

ML Retail Development Ltd

# **Bradford Road, Bailiff Bridge -** Residential

Phase 1 Land Quality Assessment

G2708-GR-01

5<sup>th</sup> December 2017

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**Document Control Sheet** 

# Bradford Road, Bailiff Bridge - Residential

# Phase 1 Land Quality Assessment

Job	Date	Issue	Copy
G2708	5 <sup>th</sup> December 2017	G2708-GR-01-o	
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Drawing No.	Title
G2708-01	Regional Location Plan
G2708-02	Current Site Features Plan
G2708-03	Development Layout Plan
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# **APPENDICES**

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#### 1.0 PREFACE

The site is located off Bradford Road, Bailiff Bridge. HD64DY. (GR 414908E, 425244N). Full site occupies an area of approximately 0.60 hectares.

PSA Design were commissioned by ML Retail Development Ltd to provide a Phase 1 Land Quality Assessment of the site. This new report is due to the variation of proposed end-use from the previous commercial development to that of residential. A development layout plan has been provided, which is included in this report as Drawing No. G2708-03.

PSA Design's investigation has incorporated selective information originally included within the following reports that have been made available by the client, via the seller's pack and later reports carried out by PSA Design:

- Geoenvironmental Appraisal of land at Clifton Mills (Areas C+D), Bailiff Bridge.
   Report No. 9382/1, May 2007, Encia Consulting Ltd;
- Remediation Strategy for land at Clifton Mills (Area D), Axminster Drive, Bailiff Bridge. Report No. 1321/1, September 2011, Lithos Consulting.
- Bradford Road, Bailiff Bridge Phase 1 Land Quality Assessment, Report No. G2240-GR-01A, April 2016, PSA Design
- Bradford Road, Bailiff Bridge Phase 2 Geo-Environmental Assessment & Investigation, Report No. G2240-GR-02, June 2016, PSA Design

A summary of salient geo-environmental issues is provided in the table below.

Issue	Remarks
Former uses	Former uses of site have included a carpet mill prior to the phased demolition in (post 2002) and basic ground remediation (infilling of basements).
Proposed Development	The proposal for the site is for a housing estate, with associated parking and gardens/landscaping.
The previous ground reports appear to suggest that the site is at low risk from landfill within 250m, deep infill within site and underlying coal measures rocks a present, and therefore represent a low/medium risk of ground gas generation. in accordance with CIRIA C665, and in view of the nature of the residential deva a minimum of six gas monitoring visits were undertaken over a three month pe 2016. The very low gas concentration and flow rates show that the proposed development is at low risk from gas and as such no protection measures are rethe scheme.	
The site is within a mining area. A mining assessment has been carried out pencia Regeneration Ltd. The Coal Authority report states that the property is the zone of likely physical influence on the surface from underground working the property is in area where the Coal Authority believes there is unrecorded close to the surface. This coal may have been worked at some time in the pais within a high risk development area. The report states that 2No. shafts are adjacent to the SE boundary (both outside). Shaft ref 414425-005 was searc combination of excavation to natural strata and by probe drilling in 2004 by E Consulting Ltd, and by pitting by PSA Design in 2016, but was not found. No regarding treatment/remediation is available regarding this shaft. Mining Inv. will be required to assess the risk from shallow mine workings and the shaft.	
Flooding & Drainage  The site does not lie within an Environment Agency Flood Plain and is not lii in extreme flood event. Site drainage is likely to enter an existing drainage in	

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Ground Investigation	Intrusive investigation comprising rotary boreholes, trial pits and window sampler boreholes across site, including chemical soils analysis to accurately map the extent of the asbestos contamination hot spot(s).		
Ground Conditions	Made Ground (granular & cohesive) overlying a thin GLACIAL DEPOSITS [firm-stiff gravelly CLAY, over MUDSTONE [Coal Measures].		
Anticipated Soil Contamination	Chemical testing on soils materials from the various ground investigations have proved that for the commercial end-use there is a low/moderate risk of contamination affecting human health and receptors from very low % asbestos. The extent and concentration of the asbestos affected fill material is small, within two hot-spots within the central and N areas of the site. Barrier pipe will be required for water supply.		
Groundwater	Minor evidence of groundwater strikes throughout the site. The perched groundwater occurs within a small localized area trapped within the gravel fill.		
Anticipated Foundation Solutions	Various options are likely dependent upon the location of the proposed house structures Shallow foundations may be suitable over the N areas of the site, either on strip or trenc foundations. For the proposed housing development areas where deeper fill (approximately 3-6m depth) is present, a piled solution is recommended. Structural assessment will be required of building loadings and foundation proximity compared to the slope. Retaining structures are likely, dependent upon the final ground levels for the development. An alternative solution could be provided through re-engineering of the made ground deposits to a suitable engineering specification.		
Geotechnical Issues	Depth, extent and variation in made ground deposits causing potential differential settlement.     Obstructions at depth within made ground deposits, such as building foundation brick structures and in-situ slabs     Settlement issues regarding improvement of fill deposits.     Tree influence upon clay heave within the site.     Retaining structures are likely, dependent upon final design proposals.     Mine Workings.		

#### 2.0 INTRODUCTION

#### 2.1 Terms of Reference

- 2.1.1 PSA Design were commissioned by ML Retail Development Ltd to carry out a Phase 1 Land Quality Assessment of the proposed housing development at Bradford Road, Bailiff Bridge.
- 2.1.2 The agreed scope of works included:
  - A site walkover and inspection
  - · An assessment of land use history
  - Determination of the site's environmental setting
  - · Assessment of anticipated ground conditions, including potential contaminants
  - Assessment of anticipated road pavement and engineering issues associated with redevelopment for a residential end-use
  - Provision of recommendations for an appropriate ground investigation

#### 2.2 Planning

2.2.1 This present report is designed to satisfy the requirements of the likely planning condition, set out by Calderdale Council. The condition is likely to state:

"Before the development hereby approved is commenced the following components of a scheme to deal with the risks associated with contamination of the site shall each be submitted to and approved, in writing, by the Local Planning Authority:

- (i) A preliminary risk assessment which has identified:
- -all previous uses
- -potential contaminants associated with those uses
- -a conceptual model of the site indicating sources, pathways and receptors
- -potentially unacceptable risks arising from contamination at the site.

#### 2.3 **Proposed Development**

- 2.3.1 It is understood that consideration is being given to the re-development of the site as a housing estate, with associated roads, car parking and gardens/landscaping.
- 2.3.2 A development layout plan has been provided, which is included in this report as Drawing No. G2708-03.

#### 3.0 SITE DESCRIPTION

#### 3.1 General

3.1.1 The site location is shown on Drawing Number G2708-01. Site details are summarised in the Table below. Current site layout plan shown in Drawing Number G2708-02. The site is situated in an *urban* location.

Detail	Remarks	
Location	Bailiff Bridge centre (Dwg G2708-01).	
Address	Bradford Road, Bailiff Bridge, Bradford. HD6 4DY	
NGR	414908E, 425244N	
Area	0.6Ha.	
Known services	Water and sewers run through N area of site (NE-SW) & sewer runs through S area of site (NE-SW).	

#### 3.2 Site Features

- 3.2.1 A PSA Design Engineer completed a recent walkover survey of the site on 12<sup>th</sup> February 2016 and the salient features are presented below. A selection of site photographs are included in the report as Appendix G.
- 3.2.2 The site is undulating and all buildings have been demolished and removed from the site. The tarmac surfacing of the NE-SW historic highway is still present within the N area of the site.
- 3.2.3 Wild grass and low-lying weed vegetation is present across the majority of the site. The site has recently been cleared of larger mature shrubs that would appear to have been present over large swathes of the site.
- 3.2.4 There is the potential that the stockpile within the S area of the site, described in previous reports, is still present, but is hidden by the cover of recent vegetation. The ground levels generally drop away from N to S, and E to W, with a terraced upper and lower level within the S area of the site. The SW corner of the site, has had the most recent demolition of the final remaining mill building. A manhole chamber is present within the central E area of the site.
- 3.2.5 Access to the site through locked fencing, off an access road, N of the site, off Wyke Old Lane.
- 3.2.6 Existing salient features are shown in Drawing Number G2708-02.
- 3.2.7 Surrounding land use is mixed, with retail/commercial to the N, W and S of the site, with recent large residential development to the E.

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# 3.3 Site Operations

3.3.1 Current site operations are empty and secured, and not therefore considered to represent a significant source of ground contamination.

# 4.0 HISTORICAL SITE INFORMATION

4.1 In order to investigate the development history and previous land uses at the site and immediate surrounding land, site centred extracts from Ordnance Survey (OS) plans dating back to 1854 were examined. These plans are presented in Appendix A to this report. The Table below provides a summary of the salient points relating to the history of the site with respect to the proposed end use. It is not the intention of this report to describe in detail all the changes that have occurred on or adjacent to the site. Significant former uses/operations are highlighted in bold text for ease of reference.

Date(s)	Site	Surrounding Land
1854	Four thin rectangular buildings located across the southern and central areas. Highway crossing site (NE-SW). Terraced housing within N area. <b>Water course</b> running (NE-SW) along SE corner of site.	Land uses throughout the immediate surrounding area are a mixture of <b>greenfield</b> and <b>brownfield</b> generally developing out in a linear pattern out from the Bailiff Bridge cross-roads, SW of the site. Cotton & Woollen <b>Mills</b> located to the N (30m), E and W (50m) of the site. Wike Beck (running N-S), 60m W of site boundary. School adjacent to NW corner of site. Highway along W boundary of site.
1892-93	Clifton (Woollen) <b>Mill</b> built within S half of site. Watercourse culverted/diverted under buildings.	Clifton Mills extend to the E of the site, with tank 40m E of site. Railway constructed (N-S) 160m E of site. Old Coal Pit, 150m N of site.
1905-07	Clifton Mill recorded as manufacturing carpets.	Extension of Clifton Mill building to NE of site. Old shaft, 210m E of site. Gasometer, 60m E of site. Victoria Yarn Mill, 200m NW of site.
1922	No significant changes within site.	Clifton Mill extension within NE area, plus across highway to S, with reservoirs recorded 50m S & 50m E of site and tanks 75m S of site. Residential development to N. Tramway along highway to W of site.
1931-33	Highway amended within site, with reconstruction of buildings along W boundary.	Extension of Victoria Mill to NW.
1938	No significant changes within site.	No significant changes surrounding site.
1948-55	No significant changes within site.	Reservoir to E infilled.
1957-61	Various changes to buildings within E area.	No significant changes surrounding site.
1964-66	No significant changes within site.	Mill to W now Carpet Factory. Railway to E dismantled.
1970-76	Housing in N area removed.	Wyke Old Lane highway constructed along N boundary of site.
1981-85	No significant changes within site.	No significant changes surrounding site.
1986-88	No significant changes within site.	Mill to N demolished and replaced with Branxholme Ind Est.
1992	No significant changes within site.	No significant changes surrounding site.
2002	No significant changes within site.	No significant changes surrounding site.
2010	Majority of factory <b>demolished</b> apart from in SW area.	Following removal of factory to E of site boundary, new housing built and Axeminster Drive highway bounds E edge of site. Victoria Mill demolished and replaced with housing to W of site.
2014- current	Demolition & removal of SW building. Site cleared and devegetated.	No significant changes surrounding site.

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# 5.0 ENVIRONMENTAL SETTING

# 5.1 Background Information

5.1.1 Environmental and geotechnical information is presented in the Groundwise Envirolnsight Report (Appendix B), Geolnsight Report (Appendix C), Environment Agency Website (Appendix E), Coal Authority Report (Appendix D) and other sources set out below.

Issue	Data reviewed	Summary	
Geology	1:10,000 BGS Map (SE12NW) 1:50,000 BGS map (Sheet 77, Huddersfield) Solid & Drift BGS Memoir Huddersfield	Drift – None recorded. Solid – Mudstone/Siltstone/Sandstone (Pennine Lower Coal Measures – Carboniferous). Coal seam recorded terminating 16m S of site boundary, running N-S.	
Landfills	Historical OS Plans EA Website	There is one historical landfill within 250m of the site, located on EA records 201m S, Firth's Tip, with minimal data on waste type and age (likely to be 1960's). In addition, infill reported to have occurred within basement areas of terraced houses within the N area and mill buildings in the S area.	
Mining	BGS maps	Site underlain by Coal Measures Rocks. The Coal Authority report states that the property is not within the zone of likely physical influence on the surface from underground workings. However, the property is in area where the Coal Authority believe there is unrecorded coal at or close to the surface. This coal may have been worked at some time in the past. The site is within a high risk development area. The report states that 2No. shafts are located adjacent to the SE boundary (both outside). Shaft ref 414425-005 was searched by a combination of excavation to natural strata and by probe drilling in 2004 by Encia Consulting Ltd, but was not found. No information regarding treatment/remediation is available regarding this shaft. Shaft ref. 414425-006 was found, filled and subsequently drilled and grouted to full depth by Encia Consulting Ltd for the Miller Homes development.	
Quarrying	Historical OS Plans	None recorded within 250m.	
Radon	BRE Report BR211 BGS Stage 2 Report HPA Report RPD-033 Indicative Atlas of Radon in England & Wales	Map 17 of HPA-RPD-033 shows the site is not in a radon affected area (<1% homes above Action Level) with <b>no</b> protective measures necessary in the construction of new dwellings or extensions.	
Hydrogeology	Environment Agency Groundwater Vulnerability map	Site underlain by secondary (A) bedrock aquifer. The site is not located within a groundwater source protection zone. Solid Geology (Coal Measures Mudstone-Siltstone-Sandstones). Closest surface water abstraction 73m E of site, for commercial cooling use. Nearest groundwater abstraction 284m SW of site, Blackshaw Holdings Ltd, for general use. No potable water abstraction licences within 2km.	
Hydrology	OS Map	Nearest watercourse(s) – Culvert, 7m SE of site, running NE-SW. Wyke Beck, 45m SW of site. 16No. pollution incidents within 500m of site, closest 17m E of site (2002) – diesel, Category 3-4 minor-no impact. 3No. discharge consents within 500m from site, closest 47m SW of site, sewage discharge.	

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Potential Contaminated Land Usage	Historical OS Plans EA Website	Several electrical sub-stations to S & E of site. Walkover showed no obvious evidence of any contamination. Historic infill major source of potential contaminated land, plus any spillages from carpet mill. Previous ground investigation report, record minor levels of contamination for proposed residential end use.
Flood Risk	Environment Agency	Site is not within a flood plain.

#### 5.2 Previous Ground Investigations

- 5.2.1 The following previous investigations have been undertaken for the re-development site area, to determine the environmental status of the site, which were contained within the original seller's pack for the site and subsequent investigation works:
  - Trial Pitting (Encia Consulting Ltd [May 2007])
  - Borehole & Trial Pitting (PSA Design [February-May 2016])

#### 5.3 Review of Findings of Investigations

- 5.3.1 The 2016 ground investigation by PSA Design was conducted for the proposed commercial development and was designed to address the gaps in knowledge of the environmental issues from the initial Encia Consulting Ltd (ECL) investigation in 2007. The investigation comprised of window sampler borehole and trial pitting exercises. The investigation was not targeted at the mining risk, which was designated as a separate investigation exercise. A total of 10No. boreholes were sunk across the site to depths of between 0.72-6.70mbgl using a window sampler rig and 16No. trial pits dug to depths 0.60-2.70mbgl (Drawing G2240-06). 1No. borehole (WS2) and 9No. trial pits (TP4, 5, 6, 7, 10, 13-16) were abandoned at shallow depths due to impenetrable fill material, due to the excavator/drill hitting a large block of material, which was impenetrable. Trial pit TP8 was abandoned due to instability, caused by water ingress and loose material cavings.
- 5.3.2 The thickness of made ground within the PSA Design investigation was found to vary from 0.10m (borehole TP2) to a maximum of 5.80m in borehole WS4. It should be noted that obstructions prevented full determination of the made ground in 10No. holes, however the other 16No. holes will give an indication of the composition and extent of the fill deposits across the site. The obstructions were generally within the central and southern areas of the site, likely to be related to the backfilling of the mill building basements, post-demolition. Shallower fill thickness was encountered in the northern area with an average thickness of approximately 0.6m, but varying from 0.10m (TP2) to 1.0m (TP1). Within the central and southern areas, there are deeper fill deposits, with deposits 1.0-2.0m thick in the western area (where ground levels are lower than the eastern terrace by approximately 2.0m). The deepest fill is within the SE quadrant of the site (within the footprint of the proposed building), with general fill thicknesses of 4.0m, with an isolated deeper patch reaching 5.8mbgl (WS4), in the central area of the site.
- 5.3.3 4No. types of made ground were encountered within the ground investigation, described as:
  - Firm Cohesive Fill
  - Gravel Fill
  - Soft-Firm Cohesive Fill
  - Clayey Gravel Fill

The firm cohesive fill was found across the majority of the site, in 22No. holes (WS1, 2, 2A, 3, 5, 6, 8, 9, TP2-4, 6-9, 14-16), often at the surface, but sometime inter-bedded with the gravel fill. The thickness of the deposit was inconsistent and varied from 0.10-2.50m, at various depths. The gravel fill was found across the majority of the site, in 18No. holes (WS1, 2, 2A, 4, 7, 8, TP1, 4, 5, 7, 8, 10-16), often at the surface, but sometime inter-

bedded with the cohesive fill. The thickness of the deposit was inconsistent and varied from 0.20-1.80m at various depths. The abandoned trial pits, were generally terminated within this deposit. The soft-firm cohesive fill was found within an isolated area of the site, locally in the central W area, in 3No. holes (WS4, TP9+11). The thickness of the deposit was inconsistent and varied from 0.70-2.90m at various depths. The clayey gravel fill was found within isolated areas of the site, locally in the SE area of the site, in 4No. holes (WS2A, 3, 4+9). The thickness of the deposit was inconsistent and varied from 0.50-2.00m at various depths.

- 5.3.4 The natural deposits underlying the surface fill are relatively consistent, with the firm-stiff brown gravelly CLAY (*glacial till*), overlying the MUDSTONE.
- 5.3.5 The brown gravelly clay was encountered in 13No. of the holes (WS1, 2A, 3, 5, 8-9, TP1-3, 6, 9, 11+12), underlying the made ground. The borehole investigation recorded the extent of the glacial clay deposit to be 0.20-1.00m thick.
- 5.3.6 Mudstone was encountered in 9No. of the boreholes (WS1, 2A, 3-9), but the trial pitting exercise was terminated at depths above the rock-head, apart from in trial pit TP9. The thickness of the deposit varied from 0.10-0.90m. The full depth of the mudstone was unrecorded, due to refusal of the drilling operation in the rock. The depth to the top of the mudstone across the site varied significantly across the site, influenced in part by the fill thickness and ground level. The depth to bedrock varied from 1.00m to 5.80mbgl, with the depth increasing from N to S.
- 5.3.7 Groundwater strikes were encountered in only 3No. holes (WS4, TP8+11) in localised, isolated positions within the central western area of the site, close to the slope. The remaining 23No. holes were dry and did not encounter groundwater. The strikes were at depths of 0.30-2.80mbgl, interpreted as perched water tables in isolated areas of the site, related to surface water drainage infiltrating into the fill and sitting on the relatively impermeable lower clay/mudstone deposit.
- 5.3.8 With reference to the previous reports, an investigation by PSA Design within the SE corner of the site was conducted (trial pits TP14-16). Using the Coal Authority plan from the report (ref 51001102751001), the location of the unknown shaft was located within the highway footprint, 5m E of the site boundary. However, due to the potential for error in reporting the exact location, and to try to resolve if the shaft was inside the site boundary, three pits were excavated to try to identify the missing shaft. Longer pits were excavated, but the holes were terminated at depths varying from 2.0-2.70m, due to the excavator being unable to penetrate through large boulders, within the fill matrix. It is recommended that a further investigation is made, using a large excavator that can penetrate the large obstructions within the fill. It is advised that the fill is stripped back in layers, in a grid pattern to check if the shaft is present or not within the development platform.
- 5.3.9 In terms of concret specification, based on sulphate and pH testing, the 'Aggressive Chemical Environment for Concrete' (ASEC) class for the site is considered to be *AC-2*

and design/mix of buried concrete should be undertaken in accordance with these classifications. Raised levels (compared to United Utilities trigger levels for ground surrounding water supply pipes on new developments) of hydrocarbons within the site prove that barrier pipes are required for the development due to raised hydrocarbons (C10-C16), compared to UU guidance levels. However, within any areas affected by asbestos soils (should they not be removed) this will require that the pipe trench is comprised of clean inert material, to prevent future risk to utilities workers, plus a geomembrane barrier surround.

- 5.3.10 The PSA Design investigation encountered soil results, in general, below trigger values for the commercial end-use, apart from the presence of trace amounts of asbestos in 3No. isolated samples. The asbestos contaminated samples were recorded at very low concentration <.0001%, chrysotile loose fibres/insulation within the central and N areas (Drawing G2240-07). The asbestos material was found in what would appear to be random samples, both cohesive and granular fill materials, generally at shallow depth (0.40-0.90mbgl –WS4, 0.10-0.40mbgl TP3+0.10-0.50mbgl TP8). The fill is generally a shallow fill, and likely to have been a product of the demolition activity on the site.
- 5.3.11 It should be pointed out that the contamination assessment was based on the less sensitive commercial development proposal (as opposed to this latest residential proposal). A revised assessment will be required for this new proposal if one is to use the 2016 investigation data as an initial analysis datum, with additional testing required. The 2016 results for lead and PAH would exceed the generic values for current guidance for residential developments.
- 5.3.12 A three month gas monitoring exercise has been completed. Readings from gas wells across the site show low levels of carbon dioxide (<5% v/v) and no methane, with low flow rates. Gas protection measures will not be required.
- 5.3.13 The options for foundation solutions for the proposed single commercial building is likely to require a piled solution, due to the localised increased depth of fill within the footprint of the proposed building. For the new housing estate, a variety of foundation solutions are likely.
- 5.3.14 The appraisal by Encia Consulting Ltd (ECL) in 2007 was for the site to be redeveloped into residential apartments. The central and southern main area of the current site is referred to in the ECL Appraisal as Area D, with the smaller area in the N, referred to as Area C. The ECL report summarised various historic ground investigations, of which they were provided with report copies. These investigations were generally for land to the east of the site, with minor cross-over into the existing site. Of particular note was the Jordan Pritchard Gorman ground investigation, which comprised of ten rotary boreholes and four probeholes. ECL state that the four probe holes were within the site, but do not state how many (if any) of the rotary boreholes were within the proposed site area. The JPG report concluded that no workable coal was present below the site. A summary of a historic pitting (4No.) and drilling (1No.) investigation by Consult in 2003 (albeit without an

exploratory hole plan) described depths of fill between 0.05-1.90mbgl. The fill generally overlaid either a thin gravelly clay, or mudstone/sandstone. The maximum depth drilled/excavated was 4.0mbgl.

- 5.3.15 The ECL ground investigation in 2007 comprised of a pitting exercise across the site, apart from inside the remaining building within the SW area of the site. The investigation objectives were to aid foundation design, collect environmental samples for testing and also investigate to check for mine entries. It was noted that the pits for mine entry investigation were abandoned due to depth and instability of the fill in the S area of the site. The ECL ground investigation comprised of 18No. trial pits (TP201-218), with final depths ranging from 1.3-4.7m. Reviews of the site investigation undertaken within the site area suggests that the basic ground model consists of a varying thickness covering of Made Ground (cohesive and granular), with a thick fill deposit in the S area, overlying a firm-stiff gravelly clays (Till) overlying mudstone bedrock. A thin coal deposit (0.1-0.2m thick) was encountered in two trial pits (TP205 & 207) at depths 1.8-2.3mbgl within the SE area of the site (Area D, within the original report).
- 5.3.16 Across the proposed N area (area C in the original report), groundwater was not encountered, however within the S area, localised perched groundwater strikes were recorded in a minority of holes at varying levels (1.1-4.4mbgl). Obstructions were encountered in 8No. of the holes, either surface concrete slabs or relict brick walls, with a potential deep concrete lining within the localised basement areas. Basic chemical testing and geotechnical testing were carried out in the exploratory holes, including the S stockpile of demolition rubble, with 16 samples taken. Again, like with the trial pit logs, full test certificates are not available as part of the seller's pack. No asbestos was found within the site area. In general the test results for both soil and water showed that there appears, from the limited testing a low level of contamination risk at the site. The original end-usage was residential and it was assessed that there were raised inorganic levels of lead and arsenic. No gas monitoring was conducted, although ECL reference previous investigations that recorded low methane levels, low carbon dioxide (<5.0%v/v), with minimal flow rates.
- 5.3.17 ECL referred to previous mining investigations rather than elaborate on the fact that their own mining investigation for the missing shaft was abandoned. They stated that the previous investigations had not found any evidence of shallow mine workings and that there is no workable seam under the site. ECL stated that the second, unlocated shaft may be a circular chimney base rather than a mine shaft.
- 5.3.18 ECL state that a surface water culvert crosses E-W through the S area of the site.

  Detailed proposed development levels for the site have yet to be determined, however it is expected that due to the boundary constraints and the overall sloping nature of the site (with steeper slopes from the E to W in the S area) the likely final levels will be similar to the existing levels, apart from in the S areas, where retaining structures may be required to create more suitable landform. The close proximity of the highways to the site boundary must be taken into account with any excavation works.

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#### 6.0 HAZARD ASSESSMENT

#### 6.1 Sources

6.1.1 The industrial processes and activities undertaken on or adjacent to the site that may act as potential historical or current sources of environmental hazard are shown in the Table below.

Type of Issue	SOURCE-Specific Issue	HAZARD-Remarks
Potential on-site contamination sources HISTORICAL	1. Carpet Mill. 2. Made Ground underlying site from demolition. 3. Infilled Basements. 4. Coal Measures Rocks.	<ol> <li>Potential source of soil and groundwater contamination (metalloids, hydrocarbons, PAH, organics).</li> <li>Asbestos represents human health risk (inhalation)</li> <li>Risk of ground gas production (CO<sub>2</sub> &amp; CH<sub>4</sub>).</li> </ol>
Potential off-site contamination sources HISTORICAL	Landfills.     Woollen Mills	<ol> <li>Risk of ground gas production (CO<sub>2</sub> &amp; CH<sub>4</sub>).</li> <li>Potential source of soil and groundwater migration (metalloids, hydrocarbons, PAH, organics).</li> </ol>
Potential on-site contamination sources CURRENT	None.	N/A.
Potential off-site contamination sources CURRENT	None.	N/A.
Potential geotechnical hazards	Shallow mine workings & shafts.     Relict foundations of old buildings.     Vegetation within site (recently removed).     Fill Deposits	Instability, voids and potential foundation/pavement collapse.     Obstruction during foundation construction.     Deeper foundations due to tree influence (clay heave).     Instability and settlement issues due to varying depths and types of fill affecting pavement and foundation design.

# 6.2 Pathways and Receptors

*Five* pollutant receptors have been identified for the site, and are listed in the table below, together with the pathways through which they may be linked to pollutant sources.

Receptor Pathways		
HUMAN HEALTH Re-development Workers End users- residents	Inhalation, ingestion, skin contact	
FAUNA & FLORA Landscaping	Root uptake	
WATER ENVIRONMENT Groundwater	Groundwater	
BUILT ENVIRONMENT Buildings and services	Diffusion of landfill / mine gas through ground and collection in confined spaces  Direct contact with contaminated soil and groundwater	

# 6.3 Conceptual Model and Qualitative Risk Assessment

6.3.1 A preliminary conceptual model of pollutant linkages is given in the table below, together with a qualitative risk assessment for each linkage. The risk assessment uses the method of risk evaluation set out in CIRIA 552 'Contaminated Land Risk Assessment'. The scale

Phase 1 Land Quality Assessment

of risk is determined from a matrix that combines the *consequence* of a hazard with the *likelihood* of the event happening. Details of the assessment method are included in Appendix F. A schematic summary of the conceptual model is given in Drawing Number G2708-05.

