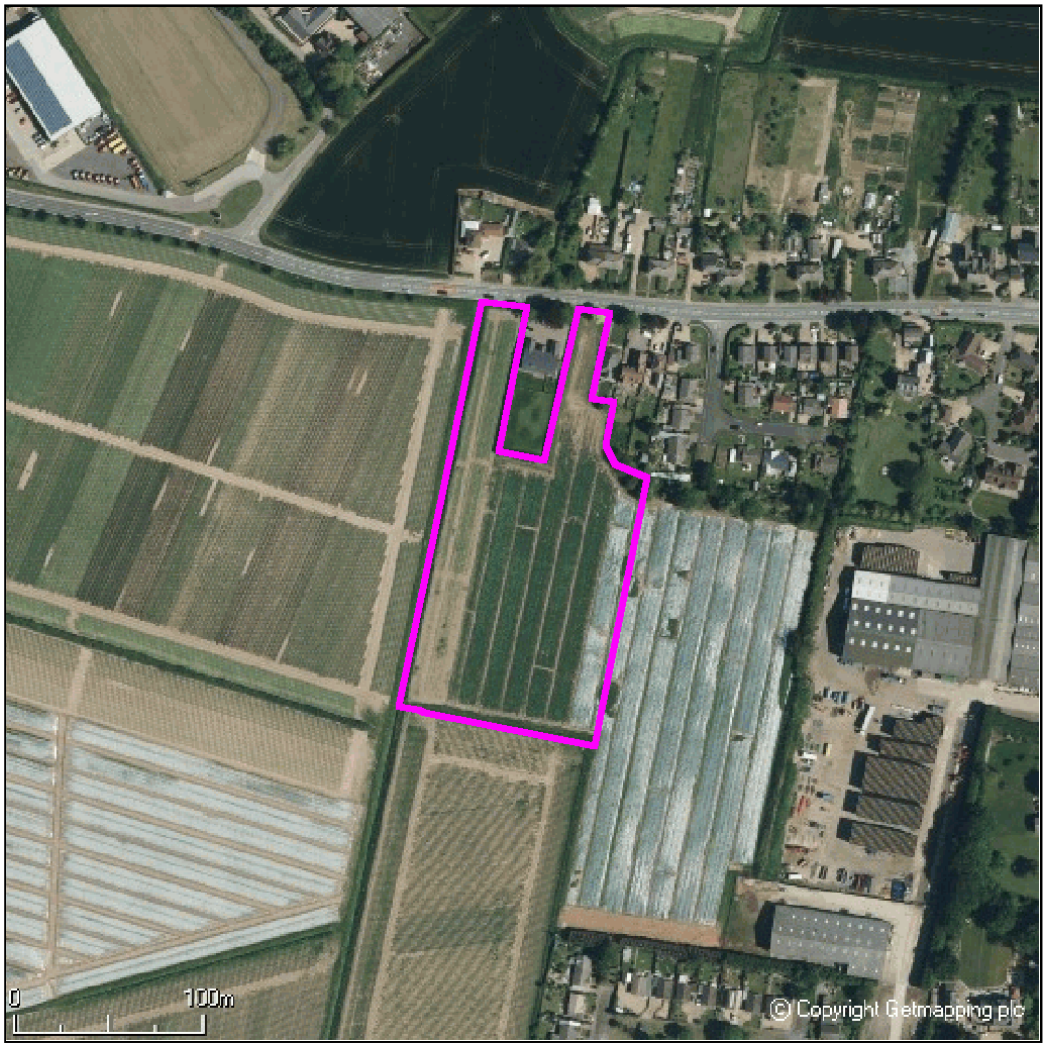
Sensitivity Environmentally Sensitive Receptors	Page No.	Reference Number (Map ID)
Nearest Surface Water Feature		
Distance: 0m	14	1

Other Factors Geological	Page No.	Reference Number (Map ID)
Radon Potential - Radon Affected Areas		
Affected Areas: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level)., Source: British Geological Survey, National Geoscience Information Service, Contact Ref: 2	15	-
Radon Potential - Radon Protection Measures		
Radon Protection Measures: None, Source: British Geological Survey, National Geoscience Information Service, Contact Ref: 2	15	-
Potential for Compressible Ground Stability Hazards		
Hazard Potential: Moderate, Contact Ref: 2	15	-
Potential for Landslide Ground Stability Hazards		
Hazard Potential: Very Low, Contact Ref: 2	15	-

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Other Factors Geological	Page No.	Reference Number (Map ID)
Potential for Running Sand Ground Stability Hazards		
Hazard Potential: Moderate, Contact Ref: 2	15	-
Potential for Shrinking or Swelling Clay Ground Stability Hazards		
Hazard Potential: Low, Contact Ref: 2	15	-

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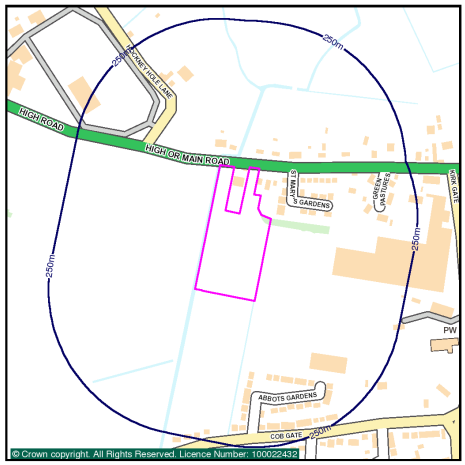
Site
Land adjacent to,355 High Road,Whaplode,SPALDING,PE12 6TG

