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**CLIENT:** EMI DEVELOPMENTS LTD

**PROJECT:** 102 SOUTHGATE STREET, REDRUTH,  
CORNWALL

**REPORT TITLE:** PHASE 1 DESK STUDY

**REPORT REF:** YES 1065a

**REPORT DATE:** 10<sup>th</sup> FEBRUARY 2020

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## SUMMARY

Your Environmental Solutions (YES) has been commissioned by EMI Developments Ltd to undertake a Phase 1 Desk Study at a site known as 102 Southgate Street, Redruth in Cornwall. This report has been commissioned to fulfil the contamination planning requirements for the proposed residential development.

It is proposed to demolish the existing buildings and to construct nine new residential dwellings with soft, private garden areas.

The site has contained a residential dwelling with soft landscaped grounds throughout recorded history. The surrounding area has been dominated by residential and mining development.

The site and immediate surrounding area are not recorded to be overlain by superficial deposits. The site is recorded to be underlain by the Mylor Slate Formation - Hornfelsed Slate and Hornfelsed Siltstone formed in the Devonian Period.

The site is situated within a mineralised area. The closest recorded mineralised structure (lode) contains copper and is beneath and/or immediately adjacent to the site. Topsoil arsenic concentrations in the area of the site are recorded to range between 146mg/kg and 448mg/kg.

The site is recorded to be underlain by a secondary aquifer (A). There are no surface water features within 250m of the site. The site is not within a water source protection zone.

Due to the local mineralogy and historical mining activity there is potential for heavy metals to be present within the site's soils. The preliminary contamination risk assessment identified a moderate risk to human health and building materials in line with its proposed use for a residential development with soft garden areas. A Phase 2 Site Investigation with soil sampling and chemical analyses should be carried out to quantify the risks.

The risk to controlled waters and flora, fauna and ecosystems is considered to be low with no further action required.

The site is in a radon affected area. As such radon protection measures should be installed in all new buildings.

A mining site investigation was carried out in October 2020 and has been reported under a separate cover.

## 1.0 INTRODUCTION

### 1.1 Background

Your Environmental Solutions (YES) has been commissioned by EMI Developments Ltd to undertake a Phase 1 Desk Study at a site known as 102 Southgate Street, Redruth in Cornwall. This report has been commissioned to fulfil the contamination planning requirements for the proposed residential development.

### 1.2 Objectives

The objectives of this report were as follows:

- Summarise the site setting.
- Carry out a walkover survey of the site.
- Review of historical mapping for the site area.
- Review of geological and soil mapping of the site area.
- Review of a mining report for the site area.
- Produce a conceptual model of sources, pathways and receptors of contamination.
- Undertake a preliminary contamination risk assessment.
- Provide recommendations for phase 2 intrusive works, if any.

### 1.3 Sources of Information

The following sources of information have been used:

- A walkover and photographic survey of the site (enclosed within Appendix A).
- Environmental Report (enclosed within Appendix B).
- Mining Report (enclosed within Appendix C).
- British Geological Survey 1:50,000 Solid and Drift Geological Mapsheet 352 'Falmouth'.
- UK Soil Observatory Mapping.

## 1.4 Site Details and Development Proposals

The site location, site boundary and proposed development layout are shown on Figures 1, 2 and 3, respectively.

The site is located at coordinates: 170570 41020, postcode: TR15 2ND.

The site comprises a residential dwelling surrounded by soft landscaped grounds.

It is proposed to demolish the existing buildings and to construct nine new residential dwellings with soft, private garden areas.

## 2.0 SITE WALKOVER SURVEY

An Environmental Scientist from YES undertook the site walkover survey on the 5<sup>th</sup> February 2021 to assess the site for visual evidence of contamination.

Photographs taken during the walkover survey can be found within Appendix A.

The site is accessed from Southgate Street which runs along its western boundary.

The site comprises a stone with slate roof dwelling, which was boarded up and derelict. A small brick out building is present to the rear, which contained an old toilet and inert miscellaneous household items.

To the rear of the dwelling is a large grassed garden/field area, surrounded by hedges. A galvanised garden structure was present with inert household items stored inside.

A track (to be retained as the site's proposed access) runs into the northern boundary from Southgate Street.

The site is surrounded by residential dwellings.

The topography of the site and surrounding area is generally sloping down gradient from the east towards the west.

There were no visual signs of any contamination noted during the walkover survey.

### **3.0 ENVIRONMENTAL SETTING**

#### **3.1 Recorded Geology**

Reference has been made to the British Geological Survey 1:50,000 Solid and Drift Geological Mapsheet 352 'Falmouth' and mapping from the UK Soil Observatory.

##### **3.1.1 Superficial Geology**

The site and immediate surrounding area are not recorded to be overlain by superficial deposits.

##### **3.1.2 Solid Geology**

The site is recorded to be underlain by the Mylor Slate Formation - Hornfelses Slate and Hornfelses Siltstone formed approximately 359 to 383 in the Devonian Period. These were originally sedimentary rocks formed in open seas by pelagite deposits, that became later altered by the high temperatures of igneous intrusion(s).

##### **3.1.3 Mineralisation**

The site is situated within a mineralised area. The closest recorded mineralised structure (lode) contains copper and is beneath and/or immediately adjacent to the site.

Topsoil arsenic concentrations in the area of the site are recorded to range between 146mg/kg and 448mg/kg.

##### **3.1.4 Hydrogeological and Hydrological Setting**

The site is recorded to be underlain by a secondary aquifer (A). These aquifers are formed of moderately permeable layers capable of supporting water supplies at a local scale, and in some cases forming an important source of base flow to rivers.

There are no surface water features within 250m of the site. The site is not within a water source protection zone.

### 3.2 Environmental Report Findings

The environmental report for the site is presented in Appendix B. Using the report, the following data has been investigated for the site:

- Contaminated Land Register Entries and Notices.
- BGS, Registered, Local Authority, Historical Landfill and Other Waste Sites.
- Local Authority Pollution Prevention and Control Permits.
- Registered Radioactive, Explosive and Hazardous Substances Sites.
- Environmental Enforcement, Prohibition Notices and Prosecutions.
- Discharge Consents to Controlled Waters.
- Environmental Pollution Incidents.
- Contemporary Trade Directory and Fuel Station Entries.
- Potentially Contaminative Historical Land Uses and Features.
- Environmentally Sensitive Sites.

The following potentially contaminative features and/or land uses are recorded within 250m of the site:

- Potentially Infilled Land (pit, quarry etc): 15m, 29m, 122m, 186m, 193m.
- Potentially infilled Water (pond, marsh etc): 194m.
- Potentially Contaminative Historical Land Uses and Features:
  - Mining and quarrying: 15m, 29m, 122m, 186m, 192m.
  - Electrical substation facilities: 240m.

The recorded infilled areas are considered to be associated with the historic mining in the area.

The electrical substation is not deemed to present any risks to the site due to the distance.

The site is located 81m distance from a World Heritage Site (Cornwall and West Devon Mining Landscape).

### 3.3 Historical Land Use

The historical maps for the site and surrounding area are presented in Figure 4. The findings from a review of the maps are outlined as follows.

**1880:** The site is mostly shown to be open space, with two buildings shown on the western boundary and a small outbuilding shown in the north-western corner. The surrounding area of the site is a mix of farmland, uncultivated ground, residential and commercial development, with the two former mines of Wheal Trefusis (tin and copper) and Perseverance Mine (tin and copper) located at distance to the south-south-west and southwest, respectively. A number of mine shafts are annotated in the surrounding area of the site.

**1908:** The site is shown to contain one main building in its western section, some outbuildings to the southeast of this and some further outbuildings in its north-eastern corner. In the surrounding area, the Redruth to Chacewater Branch line has been constructed at distance to the east and some residential development to the northwest of the site along Southgate Street.

**1938:** The site and the surrounding area appear mostly unchanged from the last mapping period with no new potentially contaminative features identified.

**1962 – 1963:** The site appears unchanged from the last mapping period. In the surrounding area, the railway branch line has been dismantled and further residential development has taken place to the south of the site along Southgate Street.

**1977 – 1993:** The site appears unchanged from the last mapping period. In the surrounding area, residential development has continued along Southgate Street around the site. The majority of the previously annotated mining features are no longer shown.

**Modern Mapping:** The site appears unchanged from the last mapping period. In the surrounding area, residential development has continued and the site is now surrounded by this.

### **3.4 Mining Report**

#### **3.4.1 Mining Desk Study**

The mining report for the site is presented in Appendix C. The findings of the mining report are detailed as follows.

The site lies within an historic metalliferous mining lease boundary. A mineralised vein is inferred to pass through the site at surface outcrop. Workings along the course of this mineralised vein have been observed to the east of the site.

A poorly recorded mineralised vein passes close to the northern boundary of the site at an undefined elevation of plot. Workings along the course of this mineralised vein have been observed to the east-north-east of the site.

A poorly recorded mineralised vein passes through the site at an undefined elevation of plot. There is a possibility of unrecorded mining features associated with this mineralised vein within the site.

The site does not presently lie within an area with planning permission for metalliferous mineral development. There is no known planned future mining activity in the area of the site.

### **3.4.2 Preliminary Mining Site Investigation**

Four investigation trenches were excavated at an orientation, where possible, to cut across the general strike of the mineralised structures that cross the local area.

The site investigation did not find evidence of the presence insitu mineralisation in the excavated trenches or past mining related disturbance. Based on the observed excavations, it was considered that the site is at low risk from past mining activity; however, as the site lies within an area that has seen historic mining activity, the following measures were recommended:

- If the existing building is to be demolished as part of the proposed development, further investigation of the footprint of this structure is warranted.
- The footings excavations of the proposed development should be inspected prior to receiving concrete as these will expose ground that was not practical to investigate during the preliminary investigation.

## **4.0 PRELIMINARY CONTAMINATION RISK ASSESSMENT**

### **4.1 Introduction**

The contaminated land risk assessment has been undertaken in line with the conceptual site model (Figure 5) and the information collected from the desk study and site walkover survey.

Risk assessment is the process of collating known information on a hazard or set of hazards in order to estimate actual or potential risks to receptors. The guiding principle behind this approach is to establish connecting links between a hazardous source, via an exposure pathway to a potential receptor, referred to as a 'pollutant linkage'.

The conceptual model is a representation of the potential relationships between contaminant sources, pathways and receptors developed on the basis of hazard identification.

The objective of a preliminary contamination risk assessment is to identify the nature and magnitude of the potential risks through the consideration of likelihood (probability) and severity (consequence) of the hazard(s) to the receptor(s). The risk assessment has been carried out using the risk tables within Contaminated Land Risk Assessment. A guide to good practice (C552) (CIRIA, 2001), enclosed within Appendix D.

## 4.2 Preliminary Contamination Risk Assessment In Line with the Conceptual Site Model

The following table contains the sources, pathways and receptors, as identified in the conceptual model (Figure 5) and supporting table, compared to an appropriate level of risk.