Phase 1 Land Quality Assessment

Source	Pathway	Receptor	Consequence	Probability	Risk Classification
On + off-site sources of ground contamination (gas) arising from <i>infill &amp; shallow mine workings</i> (CO <sub>2</sub> and CH <sub>4</sub> gas).	Inhalation, ingestion, skin contact	Re-development workers	Severe	unlikely	Low/moderate risk
		End users- residents	Severe	unlikely	Low/moderate risk
	Direct Contact	Buildings and Services	Medium	unlikely	Low risk

Source	Pathway	Receptor	Consequence	Probability	Risk Classification
On site historic sources of ground/groundwater contamination from <i>carpet mill activities</i> , including metalloids, PAHs, organics & hydrocarbons.	Inhalation, ingestion, skin contact	Re-development workers	Medium	low	Low/moderate risk
	illialation, ingestion, skiil contact	End users	Medium	low	Low/moderate risk
	Root Uptake	Landscaping Vegetation	Minor	likely	Low risk
	Groundwater	Controlled Waters	Medium	low	Low/moderate risk
	Direct Contact	Buildings and Services	Medium	low	Low/moderate risk

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Source	Pathway	Receptor	Consequence	Probability	Risk Classification
On site historic sources of ground/groundwater contamination from demolition materials & basement infill, including metalloids, asbestos & PAH.	Inhalation, ingestion, skin contact	Re-development workers	Medium	low	Low/moderate risk
	illialation, ingestion, skill contact	End users	Medium	low	Low/moderate risk
	Root Uptake	Landscaping Vegetation	Minor	likely	Low risk
	Groundwater	Controlled Waters	Medium	low	Low/moderate risk
	Direct Contact	Buildings and Services	Medium	low	Low/moderate risk

Source	Pathway	Receptor	Consequence	Probability	Risk Classification
Off-site historic sources of ground contamination arising from migration of pollution from <i>mills</i> , including metalloids, PAHs & hydrocarbons	Inhalation, ingestion, skin contact	Re-development workers	medium	unlikely	Low risk
	illialation, ingestion, skiir contact	End users- residents	medium	unlikely	Low risk
	Root uptake	Landscaping	minor	unlikely	Very low risk
	Groundwater	Groundwater	medium	unlikely	Low risk
	Direct Contact	Buildings and Services	Medium	unlikely	Low risk

Phase 1 Land Quality Assessment

On-site ground and groundwater contamination from historic carpet mill source

The risk classification for five pollutant linkages relating to potential sources of
contamination in the Made Ground and natural materials from possible spillages/leaks
and infill varied between low risk to moderate/low risk. Investigation, if not already
undertaken, is normally required in cases where the risk is classified as moderate or
higher, and some remedial works may be required. The five receptors include human
health (construction workers and end users-residents), groundwater, landscaping
vegetation and gardens, and buildings and services.

Four *low/moderate* risks were identified for the residents, re-development workers, groundwater & services (water supply pipes) receptors via the pathway of direct contact with contaminated soil. The risks for these elements can be reduced by suitable remediatory measures such as suitable PPE for construction workers, potential removal of Made Ground/suitable barrier systems and sterile trenches. The evidence of previous investigations within the site has shown within the limited data collected that the site appears to be a low contaminated land risk.

Further investigation of the ground conditions with suitable chemical testing will qualify whether further remediatory measures are required to protect the health of the end users-residents. One *low* risk was identified that was deemed less of a risk due to the minor consequences from pollution.

6.3.3 Gas Risk from infill on and off-site and potential shallow mine workings

The potential hazard of gas from on-site infill, off site infill to the SW and mining has been linked with several receptors, which include construction workers and end-users and the built environment. For moderate risk receptors (Re-development Construction Workers and End Users) the consequences of gas inhalation are necessarily severe, but the probability of such an event is considered to be unlikely. Risk to the receptor Buildings and Services is classed low. The consequence of damage from gas is necessarily medium, but the probability of such an event is estimated to be unlikely for similar reasons to those stated above.

The probability of such an event occurring is considered to be *unlikely* due to several factors, leading to a likely generation potential of the source being *very low* for the *low* sensitivity of the development. The general thickness of the fill within the site and adjacent is likely to be <2.0m, giving a relatively small volume of source material for gas generation from decomposition. The likely fill type would be inert, rather than putrescible. In addition, the likely ground conditions found within the area are a thin drift deposit layer comprising of glacial till, which generally will constitute of clay (classified as having an average permeability of 1x10<sup>-9</sup>m/s, which is relatively impermeable), over a mudstone, which will prove to be a poor pathway for the migrating gas and in essence act as a buffer. The site is surrounded by urban development, with a high proportion of underground pathways generated for gas to migrate to (such as drainage systems, basements etc) in close proximity to the infill. The recorded landfill is a significant distance away (201m S of site).

Previous gas monitoring results within the area show low methane and carbon dioxide values and low flow rates. A gas risk assessment for the site following completion of the three month monitoring period from the investigation in 2016 has concluded that no gas protection measures will be required for the proposed development.

6.3.4 On-site ground and groundwater contamination from demolition materials & basement infill sources

The risk classification for *five* pollutant linkages relating to potential sources of contamination in the Made Ground and natural materials from infill varied between *low* risk to *moderate/low* risk. Investigation, if not already undertaken, is normally required in cases where the risk is classified as *moderate* or higher, and some remedial works may be required. The *five* receptors include human health (construction workers and end users-residents), groundwater, landscaping vegetation and gardens, and buildings and services.

Four *low/moderate* risks were identified for the residents, re-development workers, groundwater & services (water supply pipes) receptors via the pathway of direct contact with contaminated soil. The risks for these elements can be reduced by suitable remediatory measures such as suitable PPE for construction workers, potential removal of Made Ground/suitable barrier systems and sterile trenches. The evidence of previous investigations within the site has shown within the limited data collected that the site appears to be a low contaminated land risk. Further investigation of the ground conditions with suitable chemical testing will qualify whether further remediatory measures are required to protect the health of the end users- residents. One *low* risk was identified that was deemed less of a risk due to the minor consequences from pollution.

6.3.5 Off-site historic ground and groundwater contamination from various industrial mill activities, through migration.

The risk classification for *five* pollutant linkages relating to potential sources of contamination in the underlying ground and groundwater from migration of off-site historic industrial contamination sources varied between *low* risk to *very low* risk. Investigation, if not already undertaken, is normally required in cases where the risk is classified as *moderate* or higher, and some remedial works may be required.

Four *low* risks were identified for the residents, re-development workers, groundwater and services receptors via the pathway of direct contact with contaminated soil/groundwater. The risk of pollution from the contamination migration was assumed to be relatively low risk due to various factors. These include distance from the site, ground conditions – any spillages will tend to drain vertically into the underlying glacial deposits, impermeable clay acting as a buffer to migration, working practices reducing pollution linkages, topography and hydrogeology. The *very low* risk was identified for landscaping that were deemed less of a risk due to the *minor* consequences from pollution.

Phase 1 Land Quality Assessment

# 6.3.6 Uncertainties

There remains the possibility that some historical occupation of the site has not been identified, which could lead to unforeseen ground contamination.

#### 7.0 CONCLUSIONS/RECOMMENDATIONS

#### 7.1 General

- 7.1.1 It is understood that consideration is being given to the re-development of the site for residential purposes including an estate of houses across the site, with gardens/landscaping and parking/road areas across the site.
- 7.1.2 The main issues considered in this report, and in particular in Sections 4, 5 and 6 are based on a review of historical data and available information. The report provides a preliminary assessment of potential geo-environmental issues and implications for the current and proposed use of the site, together with issues associated with the proposed redevelopment of the site.

#### 7.2 Contamination

- 7.2.1 Several potential sources of contamination have been identified for the site, which are associated with:
  - the potential risk for contamination in the underlying soils from the on-site carpet mill activities is assessed as of low/moderate risk;
  - the potential risk for contamination from infill materials is assessed as low/moderate risk for several receptors across the site,
  - the potential risk for contamination from migration of contaminants from various historic mill activities to the S, E and NW of the site is assessed as low risk for several receptors across the site.
- 7.2.2 It is advised that further investigation works are required to assess soil and groundwater contamination within the site in terms of the newly revised residential end usage.

#### 7.3 Hazardous Gas

- 7.3.1 The presence of infilled ground on site, off-site landfill and underlying coal measures rocks would suggest that further investigation is required to assess the gas risk at the site.
- 7.3.2 A gas monitoring programme in the PSA Design ground investigation in 2016 recorded low gas concentrations and minimal flow, with the gas risk assessment recommending that for the proposed development no gas protection measures are required.

# 7.4 Mining & Quarrying

- 7.4.1 No quarries within 250m of site.
- 7.4.2 The site is within a potential mining area and is at risk from shallow mine workings, with a possibility of shallow unrecorded worked coal seams underlying the site at shallow depth.
- 7.4.3 In addition, there are two recorded mine entries within 20m of the edge of the site, with the southern-most 414425-006 found and remediated in 2004 by ECL. Mine shaft 414425-

005, is located, based on the Coal Authority records, approximately 5m from the site boundary and 17m SW from the proposed building. Based on an error distance of 7.5m on the positioning by the Coal Authority and a 2.5m zone of influence effect of the shaft, the shaft may have an impact on the proposed car park, but not the building construction. There appears to be a risk of instability from this shaft on the site, due to the lack of information regarding the exact location and nature of the remediation of the shaft.

- 7.4.4 After reviewing the site specific information, for the proposed development, assuming that the likely foundation is relatively shallow, the risk posed to the foundations and vehicles are related to two sources of potential surface ground instability, one around the zone of influence of the shaft and the second related to shallow workings across the full site area. The combination of evidence from the Coal Authority Records and geological mapping for the local area would suggest that this risk is medium and it is recommended that an appropriate ground investigation is undertaken that will assess the current stability of the shaft caps and the surrounding ground. Prior to the investigation of the shallow workings and capped shafts the Coal Authority should be contacted. Following the investigation, an assessment should be made of the long term stability of the zone around the shafts and the general site area and whether further remediation is required and strengthening of the structural integrity of the cap, prior to the development works beginning.
- 7.4.5 Following completion of the ground investigation an assessment of potential areas of ground instability at the site can be made. The assessment of remedial measures associated with ground instability will be made on the basis of the proposed foundation solution and end use activities.

#### 7.5 Foundations

- 7.5.1 At present, only basic geotechnical ground investigation data is available for the site in terms of the original single commercial building development. Consequently it is only possible to estimate the ground conditions. Before firm foundation recommendations can be given, it may be necessary to undertake an appropriate ground investigation. However, tentative recommendations are provided below.
- 7.5.2 The published geological data suggests the site is underlain by coal measures rocks. These materials may provide a suitable founding stratum, subject to inspection of the formation from a suitable ground investigation.
- 7.5.3 Made ground is not generally considered a suitable founding material and foundations should be taken through it, into underlying natural in-situ strata of adequate bearing capacity.
- 7.5.4 Foundations that conflict with relict foundations should be taken to greater depth than the relict foundations and into natural ground of adequate bearing capacity.

7.5.5 Foundation design should not be finalised until the results of the shallow mine workings investigation are known.

#### 7.6 Highway, Drainage and External Works Issues

- 7.6.1 The main vehicle access to the site will be from the existing highway, Bradford Road to the W.
- 7.6.2 It is assumed that surface water discharge from the proposed development and foul water drainage is likely to flow into the existing local drainage network in the vicinity of the site. It is recommended that the developer contact Yorkshire Water with respect to capacity in existing foul and surface water sewers in the vicinity of the development area.
- 7.6.3 The site is gently sloping in the N, although within the S areas, there is a terraced raised SE area, approximately 2m higher in ground level than the SW corner of the site. It is anticipated that some site re-grading will be required, with potential re-use of some of the site-won materials, if proved suitable for re-use from an engineering and environmental perspective.

# 7.7 Potential Development Constraints

- 7.7.1 Potential building structure obstructions within site and buried concrete.
- 7.7.2 Possible mine shaft/workings within SE area of site.

# 7.8 Further Investigation

- 7.8.1 Whilst the site is considered suitable for its current and proposed use, the proposed change in use will require intrusive investigation.
- 7.8.2 This would include a variety of intrusive techniques. These will include a rotary borehole drilling and trial pitting exercise, to assess the shallow mine workings risk within the site for the proposed development. In addition, a window sampler borehole drilling and trial pitting exercise with associated geotechnical analysis should be carried out to enable foundation recommendations and to determine near surface ground conditions including depth to competent strata, presence of buried obstructions, groundwater and stability.
- 7.8.3 An appropriate schedule of chemical testing and groundwater monitoring should be carried out on materials to assess the significance of any contamination within the soils and groundwater, if any, at the site as a result of former potentially contaminative land use.

7.8.4 An appropriate ground investigation strategy is presented below.

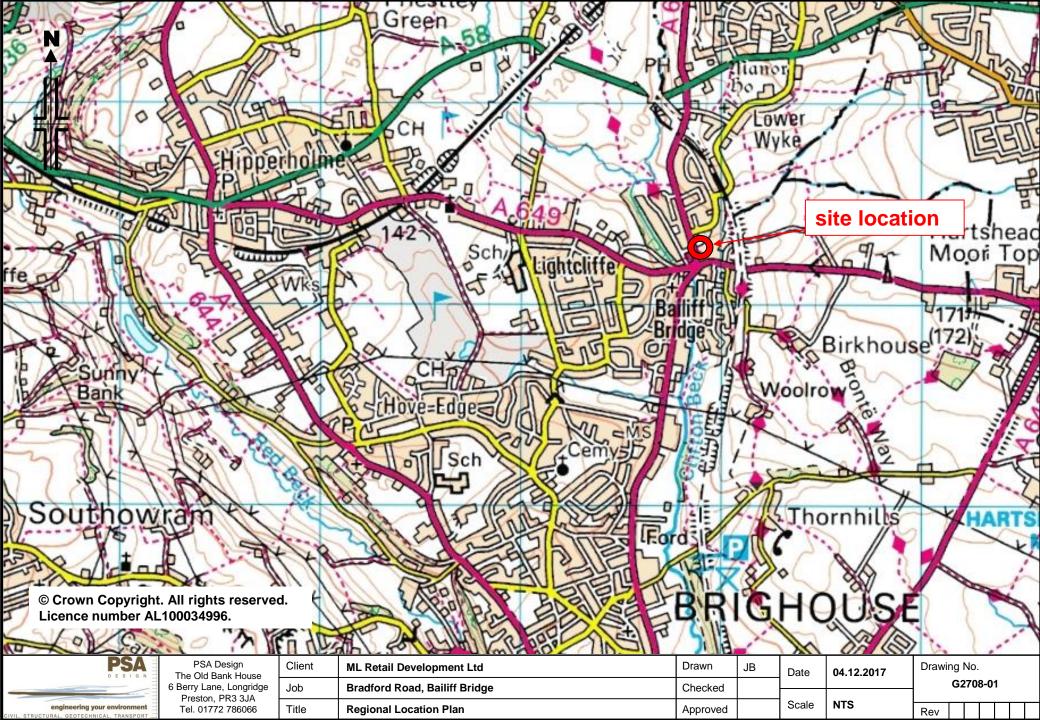
Exploratory holes	Purpose				
	To determine the general nature of soils underlying the site, including the:  • nature, distribution and thickness of made ground  • nature, degree and extent of contamination  • proportion of undesirable elements e.g. biodegradable matter, relic foundations etc  • suitability of the ground for founding structures and highways				
Window	To delineate any contamination hot spots. To determine stockpile material properties.				
Sample Boreholes &	To retrieve geotechnical data from depth.				
Trial Pits	To install monitoring wells across the sites in order to:  • monitor for hazardous gas  - retrieve representative groundwater samples, to determine water quality  • determine groundwater levels and assess flow direction				
	To accurately log the extent of the mine shaft and the type of remediation and capping. To retrieve geotechnical data from depth.				
Rotary Boreholes	To retrieve geotechnical data from depth. To determine the general nature of soils & rock underlying the site, including the: • possible voids/obstructions • location of the coal seams • proportion of undesirable elements• suitability of the ground for founding structures.				

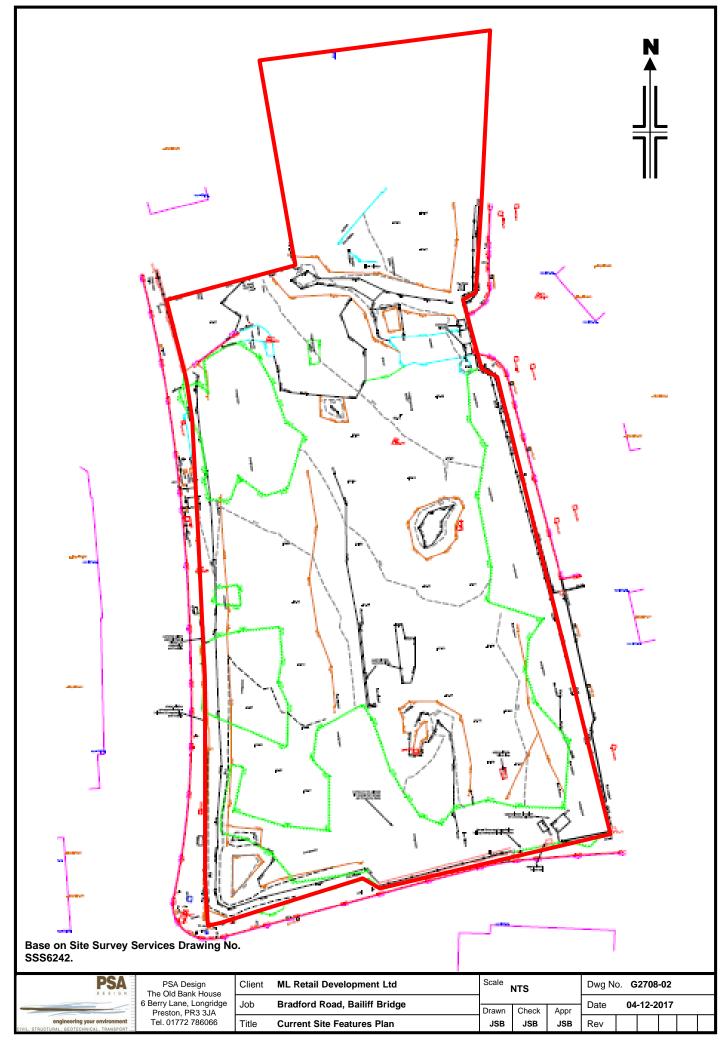
- 7.8.5 Proposed exploratory hole locations would be selected to provide a representative view of the strata beneath the site and to target potential areas of interest identified in the conceptual model. Additional exploratory locations would probably be scheduled by the site engineer in light of the ground conditions encountered. The number of representative samples taken would be reflective of the geological complexity encountered during the intrusive investigation. An assessment of potential contaminants associated with the former uses has been undertaken, which is based upon the professional judgement of PSA Design. As a consequence of this assessment, anticipated potential contaminants, within soil and/or groundwater include: Localised inorganic contaminants, elevated PAH concentrations and hydrocarbons, asbestos and sulphates across of the site.
- 7.8.6 Gas installation, monitoring and assessment should make reference to the CIRIA Publication C665 "Assessing risks posed by hazardous ground gases to buildings", 2007 and NHBC document "Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present", Ed 4, March 2007 and BS8576:2013 "Guidance on investigations for ground gas. Permanent gases and Volatile Organic Compounds".
- 7.8.7 Following completion of the site investigation, it will be necessary to undertake a quantitative risk assessment, and dependent upon the outcome provide a remediation statement for approval by the regulatory authorities. A validation report will be required to demonstrate that the remedial measures have been undertaken in accordance with the approved plan.

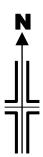
#### 8.0 REPORT LIMITATIONS

- 8.1 PSA Design believes that providing information with regard to limitations is essential to assist *the client* identify and therefore manage its risks. The ground is a product of continuing natural and artificial processes and, as a result, may exhibit a variety of characteristics which may vary from place to place, and with time. The risks associated with these variations may be mitigated by appropriate investigations, but cannot be eliminated.
- 8.2 This report contains interpretations of information which has been gathered from published sources and observations. Such information is only relevant to the ground at the published sources and observations. The information from these is interpreted here in good faith and is believed to be accurate. PSA Design cannot guarantee the authenticity of data obtained from external sources.
- 8.3 An interpretation or recommendation based on this information and given in this report is based on our judgment and experience of this information and not on any greater knowledge that might be implied.
- 8.4 The interpretations and recommendations contained herein represent our opinions which are provided for the sole use of our client in accordance with a specific brief. As such these do not necessarily address all aspects of ground behaviour at the site. Should these interpretations be used by any third party to assess ground conditions then verification should be made by reference to the appropriate factual information.

# ML (Wooler) Ltd Bradford Road, Bailiff Bridge Phase 1 Land Quality Assessment **DRAWINGS**







Dwg No. **G2708-03** 

04-12-2017

Date

Rev

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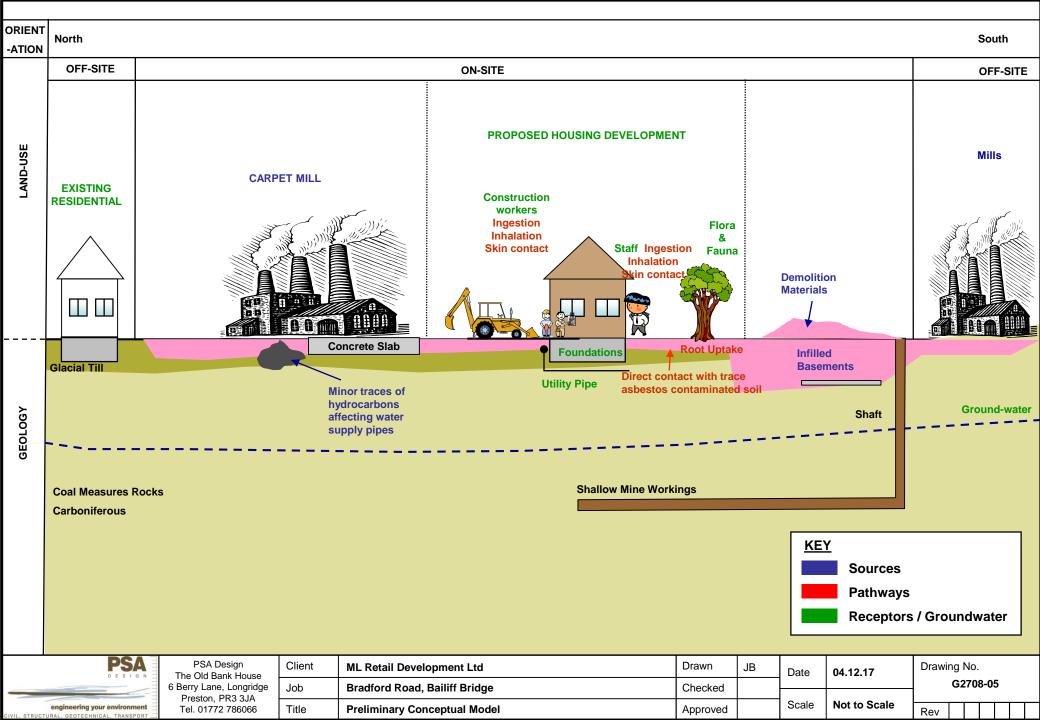


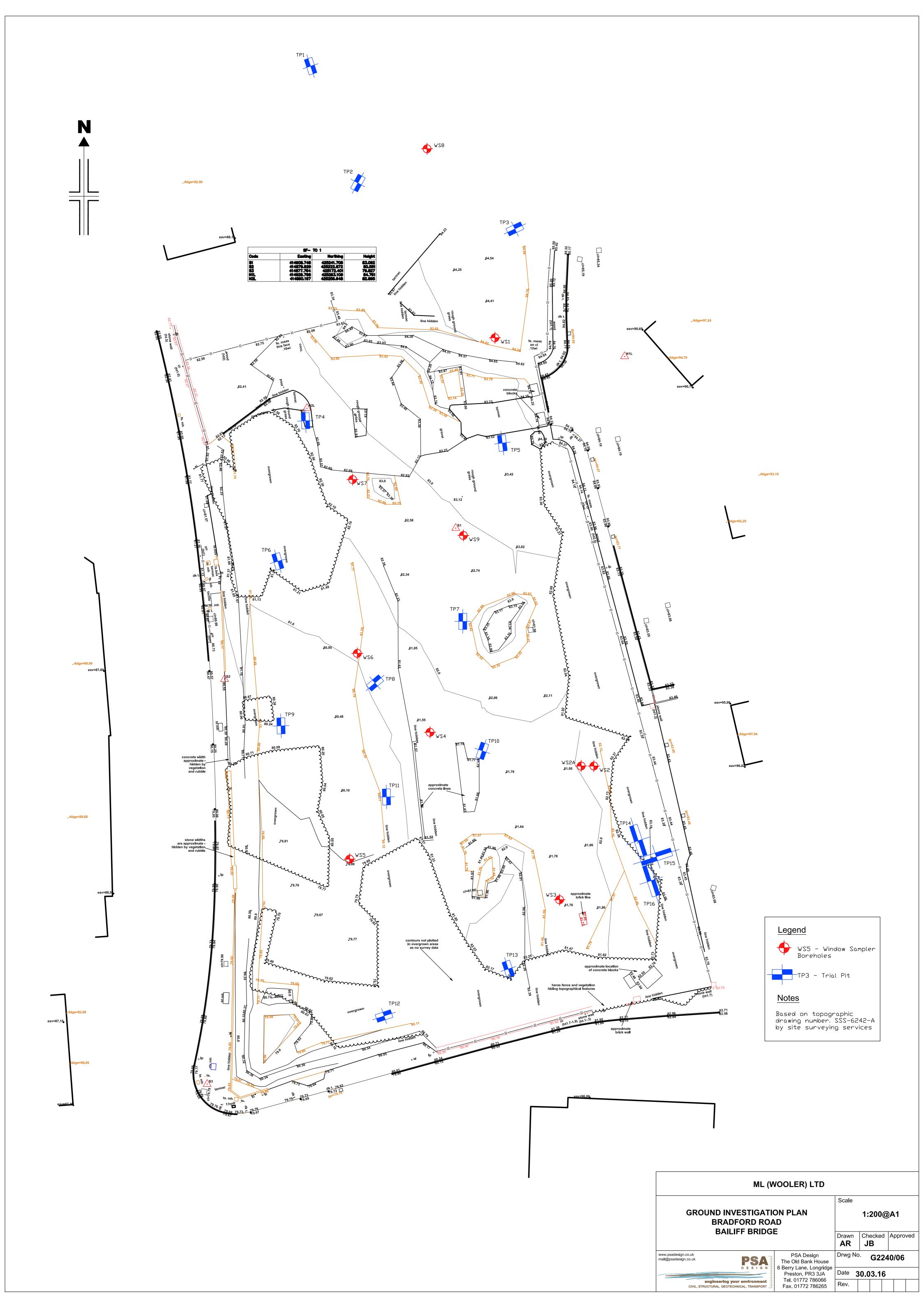
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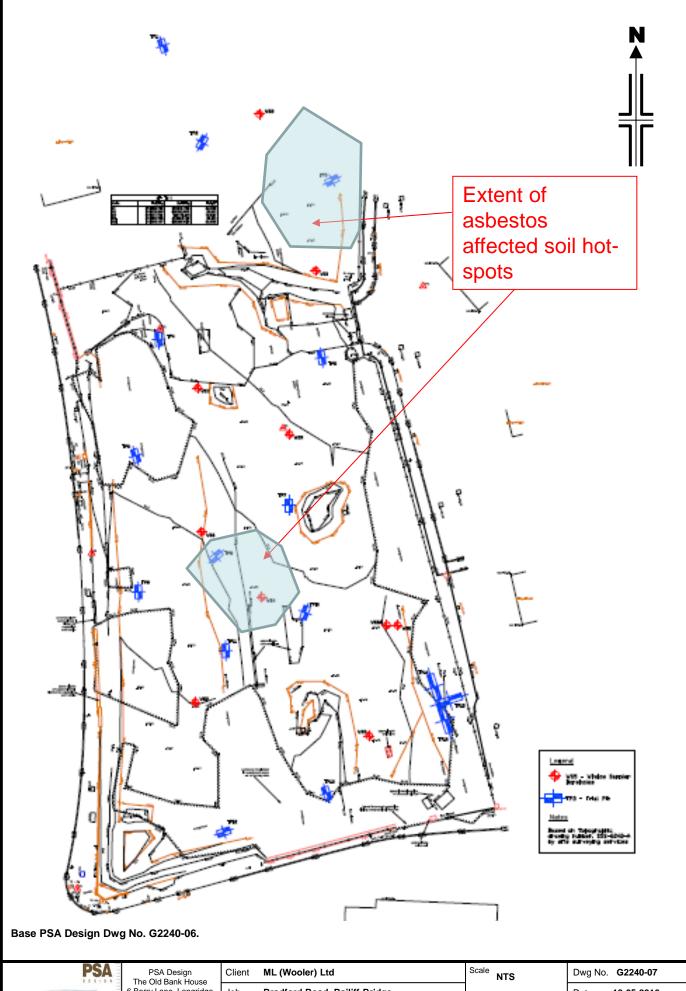
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PSA Design	
The Old Bank House	
6 Berry Lane, Longridge	9
Preston, PR3 3JA	
Tel. 01772 786066	