Grid Reference
531990, 324190

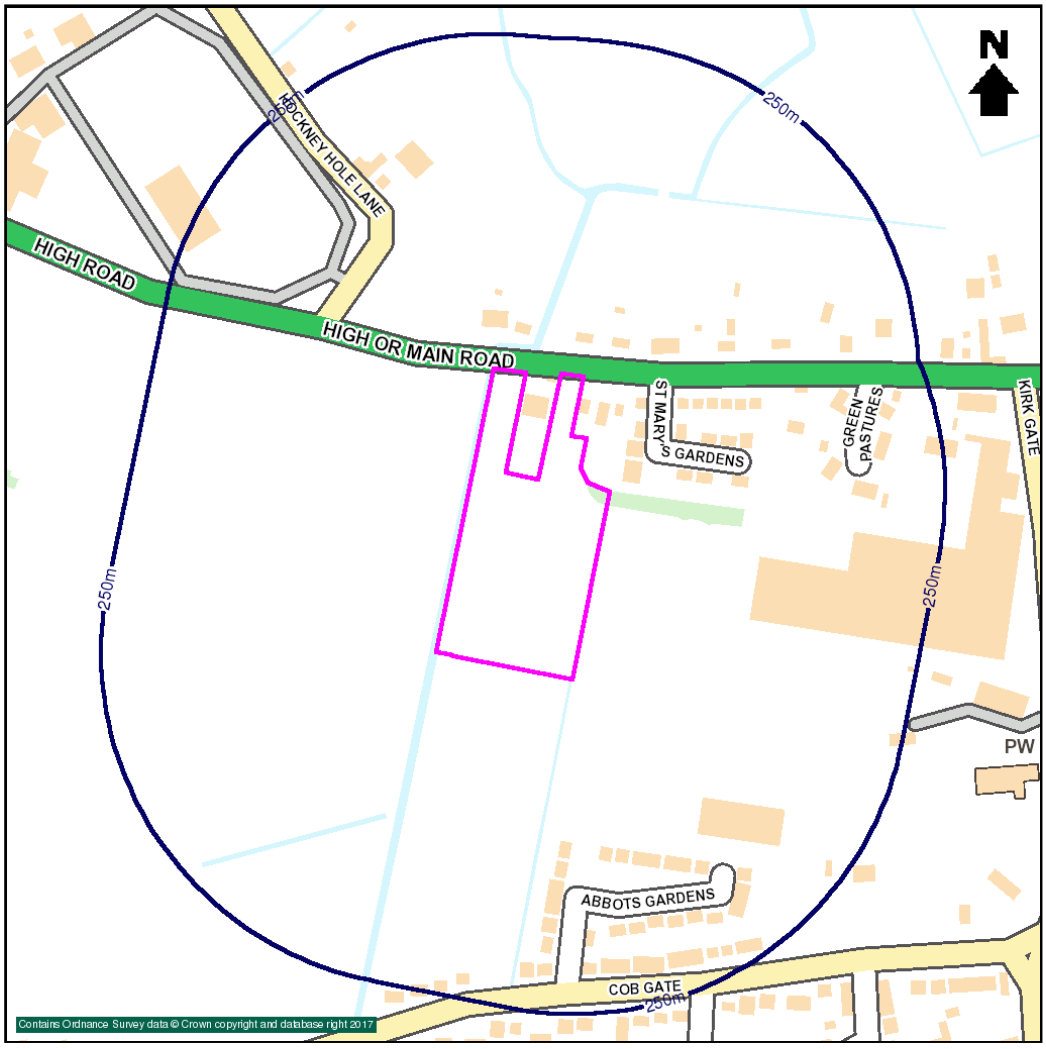
Report Reference
SCD_115933665_1_1

Customer Reference
17-02-01 Whaplode

Size of Site
18449 m²



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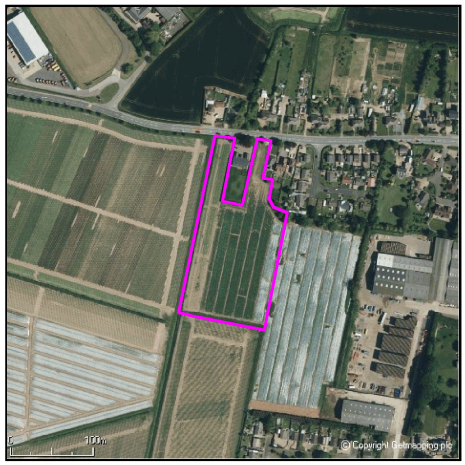
Site
Land adjacent to,355 High Road,Whaplode,SPALDING,PE12 6TG

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Current Land Use Contaminants	On Site 0	0-250m 3
Waste / Landfill Sites		
BGS Recorded Landfill Sites	0	0
Licensed Waste Management Facilities (Landfill Boundaries)	0	0
Licensed Waste Management Facilities (Locations)	0	0
Local Authority Recorded Landfill Sites	0	0
Registered Landfill Sites	0	0
Registered Waste Transfer Sites	0	0
Registered Waste Treatment or Disposal Sites	0	0
Statutory Authorisations		
Local Authority Pollution Prevention and Controls	0	0
Contaminated Land Register Entries and Notices	0	0
Registered Radioactive Substances	0	0
Discharge Consents		
Discharge Consents	0	3
Water Industry Act Referrals	0	0
Industrial Processes		
Integrated Pollution Controls	0	0
Integrated Pollution Control Registered Waste Sites	0	0
Integrated Pollution Prevention And Control	0	0
Local Authority Integrated Pollution Prevention And Control	0	0
Storage of Hazardous Substances		
Control of Major Accident Hazards Sites (COMAH)	0	0
Explosive Sites	0	0
Notification of Installations Handling Hazardous Substances (NIHHS)	0	0
Planning Hazardous Substance Consents	0	0
Contraventions		
Local Authority Pollution Prevention and Control Enforcements	0	0
Enforcement and Prohibition Notices	0	0
Planning Hazardous Substance Enforcements	0	0
Prosecutions Relating to Authorised Processes	0	0
Prosecutions Relating to Controlled Waters	0	0
Substantiated Pollution Incident Register	0	0

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Current Land Use Contaminants	On Site 0	0-250m 3
Potentially Contaminative Uses		
Contemporary Trade Directory Entries	0	0
Fuel Station Entries	0	0
Miscellaneous		
BGS Recorded Mineral Sites	0	0

Historical Land Use Contaminants	On Site 0	0-250m 5
Potentially Contaminative Uses		
Historical Tanks And Energy Facilities	0	1
Potentially Contaminative Industrial Uses (Past Land Use)	0	2
Potentially Infilled Land		
Former Marshes	0	0
Potentially Infilled Land (Non-Water)	0	0
Potentially Infilled Land (Water)	0	2