Sources	Receptors and Pathways	Categorisation of Risk		
		Probability	Consequence	Risk
<b>Radon:</b> Natural Mineralogy	<b>Human Health:</b> Inhalation of gas	Likely	Medium	Moderate
<b>Heavy Metals:</b> Natural Mineralogy	<b>Human Health:</b> Direct soil and dust ingestion Consumption of vegetation Dermal contact with soils Inhalation of dust	Likely	Medium	Moderate
	<b>Controlled Waters:</b> Migration into groundwater Migration through soil Surface water runoff Deposition onto surface water	Likely	Mild	Low
	<b>Flora/Fauna and Ecosystems:</b> Plant uptake and accumulation	Unlikely	Mild	Low
	<b>Building Materials:</b> Direct contact with soils (SO <sub>4</sub> )	Likely	Medium	Moderate

Due to the local mineralogy, there is potential for heavy metals to be present within the site's soils. The preliminary contamination risk assessment identified a moderate risk to human health in line with its proposed use for a residential development with soft garden areas. A Phase 2 Site Investigation with soil sampling and chemical analyses should be carried out to quantify the risks.

The risk to controlled waters is considered to be low. The site is underlain by a minor aquifer and it is considered unlikely that the proposed development will encounter or penetrate the underlying groundwater body. The site is not within a water source protection zone and there are no surface water features within 250m. With natural heavy metals identified as the only potential source of contamination, no further action is considered necessary.

The risks to building materials are considered to be moderate. Due to the local mineralogy there may be aggressive ground conditions with the potential to impact on any new concrete foundations. Soil sampling and chemical analyses should be undertaken for water soluble sulphate to determine the appropriate grade of concrete to be used.

The risk to water supply pipework is considered to be low. There are no identified sources of contamination on site with the potential to impact on water supply pipework. It is therefore considered that a standard plastic material would be suitable for any new potable water supplies at the site.

The risk to flora, fauna and ecosystems is considered to be low. The site is within an environmental designated area; however contamination with the potential to impact on local species or habitats has not been identified on site.

The risk from the inhalation of radon is considered to be moderate; however, full radon protection measures should be installed within all buildings, which would mitigate this risk.

The risks to construction workers have not been included in this risk assessment. The risks to construction workers should be assessed independently in line with current health and safety legislation and regulations.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

Due to the local mineralogy and historical mining activity there is potential for heavy metals to be present within the site's soils. The preliminary contamination risk assessment identified a moderate risk to human health and building materials in line with its proposed use for a residential development with soft garden areas. A Phase 2 Site Investigation with soil sampling and chemical analyses should be carried out to quantify the risks.

The risk to controlled waters and flora, fauna and ecosystems is considered to be low with no further action required.

The site is in a radon affected area. As such radon protection measures should be installed in all buildings.

## 6.0 LIMITATIONS

The work undertaken to provide the basis of this report includes a study of the readily available documented information from a variety of sources. The information reviewed should not be considered exhaustive and has been accepted in good faith by YES, as providing a true indication of the site conditions. However, no liability can be accepted for the detailed accuracy or otherwise of any of the reports or documents prepared by others for the Client or for third parties, or for any associated errors or omissions.

It should be noted that the environment and contaminated land guidance and legislation are constantly under review, with authoritative guidance documents subject to change. The conclusions presented herein are based on guidance and legislation available at the time of issuing this report, and no liability can be accepted for the retrospective effects of any changes or amendments to such guidance and/or legislation.

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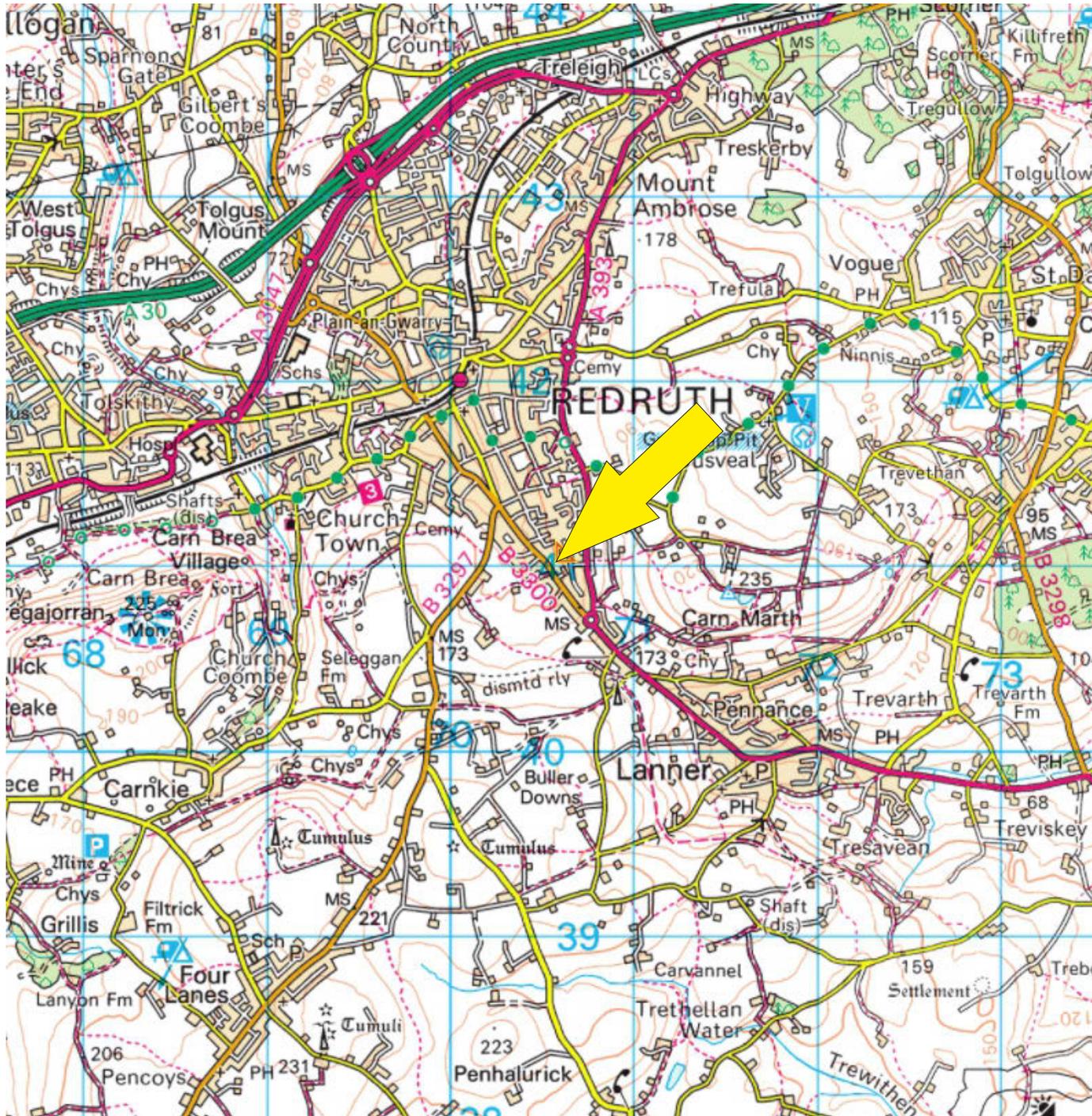
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## FIGURES



Drawing Notes:

Legend:

Client:

EMI Developments Ltd

Figure 1:

Site Location Plan

102 Southgate Street, Redruth, Cornwall

Project Ref: YES 1065a	Drawing Ref: YES 1065a
Drawn By: AM	Date: 01/02/21
Checked By: AW	Date: 01/02/21
Grid Ref: 170570, 41020	Not To Scale



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Camborne, Cornwall TR14 0QR  
M. 07766 850351  
E. [info@urenvironmentalsolutions.com](mailto:info@urenvironmentalsolutions.com)  
W. [www.urenvironmentalsolutions.com](http://www.urenvironmentalsolutions.com)



Drawing Notes:

Legend:  
 Site Boundary

Client:  
EMI Developments Ltd

Figure 2:  
Site Boundary Plan  
102 Southgate Street, Redruth, Cornwall

Project Ref: YES 1065a	Drawing Ref: YES 1065a
Drawn By: AM	Date: 01/02/21
Checked By: AW	Date: 01/02/21
Grid Ref: 170570, 41020	Not To Scale



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Drawing Notes:

Legend:  
█ Site Boundary

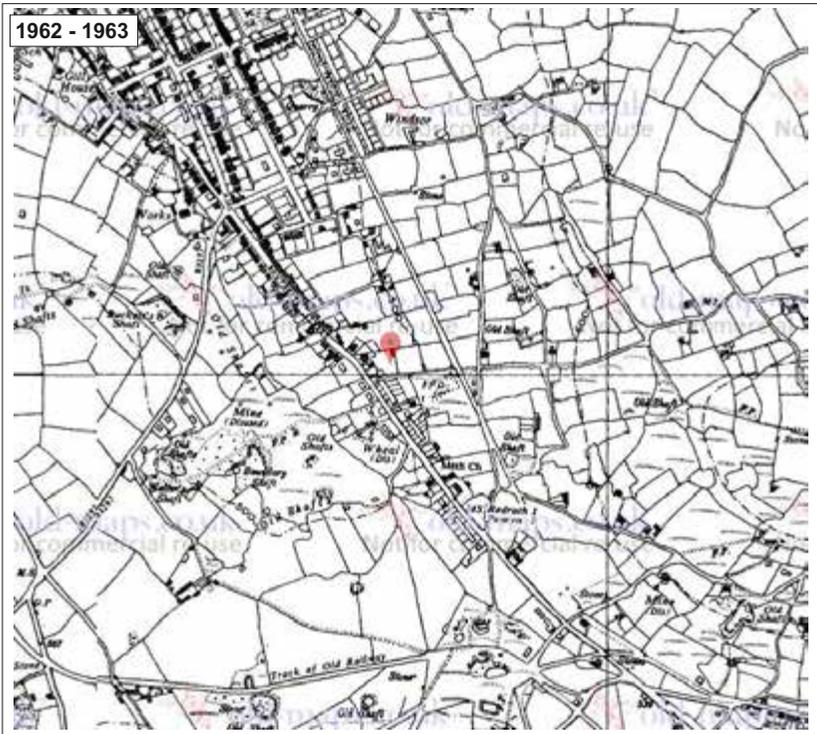
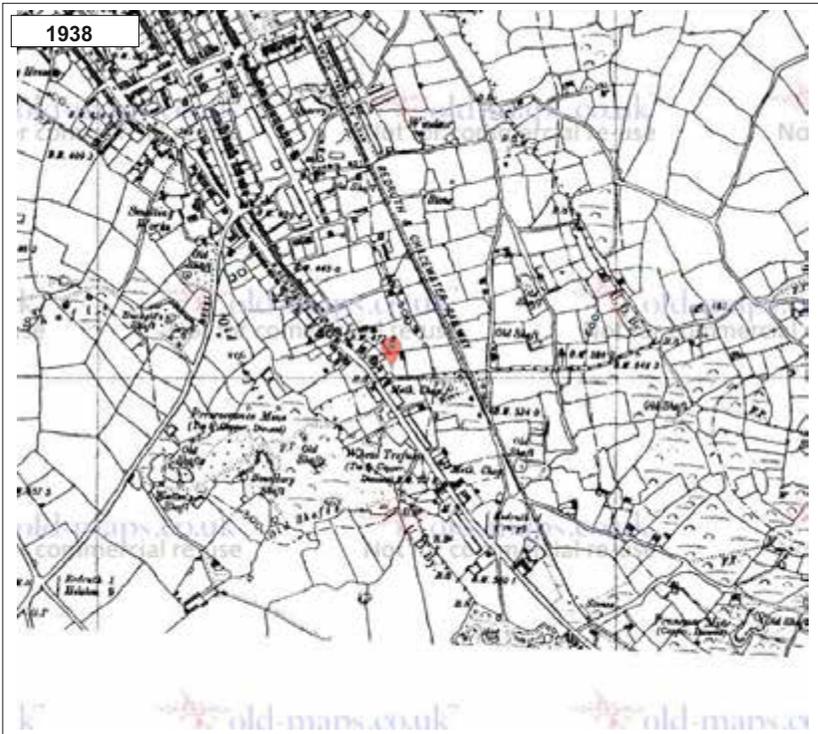
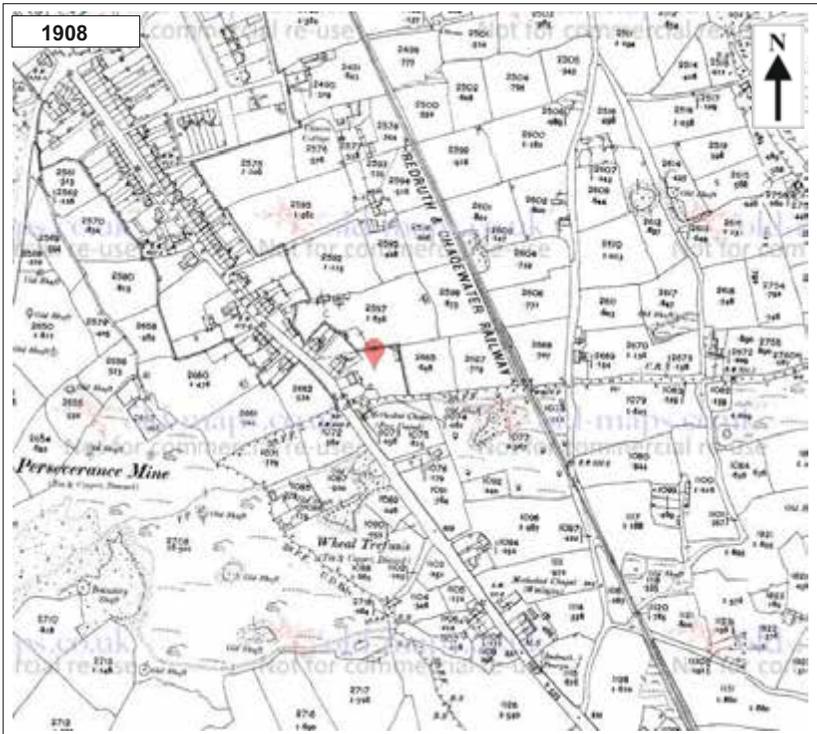
Client:  
 EMI Developments Ltd

