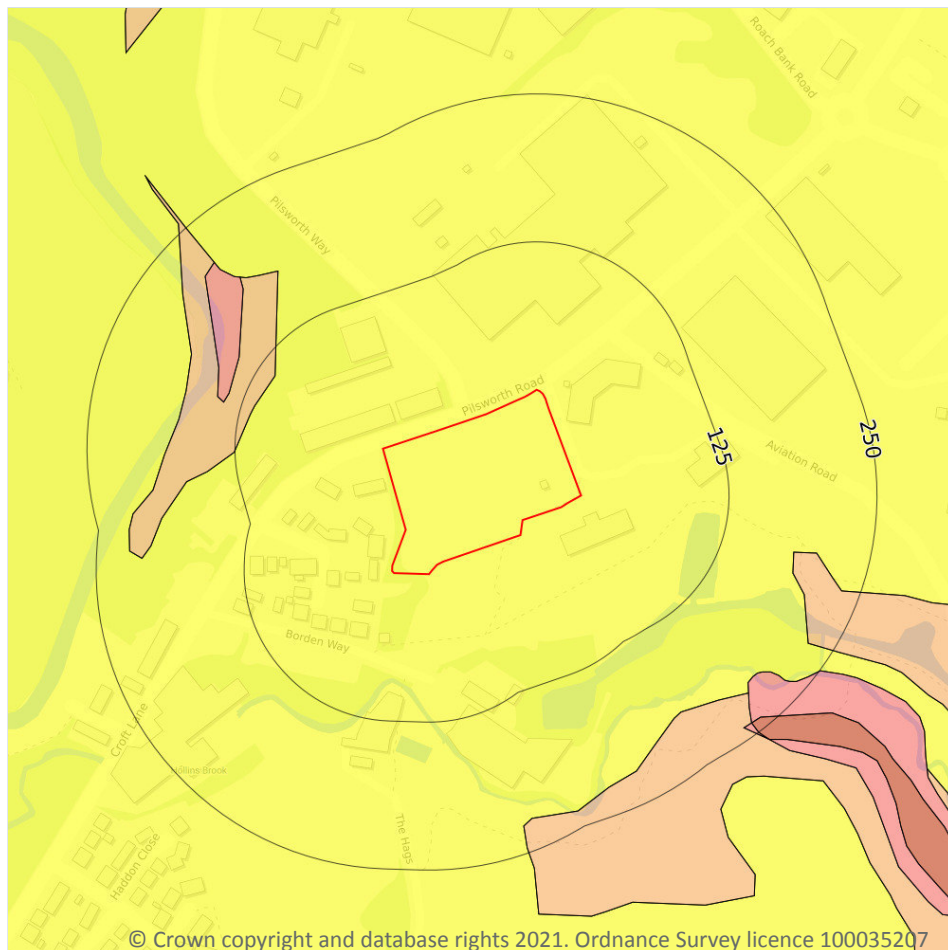


## Natural ground subsidence - Landslides



- Site Outline
- Search buffers in metres (m)
- ☐ No data
  - ☐ Negligible
  - ☐ Very low
  - ☐ Low
  - ☐ Moderate
  - ☐ High

### 17.5 Landslides

#### Records within 50m

1

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 112**

| Location | Hazard rating | Details                                                                                                                                                         |
|----------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On site  | Very low      | Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered. |

*This data is sourced from the British Geological Survey.*



## Natural ground subsidence - Ground dissolution of soluble rocks



- Site Outline
- Search buffers in metres (m)
- ☐ No data
  - ☐ Negligible
  - ☐ Very low
  - ☐ Low
  - ☐ Moderate
  - ☐ High