Client	ML Retail Development Ltd	Scale
Job	Bradford Road, Bailiff Bridge	Drawr
Title	Development Proposals	JSE





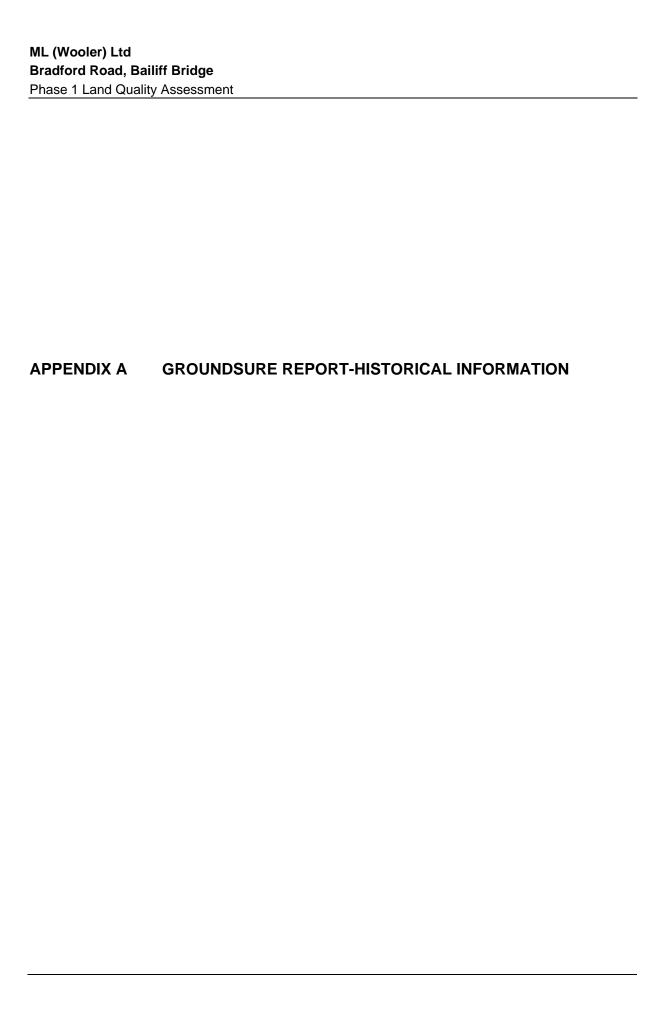


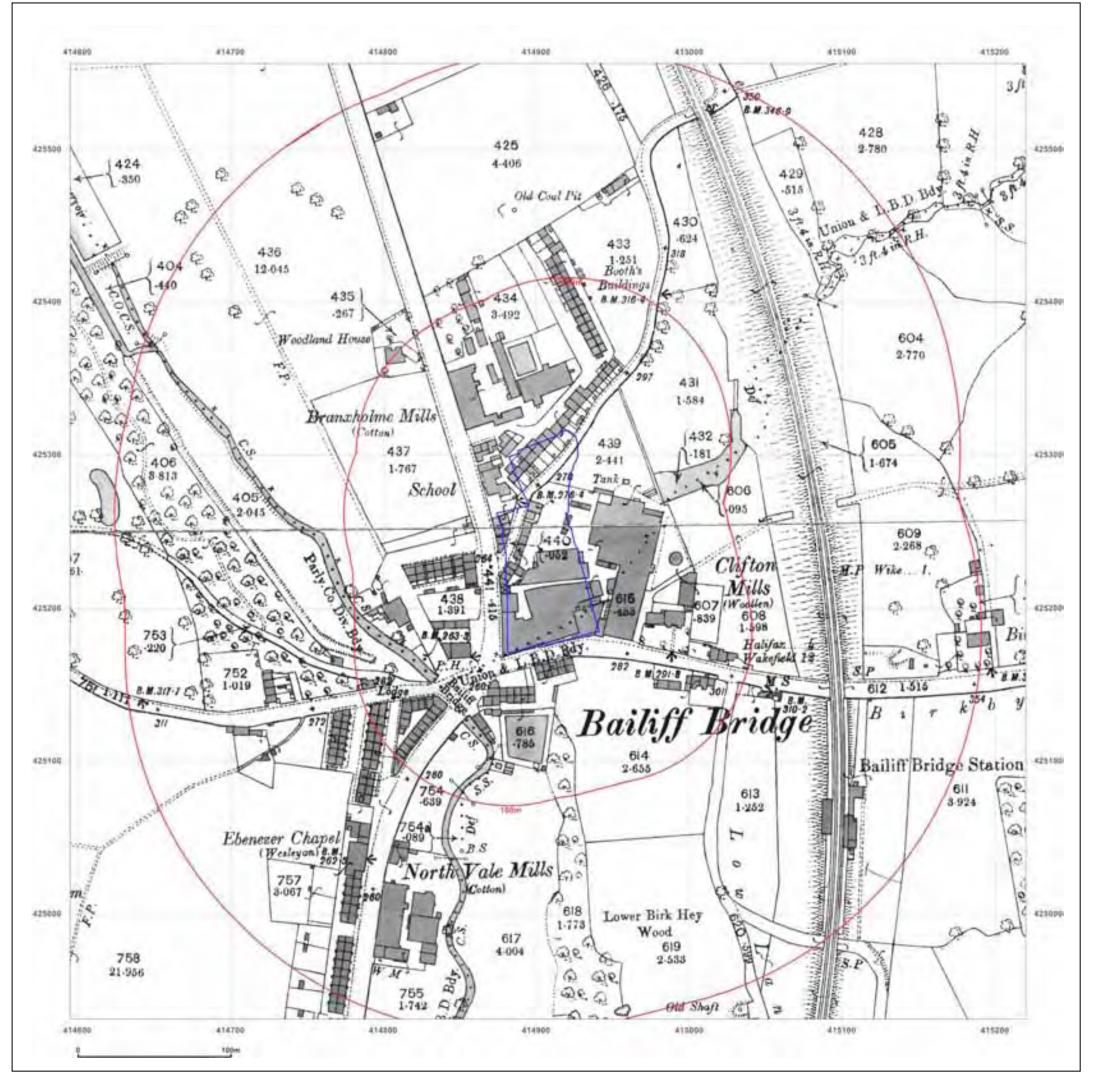
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Job Bradford Road, Bailiff Bridge Title **Contamination Plan** 

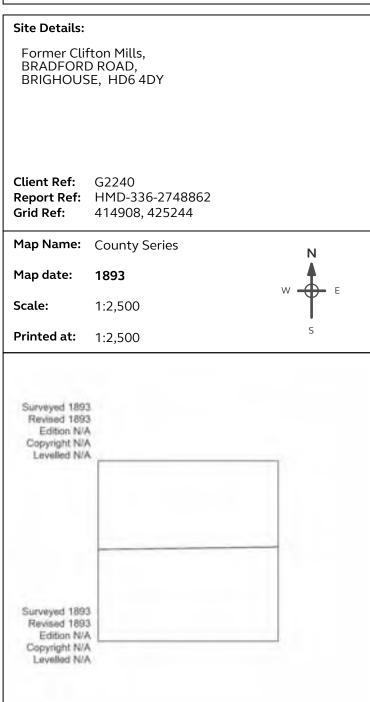
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Date 18-05-2016 Rev







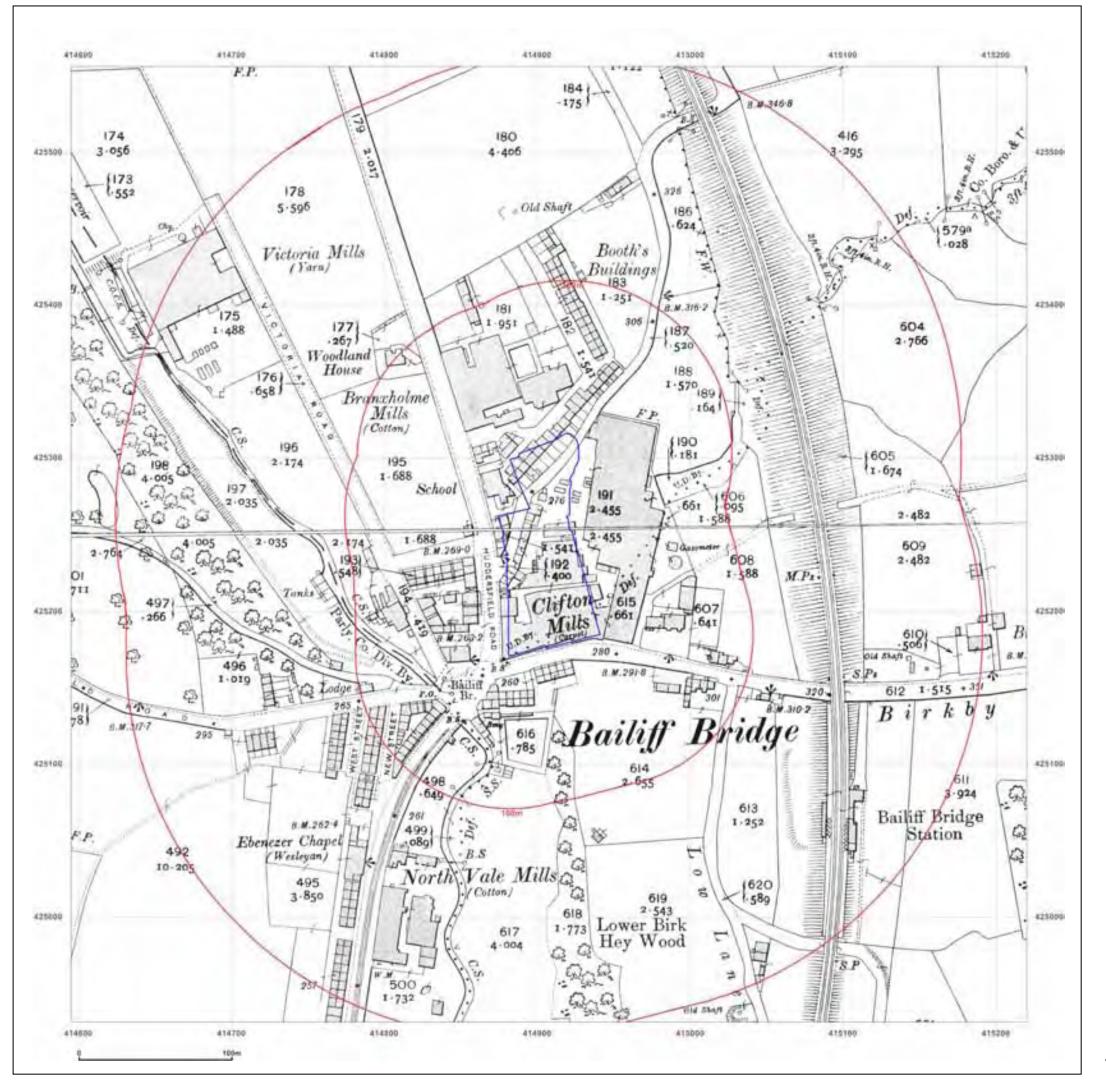




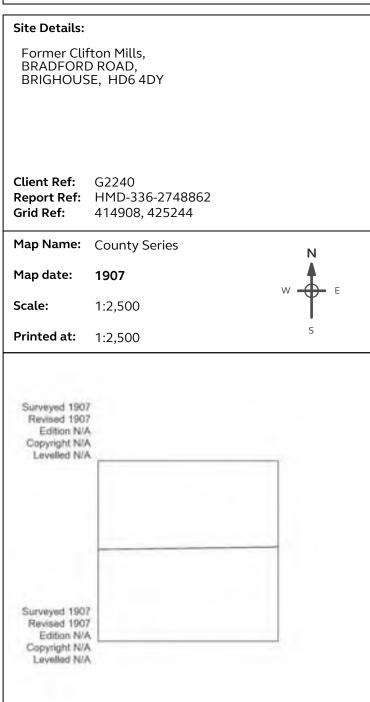
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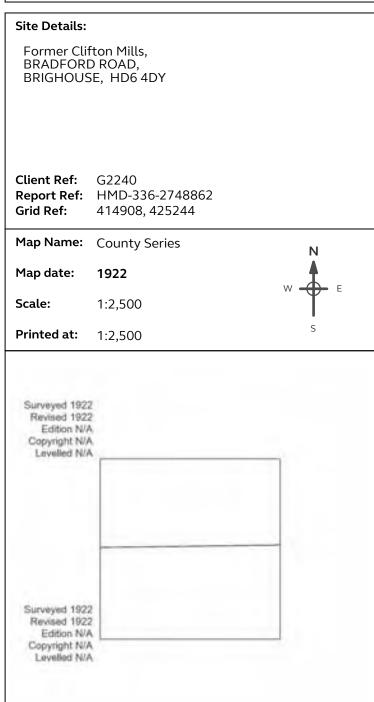
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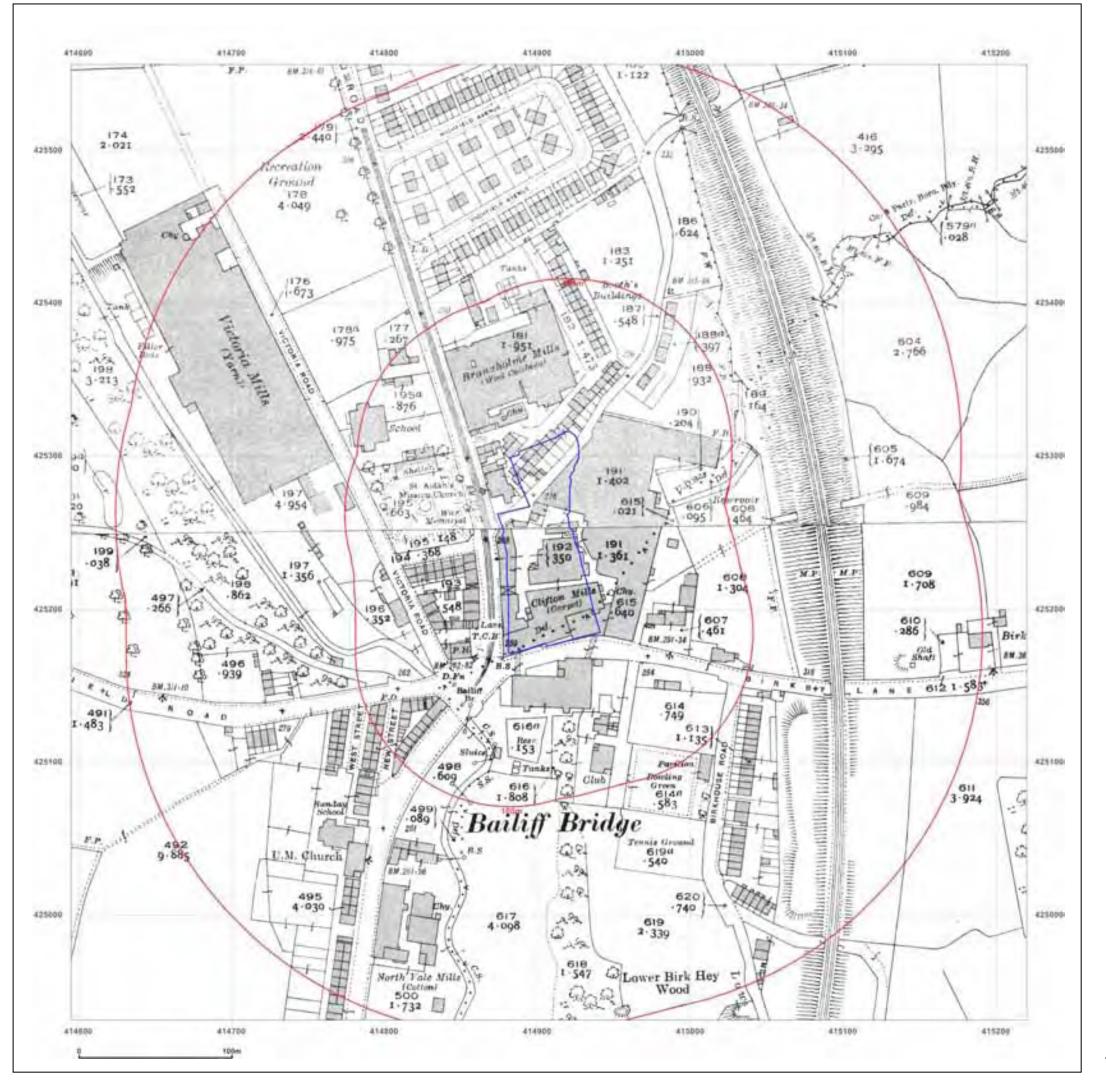




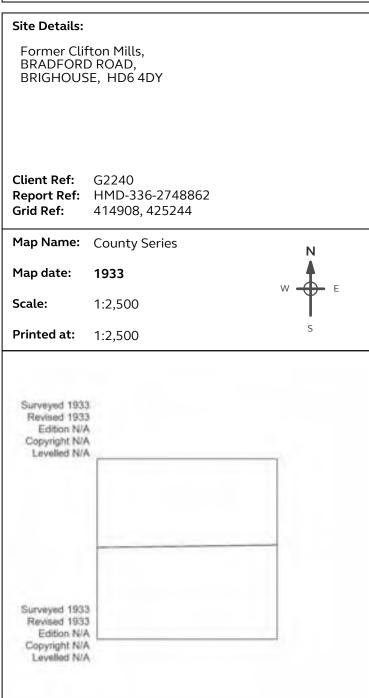
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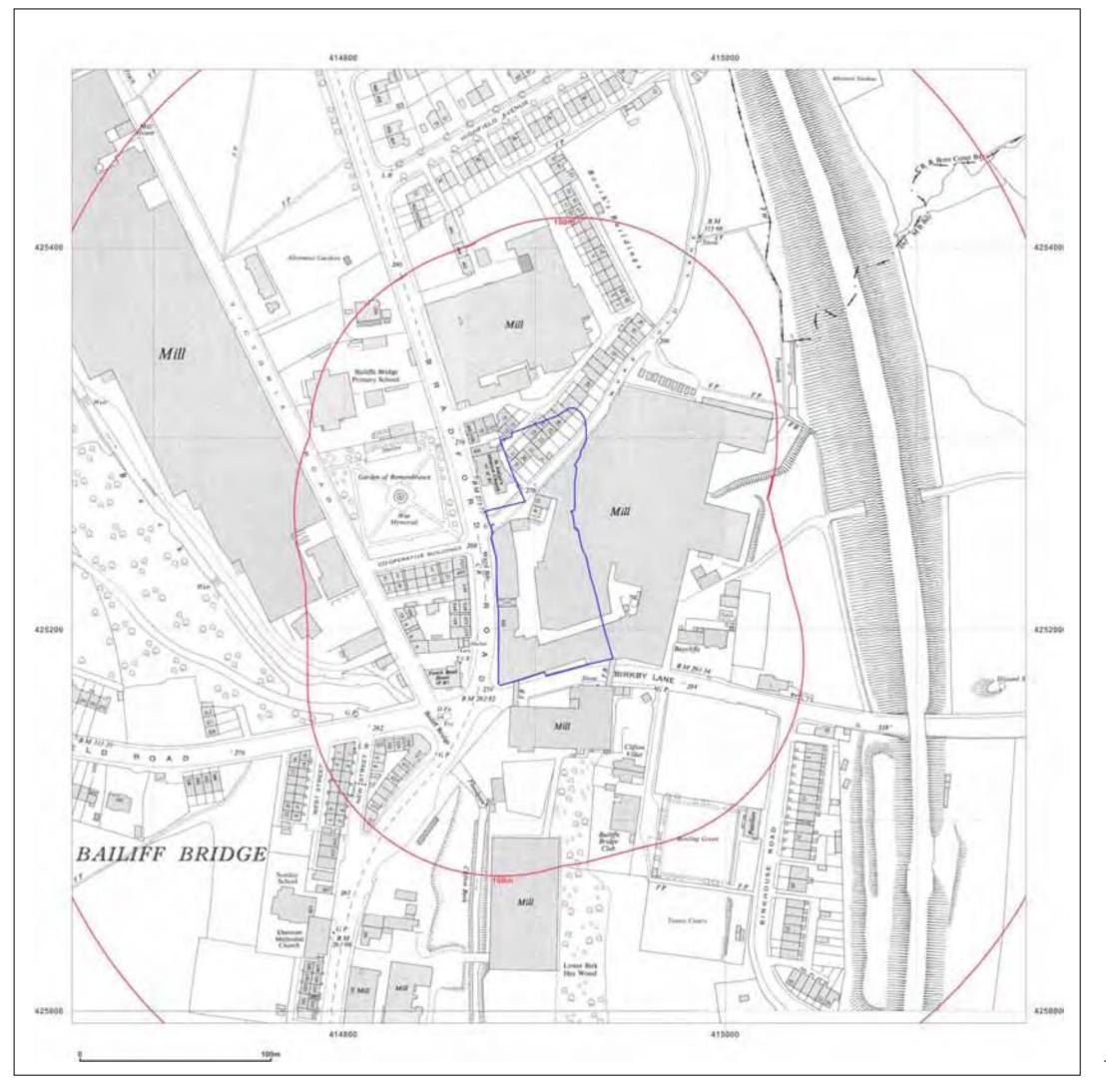




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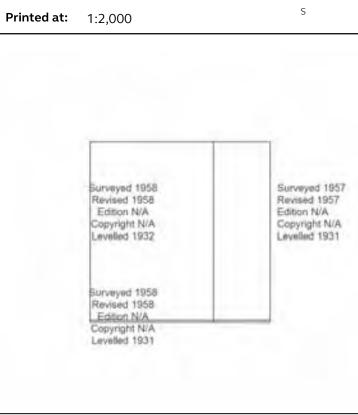
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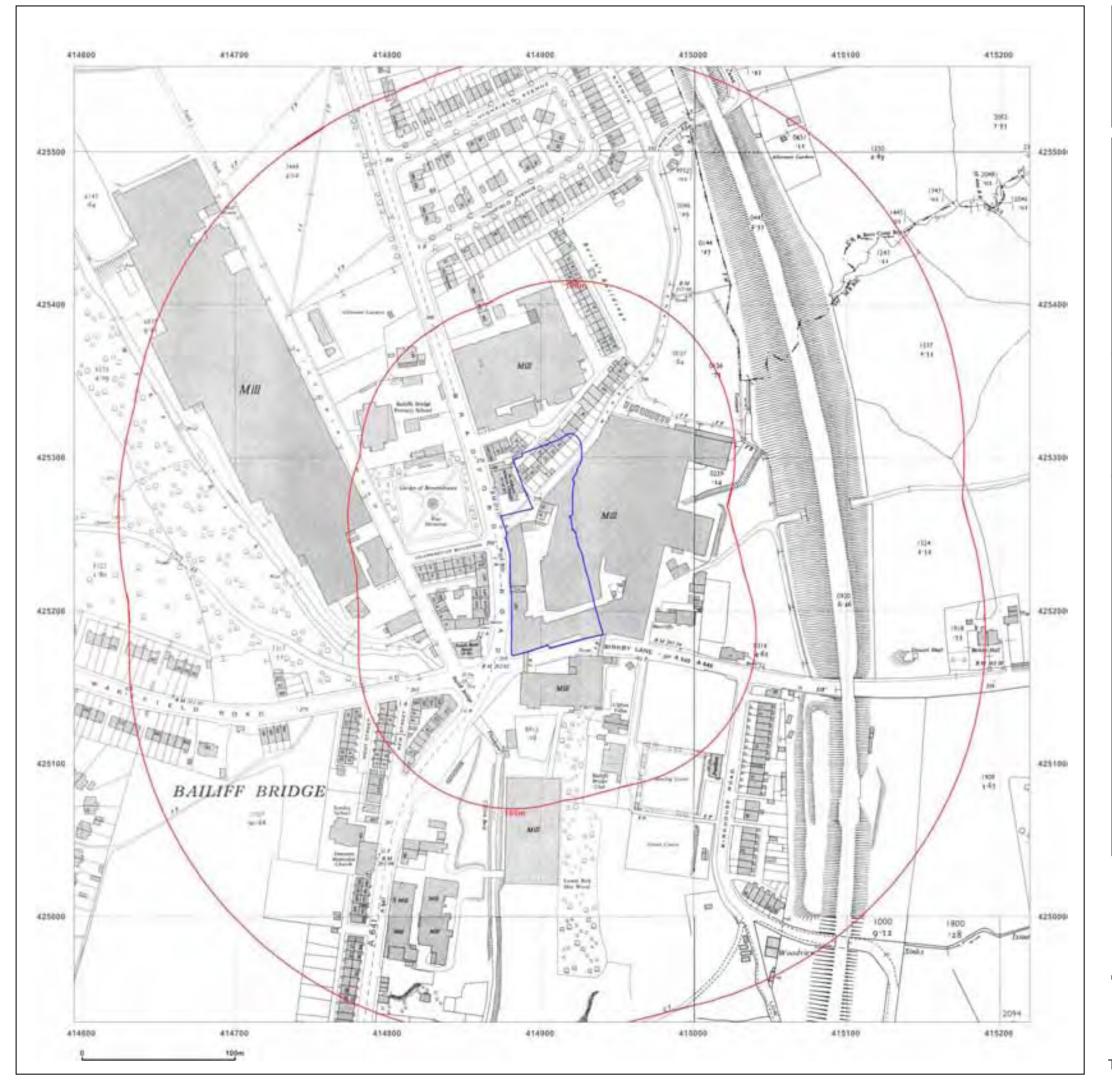




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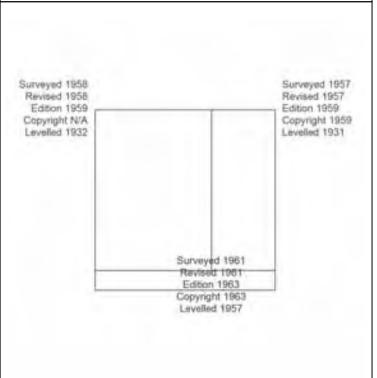
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Revised 1965
Edition N/A
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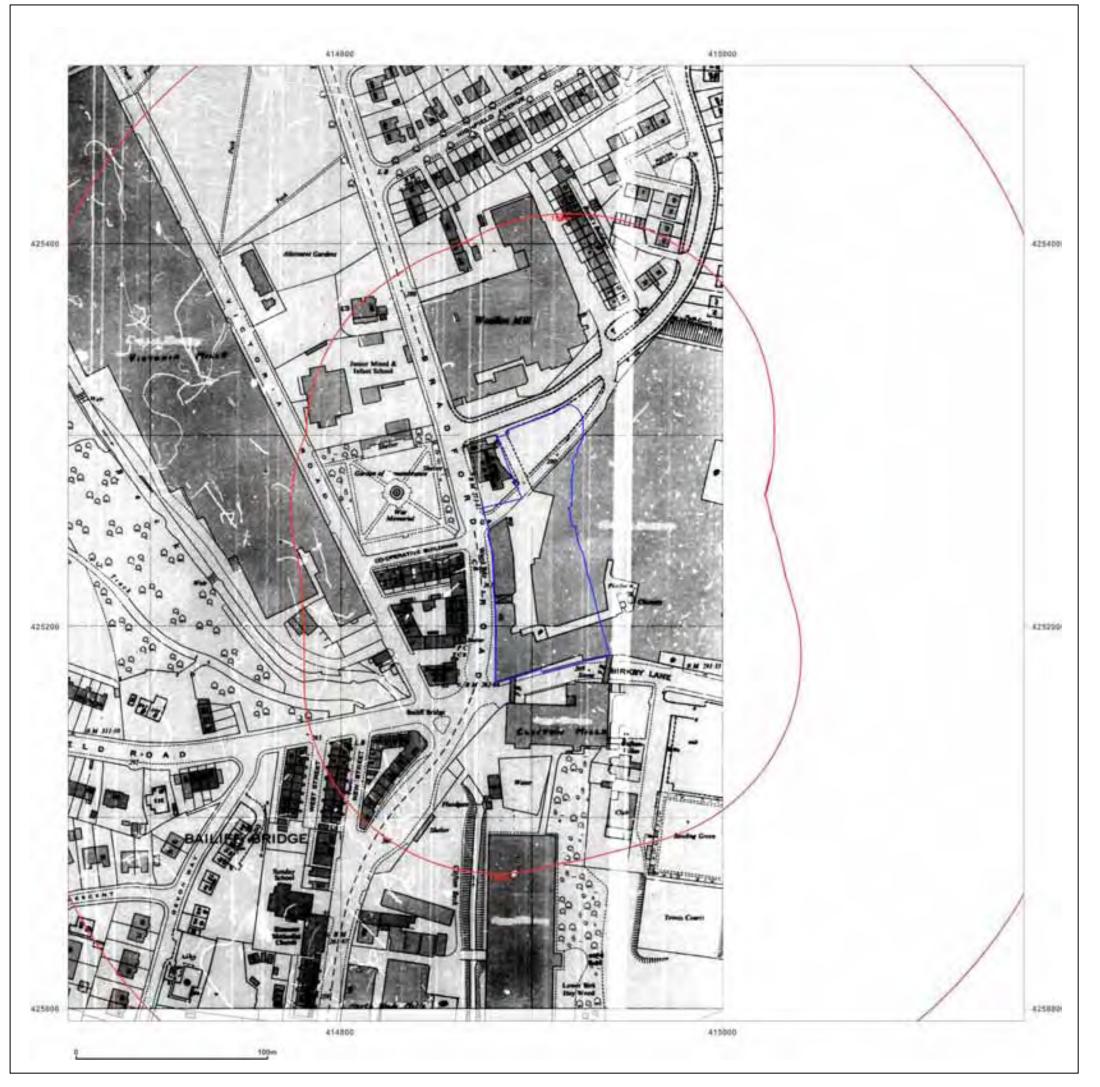
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Report Ref: HMD-336-2748862 **Grid Ref:** 414908, 425244