Figure 3:  
 Proposed Development Layout Plan  
 102 Southgate Street, Redruth, Cornwall

Project Ref: YES 1065a	Drawing Ref: YES 1065a
Drawn By: AM	Date: 10/02/21
Checked By: AW	Date: 10/02/21
Grid Ref: 170570, 41020	Not To Scale



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Drawing Notes:

Legend:

Client:

EMI Developments Ltd

Figure 4:

Historical Mapping

102 Southgate Street, Redruth, Cornwall

Project Ref: YES 1065a

Drawing Ref: YES 1065a

Drawn By: AM

Date: 01/02/21

Checked By: AW

Date: 01/02/21

Grid Ref: 170570, 41020

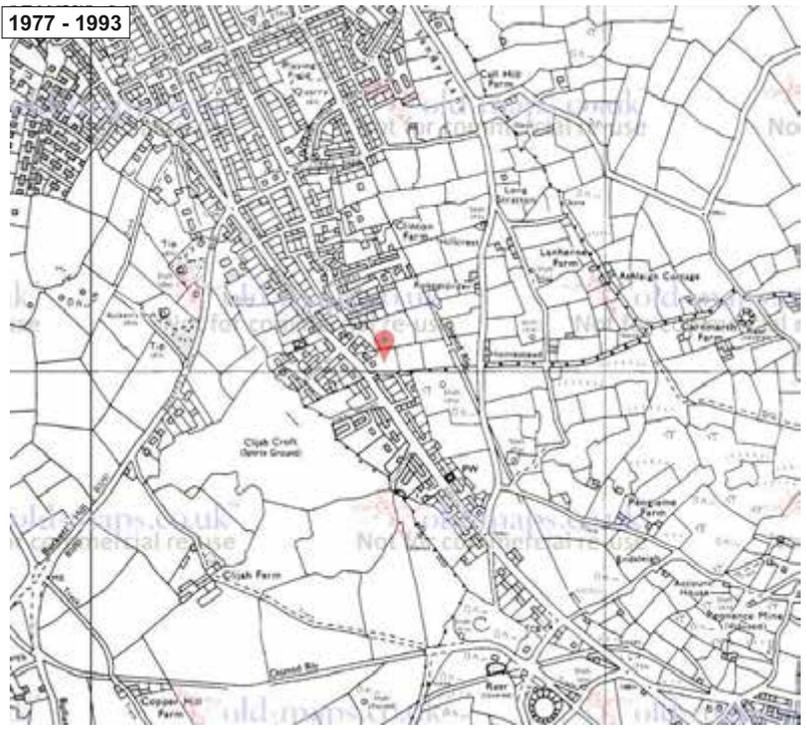
Not To Scale

**yes**  
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1977 - 1993



Drawing Notes:

Legend:



Modern



Client:

EMI Developments Ltd

Figure 4:

Historical Mapping

102 Southgate Street, Redruth, Cornwall

Project Ref: YES 1065a	Drawing Ref: YES 1065a
------------------------	------------------------

Drawn By: AM	Date: 01/02/21
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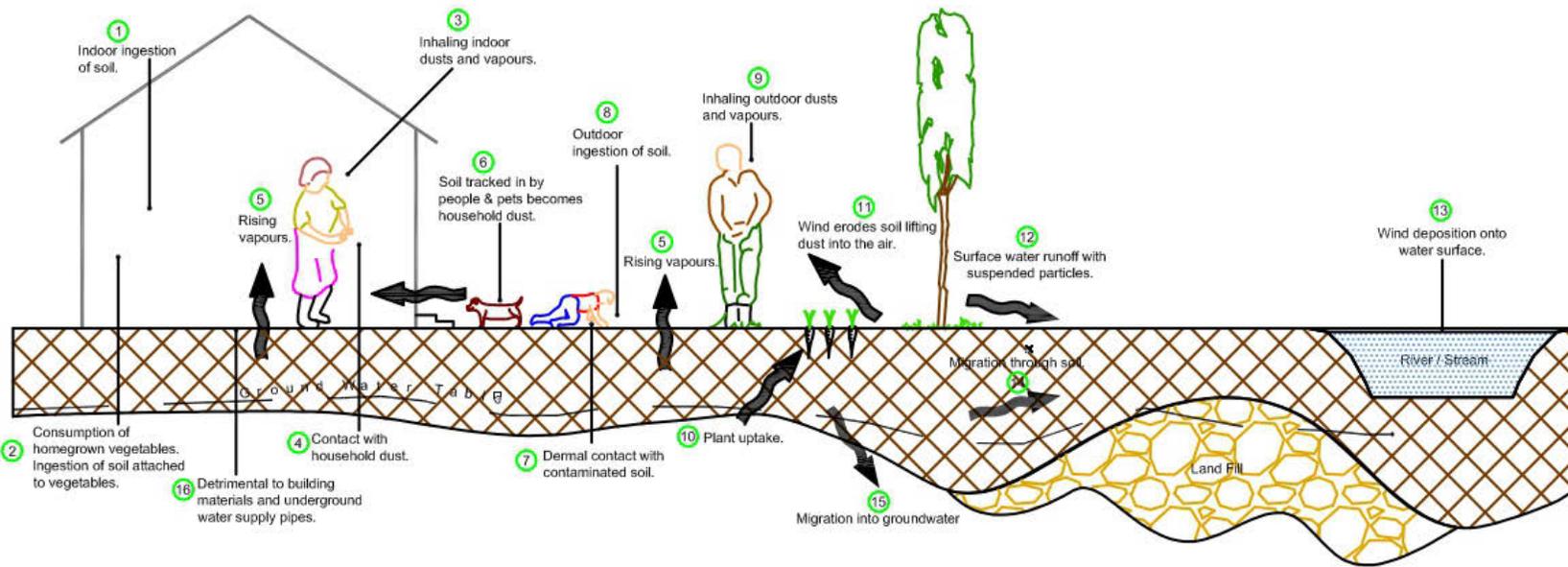
Checked By: AW	Date: 01/02/21
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Grid Ref: 170570, 41020	Not To Scale
-------------------------	--------------

**yes**  
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SOLUTIONS LTD



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Drawing Notes:

Legend:

Client:

EMI Developments Ltd

Figure 5:

Conceptual Site Model

102 Southgate Street, Redruth, Cornwall

Project Ref: YES 1065a | Drawing Ref: YES 1065a

Drawn By: AM | Date: 01/02/21

Checked By: AW | Date: 01/02/21

Grid Ref: 170570, 41020 | Not To Scale

**Yes**  
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SOLUTIONS LTD



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## **APPENDIX A**

### **SITE WALKOVER PHOTOGRAPHS**

## SITE WALKOVER PHOTOGRAPHS



PHOTOGRAPH 1: Front/western boundary along Southgate and showing dwelling present



PHOTOGRAPH 2: Gated entrance/access along western boundary/Southgate



PHOTOGRAPH 3: Northern extent of site facing east and showing grassed area



PHOTOGRAPH 4: Central site area facing east



PHOTOGRAPH 5: Rear of derelict dwelling and small out building



PHOTOGRAPH 6: Exposed ground/slate bedrock from recent mining site investigation



PHOTOGRAPH 7: Inside shed structure – insert household items stored



PHOTOGRAPH 8: Central site area



PHOTOGRAPH 9: Western boundary along Southgate

## **APPENDIX B**

# ENVIRONMENTAL REPORT

# Sitecheck Assess



## Contaminated Land

**PASSED**

No significant contaminant linkage has been identified and any liabilities from contaminated land are unlikely. No further action is required.



## Flood Risk Screen

**NONE IDENTIFIED**

We have not identified an elevated flood risk at your property. A full flood risk report is not considered necessary.



## Energy & Infrastructure Screen

**IDENTIFIED**

A screening of Energy & Infrastructure projects has identified a project/s at or close to the property. You should purchase a SiteSolutions Energy & Infrastructure report to better understand the potential impact on the property. Please refer to the next section for further information.



## Radon

**IDENTIFIED**

We have identified that the property is in an area with an elevated probability of radon. Please refer to the next section for further information.



## Environmental Constraints

**IDENTIFIED**

One or more environmental constraints have been identified within 250m of the property. Please refer to the next section for further information.

This report is issued for the property described as:  
**102 Southgate Street, Redruth, Cornwall, TR15 2ND**

Report Reference:  
**259760763**

National Grid Reference:  
**170570 41020**

Customer Reference:  
**20998648\_SAS**

Report Date:  
**30 September 2020**

### CONTACT DETAILS

If you require any assistance please contact our customer support team on:

**0844 844 9966**

or by email at:  
[helpdesk@landmark.co.uk](mailto:helpdesk@landmark.co.uk)

# Professional Opinion and Recommendations

Please see below our recommendations and next steps. These may be copied into your Report on Title if you wish. No physical site inspection has been carried out or is proposed.