### 17.6 Ground dissolution of soluble rocks

#### Records within 50m

1

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

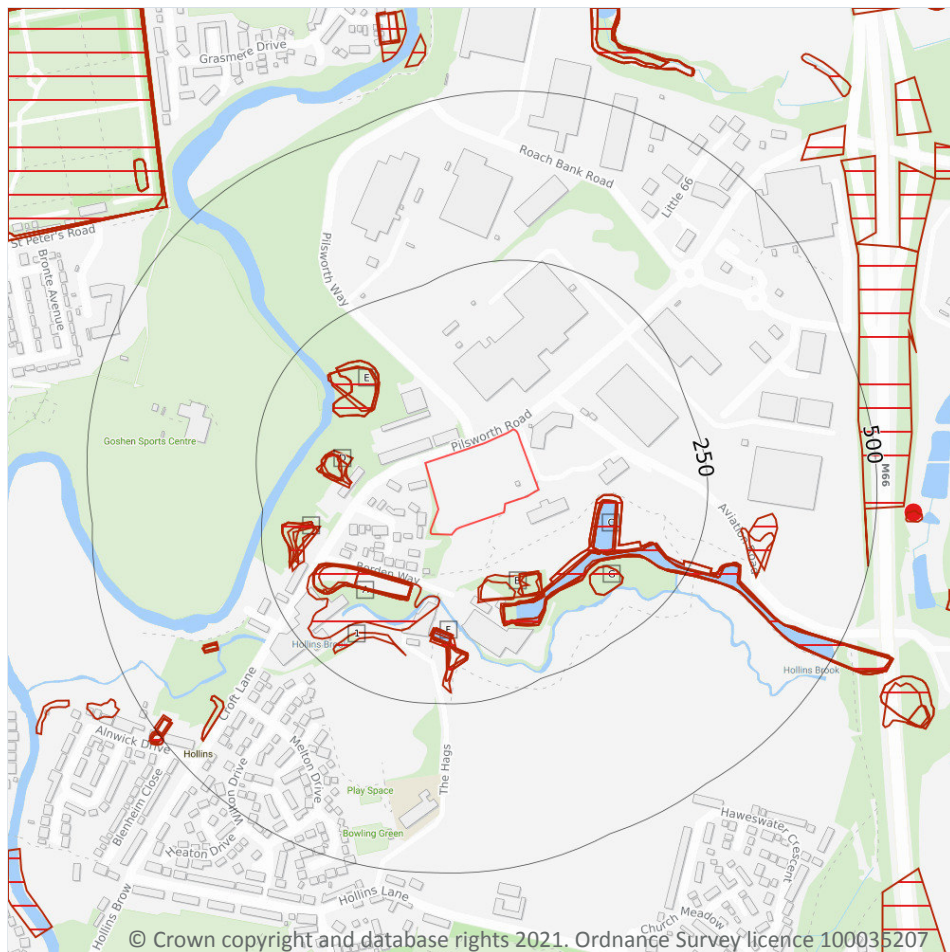
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 113**

| Location | Hazard rating | Details                                                                                                                                             |
|----------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| On site  | Negligible    | Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present. |

*This data is sourced from the British Geological Survey.*



## 18 Mining, ground workings and natural cavities



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities
- Non Coal Mining
- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

### 18.1 Natural cavities

Records within 500m

0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

*This data is sourced from Stantec UK Ltd.*

## 18.2 BritPits

Records within 500m

0

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

*This data is sourced from the British Geological Survey.*

## 18.3 Surface ground workings

Records within 250m

51

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining, ground workings and natural cavities map on **page 115**

| ID | Location | Land Use     | Year of mapping | Mapping scale |
|----|----------|--------------|-----------------|---------------|
| A  | 78m S    | Water Bodies | 1851            | 1:10560       |
| A  | 79m S    | Pond         | 1955            | 1:10560       |
| A  | 80m SW   | Reservoir    | 1938            | 1:10560       |
| A  | 80m SW   | Reservoir    | 1891            | 1:10560       |
| A  | 80m SW   | Reservoir    | 1928            | 1:10560       |
| A  | 80m SW   | Reservoir    | 1908            | 1:10560       |
| A  | 82m S    | Reservoir    | 1981            | 1:10000       |
| A  | 82m S    | Reservoir    | 1974            | 1:10000       |
| A  | 82m S    | Ponds        | 1965            | 1:10560       |
| B  | 82m SE   | Ponds        | 1851            | 1:10560       |
| B  | 86m SE   | Pond         | 1891            | 1:10560       |
| C  | 87m E    | Reservoir    | 1981            | 1:10000       |
| C  | 87m E    | Reservoir    | 1974            | 1:10000       |
| C  | 87m E    | Water Body   | 1965            | 1:10560       |
| C  | 93m E    | Reservoirs   | 1955            | 1:10560       |
| B  | 94m S    | Reservoir    | 1981            | 1:10000       |
| B  | 94m S    | Reservoir    | 1974            | 1:10000       |



| ID | Location | Land Use                    | Year of mapping | Mapping scale |
|----|----------|-----------------------------|-----------------|---------------|
| C  | 95m E    | Reservoirs                  | 1938            | 1:10560       |
| C  | 95m E    | Reservoirs                  | 1891            | 1:10560       |
| C  | 95m E    | Reservoirs                  | 1928            | 1:10560       |
| C  | 95m E    | Reservoirs                  | 1908            | 1:10560       |
| B  | 98m S    | Unspecified Pits            | 1955            | 1:10560       |
| D  | 108m W   | Unspecified Ground Workings | 1981            | 1:10000       |
| E  | 110m NW  | Unspecified Pit             | 1928            | 1:10560       |
| E  | 110m NW  | Unspecified Pit             | 1938            | 1:10560       |
| E  | 112m NW  | Unspecified Ground Workings | 1981            | 1:10000       |
| E  | 112m NW  | Unspecified Ground Workings | 1974            | 1:10000       |
| E  | 112m NW  | Unspecified Ground Workings | 1965            | 1:10560       |
| E  | 114m NW  | Unspecified Pit             | 1955            | 1:10560       |
| D  | 115m W   | Unspecified Ground Workings | 1965            | 1:10560       |
| D  | 115m W   | Unspecified Ground Workings | 1974            | 1:10000       |
| D  | 124m W   | Refuse Heap                 | 1938            | 1:10560       |
| D  | 125m W   | Refuse Heap                 | 1955            | 1:10560       |
| F  | 139m S   | Reservoir                   | 1981            | 1:10000       |
| F  | 139m S   | Reservoir                   | 1974            | 1:10000       |
| F  | 139m S   | Ponds                       | 1965            | 1:10560       |
| F  | 139m S   | Reservoirs                  | 1955            | 1:10560       |
| F  | 142m S   | Reservoirs                  | 1938            | 1:10560       |
| F  | 142m S   | Reservoirs                  | 1928            | 1:10560       |
| F  | 142m S   | Ponds                       | 1908            | 1:10560       |
| F  | 142m S   | Ponds                       | 1851            | 1:10560       |
| G  | 145m SE  | Unspecified Pit             | 1928            | 1:10560       |
| G  | 145m SE  | Unspecified Pit             | 1938            | 1:10560       |
| F  | 145m S   | Ponds                       | 1891            | 1:10560       |
| 1  | 163m SW  | Unspecified Ground Workings | 1908            | 1:10560       |