Map Name: National Grid

Map date: 1970-1973

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Scale:

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**Report Ref:** HMD-336-2748862 **Grid Ref:** 414908, 425244

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Map date: 1976-1981

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Scale:

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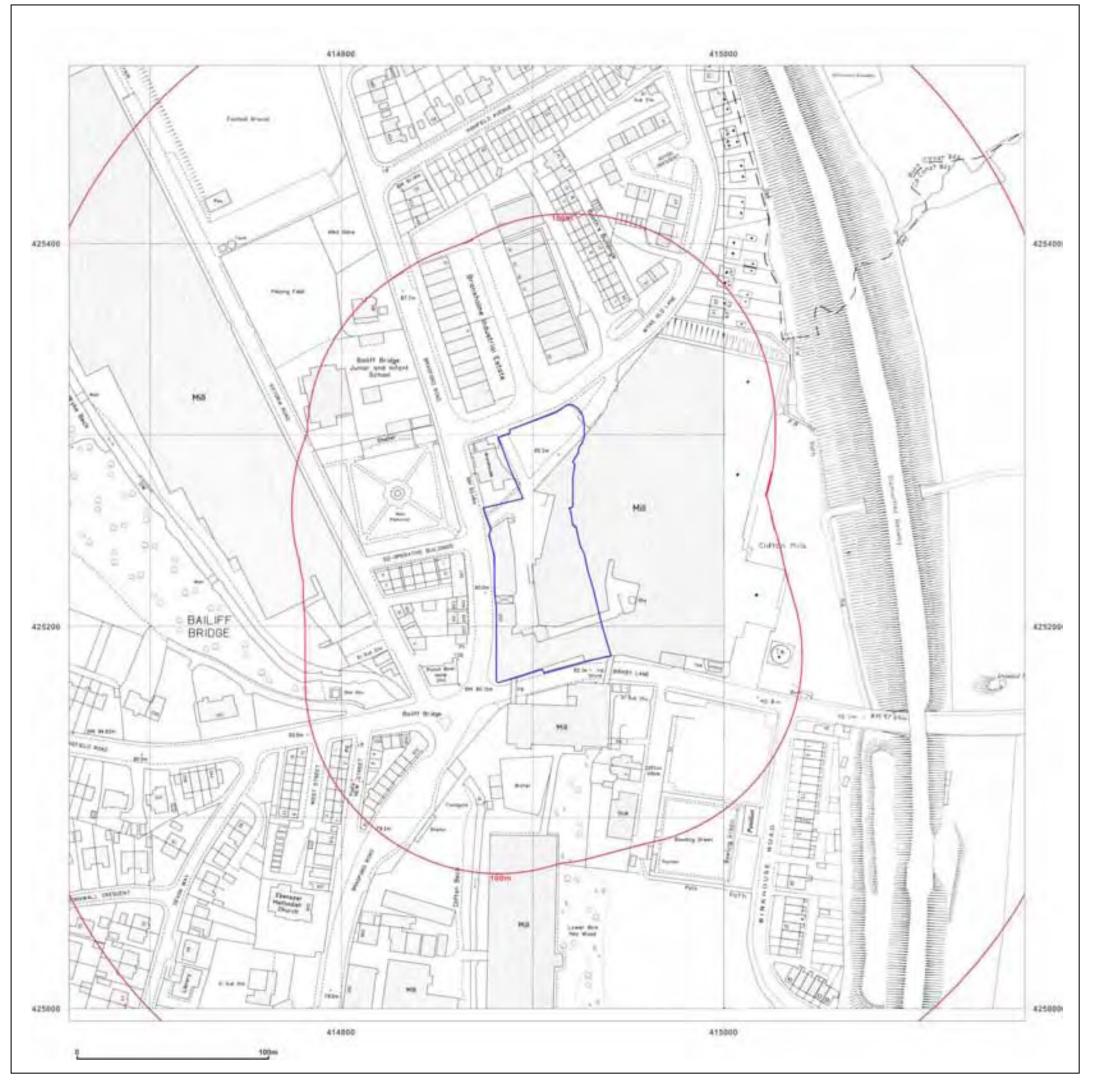
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**Report Ref:** HMD-336-2748862 **Grid Ref:** 414908, 425244

Map Name: National Grid

Map date: 1986-1988

**Scale:** 1:1,250

**Printed at:** 1:2,000

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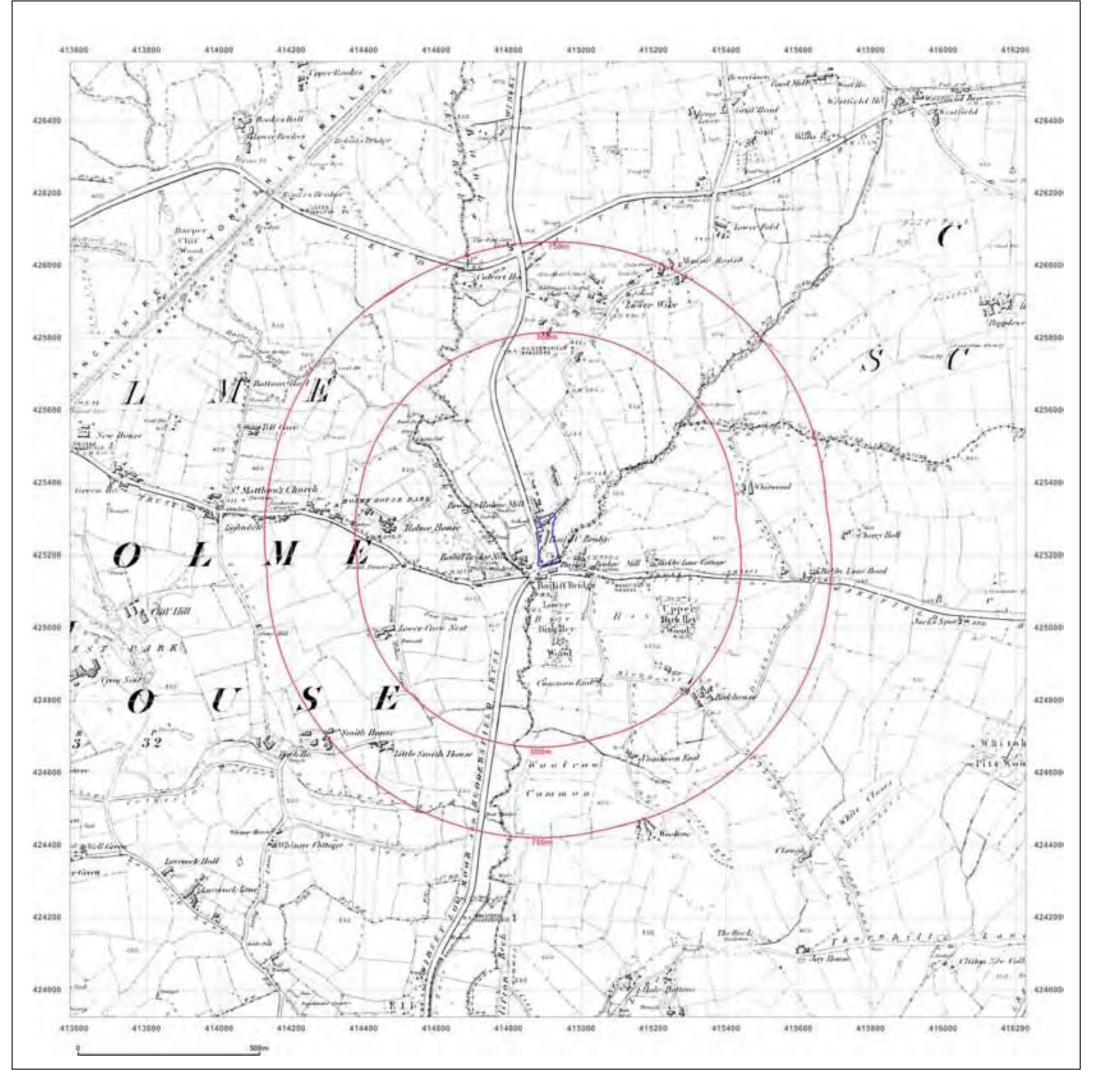




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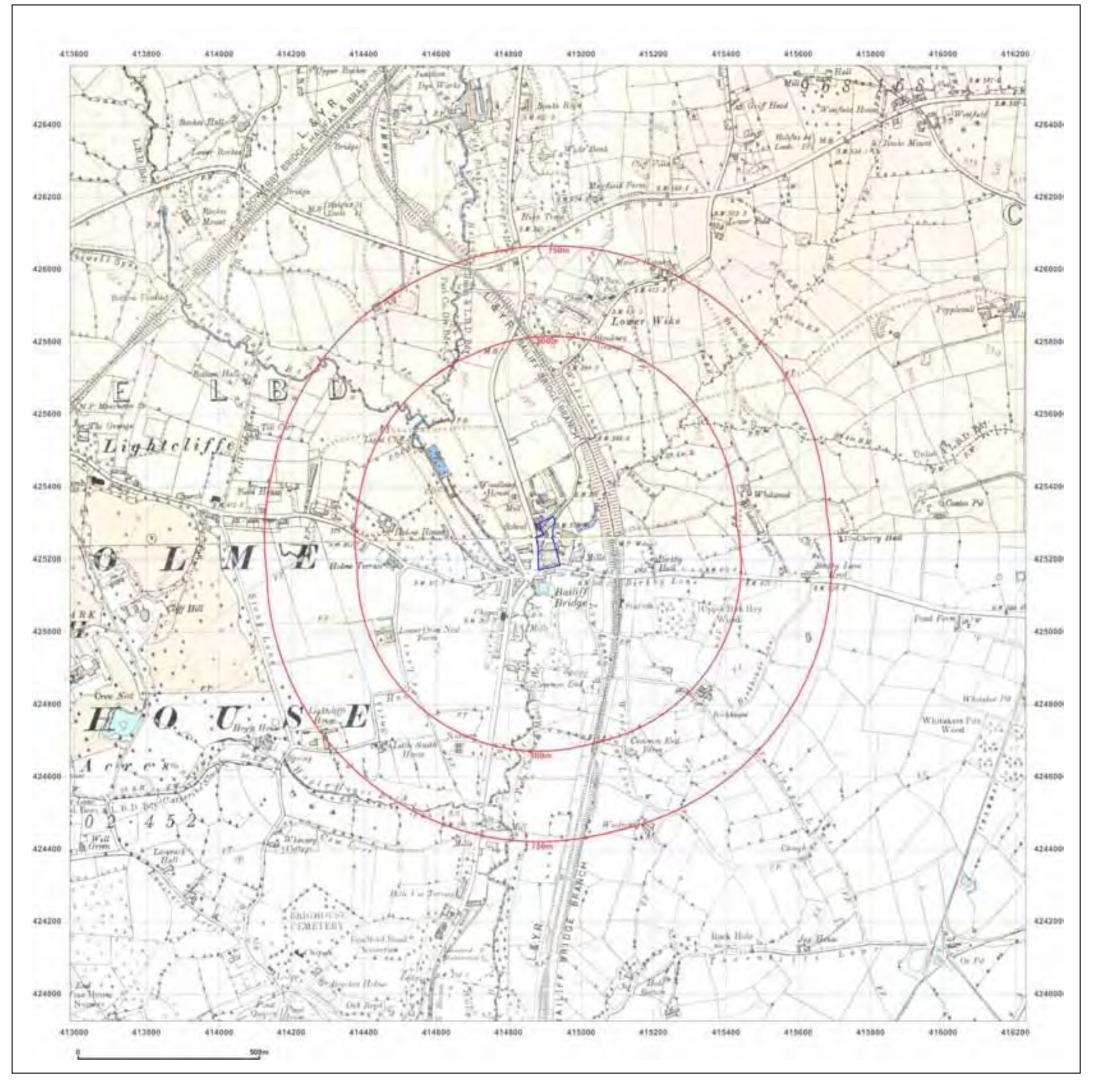
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Client Ref: G2240

**Report Ref:** HMD-336-2748862 414908, 425244 **Grid Ref:** 

Map Name: County Series

Map date: 1892

Scale:

1:10,560

**Printed at:** 1:10,560

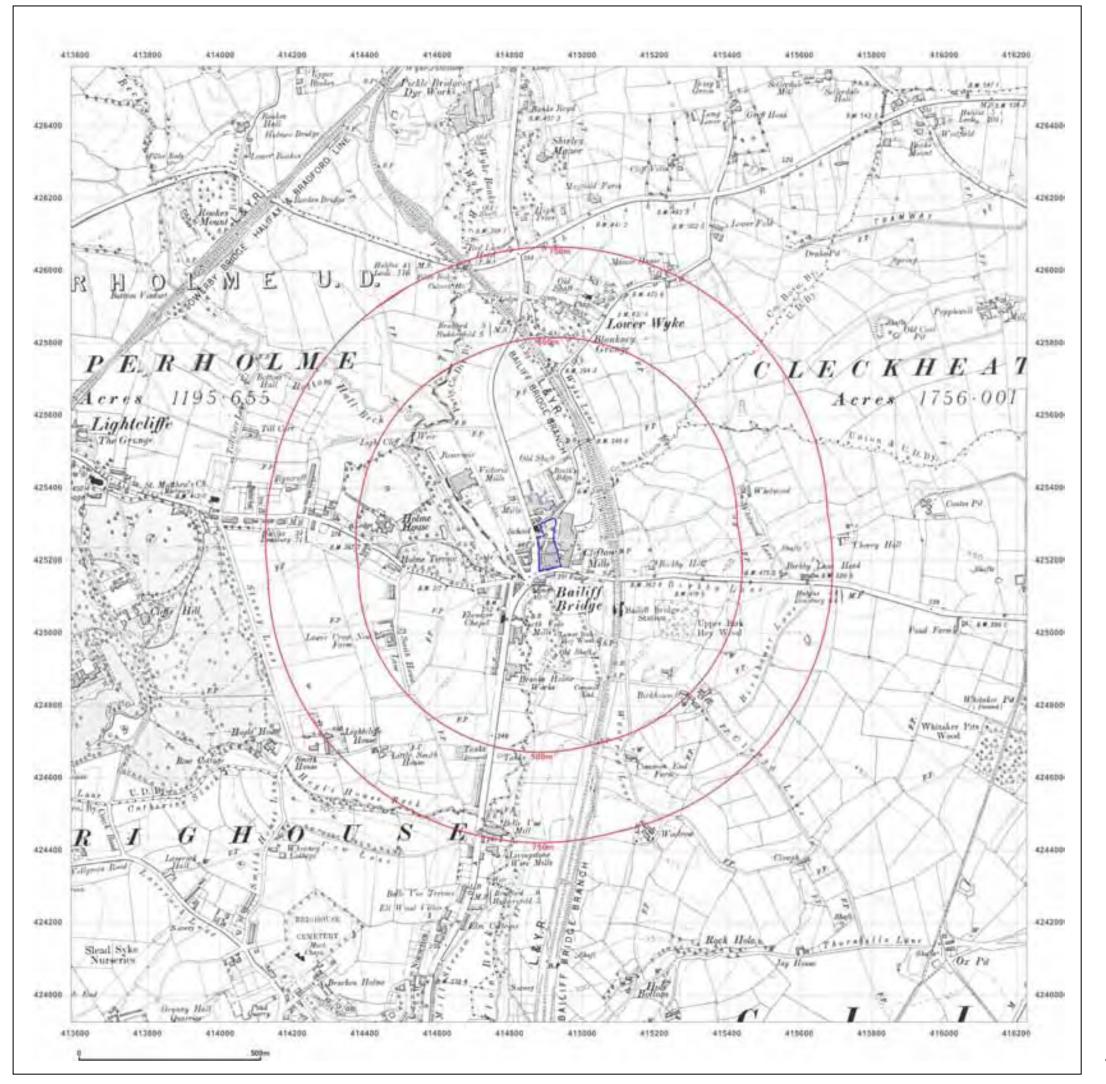
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Client Ref: G2240

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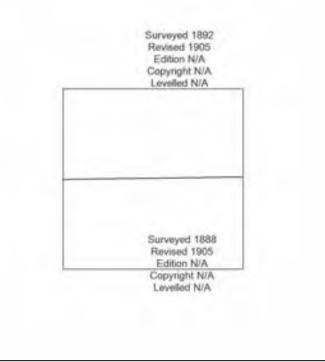
Map Name: County Series

1905 Map date:

Scale:

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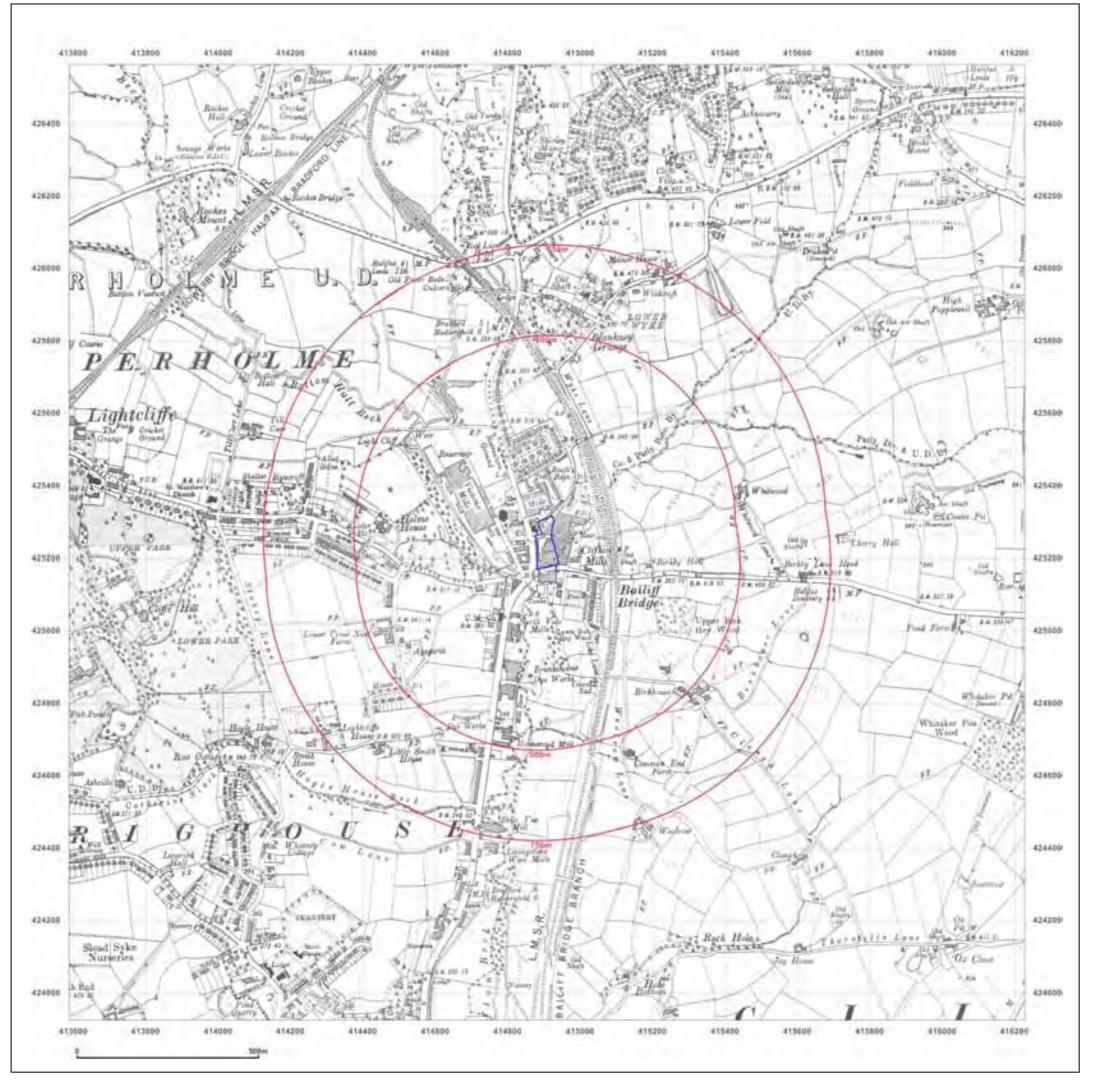




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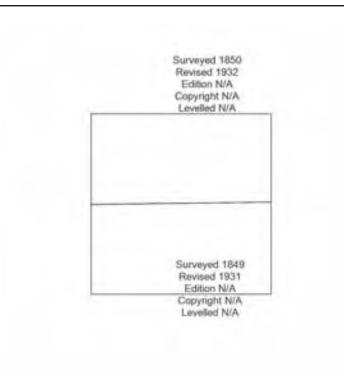
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1931-1932 Map date:

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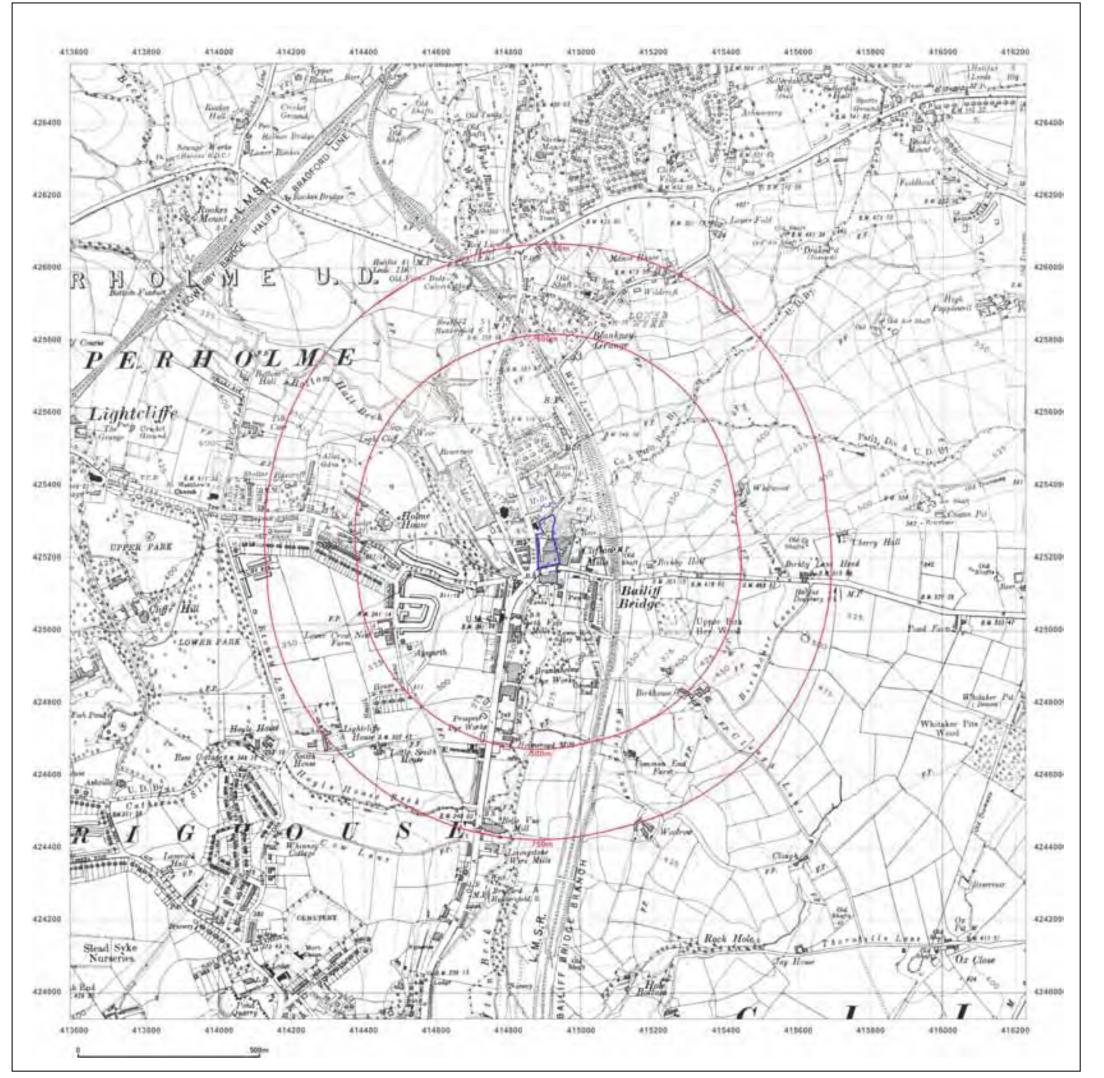
Scale:





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**Report Ref:** HMD-336-2748862 **Grid Ref:** 414908, 425244

Map Name: County Series

1938 Map date:

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**Printed at:** 1:10,560

Scale:

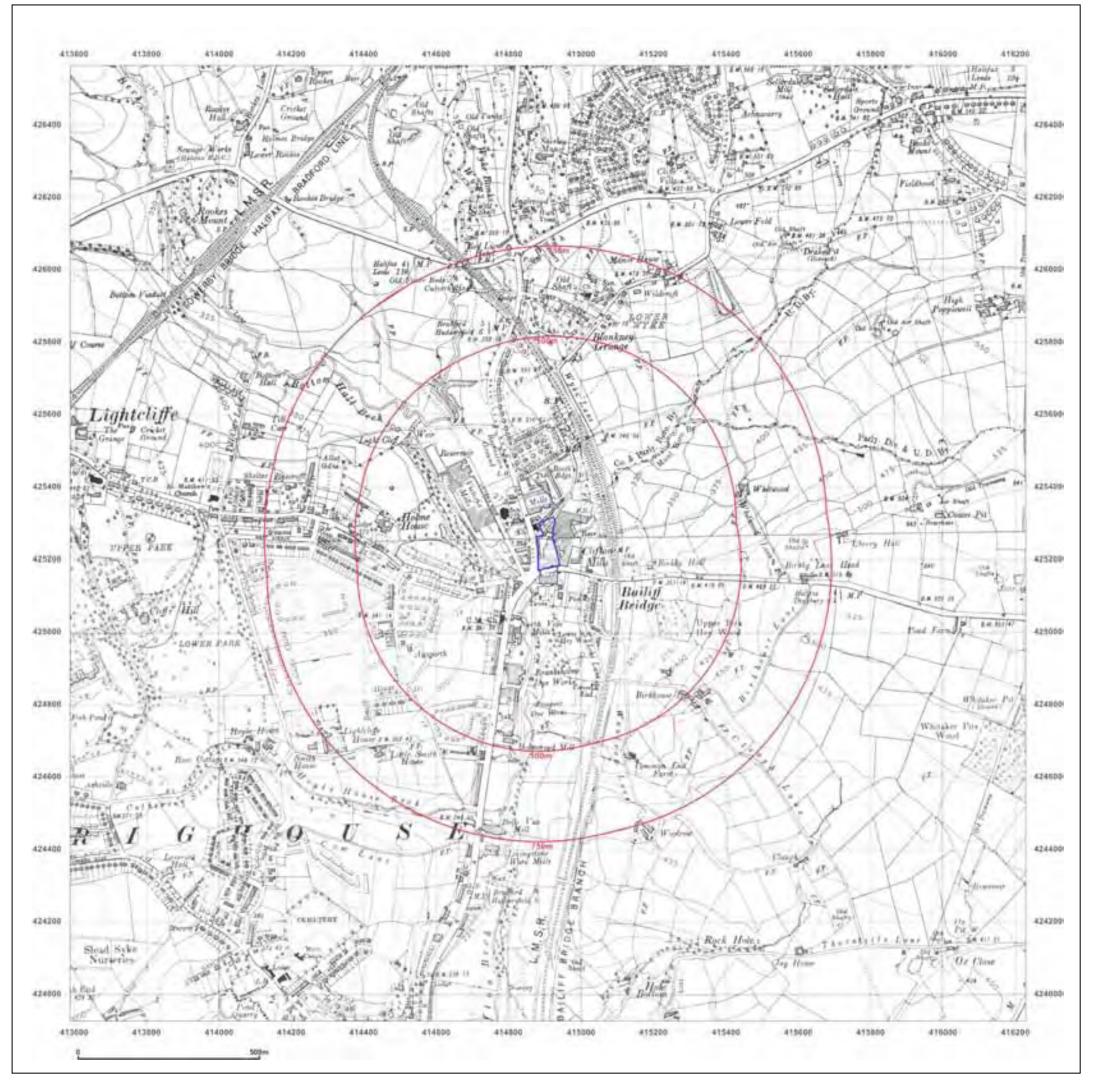
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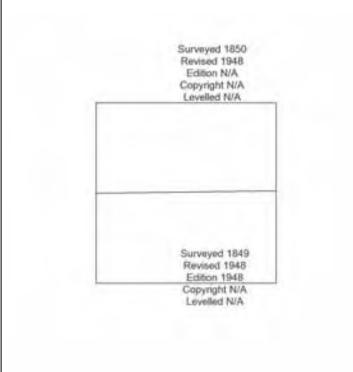
**Report Ref:** HMD-336-2748862 **Grid Ref:** 414908, 425244

Map Name: County Series

Map date: 1948

**Scale:** 1:10,560

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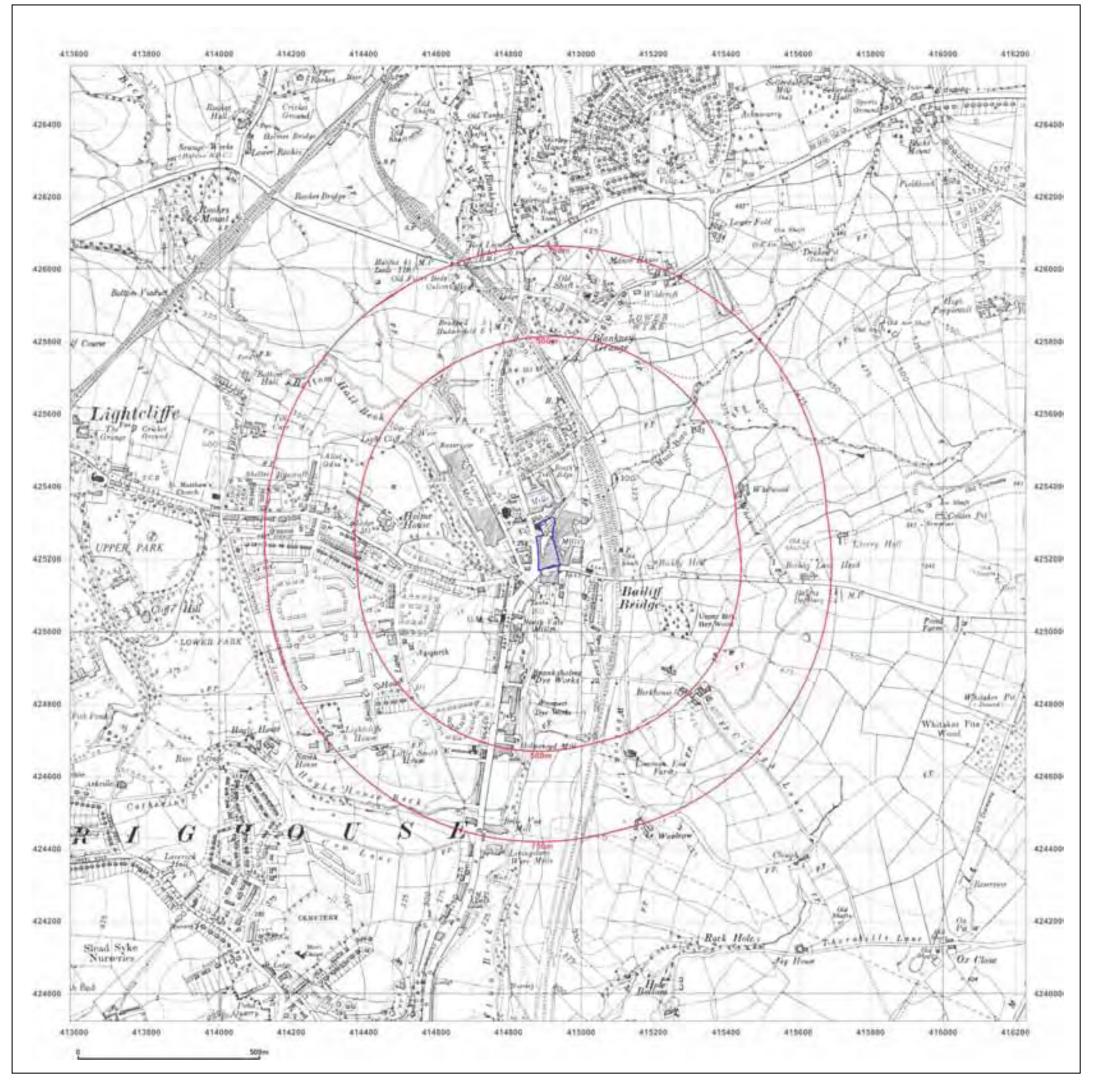




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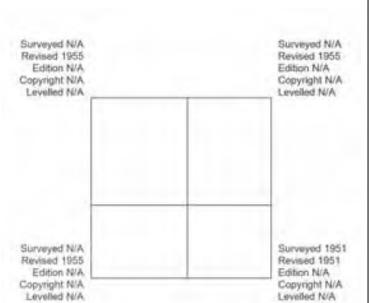
Map Name: Provisional

Scale:

1951-1955 Map date:

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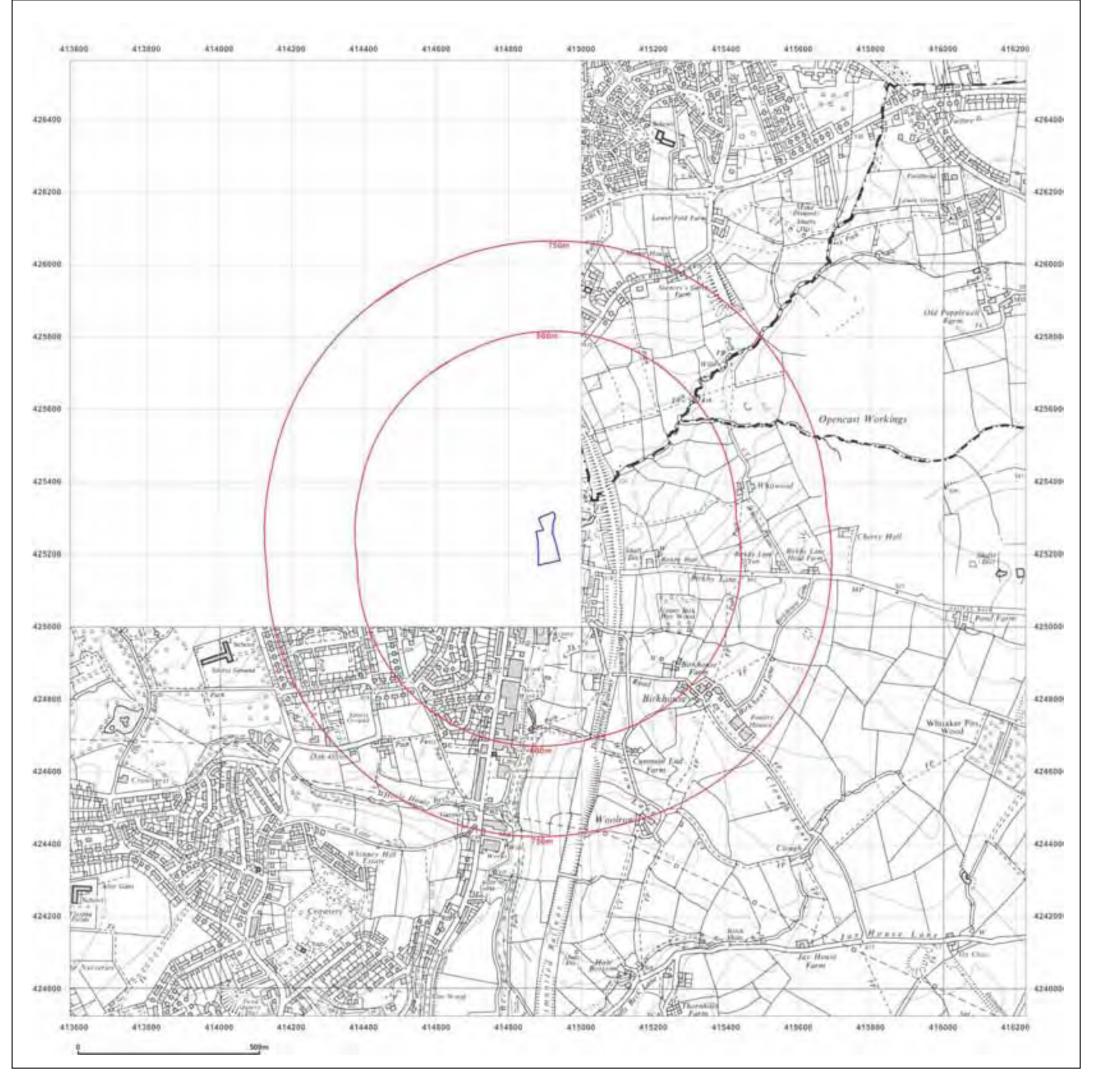




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**Report Ref:** HMD-336-2748862 414908, 425244 **Grid Ref:** 

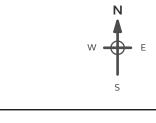
Map Name: Provisional

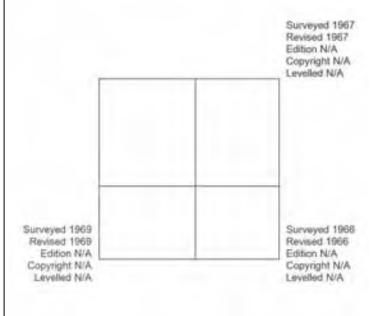
1966-1969 Map date:

1:10,560

**Printed at:** 1:10,560

Scale:



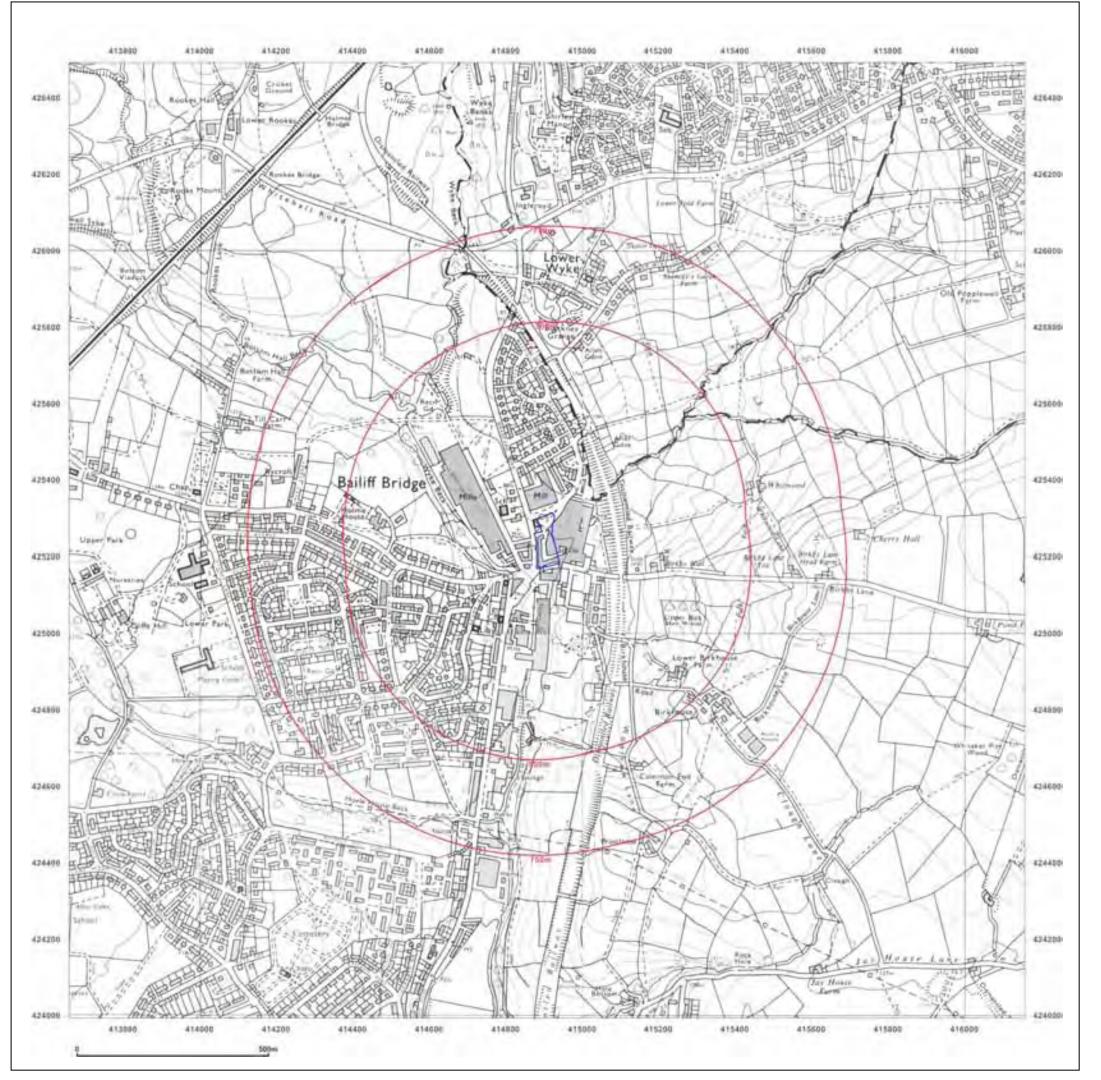




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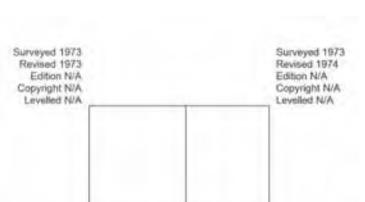
**Report Ref:** HMD-336-2748862 **Grid Ref:** 414908, 425244

Map Name: National Grid

1973-1976 Map date:

Scale: 1:10,000

**Printed at:** 1:10,000



Surveyed 1975 Revised 1976 Edition N/A Copyright N/A Levelled N/A



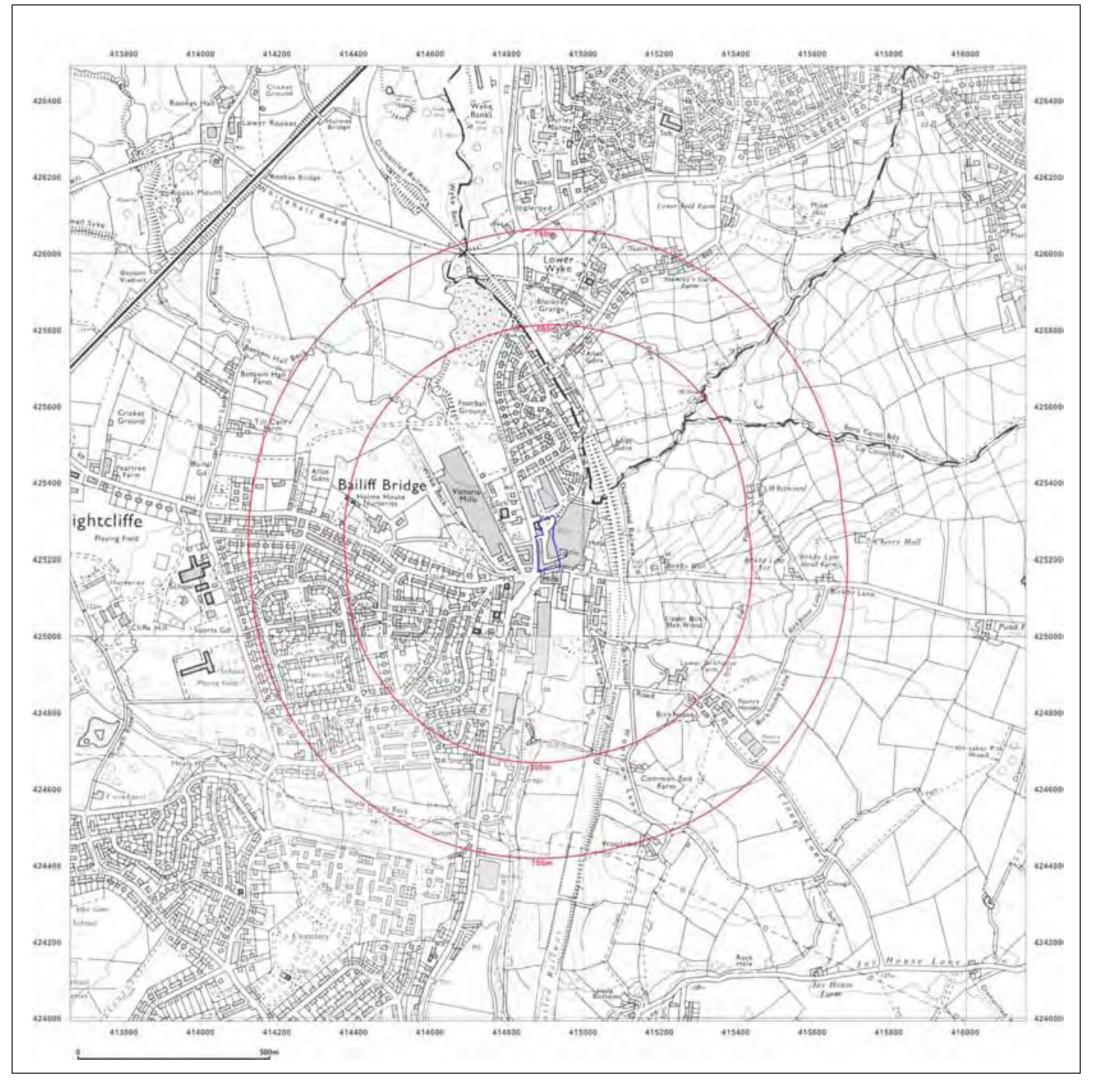
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Client Ref: G2240

**Report Ref:** HMD-336-2748862 **Grid Ref:** 414908, 425244

Map Name: National Grid

Map date: 1981-1985

1:10,000

**Printed at:** 1:10,000

Scale:





Edition N/A

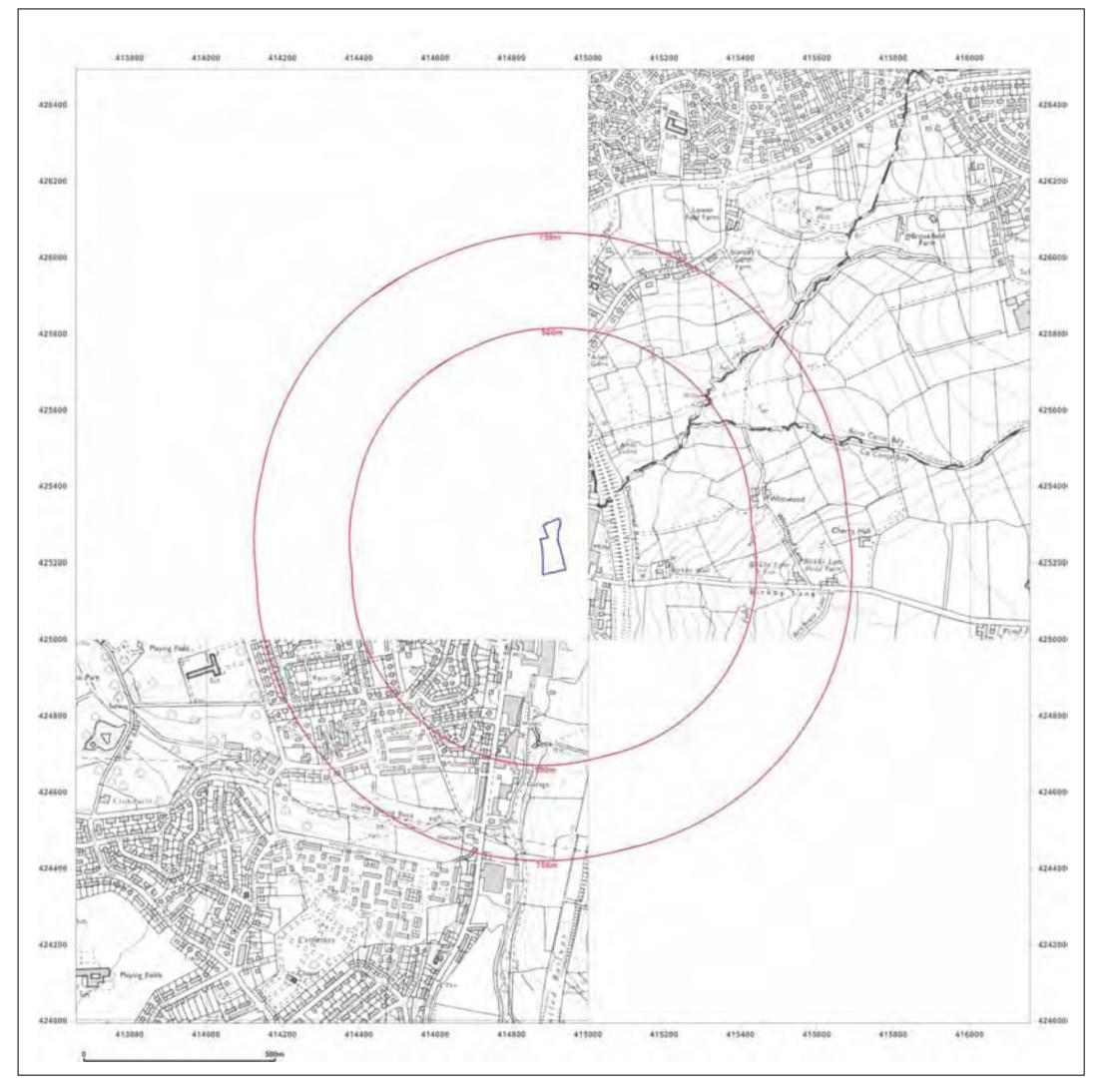
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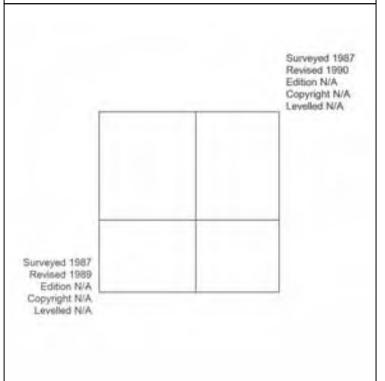
**Report Ref:** HMD-336-2748862 **Grid Ref:** 414908, 425244

Map Name: National Grid

Map date: 1989-1990

**Scale:** 1:10,000

**Printed at:** 1:10,000

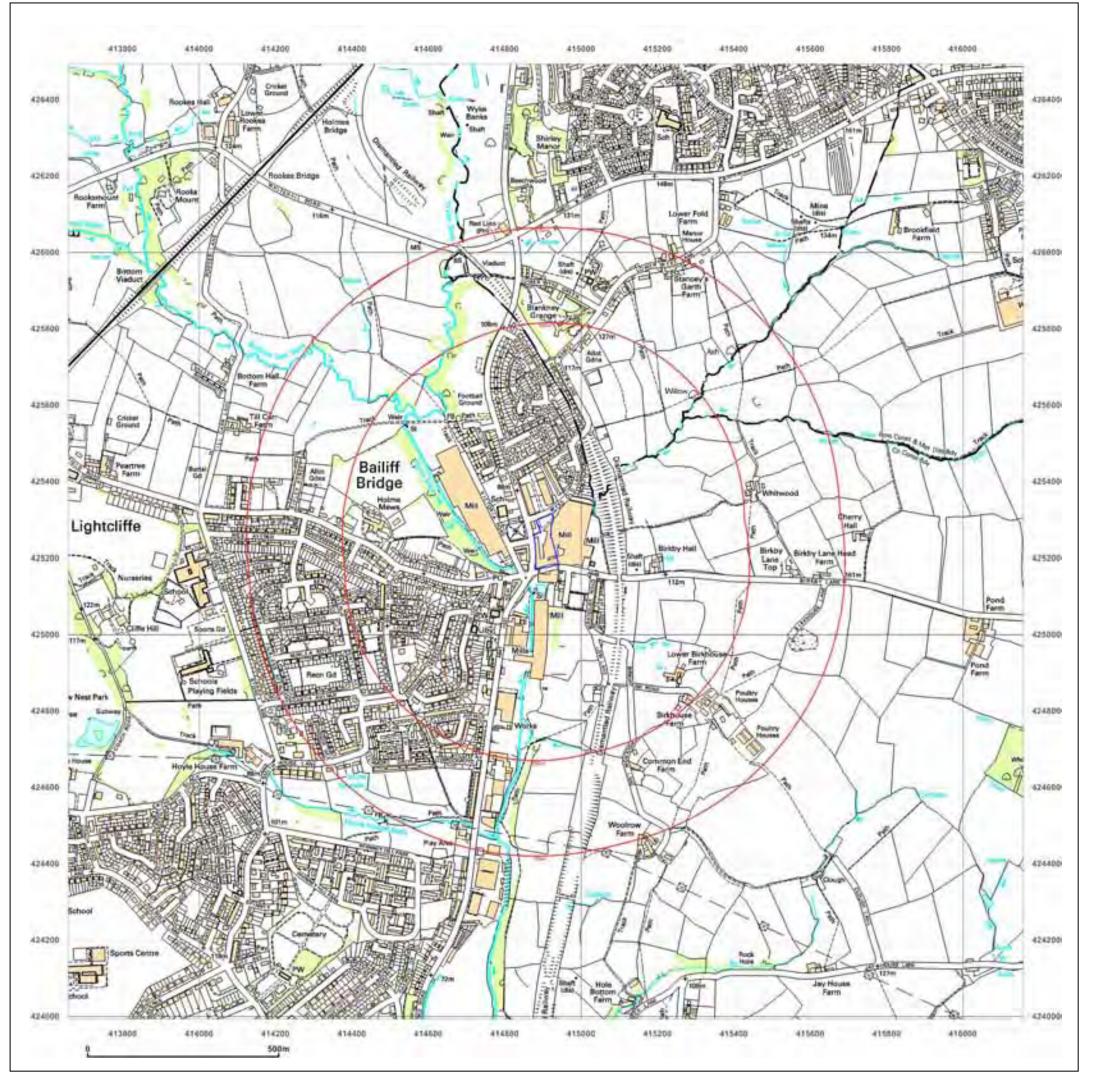




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**Report Ref:** HMD-336-2748862 414908, 425244 **Grid Ref:** 