## Section 1: Contaminated Land

**PASSED**

### Professional Opinion

In the professional opinion of Landmark Information Group, the level of risk associated with the information assessed in this report:

- 1) is unlikely to have an adverse effect on the value of the property, and
- 2) is not such that the property would be designated "contaminated land" within the meaning of Part 2A of the Environmental Protection Act 1990.

You should be aware of the following:

A review of historical mapping has revealed no historical or current potentially contaminative uses of concern on site.

A review of the available historical map data has identified that the site is located on or within 25 metres of unknown filled ground.

A review of the available historical mapping has identified that the site is on or within 25 metres of Mining & quarrying general shown on 1888 edition maps.

As part of this assessment, we have considered sensitive receptors and human health, as this information is considered as part of the Local Authorities Part 2A inspection strategy.

Please see section 1 for further information. Alternatively, please contact your professional advisor or Landmark Customer Services on 0844 8449966.



## Section 2: Flood Risk Screen

**NONE IDENTIFIED**

Landmark Information have not identified an elevated flood risk at your property. A full flood risk report is not considered necessary.



## Section 3: Energy & Infrastructure Screen

**IDENTIFIED**

Landmark Information have identified Energy or Infrastructure projects at or close to the property. In order to gain more detailed information regarding the projects and the potential impact, it is recommended that you purchase a SiteSolutions Energy & Infrastructure report. If you would like more information, please contact your Search Provider or our Customer Services Team on 0844 844 9966 or email [helpdesk@landmark.co.uk](mailto:helpdesk@landmark.co.uk).

# Professional Opinion and Recommendations



## Section 4: Radon

IDENTIFIED

Landmark Information have identified that the property is in a higher probability radon area as more than 30% of homes are estimated to be above the action level. This does not necessarily mean that the property has high radon or that there is cause for concern. Public Health England advises that homes in affected areas should be tested. For further information please contact Public Health England (see Contacts section) or go to [www.ukradon.org](http://www.ukradon.org)

Radon Protection Measures: Full radon protective measures are necessary in the construction of new dwellings or extensions to existing buildings. If you would like more information, please contact your professional advisor or Landmark Customer Services on 0844 8449966.



## Section 5: Environmental Constraints

IDENTIFIED

Landmark Information have identified the following environmental constraints at or close to the property: World Heritage Sites.

Please refer to section 5 of this report for more details. If you would like more information, please contact your professional advisor or Landmark Customer Services on 0844 8449966.

## Next Steps

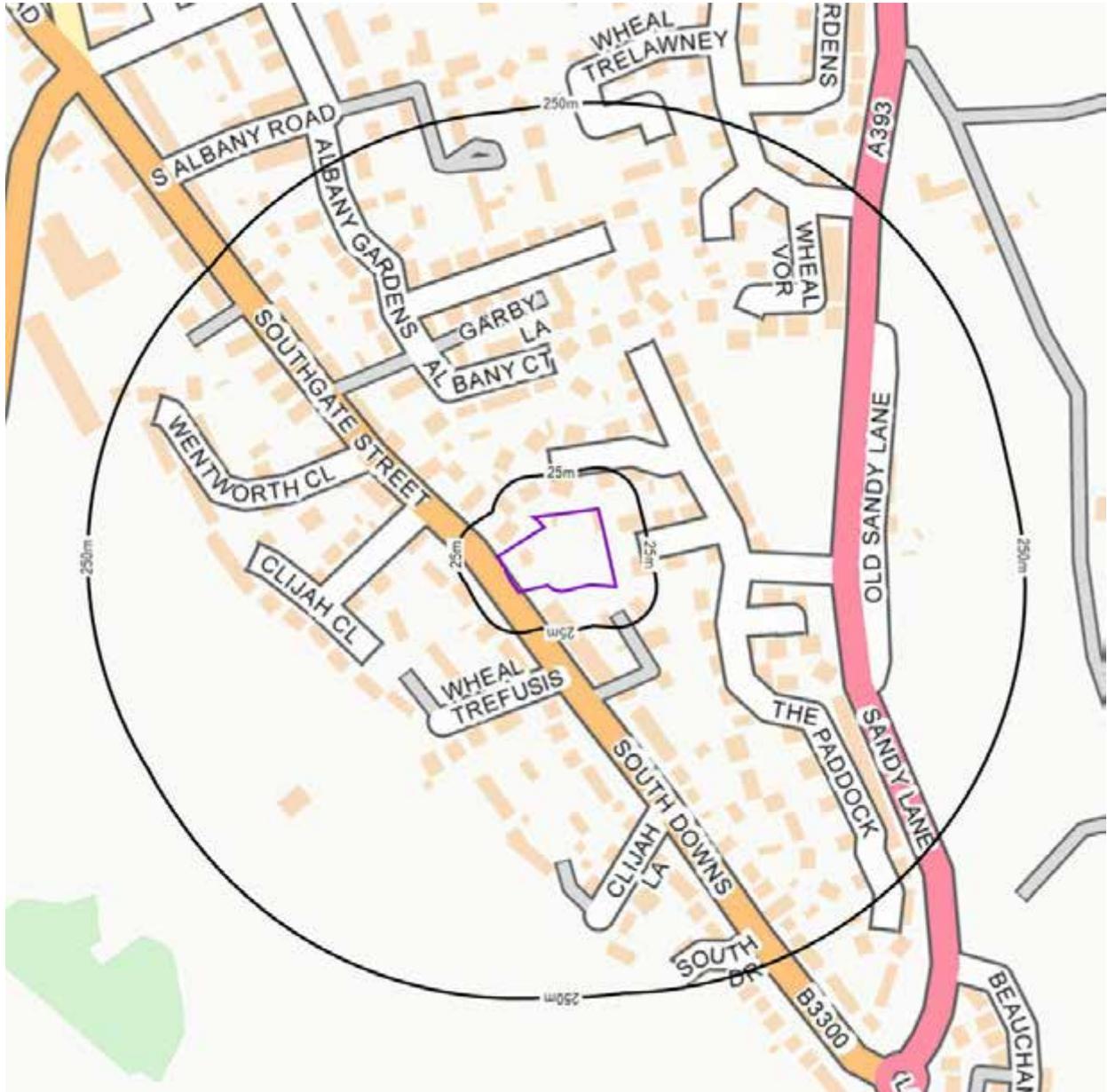
If you require any assistance, please contact our Customer Services Team on: 0844 844 9966 or [helpdesk@landmark.co.uk](mailto:helpdesk@landmark.co.uk)

# Property Location



## Location Plan

The map below shows the location of the property.



Contains Ordnance Survey data © Crown copyright and database right 2020.

 Site

 Search Radii

# Property Purchaser Guide

## Understanding this report

The purpose of this report is to highlight any potential risk of contaminated land, as defined under Part 2A of the Environment Protection Act 1990. The report also examines whether the property is at risk from other specified environmental factors that may impact the future intended use and saleability of the property.

For contaminated land, we will state 'Passed' on the front page if our environmental consultants consider there to be no risk to the property. If a potential risk of contaminated land is found, the report front page will state 'Further Action'. In this case, we will include our recommendations and next steps.

For all other environmental factors, we will state 'None Identified' if no potential risk is found and 'Identified' if a potential risk is found. In this case, we will provide recommendations or details of further information required to explore this potential risk.

### Section 1: Contaminated Land

In this section, we highlight on a map, and within our findings pages, if there are any potential contaminated land risks at or around the property. Contaminated land contains substances that are actually or potentially hazardous to health or the environment.

### Section 2: Flood Risk Screen

This section is a flood screen. This means that if we highlight a flood risk at the property, a further report will be required in order to understand the full details and possible impact on the property. Within the section, we consider River, Coastal, Surface water, Groundwater and other flood risks.

### Section 3: Energy & Infrastructure Screen

This section is an Energy and Infrastructure projects screen. This means that if we identify any projects at or

close to the property, a further report will be required in order to understand the full details and possible impact on the property. Within the section, we consider projects such as High Speed Rail (HS2), Crossrail 1 & 2, Oil and Gas Exploration (Fracking), & Solar and Wind farms. (only wind and solar farms with a capacity to produce over 1MW of power are considered).

### Section 4: Radon

In this section, we identify if the property is located in a radon affected area. Radon is a radioactive gas, which occurs naturally in rocks and soils and may be harmful to health. Employers have duty of care to mitigate the build up of radon gas in higher risk areas.

### Section 5: Environmental Constraints

In this section, we identify factors that may have an influence on the property or surrounding area, such as national parks or conservation areas.

## Next Steps

If you require any assistance, please contact our customer service team on: **0844 844 9966** or [helpdesk@landmark.co.uk](mailto:helpdesk@landmark.co.uk)



# Contaminated Land



## Section 1a: Historical Land Uses

This section describes historical activity at and around the property, which could be considered to be contaminative. The information is taken from a variety of sources including Landmark's extensive historical map collection and analysis of historic activity. Records are highlighted due to the potential for contamination to exist.

Question	Response
Have any historical potentially contaminative land uses been identified within 250m of the property?	Yes

Map ID	Details	Distance	Contact
<b>Potentially Contaminative Industrial Uses (Past Land Use)</b>			
1	<b>Class:</b> Mining & quarrying general <b>Map Published Date:</b> 1888	15m	1
3	<b>Class:</b> Mining & quarrying general <b>Map Published Date:</b> 1888	29m	1
5	<b>Class:</b> Mining & quarrying general <b>Map Published Date:</b> 1888	122m	1
7	<b>Class:</b> Mining & quarrying general <b>Map Published Date:</b> 1888	186m	1
9	<b>Class:</b> Mining & quarrying general <b>Map Published Date:</b> 1888	192m	1
<b>Historical Tanks And Energy Facilities</b>			
12	<b>Type:</b> Electrical Sub Station Facilities <b>Date Of Mapping:</b> 1971	240m	1
12	<b>Type:</b> Electrical Sub Station Facilities <b>Date Of Mapping:</b> 1968	241m	1
<b>Potentially Infilled Land (Non-Water)</b>			
2	<b>Details:</b> Unknown Filled Ground (Pit, quarry etc) <b>Map Published Date:</b> 1993	15m	1
4	<b>Details:</b> Unknown Filled Ground (Pit, quarry etc) <b>Map Published Date:</b> 1993	29m	1
6	<b>Details:</b> Unknown Filled Ground (Pit, quarry etc) <b>Map Published Date:</b> 1993	122m	1
8	<b>Details:</b> Unknown Filled Ground (Pit, quarry etc) <b>Map Published Date:</b> 1993	186m	1
10	<b>Details:</b> Unknown Filled Ground (Pit, quarry etc) <b>Map Published Date:</b> 1993	192m	1
<b>Potentially Infilled Land (Water)</b>			
11	<b>Details:</b> Unknown Filled Ground (Pond, marsh, river, stream, dock etc) <b>Map Published Date:</b> 1888	194m	1

# Contaminated Land



## Section 1b: Incidents and Enforcements

The data within this section tells you whether your property or surrounding area has been identified by the Local Authority as “Contaminated Land” under Part 2A of the Environmental Protection Act 1990 or if there have been any other pollution incidents, prosecutions or enforcements. Should there be an indication of contamination, it is not necessarily a cause for concern. Your report will be assessed by our professional environmental consultants who will advise you what, if any, considerations need to be made should you proceed with the property purchase.