| ID | Location | Land Use                    | Year of mapping | Mapping scale |
|----|----------|-----------------------------|-----------------|---------------|
| H  | 164m W   | Unspecified Ground Workings | 1908            | 1:10560       |
| H  | 166m W   | Unspecified Heap            | 1928            | 1:10560       |
| H  | 166m W   | Unspecified Heap            | 1938            | 1:10560       |
| H  | 171m W   | Unspecified Ground Workings | 1981            | 1:10000       |
| H  | 172m W   | Unspecified Heap            | 1965            | 1:10560       |
| H  | 172m W   | Unspecified Heap            | 1955            | 1:10560       |

*This is data is sourced from Ordnance Survey/Groundsure.*

## 18.4 Underground workings

**Records within 1000m**

**0**

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

*This is data is sourced from Ordnance Survey/Groundsure.*

## 18.5 Historical Mineral Planning Areas

**Records within 500m**

**0**

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

*This data is sourced from the British Geological Survey.*

## 18.6 Non-coal mining

**Records within 1000m**

**0**

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

*This data is sourced from the British Geological Survey.*



## 18.7 Mining cavities

**Records within 1000m****0**

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

*This data is sourced from Stantec UK Ltd.*

## 18.8 JPB mining areas

**Records on site****0**

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

*This data is sourced from Johnson Poole and Bloomer.*

## 18.9 Coal mining

**Records on site****1**

Areas which could be affected by past, current or future coal mining.

| Location | Details                                                                                                                                                                                                                                                              |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On site  | The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider. |

*This data is sourced from the Coal Authority.*

## 18.10 Brine areas

**Records on site****0**

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

*This data is sourced from the Cheshire Brine Subsidence Compensation Board.*



## 18.11 Gypsum areas

|                 |   |
|-----------------|---|
| Records on site | 0 |
|-----------------|---|

Generalised areas that may be affected by gypsum extraction.

*This data is sourced from British Gypsum.*

## 18.12 Tin mining

|                 |   |
|-----------------|---|
| Records on site | 0 |
|-----------------|---|

Generalised areas that may be affected by historical tin mining.

*This data is sourced from Groundsure.*

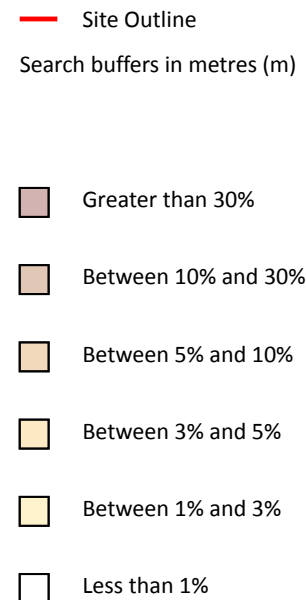
## 18.13 Clay mining

|                 |   |
|-----------------|---|
| Records on site | 0 |
|-----------------|---|

Generalised areas that may be affected by kaolin and ball clay extraction.

*This data is sourced from the Kaolin and Ball Clay Association (UK).*

## 19 Radon



### 19.1 Radon

#### Records on site

1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 121**

| Location | Estimated properties affected | Radon Protection Measures required |
|----------|-------------------------------|------------------------------------|
| On site  | Less than 1%                  | None**                             |

*This data is sourced from the British Geological Survey and Public Health England.*