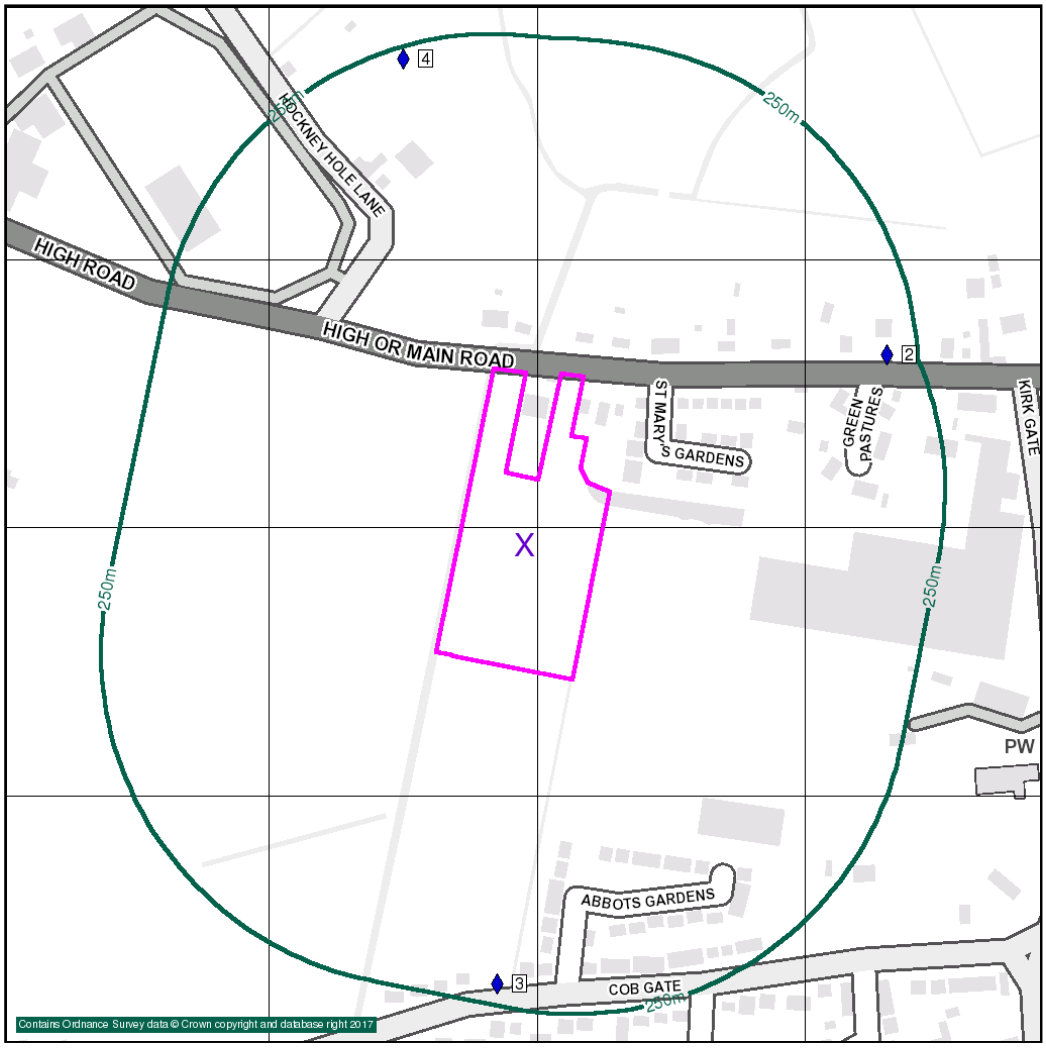
Sensitivity Pathways and Receptors	On Site 4	0-250m 0
Pathways		
Groundwater Vulnerability	1	n/a
Drift Deposits	0	n/a
Historical Flood Liabilities	0	0
Extreme Flooding from Rivers or Sea without Defences	1	0
Flooding from Rivers or Sea without Defences	1	0
Areas Benefiting from Flood Defences	0	0
Flood Water Storage Areas	0	0
Flood Defences	0	0

Sensitivity Pathways and Receptors	On Site 4	0-250m 0
Environmentally Sensitive Receptors		
Areas of Outstanding Natural Beauty	0	0
Environmentally Sensitive Areas	0	0
Local Nature Reserves	0	0
Marine Nature Reserves	0	0
National Nature Reserves	0	0
Nearest Surface Water Feature	1	0
Ramsar Sites	0	0
Sites of Special Scientific Interest	0	0
Source Protection Zones	0	0
Special Areas of Conservation	0	0
Special Protection Areas	0	0
Water Abstractions	0	0
Protected Countryside Areas		
Forest Parks	0	0
National Parks	0	0
National Scenic Areas	0	0

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Other Factors Geological	On Site 8	0-250m 0
Brine Compensation Area	0	n/a
Coal Mining Affected Areas	0	n/a
Mining Instability	0	0
Man-Made Mining Cavities	0	0
Natural Cavities	0	0
Potential for Collapsible Ground Stability Hazards	1	0
Radon Potential - Radon Affected Areas	1	n/a
Radon Potential - Radon Protection Measures	1	n/a
Potential for Compressible Ground Stability Hazards	1	0
Potential for Ground Dissolution Stability Hazards	1	0
Potential for Landslide Ground Stability Hazards	1	0
Potential for Running Sand Ground Stability Hazards	1	0
Potential for Shrinking or Swelling Clay Ground Stability Hazards	1	0
Non Coal Mining Areas of Great Britain	0	0

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General

- Site Boundary
- Search Buffer
- Bearing Reference Point
- Reference Number

Miscellaneous

- BGS Recorded Mineral Site

Potentially Contaminative Use

- Potentially Contaminative Use

Waste/Landfill Sites

- BGS Recorded Landfill Site
- Licensed Waste Management Facilities (Landfill)
- Local Authority Recorded Landfill Site
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site
- Registered Landfill Site
- Point Location of Registered Landfill Site
- BGS Recorded Landfill Site (Point)
- Licensed Waste Management Facilities (Location)
- Local Authority Recorded Landfill Site (Point)
- Registered Waste Transfer Site (Point)
- Registered Waste Treatment or Disposal Site (Point)
- Registered Landfill Site Potential Landfill Buffer

Contraventions

- Local Authority Pollution Prevention and Control Enforcement
- Planning Hazardous Substance Enforcement
- Prosecution Relating to Authorised Processes
- Enforcement and Prohibition Notice
- Substantiated Pollution Incident Register
- Prosecution Relating to Controlled Waters

Storage Of Hazardous Substances

- COMAH
- Planning Hazardous Substance Consent
- Explosive Site
- NHHS

Industrial Processes

- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Integrated Pollution Control Registered Waste Site
- Local Authority Integrated Pollution Prevention and Control

Statutory Authorisations

- Local Authority Pollution Prevention and Control
- Contaminated Land Register Entry or Notice (Point)
- Contaminated Land Register Entry or Notice
- Registered Radioactive Substance