Question	Response
Have any incidents or enforcements been identified within 250m of the property?	No

Map ID	Details	Distance	Contact
<b>Contaminated Land Register Entries and Notices</b> No features identified for this property.			
<b>Environmental Pollution Incidents</b> No features identified for this property.			
<b>Prosecutions Relating to Controlled Waters</b> No features identified for this property.			
<b>Prosecutions Relating to Authorised Processes</b> No features identified for this property.			
<b>Enforcement and Prohibition Notices</b> No features identified for this property.			
<b>Planning Hazardous Substance Enforcements</b> No features identified for this property.			
<b>Local Authority Pollution Prevention and Control Enforcements</b> No features identified for this property.			

# Contaminated Land



## Section 1c: Landfill and Waste Sites

The information in this section identifies active and historical landfill and waste sites within 250 metres of the property. Having a landfill or waste site near your property does not necessarily mean that you or the property will be affected. However, it is something you need to be aware of, because landfill and waste can have a detrimental effect on the surrounding environment, property value and health. A closed landfill/waste site should be given equal consideration to an active site, because of landfill by-products. For instance, landfill with lots of organic material can continue to produce odours and gas for many years.

Question	Response
Have any landfill and waste sites been identified within 250m of the property?	No

Map ID	Details	Distance	Contact
	<b>Historic Landfill</b> No features identified for this property.		
	<b>Registered Landfill Sites</b> No features identified for this property.		
	<b>Local Authority Recorded Landfill Sites</b> No features identified for this property.		
	<b>BGS Recorded Landfill Sites</b> No features identified for this property.		
	<b>Permitted Waste Sites - Authorised Landfill Site Boundaries</b> No features identified for this property.		
	<b>Integrated Pollution Control Registered Waste Sites</b> No features identified for this property.		
	<b>Registered Waste Treatment or Disposal Sites</b> No features identified for this property.		
	<b>Environmental Permitting Regulations - Waste Sites</b> No features identified for this property.		
	<b>Registered Waste Transfer Sites</b> No features identified for this property.		

# Contaminated Land



## Section 1d: Authorised Industrial Processes

This section describes current and licensed activities within 250 metres of the property, which have the potential to cause contamination or have an impact on the environment. The licensed activities could range from pollution to air, land or water; or storage of hazardous or explosive materials. Licences may no longer be active, but the nature of the past activity means it could still have an impact.

Question	Response
Have any current or recent authorised industrial processes been identified within 250m of the property?	No

Map ID	Details	Distance	Contact
	<b>Fuel Station Entries</b> No features identified for this property.		
	<b>Local Authority Pollution Prevention and Controls</b> No features identified for this property.		
	<b>Control of Major Accident Hazards Sites (COMAH)</b> No features identified for this property.		
	<b>Planning Hazardous Substance Consents</b> No features identified for this property.		
	<b>Notification of Installations Handling Hazardous Substances (NIHHS)</b> No features identified for this property.		
	<b>Explosive Sites</b> No features identified for this property.		
	<b>Contemporary Trade Directory Entries</b> No features identified for this property.		

## Next Steps

If you would like any further information in respect of the above findings, we recommend that you contact our Customer Services Team on **0844 844 9966** or [helpdesk@landmark.co.uk](mailto:helpdesk@landmark.co.uk). Further Information is also available in the 'Useful Information' section.

# Flood Risk Screen



## Section 2a: River and Coastal Flooding

River flooding occurs when rivers and streams are unable to carry away floodwaters within their usual drainage channels. River flooding can cause widespread and extensive damage because of the sheer volume of water.

Coastal flooding results from a combination of high tides, low lying land and sometimes stormy conditions. Coastal flooding can cause widespread and extensive damage because of the sheer volume of water.

Question	Response
Is there a potential risk of river or coastal flooding at the property?	No



## Section 2b: Surface Water Flooding

Surface water flooding is common during prolonged or exceptionally heavy downpours, when rainwater does not drain away into the normal drainage systems or soak away into the ground.

Question	Response
Is there a potential risk of surface water flooding at the property?	No



## Section 2c: Groundwater Flooding

Groundwater flooding generally occurs during long and intense rainfall when underground water levels rise above surface level. Groundwater flooding may last for weeks or several months.

Question	Response
Is there a risk of groundwater flooding at the property?	No



## Section 2d: Other Flood Risks

We analyse any historic flood events records, the proximity of the property to surface water features and the elevation of the property above sea level to enhance our overall analysis of the property.

Question	Response
Are there other flood risks identified that could impact the property?	No

## Next Steps

If you would like any further information in respect of the above findings, we recommend that you contact our Customer Services Team on **0844 844 9966** or [helpdesk@landmark.co.uk](mailto:helpdesk@landmark.co.uk).

# Energy and Infrastructure Screen



## Section 3a: Oil and Gas Exploration and Production

Any areas to be explored for their energy potential by the oil & gas industry must be licensed by the Oil and Gas Authority. Such exploration includes areas subject to hydraulic fracturing ("fracking") investigation.

Question	Response
Is the property within 4km of any licences or drilling wells that could indicate that onshore oil and gas exploration and production operations are or could happen in the area?	No



## Section 3b: Existing or Proposed Wind Farms and Wind Turbines

Wind energy is one of several alternative energy sources; however, the location of wind farms or turbines can be contentious due to visual and auditory impact on the surrounding area. The information in this section gives insight into whether there are wind farms or turbines (planned or existing) in the vicinity of the report location. We only search those wind power developments which generate between 1MW and 50MW of power.

Question	Response
Is the property within 4km of existing or proposed wind farms or wind turbines?	No



## Section 3c: Existing or Proposed Solar Farms

Solar energy is one of several alternative energy sources; however, the location of a solar farm can be contentious due to its visual impact on the surrounding area. The information in this section gives insight into whether there are solar farms (planned or existing) in the vicinity of the report location. We only search those solar developments which generate between 1MW and 50MW of power.

Question	Response
Is the property within 2km of existing or proposed solar farms?	Yes



## Section 3d: Other Renewable Power Plants

As well as wind and solar power there are a variety of other renewable power sources in the UK. This section identifies planning applications associated with these other types of renewable energy (BEIS only provides data relating to developments which have a capacity to generate over 1MW of power).

Question	Response
Is the property within 2km of any other existing or proposed renewable power plant?	No

# Energy and Infrastructure Screen



## Section 3e: Infrastructure

This section identifies if there are any Infrastructure projects, such as the High Speed 2 Rail Link (HS2) and Crossrail at or close to the property. HS2 is a proposed railway line between London and the North of England. Trains along this route will operate at speeds of up to 250mph. Proximity to the route is likely to have an impact on the surrounding areas. The Crossrail 1 project is a rail project stretching from Reading and Heathrow in the west to Shenfield and Abbeywood in the east. It will improve journey times across London, ease congestion and improve connections. Crossrail 2 is a new (proposed) railway, linking the national rail networks in and around Surrey and Hertfordshire via an underground tunnel through London.

Question	Response
Is the property located in an area that could be impacted by the development of either HS2, Crossrail 1 or Crossrail 2?	No

### Next Steps

We have identified energy or infrastructure projects that may impact the property. We recommend you purchase a SiteSolutions Energy & Infrastructure report to gain further information on the type and location of the project. Please contact your Search Provider or our Customer Services Team on **0844 844 9966** or email [helpdesk@landmark.co.uk](mailto:helpdesk@landmark.co.uk).



## Section 4: Radon Findings

The information within this section tells you whether the property is located in a radon affected area. Radon is a radioactive gas which occurs naturally in rocks and soils. You cannot see, hear, feel or taste it. Exposure to particularly high levels of radon may increase the risk of developing lung cancer, and is therefore something you need to be aware of.

Question	Response
Is the property in a radon affected area?	The property is in a Higher probability radon area (more than 30% of homes are estimated to be at or above the Action Level).
What level of radon protection measures for new dwellings or extensions to existing ones is required for the property?	Full radon protective measures are necessary in the construction of new dwellings or extensions to existing buildings.

### Next Steps

The Ionising Radiation Regulations, 1999, require employers to take action when radon is present above a defined level in the workplace. Advice may be obtained from your local Health and Safety Executive Area Office or the Environmental Health Department of your local authority. The Building Research Establishment (BRE) publishes a guide (BR293): Radon in the workplace. Advice on radon in the workplace can be obtained from the Public Health England.

For further information, please contact Public Health England (see Contacts section) or go to [www.ukradon.org](http://www.ukradon.org).

# Environmental Constraints



## Section 5: Environmental Constraints

This section provides information on areas which have been designated as having environmental or historical importance; as such there may be constraints on property or land developments or alterations.

Question	Response
Is the property within 250m of an area likely to be impacted by Environmental Constraints?	Yes

Details	Distance	Contact
<b>National Nature Reserves</b> No features identified for this property.		
<b>Local Nature Reserves</b> No features identified for this property.		
<b>Marine Conservation Zones</b> No features identified for this property.		
<b>Sites of Special Scientific Interest</b> No features identified for this property.		
<b>Ramsar Sites</b> No features identified for this property.		
<b>Special Areas of Conservation</b> No features identified for this property.		
<b>Special Protection Areas</b> No features identified for this property.		
<b>Nature Improvement Areas</b> No features identified for this property.		
<b>Environmentally Sensitive Areas</b> No features identified for this property.		
<b>World Heritage Sites</b>		
<b>Name:</b> Cornwall and West Devon Mining Landscape <b>Reference:</b> 1000105 <b>Designation Date:</b> 1st January 2006 <b>Total Area:</b> 197096576.34m <sup>2</sup>	81m	2
<b>Ancient Woodland</b> No features identified for this property.		
<b>Country Parks</b> No features identified for this property.		
<b>Areas of Outstanding Natural Beauty</b> No features identified for this property.		
<b>Forest Parks</b> No features identified for this property.		
<b>National Parks</b> No features identified for this property.		

# Environmental Constraints

## Next Steps

If you would like any further information in respect of the above findings we recommend that you contact our Customer Services Team on **0844 844 9966** or [helpdesk@landmark.co.uk](mailto:helpdesk@landmark.co.uk).

# Useful Information

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**Landmark Information Group**  
Imperium  
Imperial Way  
Reading  
RG2 0TD

If you require assistance please contact our customer services team on:

**0844 844 9966**

Or by email at:

**helpdesk@landmark.co.uk**

Contact	Name	Address	Contact Details
	<b>Public Health England</b>	Centre for Radiation Chemical and Environmental Hazards Chilton Didcot Oxon OX11 0RQ	<b>T:</b> 01235 822622 <b>F:</b> 01235 833891 <b>E:</b> radon@phe.gov.uk <b>W:</b> www.ukradon.org
1	<b>Landmark Information Group Limited</b>	Imperium Imperial Way Berkshire RG2 0TD	<b>T:</b> 0844 844 9966 <b>E:</b> helpdesk@landmark.co.uk <b>W:</b> www.landmark.co.uk
2	<b>Historic England</b>	1 Waterhouse Square 138 - 142 Holborn EC1N 2ST	<b>T:</b> 0370 333 0607 <b>E:</b> customers@historicengland.org.uk <b>W:</b> www.historicengland.org.uk
3	<b>British Geological Survey, Enquiry Service</b>	British Geological Survey Environmental Science Centre Keyworth Nottinghamshire NG12 5GG	<b>T:</b> 0115 936 3143 <b>E:</b> enquiries@bgs.ac.uk <b>W:</b> www.bgs.ac.uk

Please note that if you choose to contact any of the above organisations, they may have a charging policy in place for enquiries.