## 20 Soil chemistry

### 20.1 BGS Estimated Background Soil Chemistry

Records within 50m

7

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km<sup>2</sup>. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km<sup>2</sup>; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

| Location | Arsenic       | Bioaccessible Arsenic | Lead      | Bioaccessible Lead | Cadmium   | Chromium       | Nickel        |
|----------|---------------|-----------------------|-----------|--------------------|-----------|----------------|---------------|
| On site  | 15 - 25 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 90 - 120 mg/kg | 15 - 30 mg/kg |
| On site  | 15 - 25 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 60 - 90 mg/kg  | 15 - 30 mg/kg |
| On site  | 15 - 25 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 60 - 90 mg/kg  | 15 - 30 mg/kg |
| On site  | 15 - 25 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 90 - 120 mg/kg | 15 - 30 mg/kg |
| 23m NE   | 15 - 25 mg/kg | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 60 - 90 mg/kg  | 15 - 30 mg/kg |
| 45m W    | 15 mg/kg      | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 60 - 90 mg/kg  | 15 - 30 mg/kg |
| 47m SE   | 15 mg/kg      | No data               | 100 mg/kg | 60 mg/kg           | 1.8 mg/kg | 60 - 90 mg/kg  | 15 - 30 mg/kg |

*This data is sourced from the British Geological Survey.*

### 20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km<sup>2</sup>).

*This data is sourced from the British Geological Survey.*



## 20.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km<sup>2</sup>.

*This data is sourced from the British Geological Survey.*



## 21 Railway infrastructure and projects

### 21.1 Underground railways (London)

|                     |   |
|---------------------|---|
| Records within 250m | 0 |
|---------------------|---|

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

*This data is sourced from publicly available information by Groundsure.*

### 21.2 Underground railways (Non-London)

|                     |   |
|---------------------|---|
| Records within 250m | 0 |
|---------------------|---|

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

*This data is sourced from publicly available information by Groundsure.*

### 21.3 Railway tunnels

|                     |   |
|---------------------|---|
| Records within 250m | 0 |
|---------------------|---|

Railway tunnels taken from contemporary Ordnance Survey mapping.

*This data is sourced from the Ordnance Survey.*

### 21.4 Historical railway and tunnel features

|                     |   |
|---------------------|---|
| Records within 250m | 0 |
|---------------------|---|

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

*This data is sourced from Ordnance Survey/Groundsure.*

### 21.5 Royal Mail tunnels

|                     |   |
|---------------------|---|
| Records within 250m | 0 |
|---------------------|---|

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.



*This data is sourced from Groundsure/the Postal Museum.*

## 21.6 Historical railways

Records within 250m

0

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

*This data is sourced from OpenStreetMap.*

## 21.7 Railways

Records within 250m

0

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

*This data is sourced from Ordnance Survey and OpenStreetMap.*

## 21.8 Crossrail 1

Records within 500m

0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

*This data is sourced from publicly available information by Groundsure.*

## 21.9 Crossrail 2

Records within 500m

0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

*This data is sourced from publicly available information by Groundsure.*

## 21.10 HS2

Records within 500m

0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

*This data is sourced from HS2 Ltd.*



## Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see <https://www.groundsure.com/sources-reference>.

## Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: <https://www.groundsure.com/terms-and-conditions-jan-2020/>.





## APPENDIX 5 - Coal Authority Report



The Coal  
Authority

# CON29M

## coal mining report

1 PILSWORTH WAY, BURY, BL9 8RE



### Known or potential coal mining risks

|                                |        |
|--------------------------------|--------|
| Past underground coal mining   | Page 4 |
| Future underground coal mining | Page 4 |
| Mine entries                   | Page 5 |



### Further action

No further reports from the Coal Authority are required. Further information on any next steps can be found in our Professional opinion.

For more information on our reports please visit  
[www.groundstability.com](http://www.groundstability.com)



### Professional opinion

According to the official mining information records held by the Coal Authority at the time of this search, evidence of, or the potential for, coal mining related features have been identified. In view of the coal mining circumstances we would recommend that any planned or future development should follow detailed technical advice before beginning work on site. Please see **page 3** for further details on **Future development**.

Your reference: **ORD-21438-2207**  
Our reference: **51002823864001**  
Date: **21 December 2021**

Client name:  
**James Doyle**

If you require any further assistance please  
contact our experts on:  
**0345 762 6848**  
[groundstability@coal.gov.uk](mailto:groundstability@coal.gov.uk)