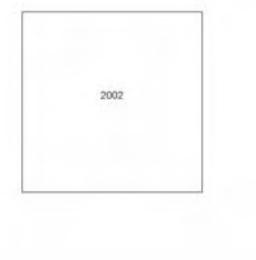
Map Name: 1:10,000 Raster

2002 Map date:

Scale:

1:10,000

**Printed at:** 1:10,000

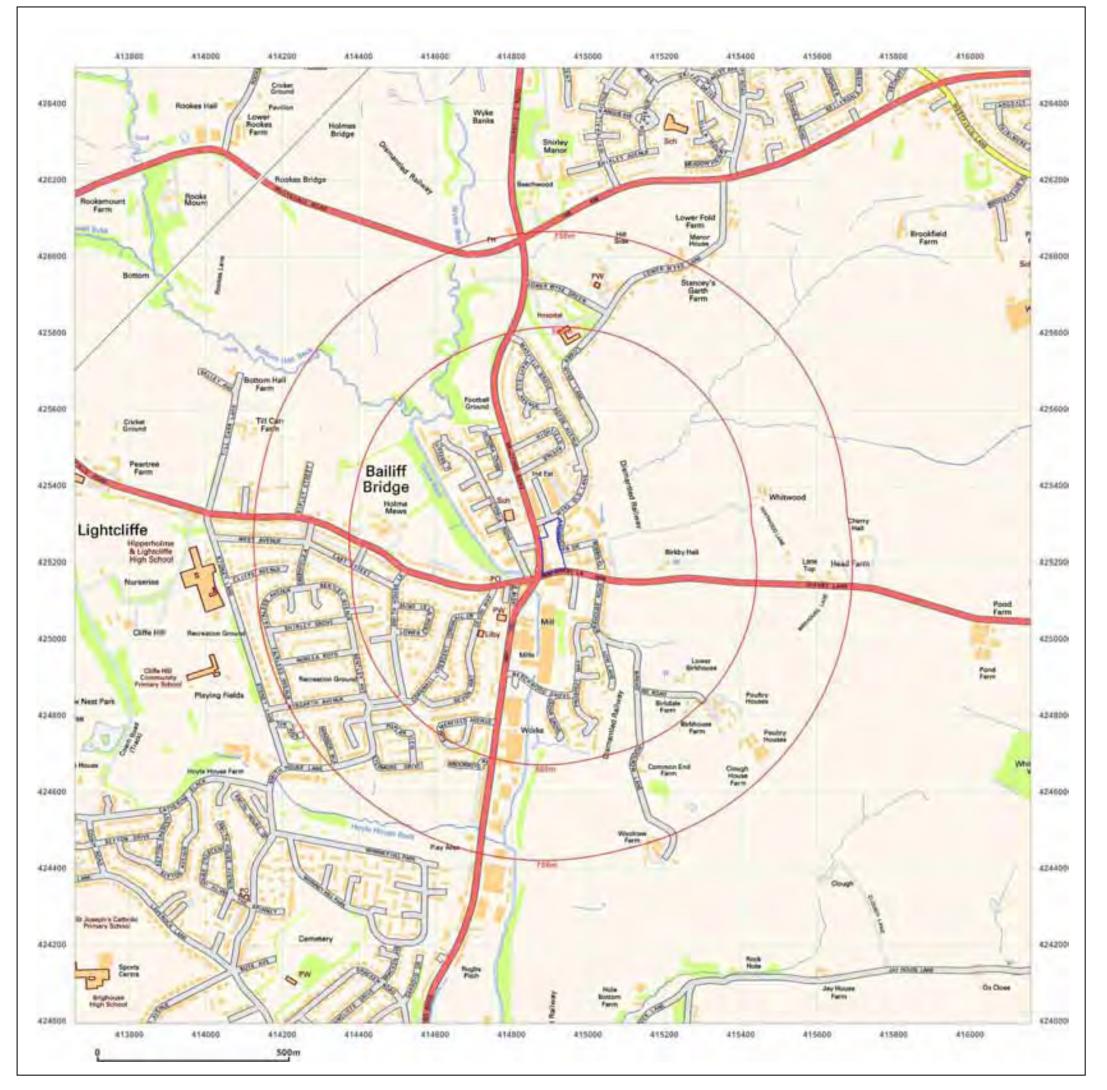




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Client Ref: G2240

**Report Ref:** HMD-336-2748862 414908, 425244 **Grid Ref:** 

Map Name: National Grid

2010 Map date:

Scale: 1:10,000

**Printed at:** 1:10,000



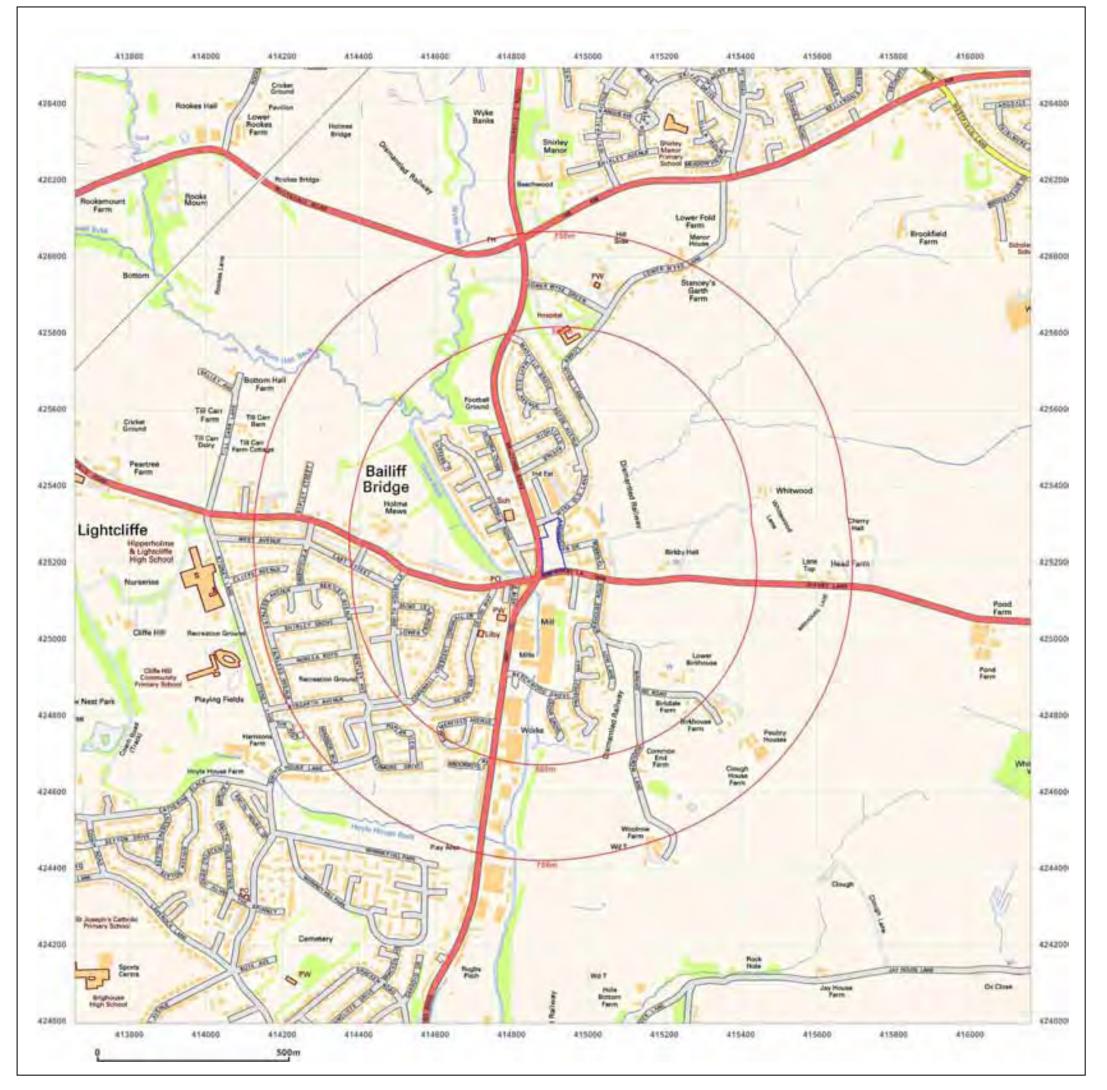
2010



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**Report Ref:** HMD-336-2748862 **Grid Ref:** 414908, 425244

Map Name: National Grid

Map date: 2014

**Scale:** 1:10,000

**Printed at:** 1:10,000



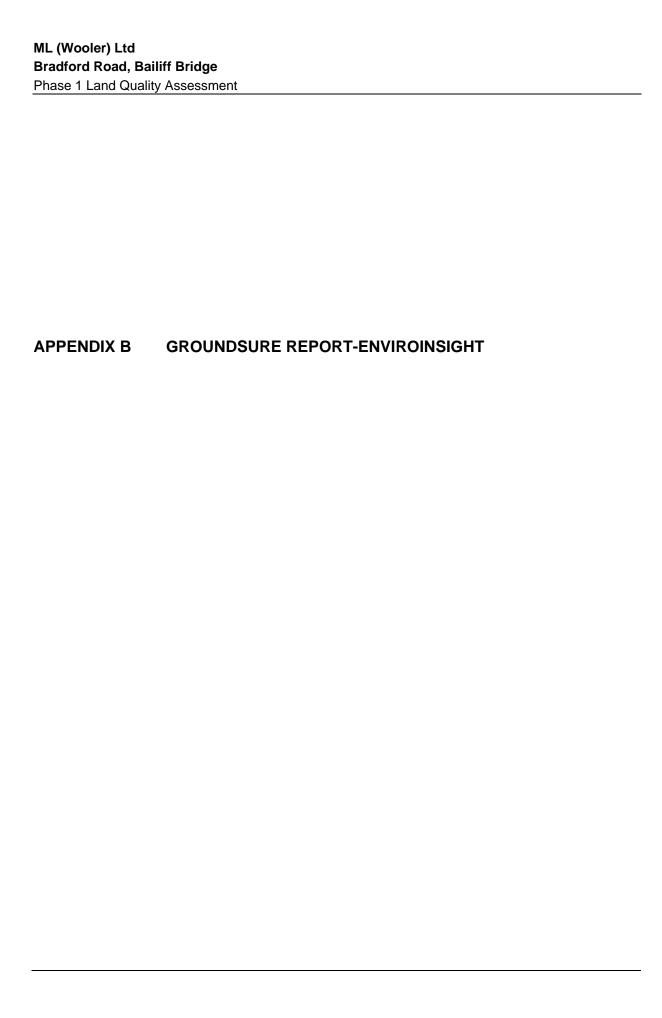
2014



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LOCATION INTELLIGENCE

PSA Design

The Old Bank House, 6 Berry Lane, Longridge, Preston, PR33JA

Groundsure Reference:

HMD-336-2748861

Your Reference: G2240

Report Date

15 Feb 2016

Report Delivery Email - pdf

Method:

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If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,

Managing Director **Groundsure Limited** 

Enc.

Groundsure Enviroinsight



# Groundsure Enviroinsight

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Date: 15 Feb 2016

Reference: HMD-336-2748861

Client: PSA Design

NW NE



Aerial Photograph Capture date: 26-Mar-2012

Grid Reference: 414906,425205

Site Size: 0.60ha

Report Reference: HMD-336-2748861

Client Reference: G2240

SW

2

SE



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**Contact Details** 

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### **Overview of Findings**

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	16	7	71	60
1.2 Additional Information – Historical Tank Database	0	4	11	15
1.3 Additional Information – Historical Energy Features Database	0	1	8	4
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	0	10
1.6 Potentially Infilled Land	0	3	32	26
Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	1	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	0	2
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	0	1	0	2
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	0
2.3 Environment Agency Recorded Pollution Incidents		,		
2.3.1 National Incidents Recording System, List 2	0	7	1	8
2.3.2 National Incidents Recording System, List 1	0	0	2	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Report Reference: HMD-336-2748861

Client Reference: G2240



					LOCATION INT	ELLIGENCE
Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000- 1500
3.1 Landfill Sites						
3.1.1 Environment Agency Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency Historic Landfill Sites	0	0	1	2	2	4
3.1.3 BGS/DoE Landfill Site Survey	0	0	1	0	2	1
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	4	2	2	2
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
3.2.2 Environment Agency Licensed Waste Sites	0	0	1	0	0	2
Section 4: Current Land Use	On-site		0-50m	51-25	0 2	51-500
4.1 Current Industrial Sites Data	0		6	22	No	ot searched
4.2 Records of Petrol and Fuel Sites	0		0	1		0
4.3 National Grid Underground Electricity Cables	0		0	0		0
4.4 National Grid Gas Transmission Pipelines	0		0	0		0
5.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site? 5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.			Y	es		
Section 6: Hydrogeology and Hydrology			0-5	00m		
6.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?			Y	es		
6.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?			Υ	es		
	On-site	0-50m	51-250	251-500	501-1000	1000- 2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	6	0	1
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	1	0	2	0
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	1	0	1	2	Not searched	Not searched
	On-site	0-50m	51-250	251-500	501-1000	1000- 1500

Report Reference: HMD-336-2748861

Client Reference: G2240



Section 6: Hydrogeology and Hydrology			0-50	00m		
6.9 Is there any Environment Agency information on river quality within 1500m of the study site?	No	No	No	No	No	No
6.10 Detailed River Network entries within 500m of the site	0	3	8	12	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	Yes	Yes	Not searched	Not searched	Not searched
Section 7: Flooding						
7.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?			Υ	es		
7.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site			Υ	es		
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?			Very	/ Low		
7.4 Are there any Flood Defences within 250m of the study site?			٨	10		
7.5 Are there any areas benefiting from Flood Defences within 250m of the study site?			N	10		
7.6 Are there any areas used for Flood Storage within 250m of the study site?			٨	10		
7.7 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?			Potential	at Surface		
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?			Lo	OW		
Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000- 2000
	On-site	0-50m 0	51-250 0	251-500	501-1000	
Sites						2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	0
8.1 Records of Sites of Special Scientific Interest (SSSI)  8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0 0
8.1 Records of Sites of Special Scientific Interest (SSSI)  8.2 Records of National Nature Reserves (NNR)  8.3 Records of Special Areas of Conservation (SAC)	0 0	0 0	0 0	0 0	0 0	0 0
8.1 Records of Sites of Special Scientific Interest (SSSI)  8.2 Records of National Nature Reserves (NNR)  8.3 Records of Special Areas of Conservation (SAC)  8.4 Records of Special Protection Areas (SPA)	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
8.1 Records of Sites of Special Scientific Interest (SSSI)  8.2 Records of National Nature Reserves (NNR)  8.3 Records of Special Areas of Conservation (SAC)  8.4 Records of Special Protection Areas (SPA)  8.5 Records of Ramsar sites	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0	0 0 0 0	0 0 0 0
8.1 Records of Sites of Special Scientific Interest (SSSI)  8.2 Records of National Nature Reserves (NNR)  8.3 Records of Special Areas of Conservation (SAC)  8.4 Records of Special Protection Areas (SPA)  8.5 Records of Ramsar sites  8.6 Records of Ancient Woodlands	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	2000 0 0 0 0 0
8.1 Records of Sites of Special Scientific Interest (SSSI)  8.2 Records of National Nature Reserves (NNR)  8.3 Records of Special Areas of Conservation (SAC)  8.4 Records of Special Protection Areas (SPA)  8.5 Records of Ramsar sites  8.6 Records of Ancient Woodlands  8.7 Records of Local Nature Reserves (LNR)	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	2000 0 0 0 0 1 0
8.1 Records of Sites of Special Scientific Interest (SSSI)  8.2 Records of National Nature Reserves (NNR)  8.3 Records of Special Areas of Conservation (SAC)  8.4 Records of Special Protection Areas (SPA)  8.5 Records of Ramsar sites  8.6 Records of Ancient Woodlands  8.7 Records of Local Nature Reserves (LNR)  8.8 Records of World Heritage Sites	0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	2000 0 0 0 0 1 0 0

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Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000- 2000
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	0	0	0	0	0	1
8.14 Records of Green Belt land	0	1	2	1	0	1

Section 9: Natural Hazards	
9.1 What is the maximum risk of natural ground subsidence?	Moderate
9.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Very Low
9.1.2 What is the maximum Landslides hazard rating identified on the study site?	Low
9.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Negligible
9.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Moderate
9.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
9.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Low
9.2 Radon	
9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.
9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary.

Section 10: Mining	
10.1 Are there any coal mining areas within 75m of the study site?	Yes
10.2 Are there any Non-Coal Mining areas within 50m of the study site boundary?	Yes
10.3 Are there any brine affected areas within 75m of the study site?	No

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## Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

#### 1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

#### 2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

#### 3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

#### 4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

#### 5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

#### 6. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

#### 7. Flooding

Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

#### 8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

#### 9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

#### 10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

#### 11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

#### **Note: Maps**

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

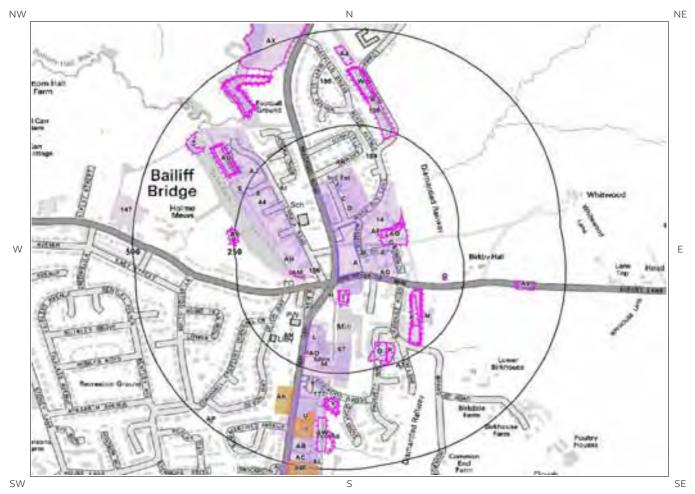
Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

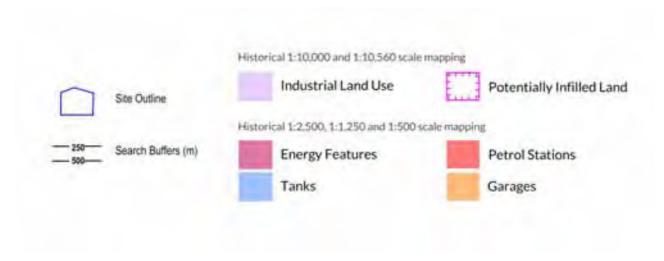
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## 1. Historical Land Use



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## 1. Historical Industrial Sites

#### 1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 154

ID	Distance [m]	Direction Use		Date
1A	0	On Site	Unspecified Mills	1948
2A	0	On Site	Unspecified Mills	1948
3B	0	On Site	Unspecified Mills	1955
4A	0	On Site Unspecified Mills 1905		1905
5B	0	On Site Unspecified Mills		1892
6C	0	On Site	Unspecified Mills	1955
7C	0	On Site	Unspecified Mill	1973
8A	0	On Site Unspecified Mills		1938
9B	0	On Site	Unspecified Commercial/Industrial	1973
10B	0	On Site Unspecified Mills		1984
11A	0	On Site Unspecified Mills		1938
12AF	0	On Site	Unspecified Commercial/Industrial	1938
13D	0	On Site Unspecified Mills 19		1905
14	0	On Site Unspecified 1948 Commercial/Industrial		1948
15C	0	On Site Unspecified 1984 Commercial/Industrial		1984
16A	0	On Site Unspecified Mills 1931		1931
17C	7	NW Unspecified Mills 1948		1948
18B	12	E Chimney 1984		1984
19B	12	E Chimney 1973		1973
20D	13	NW Unspecified Mill 1892		1892
21C	14	N Unspecified Mills 1938		1938
22H	43	SW	Smithy	1905
231	45	S Unspecified Tanks 1955		1955
24F	54	E Unspecified Tank 1905		1905
25E	58	W Unspecified Mills 1984		1984
26E	58	W Unspecified Mills 1955		1955
27E	58	W Unspecified Mills 1973		
28F	59	E Unspecified Tank 1892		
29G	60	E Unspecified Mills 1983		
30G	60	E	Unspecified Mills	1990
31H	63	S	Unspecified Tanks	1948
32H	64	S	Unspecified Tanks	1948

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			LOC	ATION INTELLIGENCE
33H	65	S	Unspecified Tanks	1938
34H	65	S	Unspecified Tanks	1938
35H	65	S	Unspecified Tanks	1931
361	72	S	Unspecified Tanks	1948
371	72	S	Unspecified Tanks	1955
381	73	S	Unspecified Tanks	1938
391	73	S	Unspecified Tanks	1938
401	73	S	Unspecified Tanks	1931
411	73	S	Unspecified Tanks	1948
42AM	84	W	Unspecified Pit	1892
43E	86	W	Unspecified Mills	1938
44	87	W	Unspecified Mills	1948
45J	88	NW	Unspecified Tanks	1938
46J	89	N	Unspecified Tanks	1955
47J	102	N	Unspecified Tanks	1948
48AH	114	W	Unspecified Tanks	1905
49K	130	SE	Unspecified Ground Workings	1938
50K	130	SE	Unspecified Ground Workings	1938
51K	130	SE	Unspecified Ground Workings	1931
52K	132	SE	Unspecified Heap	1948
53K	132	SE	Unspecified Heap	1955
54L	132	S	Unspecified Mills	1892
55K	133	SE Unspecified Ground 1948 Workings		1948
56K	133	SE Unspecified Ground 1948 Workings		1948
57L	133	S Unspecified Mills 1955		1955
58L	136	S Unspecified Mills 1948		1948
59L	137	S Vale Mills 1938		1938
60L	137	S	Vale Mills	1938
61L	137	S	Vale Mills	1931
62L	137	S	Unspecified Mills	1948
63K	138	SE	Unspecified Heap	1905
64L	139	S	Unspecified Mills	1905
65AR	149	N	Unspecified Old Shaft	1905
66E	166	NW	Unspecified Mills	1905
67	169	S	Unspecified Factory	1969
68M	169	S	Unspecified Mills	1976
69M	169	S	Unspecified Mills	1981
70M	169	S	Unspecified Mills	1989
71AO	172	S	Unspecified Mill	1969
72N	180	SE	Railway Buildings	1892
73N	181	SE	Railway Station	1905
740	185	S	Refuse Heap	1981



			LOCA	TION INTELLIGENCE
750	185	S	Refuse Heap	1976
76N	190	SE	Railway Station	1892
77P	195	S	Refuse Heap	1985
78P	195	S	Refuse Heap	1975
79Q	197	E	Unspecified Disused Shaft	1974
80Q	197	E	Unspecified Disused Shaft	1983
81Q	197	E	Unspecified Disused Shaft	1990
82Q	201	E	Unspecified Old Shaft	1948
83Q	201	E	Unspecified Old Shaft	1938
84Q	201	E	Unspecified Old Shaft	1938
85Q	201	E	Unspecified Old Shaft	1931
86Q	201	E	Unspecified Old Shaft	1948
87Q	201	E	Unspecified Old Shaft	1948
88Q	202	E	Unspecified Disused Shaft	1967
89Q	202	E	Unspecified Old Shaft	1955
90R	227	N	Cuttings	1905
91R	227	N	Cuttings	1892
92R	227	N	Cuttings	1948
935	248	W	Unspecified Tank	1948
94\$	248	W	Unspecified Tanks	1938
95AT	260	S	Unspecified Old Shaft	1905
96S	262	NW	Unspecified Tank	1955
97T	262	S	Dye Works	1955
98T	264	S	Dye Works	1948
99T	264	S	Unspecified Works	1905
	264	S	Unspecified Works	1969
101T	265	S	Dye Works	1938
102T	265	S	Dye Works	1931
103T	265	S	Dye Works	1938
	266	S	Dye Works	1948
105	284	N	Railway Building	1938
106U	301	S	Unspecified Works	1976
107U	301	S	Unspecified Works	1989
108V	313	S	Unspecified Ground Workings	1955
109W	314	N	Cuttings	1938
110V	315	S	Unspecified Ground Workings	1938
111V	315	S	Unspecified Ground Workings	1938
112V	315	S	Unspecified Ground Workings	1931
113V	316	S	Unspecified Ground Workings	1948
114V	316	S	Unspecified Ground Workings	1948
115V	317	S	Unspecified Heap	1948
116U	319	S	Dye Works	1955



			LOC	ATION INTELLIGENCE
117U	320	S	Unspecified Industrial/Commercial	1938
118U	320	S	Unspecified Industrial/Commercial	1938
119U	320	S	Unspecified Industrial/Commercial	1931
120U	321	S	Dye Works	1948
121W	322	N	Cuttings	1955
122U	323	S	Dye Works	1948
123Y	325	S	Unspecified Works	1981
124U	326	S	Unspecified Works	1969
125X	361	NW	Refuse Heap	1955
126X	365	NW	Refuse Heap	1938
127X	365	NW	Refuse Heap	1938
128X	367	NW	Refuse Heap	1948
129Y	367	S	Unspecified Pit	1969
130AV	375	E	Cuttings	1905
131Z	389	NW	Unspecified Pit	1938
132Z	389	NW	Unspecified Pit	1938
133AA	405	N	Cuttings	1905
134AA	405	N	Cuttings	1892
135AA	405	N	Cuttings	1948
136AB	412	S	Unspecified Works	1969
137AB	427	S	Dye Works	1938
138AB	427	S	Dye Works	1938
139AB	427	S	Dye Works	1931
140AC	428	S	Unspecified Mill	1948
141AX	440	N	Refuse Heap	1984
142AC	459	S	Unspecified Mill	1955
143AC	460	S	Unspecified Mill	1948
144AC	461	S	Unspecified Mill	1938
145AC	461	S	Unspecified Mill	1938
146AC	461	S	Unspecified Mill	1931
147	466	W	Nurseries	1984
148AD	480	S	Garage	1976
149AD	480	S	Garage	1989
150AD	486	S	Garage	1981
151AE	488	S	Garage	1969
152AE	492	S	Unspecified Industrial/Commercial	1938
153AE	492	S	Unspecified Industrial/Commercial	1938
154AE	492	S	Unspecified Industrial/Commercial	1931



#### 1.2 Additional Information - Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary:

30

ID	Distance (m)	<b>Direction</b> Use		Date
155A	11	E	Unspecified Tank	1907
156B	16	Е	Unspecified Tank	1958
157B	16	E Unspecified Tank 1958		1958
158AF	32	E	Unspecified Tank	1893
159AG	51	Е	Tanks	1988
160F	56	Е	Unspecified Tank	1893
161F	56	Е	Gasometer	1907
162AG	59	E	Unspecified Tank	1992
1631	70	S	Tanks	1933
164J	82	N	Tanks	1933
165AG	83	E	Unspecified Tank	1992
166AG	84	Е	Unspecified Tank	1986
167AH	113	W	Tanks	1907
168AI	167	NW Unspecified Tank 1981		1981
169AI	170	NW Unspecified Tank 1988		1988
170AJ	252	NW Unspecified Tank 1958		1958
171AJ	252	NW Unspecified Tank 1958		1958
172S	255	W Unspecified Tank 1922		1922
173S	261	W Unspecified Tank 1933		1933
174S	287	NW Unspecified Tank 198		1981
175T	290	S	S Unspecified Tank 1933	
176T	304	S	Unspecified Tank	1922
177	310	S	S Unspecified Tank 1933	
178AK	344	SW Unspecified Tank 1994		1994
179AK	344	SW Unspecified Tank 1970		1970
180AB	467	S Unspecified Tank 1961		
181AC	482	S Unspecified Tank 1970		
182AL	485	S Unspecified Tank 1994		
183AL	494	S	Unspecified Tank	1994
184AC	495	S	Unspecified Tank	1970

#### 1.3 Additional Information - Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

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Records of historical energy features within 500m of the search boundary:

13

ID	Distance (m)	Direction <b>Use</b>		Date
185	16	S Electricity Substation 1988		1988
186	54	W	Electricity Substation	1988
187F	56	E	Gasometer	1907
188AM	82	W	Gas Governor	1988
189	167	N Electricity Substation 1988		1988
190AN	192	SW Electricity Substation 1981		1981
191AN	194	SW Electricity Substation 1988		1988
192AO	201	S Electricity Substation 1970		1970
193AO	204	S Electricity Substation 1994		1994
194T	295	S Electricity Substation 1970		1970
195	363	N Electricity Substation 1975		1975
196AP	484	SW Electricity Substation 1994		1994
197AP	484	SW	Electricity Substation	1970

#### 1.4 Additional Information - Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary:

0

10

Database searched and no data found.