# Useful Information

## Information for Professional Advisers

This report is designed to satisfy the concerns raised by the Law Society Practice Note and has been prepared to assist conveyancing professionals who may be advising clients when they sell or buy a property. It is designed to bring information to their attention and help them decide whether they need to seek any further specialist advice. The report gives details of any issues that we have identified as affecting the property or located nearby, and our recommendations on what to do in relation to these issues. You are authorised to copy the recommendations on the Professional Opinion and Recommendations page into any report on title that you provide to your client.

## Other Information

### Positional Accuracy

We locate data in a variety of ways according to information provided to us and subsequent in-house research. If data is provided as a point on the ground, we provide a "positional accuracy" which tells you how confident we are of the actual location.

### Landfill and Waste

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 for Registered Landfill data, 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. For further information regarding landfill sites identified in the report, please contact the relevant agency or authority referenced in the Useful Contacts section.

The BGS holds records of over 3,000 landfill sites that accepted waste prior to the Control of Pollution Act (COPA) 1974. These were not subject to any strict regulation or monitoring.

Permitted Waste Sites and Environmental Permitting Regulations - Waste cover current or recently current consents issued for landfill sites, waste transfer, treatment or disposal sites by the relevant agency, under Section 64 of the Environmental Protection Act 1990 (Part 2) and prescribed by regulation 10 of SI No. 1056 of the Waste Management Licensing Regulations 1994.

### Authorised Industrial Processes

Data supplied for Explosive Sites, Control of Major Accident Hazards Sites (COMAH) and Notification of Installations Handling Hazardous Substances (NIHHS) contains public sector information published by the Health and Safety Executive and licensed under the Open Government Licence.

### Historical Land Uses

This section relates to categories of potentially contaminative land uses that have been identified by the analysis of selected Ordnance Survey historical mapping. The published date (range of dates) of the map(s) and the distance from the centre of search to the nearest point of the feature is given. Further details of the extent of the site or its activities are not available. Should you wish to examine the Ordnance Survey maps these are normally available for public inspection at the local archive or local major library. Alternatively, extracts of editions of Ordnance Survey maps are available on [www.old-maps.co.uk](http://www.old-maps.co.uk)

Potentially infilled land has been identified when a 'cavity' (a hole made by an extractive industry or natural occurrence e.g. pond) was indicated on a historic map but there was no evidence of its existence in the last available map for the area. No details of what may have been used to fill the cavity or exactly when or if it was filled are available from the mapping.

The point locations of historical tanks and energy facilities are identified from the text on Ordnance Survey 1:1250 and 1:2500 scale mapping published between 1943 and 1996, based upon a predetermined list of abbreviations, e.g. El Sub (Electricity Sub-station) and F Stn (Filling Station). The position of the point has been located at the centre of the identified text so that it would be within approximately 30 meters of the feature it was describing. The features themselves are related to energy and petroleum storage and cover the following: tanks, petrol storage, potential tanks

# Useful Information

(at depots etc.), electricity sub stations and related features, gas and gas monitoring related features, oil related features and miscellaneous power features. NB: It should be noted that the Ordnance Survey abbreviation for tank (tk) is the same as that for tracks. Therefore some of the captured text may relate to tracks and not tanks when the exact nature of the feature is not clear from the mapping.

## Other Information

### Radon

Radon is a natural radioactive gas, which enters buildings from the ground. It is the geological conditions in certain areas that can lead to higher than average volumes (some of the highest radon levels have been found in the southwest, but levels well above average have been found in some other parts of the UK).

Radon has no taste, smell or colour and special devices are needed to measure it. The gas is diluted to harmless levels out in the open but has the potential to build up to higher concentrations indoors. Exposure to high concentrations of Radon gas can pose a health risk and studies have shown that it increases the risk of lung cancer.

This report informs you whether the property is in a radon Affected Area and the percentage of homes that are estimated to be at or above the radon Action Level. This does not necessarily mean there is a radon problem in the property; the only way to find out whether it is above or below the Action Level is to carry out a radon measurement in an existing property. Due to the nature of the way the information is gathered, your property/site may have more than one probability of radon attributed to it. We report the worst case scenario on the property/site you have provided. This information is an estimate of the probability that a property/site in Great Britain is at or above the "Action Level" for radon (the level at which Public Health England recommends that radon levels should be reduced, those with an average of 200 Bq m<sup>-3</sup> or more). This information satisfies CON29 Standard Enquiry of Local Authority; 3.13 Radon Gas: Location of the Property in a Radon Affected Area. Where the property/site is a new build, this information provides information on the level of protection required for new buildings under BR211 (Scivyer, 2007).

Disclaimer: "Some of the responses contained in this section are based on data and information provided by the Natural Environment Research Council (NERC) or its component bodies the British Geological Survey (BGS). Your use of any information contained in this report which is derived from or based upon such data and information is at your own risk. Neither NERC, BGS nor Public Health England where applicable, gives any warranty, condition or representation as to the quality, accuracy or completeness of such information and all liability (including liability for negligence) arising from its use is excluded to the fullest extent permitted by law.

### Environmental Constraints

The Local Nature Reserves national dataset is "indicative" not "definitive". Definitive information can only be provided by individual local authorities and you should refer directly to their information for all purposes that require the most up to date and complete dataset.

### Crossrail 2

Data sourced from consultation documents as published by the Department of Transport.

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This search has been produced by Landmark Information Group Ltd, Imperium, Imperial Way, Reading, Berkshire, RG2 0TD.

Tel: 0844 844 9966

Fax: 0844 844 9980

Email: [helpdesk@landmark.co.uk](mailto:helpdesk@landmark.co.uk)

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Milford House  
43-55 Milford Street  
Salisbury  
Wiltshire SP1 2BP

Tel: 01722 333306

Fax: 01722 332296

Website: [www.tpos.co.uk](http://www.tpos.co.uk)

Email: [admin@tpos.co.uk](mailto:admin@tpos.co.uk)

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- 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

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Imperial Way  
Reading  
RG2 0TD

Tel: 0844 844 9966

Email: [helpdesk@landmark.co.uk](mailto: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

Email: [admin@tpos.co.uk](mailto:admin@tpos.co.uk)

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

## **APPENDIX C**

### **MINING REPORT**

## Regulated Metalliferous Mining Search

### Further Action: Site Investigation

TM Group  
1200 Delta Business Park  
Swindon  
Wiltshire SN5 7XZ

Mining Searches UK  
Highburrow Lane  
Wilson Way  
Pool Industrial Estate  
Redruth  
Cornwall  
TR15 3RN

T: 01209 218861

E: [search@miningsearchesuk.com](mailto:search@miningsearchesuk.com)

W: [www.miningsearchesuk.com](http://www.miningsearchesuk.com)

Date: October 02 2020

Our Reference: SO242379

Your Reference: 20998647

#### 102, Southgate Street, Redruth, TR15 2ND

#### OPINION

Mining Searches UK considers there to be a metalliferous mining risk to the property. Refer to Past Metalliferous Mining Activity for further details.

Mining Searches UK therefore recommends that further action is carried out. This may take the form of a site investigation carried out by a suitably qualified and experienced person.

Contact our geology department on 01209 218861 to discuss options and obtain an estimate of cost.

#### SCOPE

This metalliferous mining search is an assessment to determine mine settlement and/or subsidence risk. It is based on the archive available to and held by Mining Searches UK at the time of production. No site visit has been carried out for this search.

Within the search the term metalliferous covers extraction for alum, arsenic, barium, copper, gold, iron, lead, manganese, ochre, silver, silver-lead, tin, tungsten, umber and zinc.

The opinions outlined are only relevant to the property delineated on the supplied location plan. It is undertaken on behalf of the client, their mortgagees and legal advisers.

#### PAST METALLIFEROUS MINING ACTIVITY

The property lies within an historic metalliferous mining lease boundary.

A mineralised vein is inferred to pass through the property at surface outcrop. Mining Searches UK have observed workings along the course of this mineralised vein to the east of the property.

A poorly recorded mineralised vein passes close to the northern boundary of the property at an undefined elevation of plot. Mining Searches UK have observed workings along the course of this mineralised vein to the ENE of the property.

A poorly recorded mineralised vein passes through the property at an undefined elevation of plot.

There is a possibility of unrecorded mining features associated with these mineralised veins within

the property.

### **PRESENT AND FUTURE METALLIFEROUS MINING ACTIVITY**

According to the Mining Searches UK archive the property does not presently lie within an area with planning permission for metalliferous mineral development. Mining Searches UK are not aware of any planned future mining activity.

### **NOTES AND GUIDANCE**

This mining search has been compiled from the archive information held by Mining Searches UK. As with all historic mining records there is no guarantee or assurance of reliability or accuracy. Mining Searches UK cannot be held responsible for any omissions or errors in the information upon which our interpretation has been based.

Historical mining records vary in document age, reliability, reproduction, quality of the original record, the reason to produce the original document, skill of the original surveyor and the accuracy of the available surveying equipment at the time of production. It must be accepted that the information is subject to interpretation. Alternative interpretations may be possible.

In any area, sporadic, un-surveyed and ancient mine workings can exist, and unrecorded mine workings or mineralised veins can never be ruled out. Mining Searches UK cannot be held responsible for any settlement or subsidence associated with unrecorded mining features.

If the property or site is subject to future development Mining Searches UK recommend that the ownership of the minerals below the site's surface is established. This detail may be sought from a legal advisor or via the Land Registry. You can then assess whether there is a possibility of any proposed development disturbing or trespassing upon any minerals in third party ownership at the site.

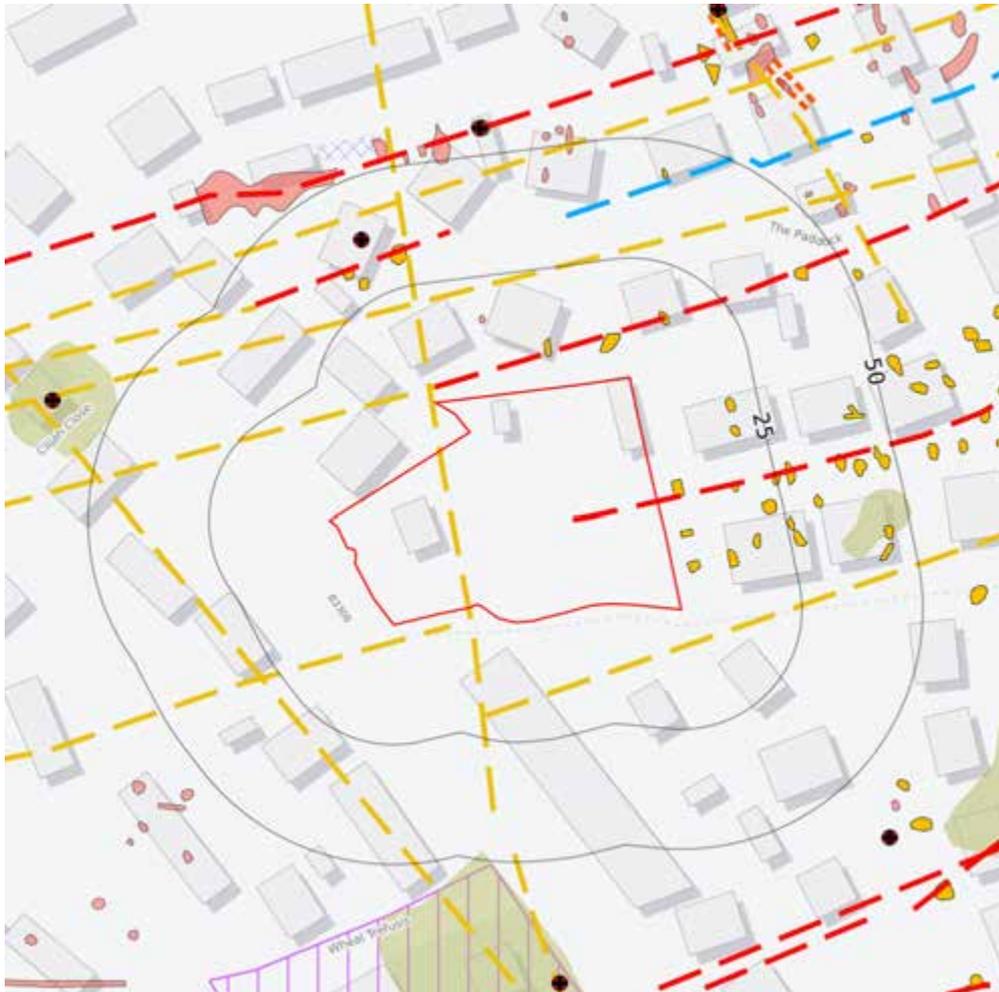
In addition, a mining site investigation may be required to satisfy planning or building regulation conditions. Contact Mining Searches UK for further advice.