The Law  
Society

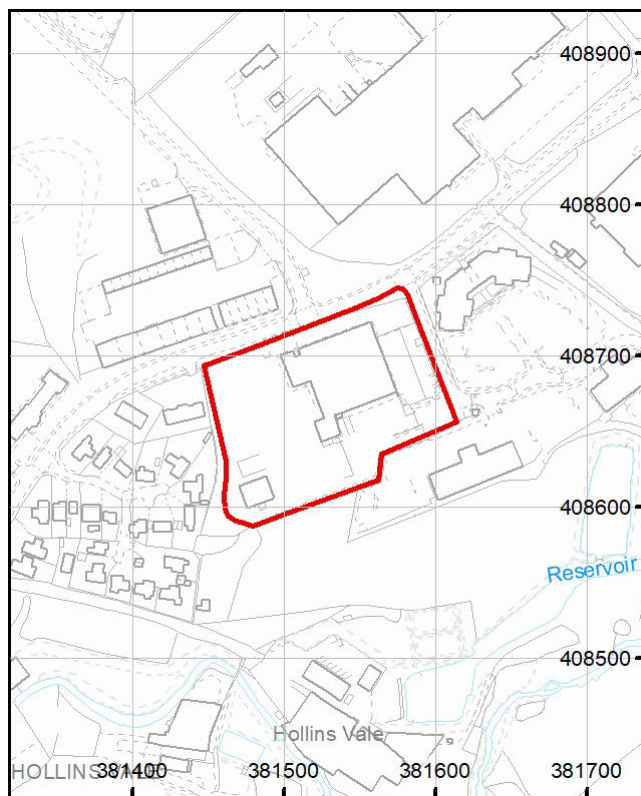
# Enquiry boundary

## Key

Approximate position of enquiry boundary shown



We can confirm that the location is  
**on the coalfield**



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This report is prepared in accordance with the latest Law Society's Guidance Notes 2018, the User Guide 2018 and the Coal Authority's Terms and Conditions applicable at the time the report was produced.



## Accessibility

If you would like this information in an alternative format, please contact our communications team on 0345 762 6848 or email [communications@coal.gov.uk](mailto:communications@coal.gov.uk).

# Professional opinion



## Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed.

If you are looking to develop, or undertake works, within a coal mining development high risk area your Local Authority planning department may require a Coal Mining Risk Assessment to be undertaken by a qualified mining geologist or engineer. Should you require any additional information then please contact the Coal Authority on **0345 762 6848** or email **[cmra@coal.gov.uk](mailto:cmra@coal.gov.uk)**.

# Detailed findings

Information provided by the Coal Authority in this report is compiled in response to the Law Society's CON29M Coal Mining enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL.

The Coal Authority owns the copyright in this report and the information used to produce this report is protected by our database rights. All rights are reserved and unauthorised use is prohibited. If we provide a report for you, this does not mean that copyright and any other rights will pass to you. However, you can use the report for your own purposes.

## 1 Past underground coal mining

The property is not within a surface area that could be affected by any past recorded underground coal mining.

However the property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered, particularly prior to any site works or future development activity, as ground movement could still be a risk. Your attention is drawn to the Professional opinion sections of the report.

## 2 Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

## 3 Future underground coal mining

The property is not in an area where the Coal Authority has received an application for, and is currently considering whether to grant a licence to remove or work coal by underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

## 4 Mine entries

There are no recorded coal mine entries known to the Coal Authority within, or within 20 metres, of the boundary of the property.

This information is based on the information that the Coal Authority has at the time of this enquiry.

Based on the Coal Authority's knowledge of the mining circumstances at the time of this enquiry, there may be unrecorded mine entries in the local area that do not appear on Coal Authority records.

## 5 Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

## 6 Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

## 7 Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

## 8 Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

## 9 Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

## 10 Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

## 11 Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Coal Authority, under its Emergency Surface Hazard Call Out procedures.

## 12 Withdrawal of support

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

## 13 Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

## 14 Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

# Statutory cover



## Coal mining subsidence

In the unlikely event of any coal mining related subsidence damage, the Coal Authority or the mine operator has a duty to take remedial action in respect of subsidence caused by the withdrawal of support from land or property in connection with lawful coal mining operations.

When the works are the responsibility of the Coal Authority, our dedicated public safety and subsidence team will manage the claim. The house or land owner ("the owner") is covered for these works under the terms of the Coal Mining Subsidence Act 1991 (as amended by the Coal Industry Act 1994). Please note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

If you believe your land or property is suffering from coal mining subsidence damage and you need more information on what to do next, please use the following link to our website which sets out what your rights are and what you need to consider before making a claim.

[www.gov.uk/government/publications/coal-mining-subsidence-damage-notice-form](http://www.gov.uk/government/publications/coal-mining-subsidence-damage-notice-form)



## Coal mining hazards

Our public safety and subsidence team provide a 24 hour a day, 7 days a week hazard reporting service, to help protect the public from hazards caused by past coal workings, such as a mine shaft or shallow working collapse. To report any hazards please call **01623 646 333**. Further information can be found on our website: [www.gov.uk/coalauthority](http://www.gov.uk/coalauthority).

# Glossary



## Key terms

**adit** - horizontal or sloped entrance to a mine

**coal mining subsidence** - ground movement caused by the removal of coal by underground mining

**Coal Mining Subsidence Act 1991** - the Act setting out the duties of the Coal Authority to repair damage caused by coal mining subsidence

**coal mining subsidence damage** - damage to land, buildings or structures caused by the removal of coal by underground mining

**coal seams** - bed of coal of varying thickness

**future opencast coal mining** - a licence granted, or licence application received, by the Coal Authority to excavate coal from the surface

**future underground coal mining** - a licence granted, or licence application received, by the Coal Authority to excavate coal underground. Although it is unlikely, remaining coal reserves could create a possibility for future mining, which would be licensed by the Coal Authority

**mine entries** - collective name for shafts and adits

**payments to owners of former copyhold land** - historically, copyhold land gave rights to coal to the copyholder. Legislation was set up to allow others to work this coal, but they had to issue a notice and pay compensation if a copyholder came forward

**shaft** - vertical entry into a mine

**site investigation** - investigations of coal mining risks carried out with the Coal Authority's permission

**stop notice** - a delay to repairs because further coal mining subsidence damage may occur and it would be unwise to carry out permanent repairs

**subsidence claim** - a formal notice of subsidence damage to the Coal Authority since it was established on 31 October 1994

**withdrawal of support** - a historic notice informing landowners that the coal beneath their property was going to be worked

**working facilities orders** - a court order which gave permission, restricted or prevented coal mine workings



## APPENDIX 6 - BGS Records

# Norwest Holst Soil Engineering Ltd.

Borehole No.