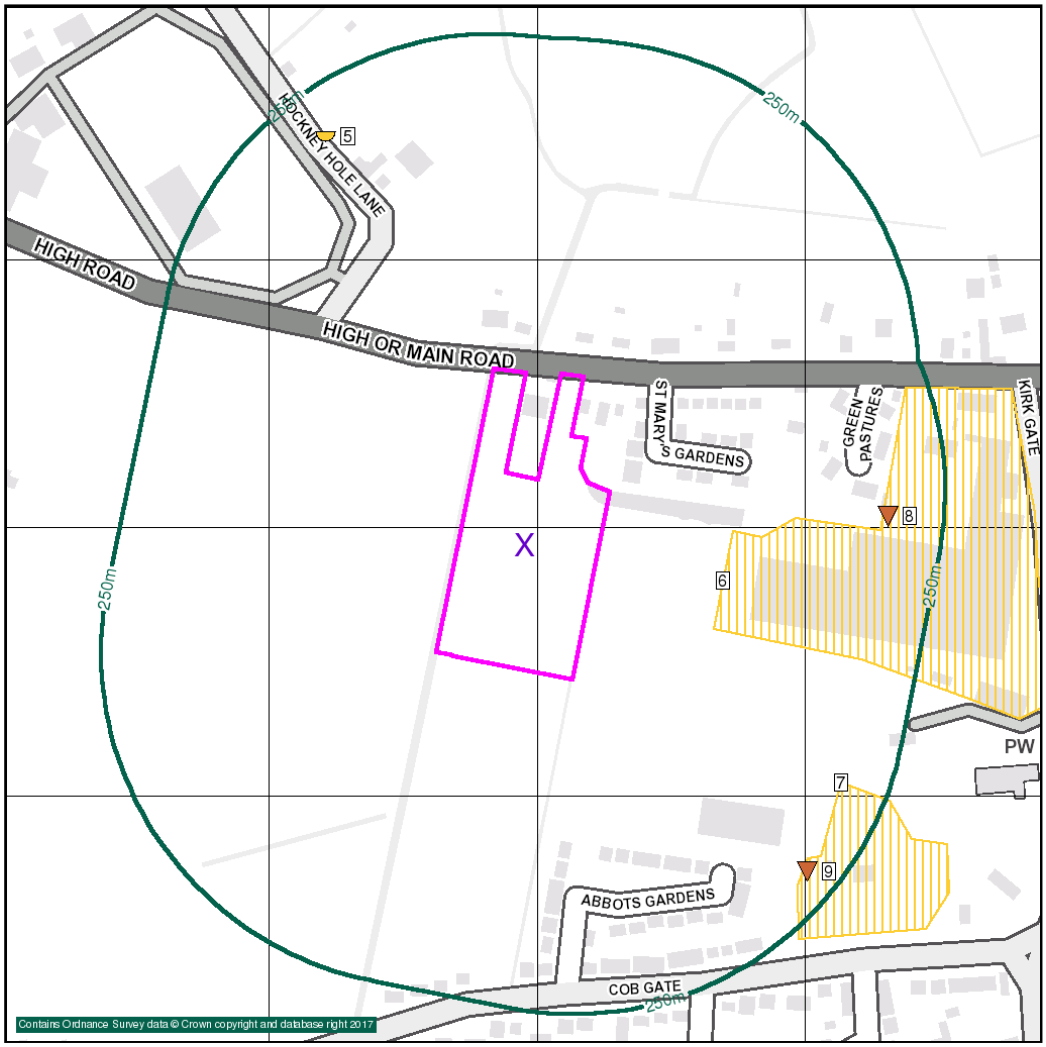
Discharge Consents

- Discharge Consent
- Water Industry Act Referral

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Contaminants Waste / Landfill Sites	Ref No.	Search Buffer	Direction
Local Authority Landfill Coverage			
Name: South Holland District Council, - Has no landfill data to supply, Contact Ref: 4	-	On Site	N
Name: Lincolnshire County Council, - Had landfill data but passed it to the relevant environment agency, Contact Ref: 3	-	On Site	N

Discharge Consents	Ref No.	Search Buffer	Direction
Discharge Consents			
Anglian Water Services Limited, High Rd Moulton Ps High Road, Whaplode, Spalding, Lincs, Pe12 6tg, Sewage Discharge, Reference: Aw5nf2105, Version: 1, Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989, Positional Accuracy: Located by supplier to within 10m, Contact ref: 1	2	0-250m	NE
Anglian Water Services Limited, Cobgate Moulton Ps Cobgate, Whaplode, Spalding, Lincs, Pe12 6ul, Sewage Discharge, Reference: Aw5nf2104, Version: 1, Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989, Positional Accuracy: Located by supplier to within 100m, Contact ref: 1	3	0-250m	S
Roy I Congreve, Hockley House Hockley Lane, Whaplode, Spalding, Lincs, Pe12 6th, Trade Discharge, Reference: Gwnlf40409, Version: 1, Status: Deemed Groundwater Regulations Authorisation, Positional Accuracy: Located by supplier to within 10m, Contact ref: 1	4	0-250m	N



General	Potentially Contaminative Use	Potentially Infilled Land
Site Boundary	Point Feature	Point Feature
Search Buffer	Area Feature	Area Feature
Bearing Reference Point	Line Feature	Line Feature
Reference Number		

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Contaminants Potentially Contaminative Uses	Ref No.	Search Buffer	Direction
Historical Tanks And Energy Facilities			
Tanks, Scale of Mapping: 1:2,500, Date of Mapping: 1988	5	0-250m	NW
Potentially Contaminative Industrial Uses (Past Land Use)			
Factory or works - use not specified, Date of Mapping: 1992	6	0-250m	E
Road haulage, Date of Mapping: 1992	7	0-250m	SE

Potentially Infilled Land	Ref No.	Search Buffer	Direction
Potentially Infilled Land (Water)			
Unknown Filled Ground (Pond, marsh, river, stream, dock etc), Date of Mapping: 1958	8	0-250m	E
Unknown Filled Ground (Pond, marsh, river, stream, dock etc), Date of Mapping: 1958	9	0-250m	SE

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Map Details

The following maps have been analysed for Historical Tanks and Energy Facilities

1:2,500	Mapsheet	Published
Ordnance Survey Plan	TF3124	1968
Ordnance Survey Plan	TF3224	1970
Ordnance Survey Plan	TF3124	1988

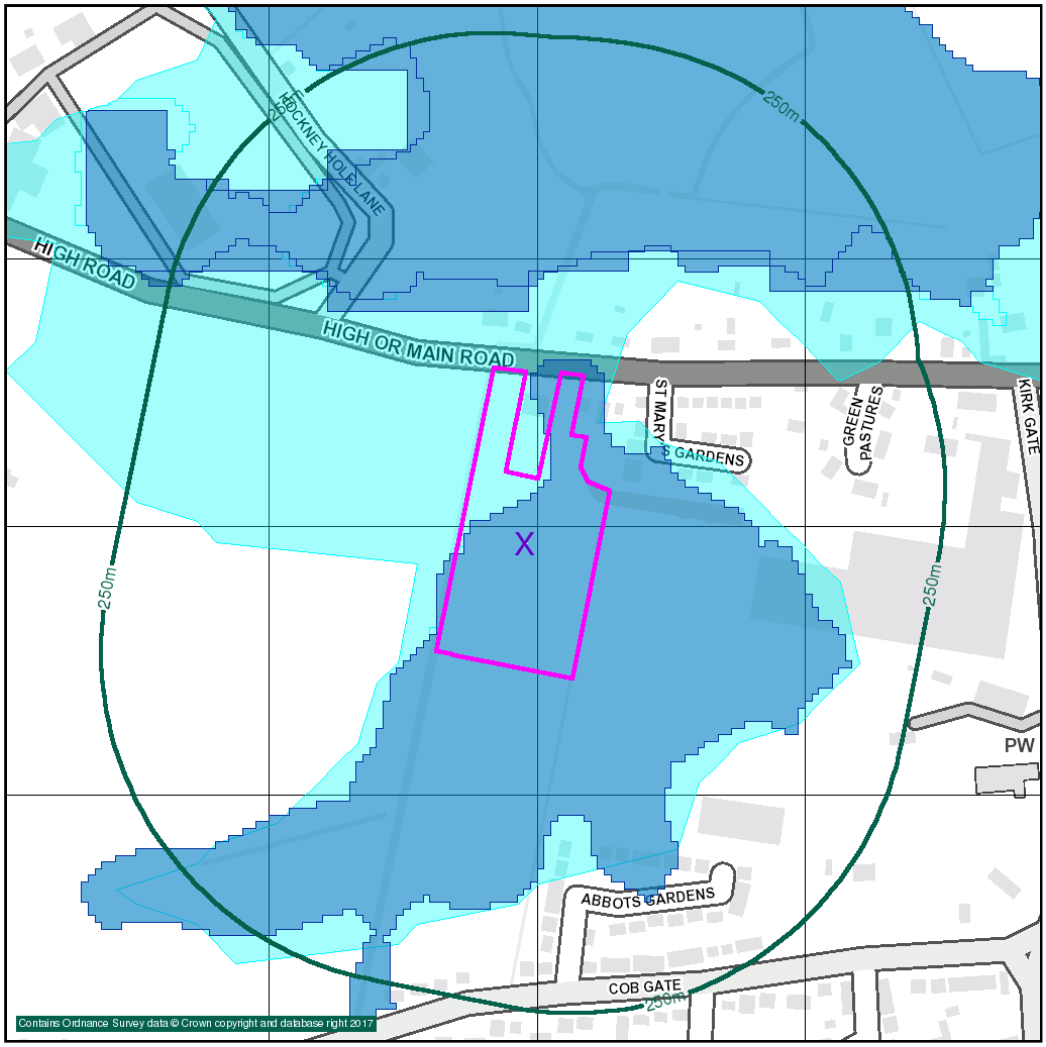
The following maps have been analysed for Potentially Contaminative Uses and Potentially Infilled Land information