This report is suitable for conveyancing purposes and is undertaken on behalf of the client, their mortgagees and legal advisers.

This mining search is only considered to be related to mining risk. It is not considered to be an environmental, ecological, contaminated land, archaeological survey nor natural ground hazard assessment. The mining search does not inform on matters relating to induced hydraulic fracturing or fracking and should not be considered to cover any other issues.

**Address:**  
 102  
 Southgate Street  
 Redruth  
 TR15 2ND

**Search Information**  
 Reference: SO242379  
 Author: Benjamin Oldcorn  
 Date: 2020-10-02



**Legend:**

 Property	 Surface working	 Adit	 Cutting
<b>Features:</b>	 Wasteland	 Tunnel	<b>Background OS:</b>
 Shaft	 Made ground	 Vein undefined elevation	 Road
 Portal/mine entry	 Quarry/worked ground	 Vein surface outcrop	 Building
 Reported subsidence	 Underground mining extent	 Well	 Woodland
 Suspect enclosure	 Aerial photographic anomaly	 Pump	 Landform
 Secured feature	 Waste tip	 Non mining tunnel	
	 Aluvium streaming	 Pond	

## CONSUMER INFORMATION WITH COMPLAINTS PROCEDURE

### IMPORTANT CONSUMER PROTECTION INFORMATION

This search has been produced by Cornwall Mining Services Limited, trading as Mining Searches UK, Highburrow Lane, Wilson Way, Pool Industrial Estate, Redruth, Cornwall, TR15 3RN, 01209 218861, [search@miningsearchesuk.com](mailto:search@miningsearchesuk.com) which is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered search firms maintain compliance with the Code.

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- monitor their compliance with the Code

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The Property Ombudsman scheme

Milford House

43-55 Milford Street

Salisbury

Wiltshire SP1 2BP

Tel: 01722 333306

Fax: 01722 332296

Email: [admin@tpos.co.uk](mailto:admin@tpos.co.uk)

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If you want to make a complaint, we will:

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- 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: Paul Raglan, Managing Director, Mining Searches UK, Highburrow Lane, Wilson Way, Pool Industrial Estate, Redruth, Cornwall, TR15 3RN, Tel: 01209 218861, Email: [search@miningsearchesuk.com](mailto:search@miningsearchesuk.com).

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](mailto:admin@tpos.co.uk).

We will co-operate fully with the Ombudsman during an investigation and comply with his final decision. Highburrow Lane, Wilson Way, Pool Industrial Estate, Redruth, Cornwall, TR15 3RN, 01209 218861, [search@miningsearchesuk.com](mailto:search@miningsearchesuk.com).



Wheal Jane Consultancy  
Old Mine Offices  
Wheal Jane  
Baldhu, Truro  
Cornwall, TR3 6EE

Wheal Jane  
Consultancy



Geotechnical, environmental  
& mining services

## Preliminary Site Investigation by Trenching

**Site:** Land at  
102 Southgate Street  
Redruth  
Cornwall  
TR15 2ND

**Our Ref.:** MS39214

**Date:** 21 October 2020

**Client:** EMI South West  
Marlin House  
Agar Way  
Pool  
Redruth  
Cornwall  
TR15 3SF

01872 560 200  
[consultancy@wheal-jane.co.uk](mailto:consultancy@wheal-jane.co.uk)



## DOCUMENT CONTROL SHEET

Client	EMI South West
Project Title	Land at 102 Southgate Street
Document Title	Preliminary Site Investigation by Trenching
Document No.	MS39214

Date	Status	Revision	Prepared By	Approved for Issue
21.10.2020	Final	0	DF	

<b>Table of Contents</b>		<b>Page</b>
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2	Trenching	2
3	Conclusions	11
4	Recommendations	11
5	Scope & Limitations	12

## **Appendices**

Appendix 1 – References and Glossary

## **1 Introduction**

This site investigation and report has been commissioned by EMI South West (the Client).

This report remains the property of the Client.

This report is confidential to the client and the client's professional advisors and may not be reproduced or distributed without our permission, other than to facilitate the sale, development or refinancing of the site in question.

The property is located in an area which has witnessed considerable historic mining activity, some of which is poorly recorded.

It was recommended that a preliminary site investigation be undertaken to check for any evidence of any unrecorded or otherwise unknown mining related features as new building development is proposed to be undertaken on the property.

## 2 Trenching

The property is located on Southgate Street, Redruth.

It is proposed to construct a number of new dwellings on the site.

Four investigation trenches were excavated using a JCB wheeled excavator in this preliminary investigation – see accompanying plan.

The trenches were oriented, where possible, to be cutting across the general strike of the lodes (mineralised structures) that cross the district.

Site constraints comprised a major sewer extending through the northern side of the site, an overhead power line and an existing cottage with outbuildings.



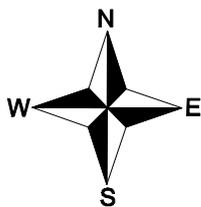
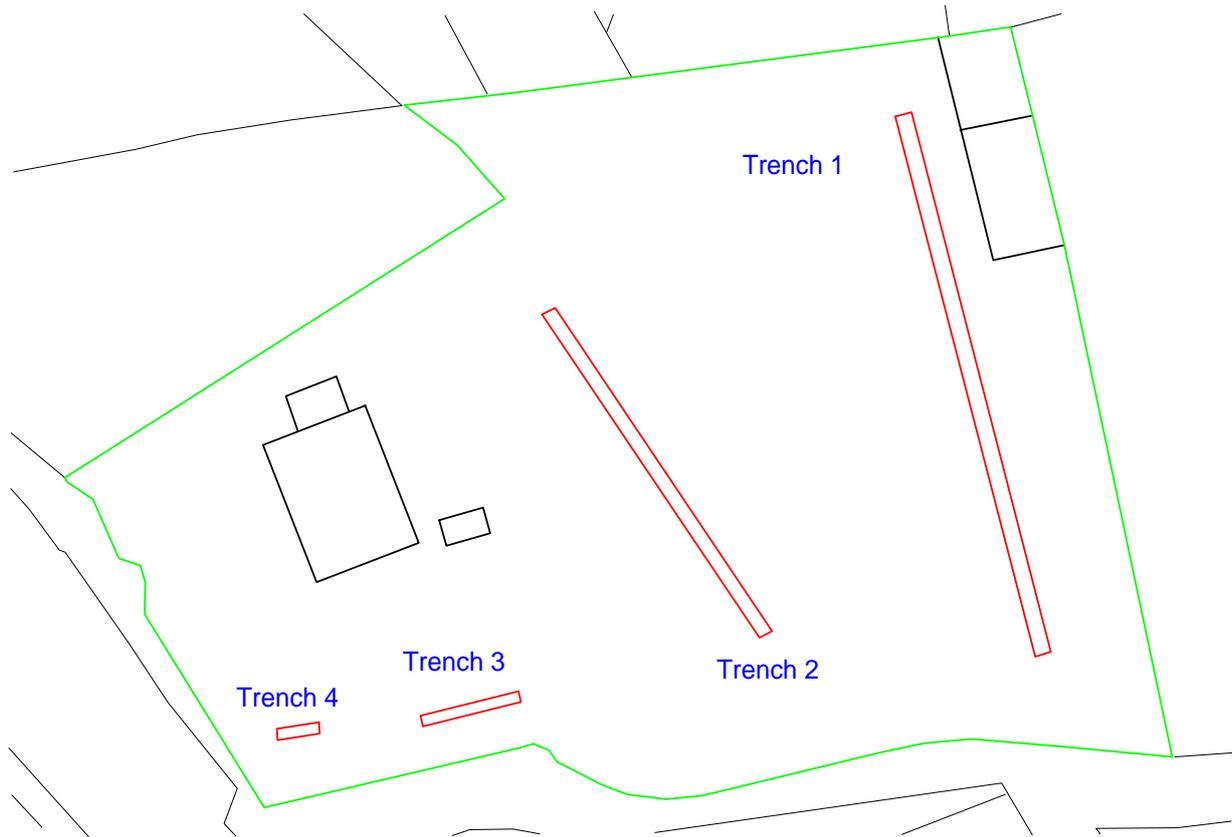
**Fig 1:** View across site looking west-south-west.



**Fig 2:** View across site looking south-south-east.

TITLE: SI Trenching	SCALE: no scale	CLIENT REF.:
OUR REF: MS39214	DATE: 20 October 2020	SITE ADDRESS: Site at 102 Southgate Street Redruth TR15 2ND

Trench positions are indicative only and should not be scaled.



**Legend**

-  Confirmed/  
Possible Mine Shaft
-  Adit  
(drainage tunnel)
-  Mine Burrows  
(waste tips)
-  Lode Zone  
(surface or undefined  
elevation of plotting)
-  Crosscourse (Fault)
-  Property Boundary
-  Deep Mine Workings

Wheal Jane Consultancy

Wheal Jane Mine Tel: 01872 560200  
Baldhu Fax: 01872 562000  
Truro e-mail: consultancy@wheal-jane.co.uk  
Cornwall www.wheal-jane-consultancy.co.uk  
TR3 6EE

OS Licence No. AL 100040807

### Trench 1

Trench 1 was excavated in a roughly north-north-west to south-south-east direction across the eastern side of the site, the trench was approximately 35 metres in total length.

A soil horizon of less than 300 mm was present

Excavation revealed a weathered, clayey 'rab' of partially decomposed granite rock locally termed 'growan'.

Frequent large blocks of unaltered granite were found within the rab.

The average depth of the trench was approximately 1.2 metres below the site surface.

No groundwater was encountered within the excavation.



**Fig 3:** Trench 1, looking north.



**Fig 4:** Trench 1, northern end showing 'growan' rab.



**Fig 5:** Trench 1, large granite block left in-situ.

## Trench 2

Trench 2 was excavated in a south-east to north-west direction across the centre of the site, the trench was approximately 25 metres in total length.