4

Contract No. F4767

## BOREHOLE LOG

Location Pilsworth - Bury

Sheet 1 of 1

Client Metropolitan Borough of Bury

Chainage

Method of Boring Percussion

Ground Level 79.5 m.A.O.D.

Diameter of Borehole 150mm

8144 0856

Date 4/11/80 - 5/11/80

| Description of Strata                                                                                   | Legend | Depth Below G.L. (m) | O.D. Level (m) | Casing Depth at Sampling | Sampling and Coring | "N"/R.Q.D. %          | Daily Progress |
|---------------------------------------------------------------------------------------------------------|--------|----------------------|----------------|--------------------------|---------------------|-----------------------|----------------|
| TOPSOIL                                                                                                 |        | 0.20                 | 79.3           |                          |                     |                       |                |
| Loose/medium dense brown SAND with traces of clay                                                       |        |                      |                |                          | 0.50                | 11                    |                |
|                                                                                                         |        |                      |                |                          | 1.50                | 10                    |                |
|                                                                                                         |        |                      |                |                          | 2.50                | 11                    |                |
|                                                                                                         |        |                      |                |                          | 3.50                | 12                    |                |
|                                                                                                         |        | 3.90                 | 75.6           |                          | 4.00                |                       |                |
| Firm brown sandy silty often laminated CLAY with bands of clayey silt                                   |        |                      |                |                          | 5.00                |                       |                |
|                                                                                                         |        |                      |                |                          | 6.00                |                       |                |
|                                                                                                         |        |                      |                |                          | 6.50                |                       |                |
|                                                                                                         |        | 6.80                 | 72.7           |                          | 7.00                |                       |                |
| Stiff brown sandy silty friable CLAY with some gravel and occasional cobbles (almost clayey sandy silt) |        |                      |                |                          | 8.00                |                       |                |
|                                                                                                         |        | 8.50                 | 71.0           |                          |                     | 50 for no penetration |                |

### Type of Sample

- Is S.P.T. ☐ Undisturbed  
 Ic. C.P.T. ☒ Vane  
 O Jar ☒ Water  
 ● Bulk ☒ Piezometer

### Remarks (Observations of Ground Water etc.)

Water seepage from 3.60m no rise in 20 mins.  
 Piezometer installed at 3.0m. Seals at 2.0m and 3.5m  
 Piezometer standing level 13/nov. 0.4m.  
 " " " 4/Dec. 0.3m

# Norwest Holst Soil Engineering Ltd.

Borehole No.

5

Contract No. F4767

## BOREHOLE LOG

Location Pilsworth - Bury

Sheet 1 of 1

Client Metropolitan Borough of Bury SDBOM 215

Chainage

Method of Boring Percussion

Ground Level 79.7 m.A.O.D.

Diameter of Borehole 150 mm

8148 0856

Date 2/12/80

| Description of Strata                                                           | Legend | Depth Below G.L. (m) | O.D. Level (m) | Casing Depth at Sampling | Sampling and Coring  | "N"/R.Q.D.% | Daily Progress |
|---------------------------------------------------------------------------------|--------|----------------------|----------------|--------------------------|----------------------|-------------|----------------|
| TOPSOIL.                                                                        |        | 0.40                 | 79.3           |                          |                      |             |                |
| Loose to medium dense yellow brown clayey SAND.                                 |        | 1.80                 | 77.9           |                          | 0.50<br>1.50         | 9<br>15     |                |
| Firm grey brown very silty sandy CLAY with some laminations and silt bands.     |        | 5.30                 | 74.4           |                          | 2.50<br>3.50<br>4.50 |             |                |
| Medium dense brown fine and medium SAND.                                        |        | 5.50                 | 74.2           |                          | 5.50                 |             |                |
| Firm/stiff dark brown silty sandy CLAY with fine and medium sub rounded gravel. |        | 9.00                 | 70.7           |                          | 6.50<br>7.60<br>8.50 |             |                |

### Type of Sample

- Is S.P.T. Undisturbed
- Ic. C.P.T. Vane
- O Jar Water
- Bulk Piezometer

### Remarks (Observations of Ground Water etc.)

Water seepage from 5.30 m casing at 3.00.  
Chiselling 1 hr from 7.20 to 7.60.