1:10,000	Mapsheet	Published
Ordnance Survey Plan	TF32SW	1992

1:10,560	Mapsheet	Published
Lincolnshire	135_SW	1889
Lincolnshire	135_SW	1906
Lincolnshire	135_SW	1932
Lincolnshire	135_SW	1938
Ordnance Survey Plan	TF32SW	1958

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Flood Map



General

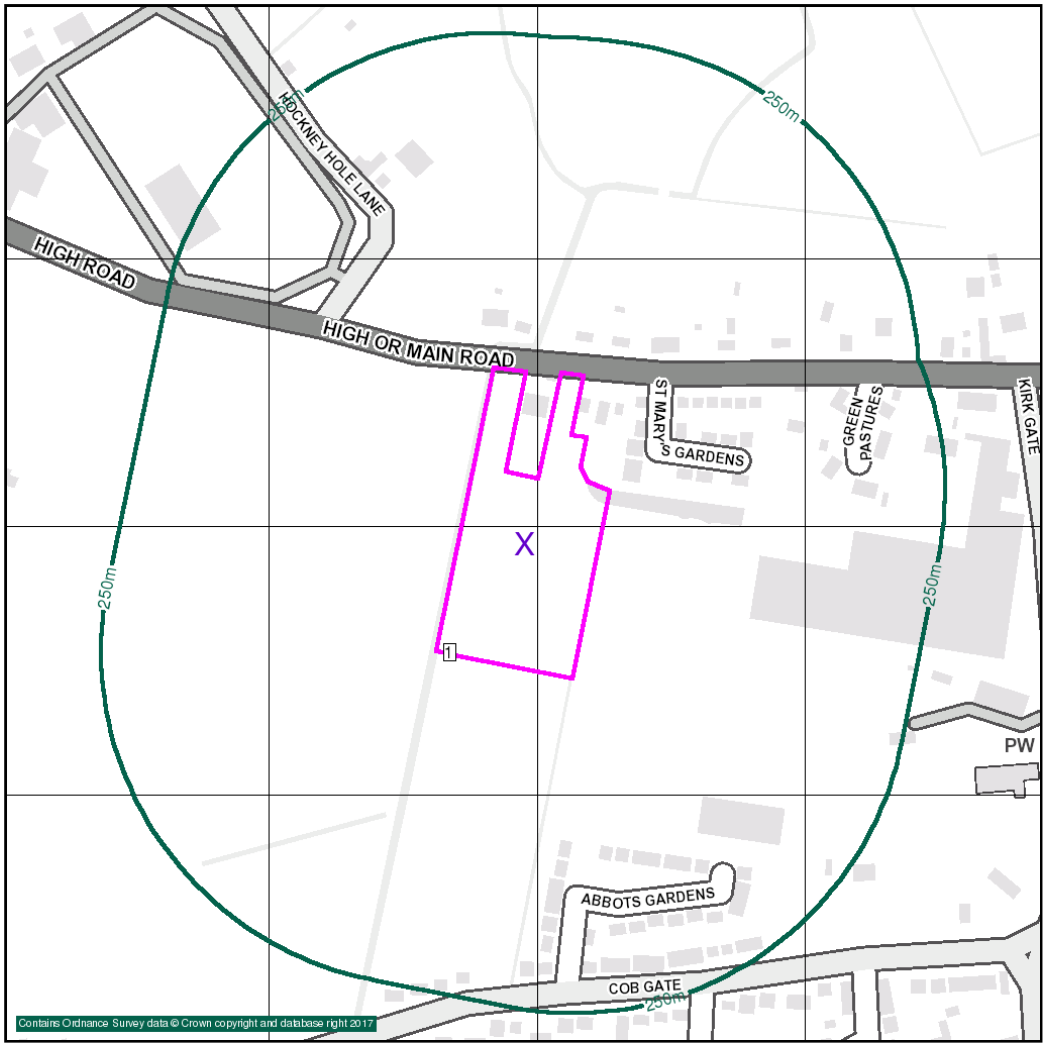
- Site Boundary
- Search Buffer
- Bearing Reference Point
- Reference Number

Area of Floodplain

- Areas Benefiting from Flood Defences
- Flood Water Storage Areas
- Flood Defences
- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)

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Sensitivity Map



General

- Site Boundary
- Search Buffer
- Bearing Reference Point
- Reference Number

Environmentally Sensitive Land Use

- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area
- Nearest Surface Water Feature
- Water Abstractions

Protected Coutryside Areas

- Forest Park
- National Park
- National Scenic Area

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Pathways and Receptors Pathways	Ref No.	Search Buffer	Direction
Groundwater Vulnerability			
Geological Classification: Non Aquifer (Negligibly permeable) - Formations which are generally regarded as containing insignificant quantities of groundwater. However, groundwater flow through such rocks, although imperceptible, does take place and needs to be considered in assessing the risk associated with persistent pollutants, Soil Classification: Not classified, Map Scale: 1:100,000, Map Name: Sheet 24 North Northamptonshire, Contact Ref: 1	-	On Site	N
Drift Deposits			
None	-		-
Extreme Flooding from Rivers or Sea without Defences			
Type: Extent of Extreme Flooding from Rivers or Sea without Defences, Flood Plain Type: Fluvial/Tidal Models, Contact Ref: 1	-	On Site	N
Flooding from Rivers or Sea without Defences			
Type: Extent of Flooding from Rivers or Sea without Defences, Flood Plain Type: Fluvial Models, Contact Ref: 1	-	On Site	N
Areas Benefiting from Flood Defences			
None	-		-
Flood Water Storage Areas			
None	-		-
Flood Defences			
None	-		-

Environmentally Sensitive Receptors	Ref No.	Search Buffer	Direction
Nearest Surface Water Feature			
Distance: 0m	1	On Site	SW

If you would like any further assistance regarding this report then please contact
Landmark on (Tel) 0844 844 9966, (Fax) 0844 844 9980, Email: helpdesk@landmark.co.uk