#### 1.5 Additional Information - Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary:

ID	Distance (m)	Direction	Use	Date
198AK	308	S Service Station 196		1964
199AK	308	S Service Station 19		1970
200AK	309	S	Service Station	1994
201U	357	S Garage 190		1961
202Y	358	S Garage 195		1958
203AD	487	S	Garage	1994
204AE	489	S Garage		1964
205AD	489	S Garage 1970		1970
			·	

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				200/11/01/11/12/22/02/102	
206AC	490	S	Garage	1958	
207AC	491	S	Garage	1961	-

#### 1.6 Potentially Infilled Land

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

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

ID	Distance(m)	Direction	Use	Date
2081	34	S	Pond	1892
2091	45	S	Pond	1984
2101	45	S	S Pond 19	
211AQ	52	E	Reservoir	1938
212AQ	58	E	Reservoir	1948
213AQ	58	E	Pond	1905
214AQ	58	E	Pond	1892
215AQ	72	E	Pond	1967
216AM	84	W	Unspecified Pit	1892
217K	132	SE	Unspecified Heap	1948
218K	132	SE	Unspecified Heap	1955
219K	133	SE	Unspecified Ground Workings	1948
220K	133	SE	Unspecified Ground Workings	1948
221K	138	SE	Unspecified Heap	1905
222AR	149	N	Unspecified Old Shaft	1905
2230	185	S	Refuse Heap	1981
2240	185	S Refuse Heap 1976		1976
2250	195	S Refuse Heap		1975
2260	195	S Refuse Heap 198		1985
227Q	197	E Unspecified Disused Shaft 197		1974
228Q	197	E Unspecified Disused Shaft 19		1983
229Q	197	E Unspecified Disused Shaft		1990
230Q	201	Е	Unspecified Old Shaft	1948
231Q	201	Е	Unspecified Old Shaft	1948
232Q	201	Е	Unspecified Old Shaft	1948
233Q	202	E	Unspecified Old Shaft	1955
234Q	202	Е	Unspecified Disused Shaft	1967
235R	227	N	Cuttings	1905
236R	227	N Cuttings 1948		1948
237R	227	N	Cuttings	1892
238AS	240	W Pond 1905		
239AS	240	W Pond 1948		
2.10.1.5	240	W Pond 1892		1892
240AS				
240AS 241AS	242	W	Pond	1955

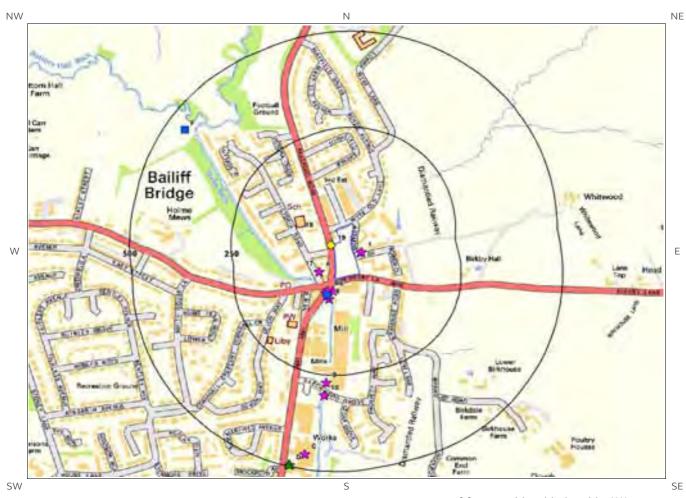
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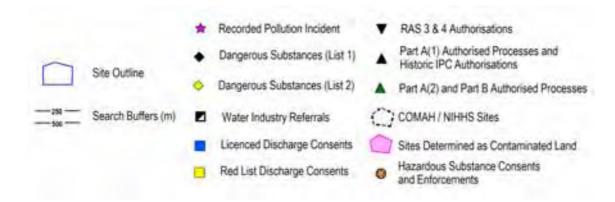
			200.	
243AT	260	S	Unspecified Old Shaft	1905
244AU	287	NW	Reservoir	1948
245AU	287	NW	Pond	1892
246AU	287	NW	Reservoir	1905
247AU	290	NW	Reservoir	1955
248AU	290	NW	Pond	1973
249AU	293	NW	Reservoir	1938
250V	313	S	Unspecified Ground Workings	1955
251W	314	N	Cuttings	1938
252V	316	S	Unspecified Ground Workings	1948
253V	316	S	Unspecified Ground 1948 Workings	
254V	317	S	Unspecified Heap 1948	
255W	322	N	Cuttings 1955	
256X	361	NW	NW Refuse Heap 1955	
257X	365	NW	NW Refuse Heap 1938	
258X	365	NW	NW Refuse Heap 1938	
259X	367	NW	V Refuse Heap 1948	
260AW	367	S	Unspecified Pit	1969
261AV	375	Е	Cuttings	1905
262Z	389	NW	Unspecified Pit	1938
263Z	389	NW	Unspecified Pit	1938
264AW	400	S	Pond	1969
265AA	405	N	Cuttings	1892
266AA	405	N	N Cuttings 1905	
267AA	405	N	Cuttings	1948
268AX	440	N	Refuse Heap	1984



# 2. Environmental Permits, Incidents and Registers Map



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# 2. Environmental Permits, Incidents and Registers

#### 2.1 Industrial Sites Holding Licences and/or Authorisations

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#### 2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

1

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

ID	Distance (m)	Direction	NGR	Details		
19	4	W	414870 425260	Name: Firth Carpets Ltd, Brighouse Status: Not Active Receiving Water: -	Authorised Substances: Chromium, Permethrin	

#### 2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

2

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details		
23D	Address: Bailiff Bridge Petrol Filling Station, 364 Bradford Road, Brighouse 496 S 414767 HD6 4DH 424688 Process: Stage 1b PVR Status: Current Permit Permit Type: Part B		Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified			
24D	496	S	414767 424688	Address: Dews Garages Ltd, Bradford Road, Bailiff Bridge, Brighouse, HD6 4DH Process: Vehicle Respraying And Petrol Recovery Processes Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified	

#### 2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

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

3

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

ID	Distance (m)	Direction	NGR	Details			
20E	47	SW	414860 425130	Address: WYKE OLD LANE CSO, WYKE OLD LANE/BRADFORD ROAD, BRIGHOUSE, WEST YORKSHIRE Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WRA8426 Permit Version: 1	Receiving Water: Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 18/03/2005 Effective Date: 18-Mar-2005 Revocation Date: -		
21F	454	NW	414510 425560	Address: WYKE BECK CSO, TRACK OFF VICTORIA ROAD, BAILIFF BRIDGE, BRIGHOUSE, WEST YORKSHIRE Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WADC1512 Permit Version: 1	Receiving Water: Status: TRANSFERRED FROM WATER ACT 1989 Issue date: 18/09/1989 Effective Date: 18-Sep-1989 Revocation Date: 13/04/2009		
22F	454	NW	414510 425560	Address: WYKE BECK CSO, TRACK OFF VICTORIA ROAD, BAILIFF BRIDGE, BRIGHOUSE, WEST YORKSHIRE Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: WADC1512 Permit Version: 2	Receiving Water: Status: TRANSFERRED FROM WATER ACT 1989 Issue date: 14/04/2009 Effective Date: 14-Apr-2009 Revocation Date: -		

2.1.9 Records of	Water In	idustry Re	ferrals (	(potentially	/ harmful	discharges	to the pu	ıblic sewer)	within
500m of the stud	dy site:								

0

Database searched and no data found.

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

Report Reference: HMD-336-2748861



#### 2.2 Dangerous or Hazardous Sites

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

0

Database searched and no data found.

#### 2.3 Environment Agency Recorded Pollution Incidents

#### 2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

16

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

ID	Distance (m)	Direction	NGR	Details			
1	1 17 E		414944 425242	Incident Date: 11-Dec-2002 Incident Identification: 125540 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)		
2E	31	S	414875 425141	Incident Date: 19-Jun-2006 Incident Identification: 408875 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)		
3B	36	SW	414861 425142	Incident Date: 10-Apr-2003 Incident Identification: 150166 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)		
4A	41	W	414840 425191	Incident Date: 17-Jul-2001 Incident Identification: 16938 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)		
5A	41	W	414840 425191	Incident Date: 17-Jul-2001 Incident Identification: 16938 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)		
6B	43	SW	414858 425135	Incident Date: 29-May-2003 Incident Identification: 161721 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)		
7B	49	SW	414860 425127	Incident Date: 09-Oct-2003 Incident Identification: 195307 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)		
8	54	S	414864 425120	Incident Date: 18-Sep-2005 Incident Identification: 347234 Pollutant: Sewage Materials Pollutant Description: Grey Water	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)		
9	270	S	414857 424902	Incident Date: 18-Oct-2002 Incident Identification: 115631 Pollutant: Inert Materials and Wastes Pollutant Description: Soils and Clay	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)		
10	303	S	414852 424869	Incident Date: 21-Mar-2007 Incident Identification: 478658 Pollutant: Inert Materials and Wastes Pollutant Description: Other Inert Material or Waste	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)		

Report Reference: HMD-336-2748861



ID	Distance (m)	Direction	NGR	Det	ails
11C	460	S	414805 424717	Incident Date: 09-Jul-2002 Incident Identification: 90162 Pollutant: Oils and Fuel Pollutant Description: Lubricating Oils	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
12C	460	S	414805 424717	Incident Date: 09-Jul-2002 Incident Identification: 90162 Pollutant: Contaminated Water Pollutant Description: Other Contaminated Water	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
13C	460	S	414805 424717	Incident Date: 09-Jul-2002 Incident Identification: 90162 Pollutant: Contaminated Water:Oils and Fuel Pollutant Description: Other Contaminated Water:Lubricating Oils	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
14D	497	S	414767 424688	Incident Date: 04-Aug-2002 Incident Identification: 97377 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
15D	497	S	414767 424688	Incident Date: 23-Jul-2001 Incident Identification: 18161 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
16D	497	S	414767 424688	Incident Date: 28-Mar-2003 Incident Identification: 146804 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

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

2

The following NIRS List 1 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distanc e(m)	Direction	NGR	Detai	ils
17	81	W		Incident Date: 07-Jun-1999 Incident Identification: 3542.0 Catchments Name: CALDER AND TRIBS Water Description: RIVER STRETCH (FRESHWATER) Water Course: CHUM HALL BECK Incident Substantiated: Yes	Priority Description: Immediate (2 Hours) Waste Description: Not Available Water Impact: Significant Impact Land Impact: No Impact Air Impact: No Impact Action Taken: Not Available
18	82	W		Incident Date: 05-Jun-1999 Incident Identification: 3585.0 Catchments Name: CALDER AND TRIBS Water Description: RIVER STRETCH (FRESHWATER) Water Course: CHUM HALL BECK Incident Substantiated: Yes	Priority Description: Immediate (2 Hours) Waste Description: Not Available Water Impact: Significant Impact Land Impact: No Impact Air Impact: No Impact Action Taken: Not Available

Report Reference: HMD-336-2748861



0

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

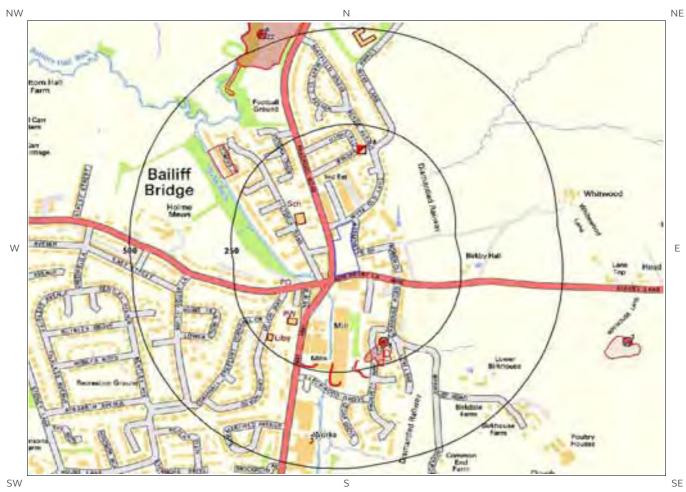
How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site?

Database searched and no data found.

Report Reference: HMD-336-2748861



## 3. Landfill and Other Waste **Sites Map**



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Report Reference: HMD-336-2748861



## 3. Landfill and Other Waste Sites

#### 3.1 Landfill Sites

3.1.1 Records from Environment Agency landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:

9

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

ID	Distance (m)	Direction	NGR	Det	tails
5	201	S	415000 424900	Site Address: Firth's Tip, Birkhouse Lane, Halifax, Yorkshire Waste Licence: - Site Reference: - Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: Firth's Carpets Limited First Recorded: - Last Recorded: -
6	283	NW	414600 425400	Site Address: Former Mill Pond, Clifton Mills, Bailiff Br, Bailiff Bridge, Brighouse, West Yorkshire Waste Licence: Yes Site Reference: 4700/0268 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: YQ3/L/FIR003	Licence Issue: 11-Jun-1981 Licence Surrendered: 29-Jan-1999 Licence Hold Address: Clifton Mills, Bailiff Bridge, Brighouse, West Yorkshire Operator: - First Recorded: 31-Dec-1981 Last Recorded: -
7A	427	NW	414700 425800	Site Address: Bailiff Bridge Tip, Bradford Road, Brighouse, West Yorkshire Waste Licence: - Site Reference: C1117 Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: Brighouse Borough Cleansing Department First Recorded: 31-Dec-1932 Last Recorded: 31-Dec-1971
8	638	E	415500 424900	Site Address: Birkhouse Lane, Birkby Lane, Brighouse, West Yorkshire Waste Licence: - Site Reference: C1904 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: Bond Farm, Birkby Lane, Bailiff Bridge Brighouse Operator: J Collins First Recorded: 01-Jan-1973 Last Recorded: 31-Dec-1989

Report Reference: HMD-336-2748861



ID	Distance (m)	Direction	NGR	De	tails
Not shown	859	S	414700 424200	Site Address: Livingstone Mills, Bradford Road, Brighouse Waste Licence: - Site Reference: C1815 Waste Type: Inert, Industrial Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: - First Recorded: 01-Jun-1985 Last Recorded: 30-Jun-1985
Not shown	1066	S	414600 424100	Site Address: Joiners Shop, Opposite 305 Bradford Road, Brighouse Waste Licence: - Site Reference: C1813 Waste Type: Industrial Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: John Jagger and Sons First Recorded: 31-Jan-1980 Last Recorded: 31-May-1983
Not shown	1105	SE	415600 424200	Site Address: Jay House Farm, Jay House Lane, Clifton, Brighouse Waste Licence: - Site Reference: - Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: - First Recorded: - Last Recorded: -
Not shown	1416	SW	414000 423900	Site Address: Pond Quarry, Lightcliffe Road, Hove Edge, Brighouse, West Yorkshire Waste Licence: - Site Reference: - Waste Type: Industrial Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: Brighouse Estates (Contractors) Limited First Recorded: - Last Recorded: -
Not shown	1464	W	413300 425100	Site Address: Crow Nest Park (north), Brighouse, Huddersfield, West Yorkshire Waste Licence: - Site Reference: - Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: Brookes Lightcliffe Estates Limited First Recorded: 31-Dec-1970 Last Recorded: -

#### 3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

4

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

ID	Distance (m)	Direction	NGR	Details	
1	194	S	415000.0 425000.0	Address: Firths Tip, Birkhouse Lane, Halifax, Yorks BGS Number: 741.0	Risk: No risk to aquifer Waste Type: N/A
2A	531	NW	414700.0 425800.0	Address: Bailiff Bridge Tip, Bradford Road, Brighouse,Yorks BGS Number: 739.0	Risk: No risk to aquifer Waste Type: N/A
3	3 684 -		415600.0 425000.0	Address: Birkhouse Lane, Birkby Lane, Brighouse, W. Yorks BGS Number: 1903.0	Risk: No risk to aquifer Waste Type: N/A
Not shown	1408	SW	414100.0 424000.0	Address: Pond Quarry, Lightcliffe Rd, Brighouse,Huddersf'ld BGS Number: 749.0	Risk: No risk to aquifer Waste Type: N/A

Report Reference: HMD-336-2748861



### 3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

10

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

ID	Distance (m)	Direction	NGR	Site Address	Source	Data Type
17	195	S	414976 424968	Refuse Tip	1969 mapping	Polygon
18	225	S	414868 424915	Refuse Tip	1964 mapping	Polygon
19	226	S	414927 424930	Refuse Tip	1964 mapping	Polygon
20	233	S	414803 424939	Refuse Tip	1964 mapping	Polygon
21	430	S	414822 424740	Refuse Tip	1964 mapping	Polygon
22	441	N	414723 425819	Refuse Tip	1974 mapping	Polygon
Not shown	598	S	414790 424544	Refuse Tip	1969 mapping	Polygon
Not shown	598	S	414789 424545	Refuse Tip	1964 mapping	Polygon
Not shown	1333	NE	415990 426121	Refuse Tip	1962 mapping	Polygon
Not shown	1461	W	413347 425099	Refuse Tip	1971 mapping	Polygon

#### 3.2 Other Waste Sites

3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

0

Database searched and no data found.

Report Reference: HMD-336-2748861



#### 3.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:

3

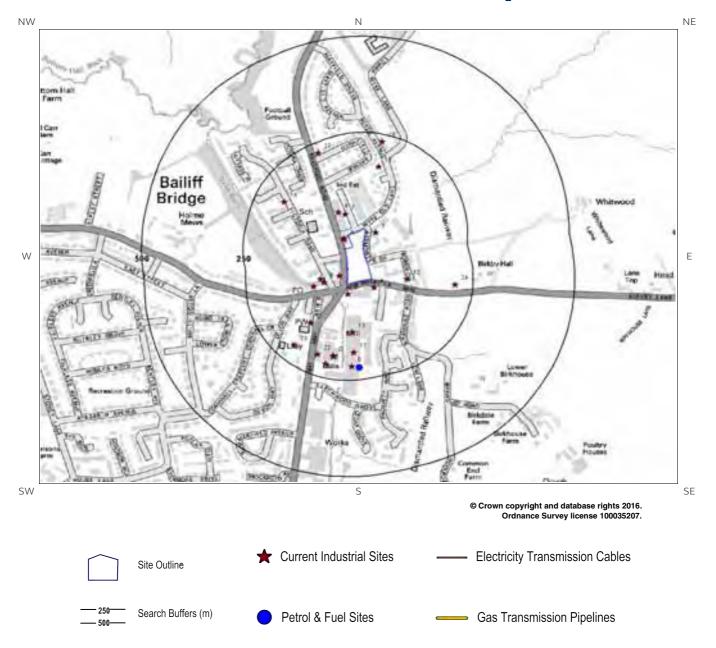
The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details			
14	186	N	414945 425500	Site Address: Clifton Mills, Bailiff Br, Bailiff Bridge, Brighouse, West Yorkshire, HD6 4EJ Type: Landfill taking Non-Biodegradeable Wastes Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: FIR003 EPR reference: EA/EPR/TP3199ZX/S002 Operator: Firth Carpets Ltd Waste Management licence No: 60739 Annual Tonnage: 150000.0	Issue Date: 11/06/1981 Effective Date: - Modified: - Surrendered Date: 29/01/1999 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Former Mill Pond Correspondence Address: -, -		
Not shown	1368	SW	414140 424022	Site Address: Land / Premises At, Lightcliffe Road, Brighouse, West Yorkshire, HD6 Type: Landfill taking Non-Biodegradeable Wastes Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: HAR001 EPR reference: EA/EPR/TP3499ZC/A001 Operator: Hard York Ltd Waste Management licence No: 60736 Annual Tonnage: 150000.0	Issue Date: 14/08/1980 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Pond Quarry Correspondence Address: -, -		
Not shown	1368	SW	414140 424022	Site Address: Land / Premises At, Lightcliffe Road, Brighouse, West Yorkshire, HD6 2HZ Type: Landfill taking Non-Biodegradeable Wastes Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: HAR001 EPR reference: EA/EPR/TP3499ZC/S002 Operator: Hard York Limited Waste Management licence No: 60736 Annual Tonnage: 0.0	Issue Date: 14/08/1980 Effective Date: - Modified: - Surrendered Date: 26/06/2014 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Pond Quarry Correspondence Address: -, -		

Report Reference: HMD-336-2748861



## 4. Current Land Use Map



Report Reference: HMD-336-2748861



## 4. Current Land Uses

#### 4.1 Current Industrial Data

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

28

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

ID	Distance (m)	Directio n	Company	NGR	Address	Activity	Category
1A	12	W	B L Classics	414873 425289	The Old Chapel, Wyke Old Lane, Brighouse, HD6 4EH	New Vehicles	Motoring
2A	15	W	Oiltech Europe Ltd	414870 425288	Bradford Road, Brighouse, HD6 4EA	Fuel Distributors and Suppliers	Household, Office, Leisure and Garden
3	20	W	Clearwell Pest Control Services	414860 425193	635a, Bradford Road, Brighouse, HD6 4DY	Pest and Vermin Control	Contract Services
4	23	S	Electricity Sub Station	414946 425163	HD6	Electrical Features	Infrastructure and Facilities
5	23	Е	Electricity Sub Station	414950 425306	HD6	Electrical Features	Infrastructure and Facilities
6	25	S	Alliance Valves & Piping Supplies Manufacturin g Ltd	414881 425146	Clifton House, Birkby Lane, Bailiff Bridge, Brighouse, HD6 4JJ	General Construction Supplies	Industrial Products
7	52	N	Branxholme Industrial Estate	414876 425354	HD6	Business Parks and Industrial Estates	Industrial Features
8B	58	W	Mobile Motor Factors	414822 425177	1, Victoria Road, Brighouse, HD6 4DX	Vehicle Parts and Accessories	Motoring
9	63	NW	Shire Fleet Sales	414858 425358	Unit 7 Branxholme Industrial Estate, Bradford Road, Brighouse, HD6 4EA	New Vehicles	Motoring
10B	66	W	Electricity Sub Station	414815 425186	HD6	Electrical Features	Infrastructure and Facilities
11	84	W	Gas Governor Station	414797 425166	HD6	Gas Features	Infrastructure and Facilities
12	88	Е	Tank	415029 425185	HD6	Tanks (Generic)	Industrial Features
13	125	S	High Class Motors	414892 425046	Clifton Mills, Birkby Lane, Bailiff Bridge, Brighouse, HD6 4JJ	Vehicle Repair, Testing and Servicing	Repair and Servicing
14C	136	SW	Print It	414789 425071	609, Bradford Road, Brighouse, HD6 4DN	Published Goods	Industrial Products
15C	136	SW	Kirklees Music	414789 425071	609, Bradford Road, Brighouse, HD6 4DN	Recording Studios and Record Companies	IT, Advertising, Marketing and Media Services
16	166	N	Electricity Sub Station	414958 425478	HD6	Electrical Features	Infrastructure and Facilities

Report Reference: HMD-336-2748861



ID	Distance (m)	Directio n	Company	NGR	Address	Activity	Category
17	177	S	Monarch Art Stone Ltd	414897 424995	Cliston Mills, Bradford Road, Brighouse, HD6 4DN	Stone Quarrying and Preparation	Extractive Industries
18	179	NW	Electricity Sub Station	414725 425386	HD6	Electrical Features	Infrastructure and Facilities
19D	189	S	Clifton Lighting	414845 424985	North Vale Mills, Bradford Road, Brighouse, HD6 4DJ	Lampshades and Lighting	Consumer Products
20D	189	S	Copley Marshall & Company Ltd	414846 424985	North Vale Mills, Bradford Road, Brighouse, HD6 4DJ	Textiles, Fabrics, Silk and Machinery	Industrial Products
21D	189	S	Power Cylinder Products Ltd	414846 424985	Bradford Road, North Vale Mills, Brighouse, HD6 4DJ	Pumps and Compressors	Industrial Products
22	196	S	North Vale	414806 424989	Bradford Road, Brighouse, HD6 4DJ	Textiles, Fabrics, Silk and Machinery	Industrial Products
23	205	SW	Electricity Sub Station	414750 425014	HD6	Electrical Features	Infrastructure and Facilities
24	205	Е	Shaft (Disused)	415146 425171	HD6	Unspecified Quarries Or Mines	Extractive Industries
25	212	S	Electricity Sub Station	414827 424966	HD6	Electrical Features	Infrastructure and Facilities
26E	213	S	CFS	414892 424958	Unit 11 Clifton Mills, Birkby Lane, Bailiff Bridge, Brighouse, HD6 4JJ	Distribution and Haulage	Transport, Storage and Delivery
27	225	N	Crystal	414808 425513	1, Highfield Avenue, Brighouse, HD6 4EB	Electrical Equipment Repair and Servicing	Repair and Servicing
28	231	Ν	Calder Communciati ons	414966 425542	4, Royds Avenue, Brighouse, HD6 4EG	Radar and Telecommunications Equipment	Industrial Products

#### 4.2 Petrol and Fuel Sites

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

The following petrol or fuel site records provided by Catalist are represented as points on the Current Land Use map:

ID	Distance (m)	Directio n	NGR	Company	Address	LPG	Status
29E	219	S	414910 424954	Obsolete	Colgan Car Sales, Bradford Road, Bradford Road, Bailiffe Bridge, Brighouse, West Yorkshire, HD6 4DH	Not Applicable	Obsolete

Report Reference: HMD-336-2748861

Client Reference: G2240

34

1



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#### 4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site:

Database searched and no data found.

#### 4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site:

Database searched and no data found.