|                      |                                  |           |         |
|----------------------|----------------------------------|-----------|---------|
| <b>D. STRATA LOG</b> |                                  |           |         |
| Geological           |                                  |           |         |
| Classification       | Description of Strata            | Thickness | Depth   |
| (BGS only)           |                                  | M         | M       |
|                      | Backfill                         | 2         | 0 - 2   |
|                      | Sand and gravel                  | 31        | 2 - 33  |
|                      | Marl                             | 1         | 33 - 34 |
|                      | Sandstone/marl                   | 8         | 34 - 42 |
|                      | Sandstone                        | 34        | 42 - 76 |
|                      | Sandstone/marl                   | 4         | 76 - 80 |
|                      | Marl with narrow sandstone bands | 9         | 80 - 89 |
|                      | Other Comments                   |           |         |

**FOR OFFICIAL USE ONLY**

FILE: ..... CONSENT NO: ..... BGS REF. NO: .....  
 LICENCE NO: ..... USE OF BH: ..... NGR: .....

## APPENDIX 7 - CIRIA Risk Assessment Methodology

## Contaminated Land Risk Assessment

Contaminated Land Risk Assessment is a technique that identifies and considers the associated risk, determines whether the risks are significant and whether action needs to be taken. The four main stages of risk assessment are:

Hazard Identification    ➡    Hazard Assessment    ➡    Risk Estimation    ➡    Risk Evaluation

CLR11 outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. The starting point of the risk assessment is to identify the context of the problem and the objectives of the process. Under CLR11, three tiers of risk assessment exist - Preliminary, Generic Quantitative and Detailed Quantitative.

Formulating and developing a conceptual model for the site is an important requirement of risk assessment, this supports the identification and assessment of pollutant linkages. Development of the conceptual model forms the main part of preliminary risk assessment, and the model is subsequently refined or revised as more information and understanding is obtained through the risk assessment process.

Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, both the likelihood and the consequences of an event must be taken into account when assessing risk.

The risk assessment process needs to take into account the degree of confidence required in decisions. Identification of uncertainties is an essential step in risk assessment.

The likelihood of an event is classified on a four-point system using the following terms and definitions from CIRIA C552:

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

The severity is also classified using a system based on CIRIA C552. The terms and definitions are:

- **Severe:** Short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. A short-term risk to a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);  
*Examples – High concentrations of contaminant on surface of recreation area, major spillage of contaminants from site into controlled waters, explosion causing building to collapse;*

- **Medium:** Chronic damage to human health ('significant harm' as defined in DETR 2000). Pollution of sensitive water resources. A significant change in a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);  
*Examples - Concentrations of contaminants exceed the generic assessment criteria, leaching of contaminants from a site to a Principal or Secondary Aquifer, death of species within a designated nature reserve;*
- **Mild:** Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000). Damage to sensitive buildings, structures, services or the environment;  
*Examples – Pollution of non-classified groundwater or damage to buildings rendering it unsafe to occupy.*
- **Minor:** harm, not necessarily significant harm, which may result in financial loss or expenditure to resolve. Non-permanent health effects to human health (easily prevented by use of personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services.  
*Examples – Presence of contaminants at such concentrations PPE is required during site work, loss of plants in landscaping scheme or discolouration of concrete.*

Once the likelihood and severity have been determined, a risk category can be assigned using the table below.

|             |                | Consequences |              |              |              |
|-------------|----------------|--------------|--------------|--------------|--------------|
|             |                | Severe       | Medium       | Mild         | Minor        |
| Probability | Highly likely  | Very high    | High         | Moderate     | Moderate/low |
|             | Likely         | High         | Moderate     | Moderate/low | Low          |
|             | Low likelihood | Moderate     | Moderate/low | Low          | Very low     |
|             | Unlikely       | Moderate/low | Low          | Very Low     | Very low     |

Definitions of the risk categories obtained from the above table are as follows together with an assessment of the further work that might be required:

- **Very high:** There is a high probability that severe harm could arise to a designated receptor from an identified hazard or there is evidence that severe harm is currently happening. This risk, if realised, could result in substantial liability. Urgent investigation and remediation are likely to be required;
- **High:** Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation is required and remedial works may be necessary in the short term and are likely over the longer term;
- **Moderate:** It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it would be more likely to be relatively mild. Investigation is normally required to clarify the risk and determine the liability. Some remedial works may be required in the longer term;
- **Low:** It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild;
- **Very Low:** There is a low possibility that harm could arise to a receptor. In the event of such harm being realised, it is not likely to be severe.



## APPENDIX 8 - Contaminated Land Legislative Background

## Legislative Background

Environmental liabilities and risks have been evaluated in terms of a source -pathway - target relationship in accordance with the approach set out in:

- The 1995 Environment Act;
- The Contaminated Land (England) Regulations 2000;
- The DETR circular 02/2000 Environmental Protection Act 1990: Part IIA Contaminated Land.

Contaminated land is defined within the legislative framework as land which is in such condition by reason of substances in, on or under the land that:

- 1) Significant harm is being caused or there is a significant possibility of such harm being caused;
- 2) Significant pollution of controlled waters is being or is likely to be caused.