Other Factors Geological	Search Buffer	Direction
Brine Compensation Area		
No		-
Coal Mining Affected Areas		
In an area which may not be affected by Coal Mining		-
Non Coal Mining Areas of Great Britain		
No Hazard		-
Radon Potential - Radon Affected Areas		
Affected Areas: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level)., Source: British Geological Survey, National Geoscience Information Service, Contact Ref: 2	On Site	N
Radon Potential - Radon Protection Measures		
Radon Protection Measures: None, Source: British Geological Survey, National Geoscience Information Service, Contact Ref: 2	On Site	N
Potential for Collapsible Ground Stability Hazards		
Hazard Potential: No Hazard Contact Ref: 2	On Site	N
Potential for Compressible Ground Stability Hazards		
Hazard Potential: Moderate, Contact Ref: 2	On Site	N
Potential for Ground Dissolution Stability Hazards		
Hazard Potential: No Hazard, Contact Ref: 2	On Site	N
Potential for Landslide Ground Stability Hazards		
Hazard Potential: Very Low, Contact Ref: 2	On Site	N
Potential for Running Sand Ground Stability Hazards		
Hazard Potential: Moderate Contact Ref: 2	On Site	N
Potential for Shrinking or Swelling Clay Ground Stability Hazards		
Hazard Potential: Low Contact Ref: 2	On Site	N

If you would like any further assistance regarding this report then please contact
Landmark on (Tel) 0844 844 9966, (Fax) 0844 844 9980, Email: helpdesk@landmark.co.uk

Registered Landfill Sites

At present no complete national data set exists for landfill site boundaries, therefore a point grid reference, provided by the data supplier, is used for some landfill sites. In certain cases the point grid references supplied provide only an approximate position and can vary from the site entrance to the centre of the site. Where the exact position of the site is unclear, Landmark construct either a 100 metre or 250 metre "buffer" around the point to warn of the possible presence of landfill. The size of this "buffer" relates to the positional accuracy that can be attributed to the site. The "buffer" is shown on the map as an orange cross-hatched circle and is referred to in the map legend as Potential Landfill Buffer. Where actual boundaries are available, the landfill site area is shown on the map as a red diagonal hatched polygon and referred to in the map legend as Registered Landfill Site.

Local Authority Recorded Landfill Sites

Local Authority landfill data are sourced from individual local authorities that were able to provide information on sites operating prior to the introduction of the Control of Pollution Act (COPA) in 1974. Appropriate authorities are listed under Local Authority Landfill Coverage with an indication of whether or not they were able to make landfill data available. Details of any records identified are disclosed. You should be aware that if the local authority 'Had landfill data but passed it to the relevant environment agency' it does not necessarily mean that local authority landfill data is included in our other Landfill datasets. In addition if no data has been made available, for all or part of the search area, you should be aware that a negative response under 'Local Authority Recorded Landfill Sites' does not necessarily confirm that no local authority landfills exist.

Flooding

The Sitecheck report flood map plots all flood related features revealed within the search area as supplied by the relevant environment agency. However, to avoid confusion, the text entry in the body of the report only reveals the detail of the nearest feature in each flood data set. This is also reflected in the summary table where only a single entry is included to indicate the search buffer of the nearest occurrence.

Mining Instability Data

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The Sitecheck Data User guide is available free of charge from our website www.sitecheck.co.uk

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1 Environment Agency National Customer Contact Centre (NCCC)

PO Box 544
Templeborough
Rotherham
S60 1BY

Telephone 03708 506 506

enquiries@environment-agency.gov.uk

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

2 British Geological Survey Enquiry Service

British Geological Survey
Kingsley Dunham Centre
Keyworth
Nottingham
Nottinghamshire
NG12 5GG

Telephone 0115 936 3143
Fax 0115 936 3276

enquiries@bgs.ac.uk
www.bgs.ac.uk

3 Lincolnshire County Council

4th Floor
City Hall
Lincoln
Lincolnshire
LN1 1DN

Telephone 01522 552222
Fax 01522 552288

PublicRelations@lincolnshire.gov.uk
www.lincolnshire.gov.uk

4 South Holland District Council Environmental Services

Council Offices
Priory Road
Spalding
Lincolnshire
PE11 2XE

www.sholland.gov.uk

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Landmark on (Tel) 0844 844 9966, (Fax) 0844 844 9980, Email: helpdesk@landmark.co.uk

Search Code

IMPORTANT CONSUMER PROTECTION INFORMATION

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- Sets out minimum standards which firms compiling and selling search reports have to meet.
- Promotes the best practice and quality standards within the industry for the benefit of consumers and property professionals.
- Enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.

By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

The Code's core principles

Firms which subscribe to the Code will:

- Display the Code logo prominently on their search reports.
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- At all times maintain adequate and appropriate insurance to protect consumers.
- Conduct business in an honest, fair and professional manner.
- Handle complaints speedily and fairly.
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- Monitor their compliance with the Code.

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Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.

TPOs Contact Details:
The Property Ombudsman Scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP
Tel: 01722 333306
Fax: 01722 332296
Web site: www.tpos.co.uk
Email: admin@tpos.co.uk

You can get more information about the PCCB from www.propertycodes.org.uk.

PLEASE ASK YOUR SEARCH PROVIDER IF YOU WOULD LIKE A COPY OF THE SEARCH CODE

Search Code

COMPLAINTS PROCEDURE

If you want to make a complaint, we will:

- Acknowledge it within 5 working days of its receipt.
- Normally deal with it fully and provide a final response, in writing, within 20 working days of receipt.
- Keep you informed by letter, telephone or e-mail, as you prefer, if we need more time.
- Provide a final response, in writing, at the latest within 40 working days of receipt.
- Liaise, at your request, with anyone acting formally on your behalf.

Complaints should be sent to:

Head of Customer Relations
Landmark Information Group Ltd
Landmark UK Property
Imperium
Imperial Way
Reading
RG2 0TD

Telephone: 0844 844 9966

E-mail: helpdesk@landmark.co.uk

Fax: 0844 844 9980

If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman Scheme (TPOs): Tel: 01722 333306, E-mail: admin@tpos.co.uk.

We will co-operate fully with the Ombudsman during an investigation and comply with his final decision.

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STUART GUY CONSULTING

Report number 17-02-01 Soil analysis **Date 19 January 2019**

Sampling and Analysis of Soil Stockpiled on Land adjacent to

355 High Road, Whaplode, Spalding, PE12 6TG

This report is based on a site visit on 9th January 2019, information from a conversation with the excavator driver, a letter from Peter Pitt of D Brown Building Contractors Ltd and an analytical report from the Environmental Laboratory number 19-21249 and dated 17th January 2019. The purpose of this report is to classify the soil in terms of potential application.

1. Origin of soil stockpile

1.1 This report should be read in conjunction with the desk study by Stuart Guy Consulting, number 17-02-01, dated 3rd March 2017. The photographs in that report show the agricultural fields that comprised this development site. The site was visited on Wednesday 9th January to take samples of soil from the site. It was noted that despite the soil being removed and piled in November and December last year, there were signs of vigorous growth on both the topsoil and subsoil.