A soil horizon of less than 300 mm was present

Excavation revealed a weathered, clayey 'rab' of partially decomposed granite rock locally termed 'growan'.

Intermittent large blocks of unaltered granite were found within the rab.

The average depth of the trench was approximately 1.2 metres below the site surface.

No groundwater was encountered within the excavation.



**Fig 6:** Trench 2, looking north-west.



**Fig 7:** Trench 2, showing growan rab.



**Fig 8:** Trench 2, looking south-east.

### Trench 3 & 4

These trenches were excavated in a east-north-east to west-south-west located on the south side of the existing cottage on the site.

Owing to the presence of an overhead power line two short trenches were excavated. direction across the centre of the site, the trenches were approximately 5 metres and 2.5 metres in total length respectively.

A soil horizon of less than 200 mm was present

Excavation revealed a stony and clayey rab of granitic origin.

It was noted that this section of the site appeared to have had a previous level reduction that has removed the clayey ground noted previously.

The average depth of the trenches was approximately 1 metre below the site surface.

No groundwater was encountered within the excavation.



**Fig 9:** Trench 3, looking west.



**Fig 10:** Trench 3, granitic rab.



**Fig 11:** Trench 4, looking east-north-east, note overhead power line.



**Fig 12:** Trench 4, granitic rab.

### **3 Conclusions**

During the course of this preliminary investigation, no evidence for the presence in-situ mineralisation was identified in the excavated trenches.

No evidence of past mining related disturbance was noted in the trenches.

Bedrock remained consistent being a of granitic origin with varying degrees of decomposition to a clay rab, locally known as growan.

Based upon the observed excavations, we would consider that the site appears to be at a low risk from past mining activity.

### **4 Recommendations**

The preliminary investigation did not identify any evidence of mineralisation or previous ground disturbance.

However, as the site lies within an area that has seen historic mining activity, we would consider it prudent that the following further measures are taken:

- If the existing cottage is to be demolished as part of the site development further investigation of the footprint of this structure would be warranted.
- The new footings excavations should be inspected prior to receiving concrete as this will expose ground that was not practical to investigate within the course of this preliminary investigation.

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## Scope & Limitations

This report is concerned solely with the property, as defined by this report, or parts thereof examined.

The report must not be used in connection with any adjacent properties.

The above observations and interpretations have been made based upon the ground conditions that were visible within the excavations undertaken at the site on the stated date.

In consideration of the layout of the proposed development, the investigation trenches have been located to offer a general coverage of the site in relation to known orientations of mining related features.

There is a possibility that ground conditions may vary outside of the areas excavated, this could potentially include the existence of unrecorded or otherwise unknown features lying beyond the areas covered by the trenching.

The preliminary site investigation is a risk assessment forming part of a phased approach to assessing risk from past mining activity, recommendations for further phases of investigation will be made in part 5 above.

It is not a comprehensive investigation, nor is it offered as such, a near comprehensive investigation is practically impossible to achieve as it is not feasible to remove 100% of the soil horizon across the entire site.

Wheal Jane Consultancy cannot accept any liabilities should any mining related features subsequently be found outside the limits of any excavations examined during the course of this preliminary investigation.

Wheal Jane Consultancy cannot accept any liability if any recommendations for further work, made in part 5 of this report, are not followed.

This report should not be considered to be any form of environmental, contaminated land or geotechnical survey.

The conclusions and recommendations relate to the type and extent of development outlined in this report for this specific property only.

The findings of this report should not be taken as suitable for any other form or extent of development on this or any adjacent property without further consultation with Wheal Jane Consultancy.

This report is confidential to the client, the client's legal and professional advisors, and may not be reproduced or distributed without either the written permission of the client to any third party, other than to directly facilitate the sale or development of the property concerned.

We have no liability toward any person not party to commissioning this report.

Unless otherwise expressly stated, nothing in this report shall create or confer any rights or other benefits pursuant to the Contracts (Rights of Third Parties) Act 1999 in favour of any person other than the person commissioning this report.

Yours faithfully,

Wheal Jane Consultancy

## Appendices

## **Appendix 1**

### **References and Glossary**

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## Mining References (generic listing)

H G Dines - The Metalliferous Regions of South West England (2 Vols)  
A K H Jenkin - Mining & Miners of Cornwall (16 Vols)  
A K H Jenkin - Mines of Devon (2 Vols)  
A K H Jenkin - Wendron Thom. Spargo Tin Mines of Cornwall (6 Vols)  
J H Collins - Observations of West of England Mining Region  
Sellwood, Darrance & Bristow - Geology of Cornwall Darrance & Laming, Geology of Devon  
Burt, Waite & Burnley - Cornish Mines  
MRO Plans (CRO)  
MRO Copies (SC Archive)  
MRO Microfiche (SC)  
South Crofty Archive  
Tehidy Minerals Archive  
JMS/JAB/JHB Archive  
Wheal Jane Collection  
Wheal Pendarves Collection  
Geevor Collection  
Thyssen Review & Plans  
A K H Jenkin, Annotated 6" Plans  
Geological 6" Plans  
Richard Thomas Plans  
Robert & Brenton Symons Plans  
Nicholas Whitley Plans  
K Bennet Annotated Plans  
R Lyon Annotated Plans  
Ordnance Survey 1880, 1906, etc Maps  
H G Dines Composites

## Mining Glossary

<b>Adit</b>	Horizontal mine drainage tunnel driven from low ground into mine workings. The adit tunnel is the shallowest level shown on mine plans and usually represents the earliest period of workings recorded. Adits have ventilation shafts at regular intervals, which are mostly unrecorded.
<b>Alluvium</b>	Clay, sand and debris deposited by a river. Often streamed for tin.
<b>Burrow</b>	A mine waste tip.
<b>Caunter lode</b>	A lode which runs in a different direction to the general trend of lodes in the district.
<b>Coffin/Koffen</b>	Trench-like openwork at surface.
<b>Costean Pit</b>	A small surface pit excavated to locate and/or sample a lode.
<b>Crosscourse</b>	Geological features which run at right-angles to the principal lodes of a district, and are vertical or sub-vertical faults. Mostly barren of payable minerals, but can carry values of iron ore, cobalt and other metallic minerals. Also known as guides or trawns in St Just and St Ives mining districts, respectively.
<b>Crosscut</b>	Tunnel driven underground, usually at right-angles to the lodes.
<b>Dip of Lode</b>	Angle of inclination of a lode from the horizontal.
<b>Drive</b>	Tunnel driven along the course of a lode.
<b>Elvan</b>	Igneous rock (quartz-porphyry) occurring as a vein or dyke. Can be extremely hard. Exploited by quarrying.
<b>Granite</b>	Igneous rock. Crystalline mixture of quartz, feldspar and mica.
<b>Greenstone</b>	Igneous rock also called 'blue elvan'. Generally extremely hard.
<b>Gunnis</b>	Open stope at surface or underground.
<b>Kaolinisation</b>	Alterations or weathering of granite to clay and sand from solid rock.
<b>Killas</b>	Generic term given to sedimentary rock in Cornwall.
<b>Leat</b>	A man-made watercourse.
<b>Level</b>	Horizon underground where ore movement and communications are maintained. Levels consist of lode drives and crosscut tunnels: i.e. 12 fathom level; the system of tunnels driven at the 12 fathom below adit horizon.
<b>Lode</b>	A mineralised structure or vein. Most lodes run from surface vertically or sub-vertically, and can vary from a few inches to several metres in width.
<b>Mundic</b>	Iron pyrite, arsenic and sulphur - arsenopyrite.
<b>Openwork</b>	A surface working, which has usually left a pit or backfilled excavation.
<b>Outcrop</b>	The part of the lode which breaks surface. Worked-out voids and backfilled areas are outcrop features.
<b>Rab</b>	Weathered zone of mixed rock and soil (natural profile)
<b>Sett</b>	An area of land leased for mining.
<b>Shaft</b>	Holes in the ground, which can vary from 0.5m x 1m up to shafts 7m across. Engine shafts tends to be large (typically 3m x 2m) and adit shafts are smaller (typically 1.2m x 1.8m). Depths vary down to 700m.
<b>Stockwork</b>	Mass of narrow veins or lodes running parallel and sub-parallel.
<b>Stope</b>	Ground where lode has been removed leaving void. Often open to surface.
<b>Tailings</b>	Residual sands and slimes from ore dressing. Usually heavily contaminated.

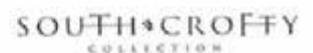
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## **APPENDIX D**

**TABLES 6.3 – 6.6 ‘CONTAMINATED LAND RISK  
ASSESSMENT, A GUIDE TO GOOD PRACTICE’.  
CIRIA REPORT C552. PUBLISHED 2001**

**Table 6.3** *Classification of consequence*

<b>Classification</b>	<b>Definition</b>	<b>Examples</b>
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 (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem (note: the definitions of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000).	High concentrations of cyanide on the surface of an informal recreation area.  Major spillage of contaminants from site into controlled water.  Explosion, causing building collapse (can also equate to a short-term human health risk if buildings are occupied).
Medium	Chronic damage to Human Health (“significant harm” as defined in DETR, 2000). Pollution of sensitive water resources (note: Water Resources Act contains no scope for considering significance of pollution). A significant change in a particular ecosystem, or organism forming part of such ecosystem. (note: the definitions of ecological systems within Draft Circular on Contaminated Land, DETR, 2000).	Concentrations of a contaminant from site exceed the generic, or site-specific assessment criteria.  Leaching of contaminants from a site to a major or minor aquifer.  Death of a 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 the <i>Draft Circular on Contaminated Land</i> , DETR, 2000). Damage to sensitive buildings/structures/services or the environment.	Pollution of non-classified groundwater.  Damage to building rendering it unsafe to occupy (eg foundation damage resulting in instability).
Minor	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services.	The presence of contaminants at such concentrations that protective equipment is required during site works.  The loss of plants in a landscaping scheme.  Discoloration of concrete.

**Table 6.4** *Classification of probability*

<b>Classification</b>	<b>Definition</b>
High likelihood	There is a pollution linkage and an event that either 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 that it is probable that an event will occur.  Circumstances are such that an 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 that even over a longer period such event would take place, and is less likely in the shorter term.
Unlikely	There is a pollution linkage but circumstances are such that it improbable that an event would occur even in the very long term.

**Table 6.5** Comparison of consequence against probability

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High likelihood	<b>Very high risk</b>	<b>High risk</b>	<b>Moderate risk</b>	Moderate/low risk
	Likely	<b>High risk</b>	<b>Moderate risk</b>	Moderate/low risk	Low risk
	Low likelihood	<b>Moderate risk</b>	Moderate/low risk	Low risk	Very low risk
	Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk

**Table 6.6** Description of the classified risks and likely action required

Very high risk	<p>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 to a designated receptor is currently happening.</p> <p>This risk, if realised, is likely to result in a substantial liability.</p> <p>Urgent investigation (if not undertaken already) and remediation are likely to be required.</p>
High risk	<p>Harm is likely to arise to a designated receptor from an identified hazard.</p> <p>Realisation of the risk is likely to present a substantial liability.</p> <p>Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term.</p>
Moderate risk	<p>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 is more likely that the harm would be relatively mild.</p> <p>Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.</p>
Low risk	<p>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.</p>
Very low risk	<p>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.</p>

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