The potential for harm is based on the presence of three factors:

- **Source** - substances that are potential contaminants or pollutants that may cause harm;
- **Pathway** - a potential route by which contaminants can move from the source to the receptor;
- **Receptor** - a receptor that may be harmed, for example the water environment, humans and water.

Where a source, pathway and target are all present a pollutant linkage exists and there is potential for harm to be caused. The presence of a source does not automatically imply that a contamination problem exists, since contamination must be defined in terms of pollutant linkages and unacceptable risk of harm. The nature and importance of both pathways and receptors are site specific and will vary according to the intended end use of the site, its characteristics and its surroundings.

The key principle which supports the SPR approach is 'suitable for use' criteria. This requires remedial action only where contamination is considered to pose unacceptable actual or potential risks to health or the environment and, taking into account the proposed use of the site.

## Relevant Guidance Documents

This report has been prepared in accordance with the list of guidance below however the list is not exhaustive:

- CLR11 – Model Procedures;
- Contamination and Environmental Matters - Their implications for Property Professionals (2nd Edition RICS Nov 2003);
- Brownfields – Managing the development of previously developed land – A client's guide, CIRIA 2002;
- DEFRA and Environment Agency publications CLR7 – 10, supported by the TOX guides and SGV guides, dated March 2002;
- DETR Circular 02/2000, Contaminated Land: Implementation of Part IIA of the Environmental Protection Act 1990;
- Environment Agency technical advice to third parties on Pollution of Controlled Waters for Part IIA of the EPA1990, May 2002;

## Relevant Legislative Documents

The following is a non-exhaustive list of legislative framework documents that has been considered in the production of this report:

- The Environment Act (1995);
- The Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance (2012);
- The Environment Protection Act (1990);
- The Contaminated Land (England) Act (2000);
- Contaminated Land (England) Regulations (2012);
- The Water Resources Act (1991);
- The Pollution Prevention and Control (England and Wales) Regulations (2000);
- The Landfill Regulations (England and Wales) Regulations (2002);
- The Landfill (England and Wales) (Amendment) Regulations (2004);
- Health and Safety at Work Act;



## APPENDIX 9 - Limitations

## Limitations

This contract was completed by Groundtech Consulting on the basis of a defined programme and scope of works and terms and conditions agreed with the client. This report was compiled with due skill and care, taking into consideration the project brief provided, project objectives, agreed scope of works, prevailing site conditions and budget allocation.

Other than that defined in the paragraph above, Groundtech Consulting provides no other accountability or warranty whether express or implied, is made in relation to the services. Unless otherwise agreed this report has been prepared exclusively for the use and reliance of the client in accordance with generally accepted industry practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon, or transferred to, by any other party without the written agreement of a Director of Groundtech Consulting. A third party who relies on this report, does so at their own and sole risk and no liability to such parties is provided by Groundtech Consulting.

It is the understanding of Groundtech Consulting that this report is to be used for the intended purpose as set out in the introduction. The purpose was instrumental in determining the scope and level of the services provided. Should the purpose of the report or the proposed end use of the site change, this report will no longer be directly applicable, and its validity readdressed. No reliance upon the report in the revised situation should be assumed by the client without the permission of Groundtech Consulting.

The report was written in 2022, later changes in legislation, statutory requirements and industry best practices have not been considered and this should be allowed for. Ground conditions can also change and should be investigated if there is any significant delay in acting on the findings of this report. The period of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions in this report should not be relied upon in the future without the written confirmation from Groundtech Consulting that it is safe to do so.

The observations and conclusions outlined in this report are based exclusively on the services that were provided as set out in the agreement between the client and Groundtech Consulting.

Groundtech Consulting are not liable for the existence of any condition, the discovery of which would require additional investigation outside the agreed scope of works or core competency. The services provided are based upon Groundtech Consulting observations of existing physical conditions at the site gained from site reconnaissance together with interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The findings and recommendations contained in this report are based in part upon information provided by third parties, and Groundtech Consulting assume the information to be correct.

No responsibility can be accepted for errors for third party information presented in this report. Groundtech Consulting were not authorised to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the services. Groundtech Consulting are not liable for any inaccurate information, misrepresentation of data or conclusions, which may inform the scope of investigation undertaken by Groundtech Consulting and forms the contract with the client.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions can also be variable due to its heterogeneous properties and as investigation exploratory locations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this report, particularly between exploratory holes. The extent of the limited area depends on the soil and groundwater conditions, together with other constraints such as the position of any existing structures and underground utilities. Geo-Environmental testing was carried out for a limited number of parameters [as stipulated in the contract] based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

The groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The groundwater level often has not had time to reach equilibrium and a monitoring period is required. Furthermore, groundwater levels are subject to seasonal variation or changes in local drainage conditions and higher groundwater levels may occur at other times of the year than were recorded during this investigation.

Any site drawings provided in this report are not meant to be an accurate base plan, but are preliminary and used to present the general relative locations of features on, and surrounding, the site.