1.2 The soil stockpiled on this site has been removed prior to construction of foundations for the new housing development. The top loam soil layer had very few stones and only a little clay and was removed into a separate stockpile (photos 1 and 2). The excavator driver estimated that it was between about 20 and 30 cm deep in the field. The subsoil layer was then removed and stored in low piles around the site (photo 3). The loam topsoil was brown whilst the subsoil was more grey, mainly from the higher content of grey clay, and contained many more small and medium sized stones. Obviously some mixing had occurred and small pockets of brown soil was present in the subsoil and grey was present in the topsoil.

1.3 The main soil stockpile was triangular in shape both horizontally and vertically. As with all stockpiles, the exact volume of soil is not easy to calculate (figure 1). However, with the use of a tape measure and some estimates, the length appeared to be about 60 m, the width was about 10 m and the height was about 5 m. Part of the top area was nearly horizontal with a fairly steep slope down to the small mounds at the end. Taking the 60 m and reducing that to 40 m to account for the decrease in height and taking the 10 m width and reducing that to 7 m to take into account the decrease in width, then the volume would be 1,400 m^3.

1.4 The smaller subsoil mounds were very difficult to estimate, but they would be far less than half of the main topsoil stockpile, putting the estimate at less than 700 m^3. It was also decided to sample the subsoil as it appeared to be of good quality, but with clay and stones.

2. Sampling of topsoil and subsoil

2.1 All samples were obtained by taking numerous small sample from many parts of the soil stockpiles, mixing the samples in a bucket and then taking very small amounts from all parts of the bucket to produce a sample for analysis. The 1400 m^3 of topsoil needs just under six

samples according to the YALPAG guidance (although the publications of Pierre Gy, a renowned expert on statistical sampling of soils, does not seem to be applied in that guidance). Seven samples were taken for analysis. The estimated volume of subsoil was less than 700 m^3, so 3 samples were taken for analysis.

2.2 See Figure 1 for locations of soil sampling of topsoil. The long stockpile of topsoil was sampled along the lower 1 m all along the pile on the eastern (soil 1) and western (soil 2) sides and at about 2 - 3 m all along the pile on the eastern (soil 3) and western sides (soil 4). It was also sampled in trial pits on the top at the southern end (soil 5 from 0.1 – 1.7 m, photo 4), middle (soil 6 from 0.1 – 1.5 m. photo 5) and western end (soil 7 from 0.1 – 1.5 m, photo 6).

2.3 The low piles of subsoil on the site were sampled by taking small samples on each of the rows of piles from the eastern side, the middle and from the western side.

2.4 The mounds of topsoil and subsoil had grass and weeds growing very well, considering that the subsoil had been removed from the field towards the end of November and early part of December (photo 7).

3. Analysis of soil samples

3.1 All the samples of soil were analysed for standard metals and polycyclic aromatic hydrocarbons (PAH) whilst four samples were analysed additionally for the presence of asbestos (as no buildings were or had been on site and the land was cultivated, it was unlikely that any asbestos containing contamination could be present). None of the analyses were above accepted limits for all of the species and no asbestos was detected in the four samples analysed.

4. Risk assessment of soil samples

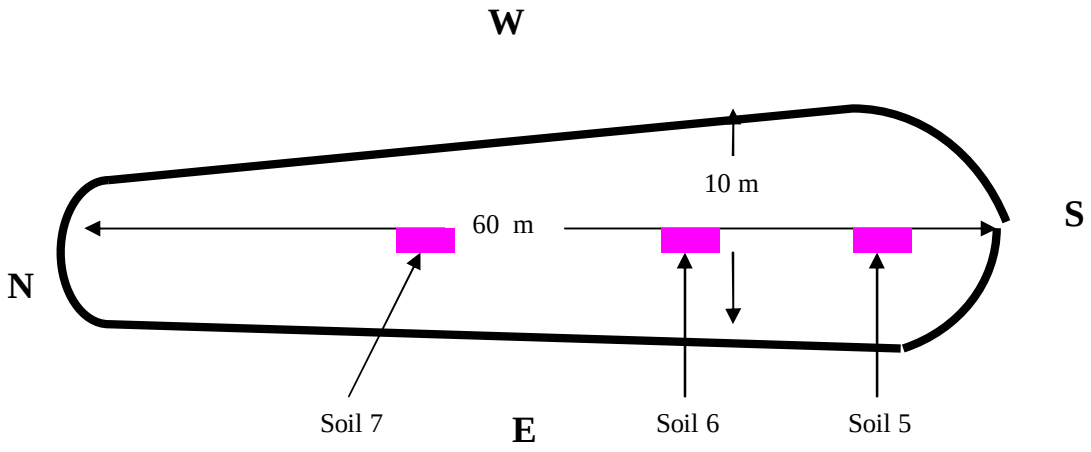
4.1 The fields were in use for crop growing and on the day of the site visit in February 2017 it was obvious from the stubble on the field that crops had been harvested. Also, the field continued to be used to grow crops as when D Brown Building Contractors started stripping the topsoil and subsoil from the site in November 2018, there was evidence of stubble just prior to the site development being started (see letter from Peter Pitt of D Brown Building Contractors). The fertility of the soil must have been high as grass and weeds could be seen on the mounds of topsoil and subsoil – especially the subsoil as that was not reworked into a single large pile.

4.2 The use of the fields for agricultural purposes and the low concentrations of contaminants in the soil samples present little significant risk of harm to the occupiers of the site and risk is acceptable. The topsoil and the subsoil both comply with the specification in YALPAG guideline and can be used for any garden purpose.

Stuart Guy, BSc, PhD, C Chem, MRSC, C Eng, MIMMM

Figure 1 Plan and side view of topsoil stockpile

Plan view of stockpile



Side view of stockpile

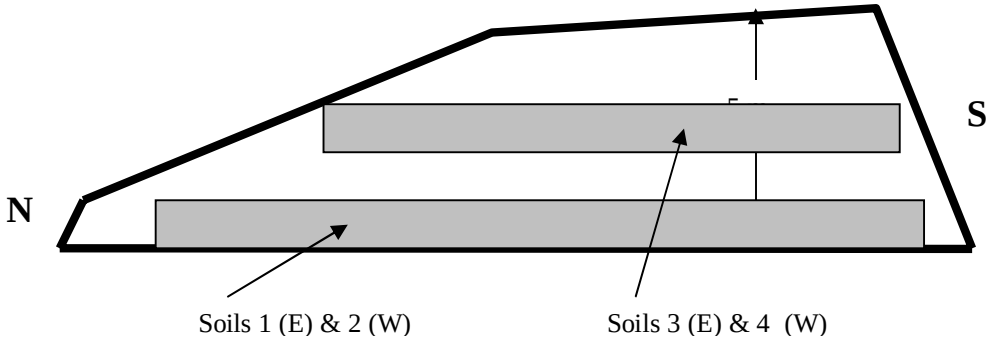


Photo 1 Soil stockpiled on long narrow mound looking from low to high



Photo 2 Soil stockpile looking along eastern side



Photo 3 Low piles of subsoil from top of loam topsoil stockpile



Photo 4 Sampling point 5 on southern end of topsoil stockpile



Photo 5 Sampling point 6 on middle of topsoil stockpile



Photo 5 Sampling point an northern end of topsoil stockpile



Photo 7 Grass and weeds growing on the mounds of subsoil



D BROWN
BUILDING CONTRACTORS
LIMITED

Telephone: 01406 373438 www.brownbuilders.co.uk
Fax: 01406 373755 enquiries@brownbuilders.co.uk
Seas End Road, Moulton Seas End, Spalding, Lincolnshire PE12 6JX

10 January 2019

Stuart Guy Consulting
5 Willow Heights
Cradley Heath
West Midlands
B64 7PL

Dear Stuart

RE: Topsoil heap situated adjacent to the compound at Haycroft Homes, High Road, Whaplode

The above is situated on a greenfield site that we are developing for Haycroft Homes. When the site was commenced it had been recently cropped. The site is secure and the material contained in the heap has solely arisen from excavations on site and no other soil has been added to the heap.

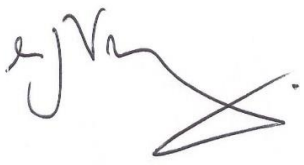
Yours sincerely

Peter R Pitt
Senior Contracts Manager

Unit A2
Windmill Road
Ponswood Industrial Estate
St Leonards on Sea
East Sussex
TN38 9BY
Telephone: (01424) 718618

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info@elab-uk.co.uk

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number:	19-21249
Issue:	1
Date of Issue:	17/01/2019
Contact:	Stuart Guy
Customer Details:	Stuart Guy Consulting 5 Willow Heights Cradley Heath West Midlands B64 7PL
Quotation No:	Q14-00070
Order No:	19-01-01
Customer Reference:	17-02-01
Date Received:	10/01/2019
Date Approved:	17/01/2019
Details:	Birmingham
Approved by:	

Mike Varley, Technical Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)

Sample Summary

Report No.: 19-21249

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
161805	Soil 1	09/01/2019	10/01/2019	Sandy silty loam	
161806	Soil 3	09/01/2019	10/01/2019	Sandy silty loam	
161807	Soil 5	09/01/2019	10/01/2019	Sandy silty loam	
161808	Soil 7	09/01/2019	10/01/2019	Sandy silty loam	
161809	Subsoil Eastern	09/01/2019	10/01/2019	Sandy silty loam	
161810	Subsoil Western	09/01/2019	10/01/2019	Sandy silty loam	
161811	Soil 2	09/01/2019	10/01/2019	Sandy silty loam	
161812	Soil 4	09/01/2019	10/01/2019	Sandy silty loam	
161813	Soil 6	09/01/2019	10/01/2019	Sandy silty loam	
161814	Subsoil Middle	09/01/2019	10/01/2019	Sandy silty loam	

Results Summary

Report No.: 19-21249

			ELAB Reference	161805	161806	161807	161808	161809
			Customer Reference					
			Sample ID					
			Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL
			Sample Location	Soil 1	Soil 3	Soil 5	Soil 7	Subsoil Eastern
			Sample Depth (m)					
			Sampling Date	09/01/2019	09/01/2019	09/01/2019	09/01/2019	09/01/2019
Determinand	**Codes**	**Units**	**LOD**					
Metals								
Arsenic	M	mg/kg	1	9.3	9.3	8.2	8.9	10.2
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	M	mg/kg	5	18.4	17.5	14.9	18.0	18.8
Copper	M	mg/kg	5	14.1	14.1	13.7	14.6	14.4
Lead	M	mg/kg	5	21.8	19.5	17.1	19.1	19.4
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	13.5	14.0	11.8	13.4	15.0
Selenium	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc	M	mg/kg	5	46.0	44.0	36.7	47.3	46.3
Inorganics								
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Polyaromatic hydrocarbons								
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4	< 0.4	0.4	< 0.4	< 0.4

Results Summary

Report No.: 19-21249

	ELAB Reference	161810	161811	161812	161813	161814
	Customer Reference					
	Sample ID					
	Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL
	Sample Location	Subsoil Western	Soil 2	Soil 4	Soil 6	Subsoil Middle
	Sample Depth (m)					
	Sampling Date	09/01/2019	09/01/2019	09/01/2019	09/01/2019	09/01/2019
Determinand	**Codes** / **Units** / **LOD**					
Metals						
Arsenic	M / mg/kg / 1	8.4	8.7	9.0	8.8	8.3
Cadmium	M / mg/kg / 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	M / mg/kg / 5	15.3	16.4	17.3	15.7	16.1
Copper	M / mg/kg / 5	11.1	13.4	13.6	11.9	13.7
Lead	M / mg/kg / 5	13.6	20.0	20.3	19.4	17.1
Mercury	M / mg/kg / 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M / mg/kg / 5	11.2	12.4	13.2	11.7	12.4
Selenium	M / mg/kg / 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc	M / mg/kg / 5	33.4	39.9	44.1	37.1	38.3
Inorganics						
Hexavalent Chromium	N / mg/kg / 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Polyaromatic hydrocarbons						
Naphthalene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.6
Anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.2
Fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	1.5
Pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	1.3
Benzo(a)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.8
Chrysene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.9
Benzo(b)fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.7
Benzo(k)fluoranthene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.9
Benzo(a)pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.8
Indeno(1,2,3-cd)pyrene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.6
Dibenzo(a,h)anthracene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1
Benzo[g,h,i]perylene	M / mg/kg / 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.4
Total PAH(16)	M / mg/kg / 0.4	< 0.4	< 0.4	< 0.4	< 0.4	9.0

Tests marked N are not UKAS accredited.

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Results Summary

Report No.: 19-21249

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #)
in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos Identification	Gravimetric Analysis Total (%)	Gravimetric Analysis by ACM Type (%)	Free Fibre Analysis (%)	Total Asbestos (%)
161811		Soil 2	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
161812		Soil 4	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
161813		Soil 6	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t
161814		Subsoil Middle	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 19-21249

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Hexavalent chromium	N	As submitted sample	11/01/2019	110	Colorimetry
Aqua regia extractable metals	M	Air dried sample	11/01/2019	118	ICPMS
PAH (GC-FID)	M	As submitted sample	14/01/2019	133	GC-FID
Asbestos identification	U	Air dried sample	15/01/2019	PMAN	Microscopy

Tests marked N are not UKAS accredited

Report Information

Report No.: 19-21249

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
NS	Subcontracted to approved laboratory. UKAS accreditation is not applicable.
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

Soil sample results are expressed on an air dried basis (dried at < 30°C)
ELAB are unable to provide an interpretation or opinion on the content of this report.
The results relate only to the items tested
PCB congener results may include any coeluting PCBs
Uncertainty of measurement for the determinands tested are available upon request

Deviation Codes

a	No date of sampling supplied
b	No time of sampling supplied (Waters Only)
c	Sample not received in appropriate containers
d	Sample not received in cooled condition
e	The container has been incorrectly filled
f	Sample age exceeds stability time (sampling to receipt)
g	Sample age exceeds stability time (sampling to analysis)

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month
All water samples will be retained for 7 days following the date of the test report
Charges may apply to extended sample storage