Report Reference: HMD-336-2748861



## 5. Geology

#### 5.1 Artificial Ground and Made Ground

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

Lex Code	Description	Rock Type
MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

#### 5.2 Superficial Ground and Drift Geology

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

Lex Code	Description	Rock Type
ALV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]
ALV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]

#### 5.3 Bedrock and Solid Geology

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

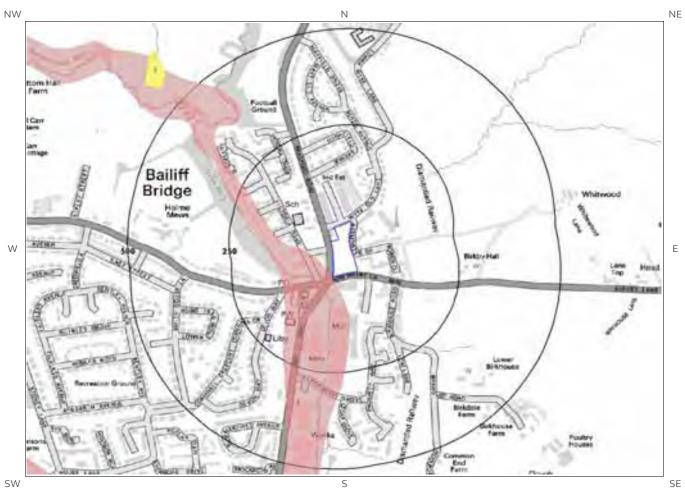
Lex Code	Description	Rock Type
PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION	MUDSTONE, SILTSTONE AND SANDSTONE

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

Report Reference: HMD-336-2748861



## 6 Hydrogeology and Hydrology 6a. Aquifer Within Superficial Geology



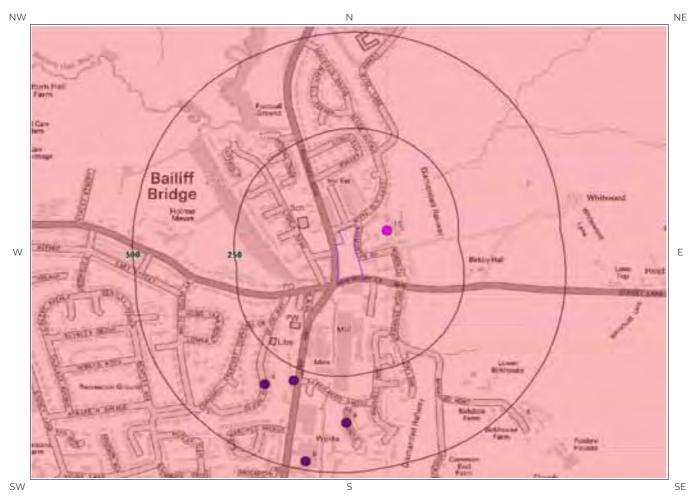
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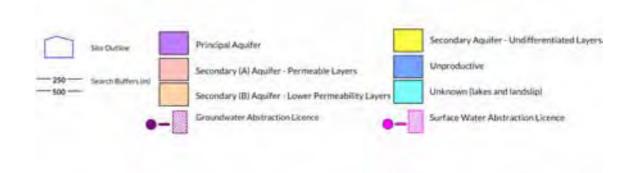
Report Reference: HMD-336-2748861



## 6b. Aquifer Within Bedrock Geology and Abstraction Licenses



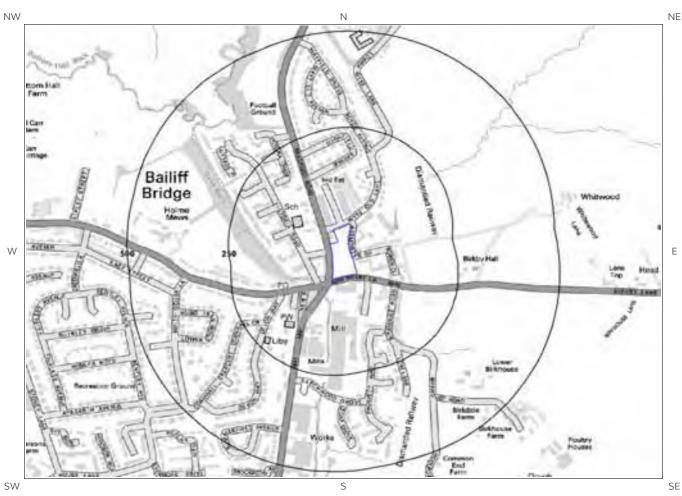
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Report Reference: HMD-336-2748861



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



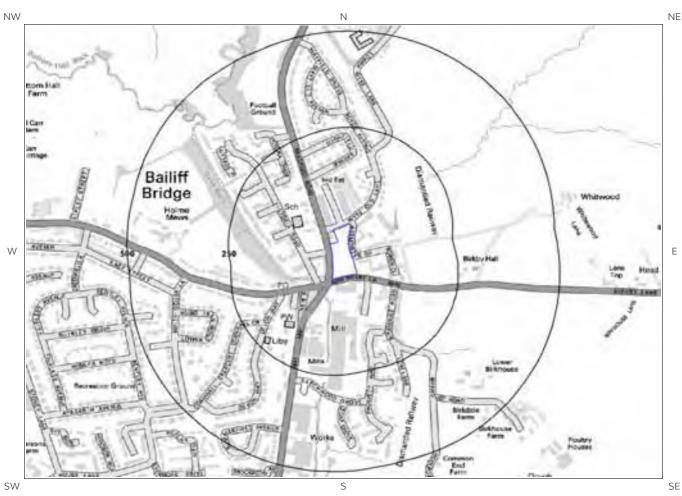
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# 6d. Hydrogeology – Source Protection Zones within confined aquifer



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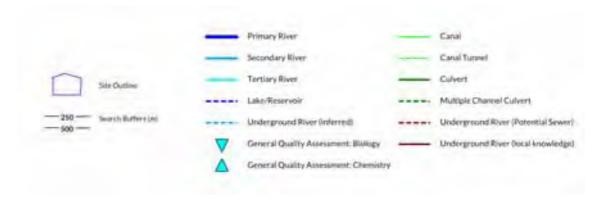
Report Reference: HMD-336-2748861



## 6e. Hydrology – Detailed River Network and River Quality



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Report Reference: HMD-336-2748861



## 6. Hydrogeology and Hydrology

#### **6.1 Aquifer within Superficial Deposits**

Are there records of strata classification within the superficial geology at or in proximity to the property?

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (6a):

ID	ID Distanc e (m) Direction Designation		Designation	Description	
1	7	SW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.  These are generally aquifers formerly classified as minor aquifers	
2	2 171 S Secondary A		2 171 S Secondary A strategic scale, and in some cases forming an ir		Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.  These are generally aquifers formerly classified as minor aquifers

#### 6.2 Aguifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distanc e (m)	Direction	Designation	Description			
1	0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.  These are generally aquifers formerly classified as minor aquifers			
2	59	Е	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.  These are generally aquifers formerly classified as minor aquifers			
3	171	S Secondary A		Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.  These are generally aquifers formerly classified as minor aquifers			
4	4 194 S Secondary A			Permeable layers capable of supporting water supplies at a local rate of the supporting water supplies at a local rate of the supporting water supplies at a local rate of the support of			

Report Reference: HMD-336-2748861



#### **6.3 Groundwater Abstraction Licences**

Are there any Groundwater Abstraction Licences within 2000m of the study site?

Yes

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

ID	Distanc e (m)	Direction	NGR	Details			
5	284	SW	414770 424910	Status: Historical Licence No: 2/27/12/268 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Groundwaters Point: Borehole - Coal Measures - Brighouse Data Type: Point Name: BLACKSHAW HOLDINGS LTD	Annual Volume (m³): 170000  Max Daily Volume (m³): 500  Original Application No: 5098  Original Start Date: 28/4/1971  Expiry Date: -  Issue No: 103  Version Start Date: 1/7/2005  Version End Date:		
6	326	SW	414700 424900	Status: Historical Licence No: 2/27/12/268 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Groundwaters Point: Borehole - Coal Measures - Brighouse Data Type: Point Name: INTERFACE EUROPE LTD	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 5098 Original Start Date: 28/4/1971 Expiry Date: - Issue No: 101 Version Start Date: 3/1/1999 Version End Date:		
7A	371	S	414900 424800	Status: Historical Licence No: 2/27/12/074  Details: General use relating to Secondary Category (High Loss) Direct Source: Groundwaters Point: Spring - Coal Measures - Brighouse Data Type: Point Name: INTERFACE EUROPE LIMITED	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 0191502 Original Start Date: 20/1/1966 Expiry Date: - Issue No: 101 Version Start Date: 3/1/1999 Version End Date:		
8A	371	S	414900 424800	Status: Historical Licence No: 2/27/12/074 Details: Boiler Feed Direct Source: Groundwaters Point: Spring - Coal Measures - Brighouse Data Type: Point Name: INTERFACE EUROPE LTD	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 0191502 Original Start Date: 20/1/1966 Expiry Date: - Issue No: 101 Version Start Date: 3/1/1999 Version End Date:		
9B	478	S	414800 424700	Status: Historical Licence No: 2/27/12/098 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Groundwaters Point: Borehole-elland Flags-bailiff Bridge Data Type: Point Name: H & C WHITEHEAD LTD	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 3140 Original Start Date: 20/1/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/1/1966 Version End Date:		
10B	478	S	414800 424700	Status: Active Licence No: 2/27/12/098 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Groundwaters Point: Borehole - Elland Flags - Bailiff Bridge Data Type: Point Name: H & C WHITEHEAD LTD	Annual Volume (m³): 29549 Max Daily Volume (m³): 109.1 Original Application No: 3140 Original Start Date: 20/1/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/1/1966 Version End Date:		

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ID	Distanc e (m)	Direction	NGR	Details		
Not shown	1969	SE	416700 424300	Status: Historical Licence No: 2/27/13/197 Details: Spray Irrigation - Direct Direct Source: Groundwaters Point: Borehole - Coal Measures - Clifton Brighouse Data Type: Point Name: NEWSMITH STAINLESS LIMITED	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 6688 Original Start Date: 18/9/1995 Expiry Date: 31/10/2002 Issue No: 100 Version Start Date: 27/5/1998 Version End Date:	

#### **6.4 Surface Water Abstraction Licences**

Are there any Surface Water Abstraction Licences within 2000m of the study site?

Yes

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

ID	Distance (m)	Direction	NGR	Details		
12	73	E	415000 425300	Status: Historical Licence No: 2/27/12/073 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface Water Point: Clifton Beck And Unnamed Tributary Data Type: Point Name: INTERFACE EUROPE LTD	Annual Volume (m³): - Max Daily Volume (m³): - Application No: 191501 Original Start Date: 20/1/1966 Expiry Date: - Issue No: 101 Version Start Date: 3/1/1999 Version End Date:	
Not shown	663	NW	414600 425900	Status: Historical Licence No: 2/27/12/307 Details: Spray Irrigation - Direct Direct Source: Surface Water Point: Spring - Norwood Green Data Type: Point Name: SALAMA	Annual Volume (m³): - Max Daily Volume (m³): - Application No: 6666 Original Start Date: 29/3/1995 Expiry Date: 30/9/2006 Issue No: 101 Version Start Date: 2/3/2000 Version End Date:	
Not shown	770	NW	414400 425900	Status: Historical Licence No: 2/27/12/307 Details: Spray Irrigation - Direct Direct Source: Surface Water Point: Spring - Norwood Green Data Type: Point Name: SALAMA	Annual Volume (m³): - Max Daily Volume (m³): - Application No: 6666 Original Start Date: 29/3/1995 Expiry Date: 30/9/2006 Issue No: 101 Version Start Date: 2/3/2000 Version End Date:	

#### **6.5 Potable Water Abstraction Licences**

Are there any Potable Water Abstraction Licences within 2000m of the study site?

No

Database searched and no data found.

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#### **6.6 Source Protection Zones**

Are there any Source Protection Zones within 500m of the study site?

No

Database searched and no data found.

#### 6.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site?

Νo

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

#### 6.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency information on groundwater vulnerability and soil leaching potential within 500m of the study site?

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Minor Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.
158	E	Minor Aquifer/Low Leaching Potential	L	Soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have the ability to attenuate diffuse pollutants.
446	E	Minor Aquifer/High Leaching Potential	НЗ	Coarse textured or moderately shallow soils which readily transmit non-adsorbed pollutants and liquid discharges but have some ability to attenuate adsorbed pollutants because of their clay or organic matter content.
462	NW	Minor Aquifer/Low Leaching Potential	L	Soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have the ability to attenuate diffuse pollutants.

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#### **6.9 River Quality**

Is there any Environment Agency information on river quality within 1500m of the study site?

No

6.9.1 Biological Quality:

Database searched and no data found.

6.9.2 Chemical Quality:

Database searched and no data found.

#### **6.10 Detailed River Network**

Are there any Detailed River Network entries within 500m of the study site?

Yes

The following Detailed River Network records are represented on the Hydrology Map (6e):

Distanc e (m)	Direction		Details
7	SE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
44	S	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
45	SW	River Name: Wyke Beck Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
67	S	River Name: Clifton Beck Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
108	Е	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
116	Е	River Name: - Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
188	NE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
195	W	River Name: Wyke Beck Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
195	W	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
198	S	River Name: - Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
	e (m)  7  44  45  67  108  116  188  195	e (m) Direction  7 SE  44 S  45 SW  67 S  108 E  116 E  188 NE  195 W	River Name: -

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ID	Distanc e (m)	Direction		Details
11	199	S	River Name: Clifton Beck Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
12	283	SE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
13	371	NW	River Name: Wyke Beck Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
14	402	S	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
15	403	S	River Name: Clifton Beck Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
16	424	NE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
17	424	NE	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
18	426	NW	River Name: Wyke Beck Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
19	426	NW	River Name: Bottom Hall Beck Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
20	440	S	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
21A	451	NW	River Name: Wyke Beck Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
22A	451	NW	River Name: Wyke Beck Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
23	464	NW	River Name: Wyke Beck Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined

#### **6.11 Surface Water Features**

Are there any surface water features within 250m of the study site?

Yes

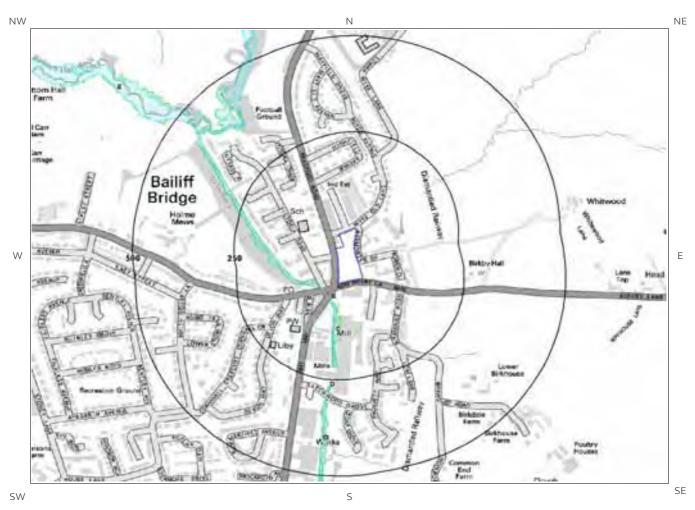
The following surface water records are not represented on mapping:

Distance (m)	Direction
46	W
51	S
146	S
188	NE
197	W

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## 7a. Environment Agency Flood Map for Planning (from rivers and the sea)



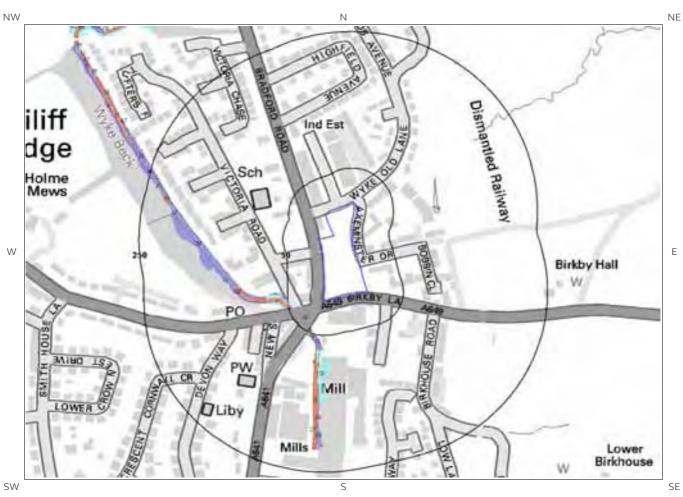
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# 7b. Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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## 7 Flooding

#### 7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency Zone 2 floodplain?

Yes

Environment Agency Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

ID	Distance (m)	Direction	Update	Туре
1A	45	W	18-Nov-2015	Zone 2 - (Fluvial /Tidal Models)
2B	45	SW	18-Nov-2015	Zone 2 - (Fluvial /Tidal Models)
3C	51	S	18-Nov-2015	Zone 2 - (Fluvial /Tidal Models)

#### 7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency Zone 3 floodplain?

Yes

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

ID	Distance (m)	Direction	Update	Туре
1A	45	W	18-Nov-2015	Zone 3 - (Fluvial Models)
2B	45	SW	18-Nov-2015	Zone 3 - (Fluvial Models)
3C	51	S	18-Nov-2015	Zone 3 - (Fluvial Models)

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

What is the highest risk of flooding onsite?

Very Low

The Environment Agency RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Very Low (less than 1 in 1000) chance of flooding in any given year.

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

ID	Distance (m)	Direction	RoFRas flood Risk
1	45.0	W	Low
2A	45.0	SW	Medium
3A	46.0	SW	High
4E	47.0	W	High

#### 7.4 Flood Defences

Are there any Flood Defences within 250m of the study site?

Database searched and no data found.

No

#### 7.5 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site?

No

#### 7.6 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site?

No

#### 7.7 Groundwater Flooding Susceptibility Areas

7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site?

Does this relate to Clearwater Flooding or Superficial Deposits Flooding?

Clearwater Flooding

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

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### 7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Potential at Surface

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

#### 7.8 Groundwater Flooding Confidence Areas

What is the British Geological Survey confidence rating in this result?

Low

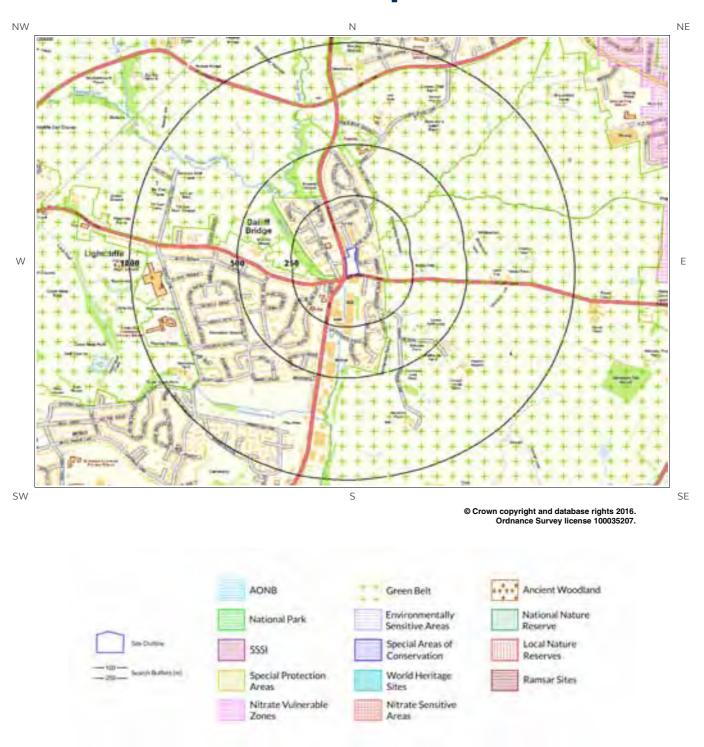
Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

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## 8. Designated Environmentally Sensitive Sites Map





## 8. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site?	Yes
8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:	
	C
Database searched and no data found.	
8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:	
	C
Database searched and no data found.	
8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site	; • ; •
	C
Database searched and no data found.	
8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:	
	C
Database searched and no data found.	
8.5 Records of Ramsar sites within 2000m of the study site:	
	С
Database searched and no data found.	

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

1

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

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
Not shown	1430	Ν	UNKNOWN	Ancient and Semi-Natural Woodland

8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:	
	0
Database searched and no data found.	O
Database searched and no data found.	
8.8 Records of World Heritage Sites within 2000m of the study site:	
	0
Database searched and no data found.	
8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:	
	0
Database searched and no data found.	
8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:	
	0
Database searched and no data found.	U
0.44 December of New York Devilse (ND) with its 2000 as of the set when its	
8.11 Records of National Parks (NP) within 2000m of the study site:	
	0
Database searched and no data found.	

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

0

Database searched and no data found.

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

1

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

ID	Distance (m)	Direction	NVZ Name	Data Source
1	1306	N	Existing	DEFRA

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

5

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ID	Distance	Direction	Green Belt Name	Local Authority Name
3	47	W	Liverpool, Manchester and West Yorks Greenbelt	Calderdale District (B)
4	106	Е	Liverpool, Manchester and West Yorks Greenbelt	Calderdale District (B)
5	111	Е	Liverpool, Manchester and West Yorks Greenbelt	Bradford District (B)
6	422	NE	Liverpool, Manchester and West Yorks Greenbelt	Kirklees District (B)
Not shown	1582	NE	Liverpool, Manchester and West Yorks Greenbelt	Bradford District (B)

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## 9. Natural Hazards Findings

#### 9.1 Detailed BGS GeoSure Data

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

#### 9.1.1 Shrink Swell

What is the maximum Shrink-Swell\*\* hazard rating identified on the study site?

Very Low

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

#### Hazard

Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

#### 9.1.2 Landslides

What is the maximum Landslide\* hazard rating identified on the study site?

Low

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

#### Hazard

Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property Ö no significant increase in insurance risk due to natural slope instability problems.

#### 9.1.3 Soluble Rocks

What is the maximum Soluble Rocks\* hazard rating identified on the study site?

Negligible

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

#### Hazard

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

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<sup>\*</sup> This indicates an automatically generated 50m buffer and site.



#### 9.1.4 Compressible Ground

What is the maximum Compressible Ground\* hazard rating identified on the study site?

Moderate

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

#### Hazard

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

#### 9.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks\* hazard rating identified on the study site?

Very Low

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

#### Hazard

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

#### 9.1.6 Running Sand

What is the maximum Running Sand\*\* hazard rating identified on the study site?

Low

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

#### Hazard

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

#### 9.2 Radon

#### 9.2.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

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<sup>\*</sup> This indicates an automatically generated 50m buffer and site.



#### 9.2.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing

ones as described in publication BR211 by the Building Research Establishment?

No radon protective measures are necessary.

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## 10. Mining

#### 10.1 Coal Mining

Are there any coal mining areas within 75m of the study site?

Yes

The following coal mining information provided by the Coal Authority is not represented on Mapping:

Distanc e (m)	Direction	Details
0	On Site  The study site is located within the specified search distance of an identified mining area. Further de concerning this can be obtained from the Coal Authority Helpline on 0845 762 6848.	

#### 10.2 Non-Coal Mining

Are there any Non-Coal Mining areas within 50m of the study site boundary?

Yes

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

Distance (m)	Direction	Name	Commodity	Assessment of likelihood
0.0	On Site	Elland Flag Mines	Sandstone - Elland Flags	Underground mining is known or considered likely to have occurred within or close to the area. The location extent and nature of past mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.

Past underground mine workings are probable. These are areas known or suspected to contain underground mining for minerals and/or other materials. In the case of mineral veins these are areas within 500m of mapped mineral veins within which it is likely that mining activities may have occurred and subsidiary veins explored and exploited. It should be noted, however, that there is always the possibility of the existence of other sub-surface excavations, such as wells, cess pits, follies, air raid shelters/bunkers and other military structures etc. that could affect surface ground stability but which are outside the scope of this dataset. However, if in a coalfield area you should still consider a Coal Authority mining search for the area of interest.

#### **10.3 Brine Affected Areas**

Are there any brine affected areas within 75m of the study site? Guidance: No Guidance Required.

No

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### **Contact Details**

#### Groundsure Helpline

Telephone: 08444 159 000 info@groundsure.com



LOCATION INTELLIGENCE

#### **British Geological Survey Enquiries**

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

#### Web:www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries:

#### enquiries@bgs.ac.uk

#### **Environment Agency**

National Customer Contact Centre, PO Box 544 Rotherham, S60 1BY Tel: 08708 506 506

Web:www.environment-agency.gov.uk
Email:enquiries@environment-agency.gov.uk

#### Public Health England

Public information access office Public Health England, Wellington House 133-155 Waterloo Road, London, SE1 8UG www.gov.uk/phe

Email:enquiries@phe.gov.uk Main switchboard: 020 7654 8000

#### The Coal Authority

200 Lichfield Lane Mansfield Notts NG18 4RG Tel: 0345 7626 848 DX 716176 Mansfield 5

www.coal.gov.uk

#### Ordnance Survey

Adanac Drive, Southampton SO16 0AS Tel: 08456 050505

#### **Local Authority**

Authority: Calderdale Metropolitan Borough Council Phone: 01422 288001 Web: http://www.calderdale.gov.uk/ Address: Town Hall, Crossley Street, Halifax, HX1 1UJ

#### **Gemapping PLC**

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













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

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In these terms and conditions unless the context otherwise requires:

"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.

"Client" means the party or parties entering into a Contract with Groundsure.

"Commercial" means any building or property which is not Residential.

"Confidential Information" means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by Groundsure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

**"Support Services"** means Support Services provided by Groundsure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

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"Order" means an electronic, written or other order form submitted by the Client requesting Services from Groundsure in respect of a specified Site.

"Ordnance Survey" means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 OAS, UK.

**"Order Website"** means the online platform through which Orders may be placed by the Client and accepted by Groundsure.

**"Report"** means a Risk Screening Report or Data Report for Commercial or Residential property.

 $\mbox{\bf ``Residential''}$  means any building or property used as or intended to be used as a single dwelling.

"Risk Screening Report" means a risk screening report comprising factual data with an accompanying interpretation by Groundsure.

**"Services"** means any Report, Mapping and/or Support Services which Groundsure has agreed to provide by accepting an Order pursuant to clause 2.6.

"Site" means the area of land in respect of which the Client has requested Groundsure to provide the Services.

**"Third Party Content"** means data, database information or other information which is provided to Groundsure by a Third Party Data Provider.

"User Guide" means the user guide, as amended from time to time, available upon request from Groundsure and on the website (www.Groundsure.com) and forming part of this Contract.

### 2 Scope of Services, terms and conditions, requests for insurance and quotations

- 2.1 Groundsure agrees to provide the Services in accordance with the Contract.
- $2.2\ \mbox{Groundsure}$  shall exercise reasonable skill and care in the provision of the Services.
- 2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of Groundsure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, Groundsure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and Groundsure will have no liability therefor. In addition you acknowledge and agree that Groundsure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 Groundsure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by Groundsure. Groundsure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by Groundsure. Groundsure's acceptance of an Order shall be binding only when made in writing and signed by Groundsure's authorised representative or when accepted through the Order Website.

#### 3 The Client's obligations

3.1The Client shall comply with the terms of this Contract and

- (i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and
- (ii) be liable to Groundsure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to Groundsure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as Groundsure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable Groundsure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the Groundsure Materials, or use the Groundsure Materials in a manner for which they were not intended. The Client may make the Groundsure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that Groundsure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

#### 4 Reliance

4.1The Client acknowledges that the Services provided by Groundsure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by Groundsure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,

(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),

(iv) the first purchaser or first tenant of the Site, and

(v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by Groundsure. Any party considering such Reports and Services does so at their own risk.

#### 5 Fees and Disbursements

5.1Groundsure shall charge and the Client shall pay fees at the rate and

frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by Groundsure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

- 5.2 The Client shall pay all outstanding Fees to Groundsure in full without deduction, counterclaim or set off within 30 days of the date of Groundsure's invoice or such other period as may be agreed in writing between Groundsure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.
- 5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of Groundsure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

#### 6 Intellectual Property and Confidentiality

#### 6.1 Subject to

- (i) full payment of all relevant Fees and
- (ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the Groundsure Materials.
- 6.2 All Intellectual Property in the Groundsure Materials are and shall remain owned by Groundsure or Groundsure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.
- 6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.
- 6.4 The Client shall, and shall procure that any recipients of the Groundsure Materials shall:
- (i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to Groundsure or any third party from the Services;
- (ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;
- (iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);
- (iv) not combine the Services with or incorporate such Services into any other information data or service;
- (v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);
- (vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and
- (vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,
- 6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the Groundsure Materials in order to advise the Beneficiary in a professional capacity. However, Groundsure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.
- 6.6 The Client shall procure that any person to whom the Services are made available shall notify Groundsure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

#### 7.Liability: Particular Attention Should Be Paid To This

- 7.1 This Clause 7 sets out the entire liability of Groundsure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:
  - (i) any breach of contract, including any deliberate breach of the Contract by Groundsure or its employees, agents or

subcontractors;

- (ii) any use made of the Reports, Services, Materials or any part of them; and
- (iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.
- 7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.
- 7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.
- 7.4 Groundsure shall not be liable for
  - (i) loss of profits;
  - (ii) loss of business;
  - (iii) depletion of goodwill and/or similar losses;
  - (iv) loss of anticipated savings;
  - (v) loss of goods;
  - (vi) loss of contract;
  - (vii) loss of use;
  - (viii) loss or corruption of data or information;
  - (ix) business interruption;
- (x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;
- (xi) loss or damage that arise as a result of the use of all or part of the Groundsure Materials in breach of the Contract;
- (xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the Groundsure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;
- $\mbox{(\rm xiii)}$   $\mbox{loss}$  or damage to a computer, software, modem, telephone or other property; and
- (xiv) loss or damage caused by a delay or loss of use of Groundsure's internet ordering service.
- 7.5 Groundsure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.
- 7.6 Groundsure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of Groundsure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against Groundsure in relation to the Services or other matters arising pursuant to the Contract.

#### 8 Groundsure's right to suspend or terminate

- 8.1 If Groundsure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, Groundsure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.
- 8.2 Groundsure shall be entitled to terminate the Contract immediately on written notice in the event that:
- (i) the Client fails to pay any sum due to Groundsure within 30 days of the Payment Date; or
- (ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or
- (iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or
- (iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

#### 9. Client's Right to Terminate and Suspend

- 9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.
- 9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

- (i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon Groundsure's acceptance of the Order; and
- (ii) the Reports and/or Mapping provided under this Contract are
  - (a) supplied to the Client's specification(s) and in any event  $% \left( x\right) =\left( x\right) +\left( x\right) +\left($
  - (b) by their nature cannot be returned.

### 10 Consequences of Withdrawal, Termination or Suspension

- 10.1 Upon termination of the Contract:
- (i) Groundsure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in Groundsure's possession or control; and
- (ii) the Client shall pay to Groundsure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay Groundsure any additional costs incurred in relation to the termination or suspension of the Contract.

#### 11 Anti-Bribery

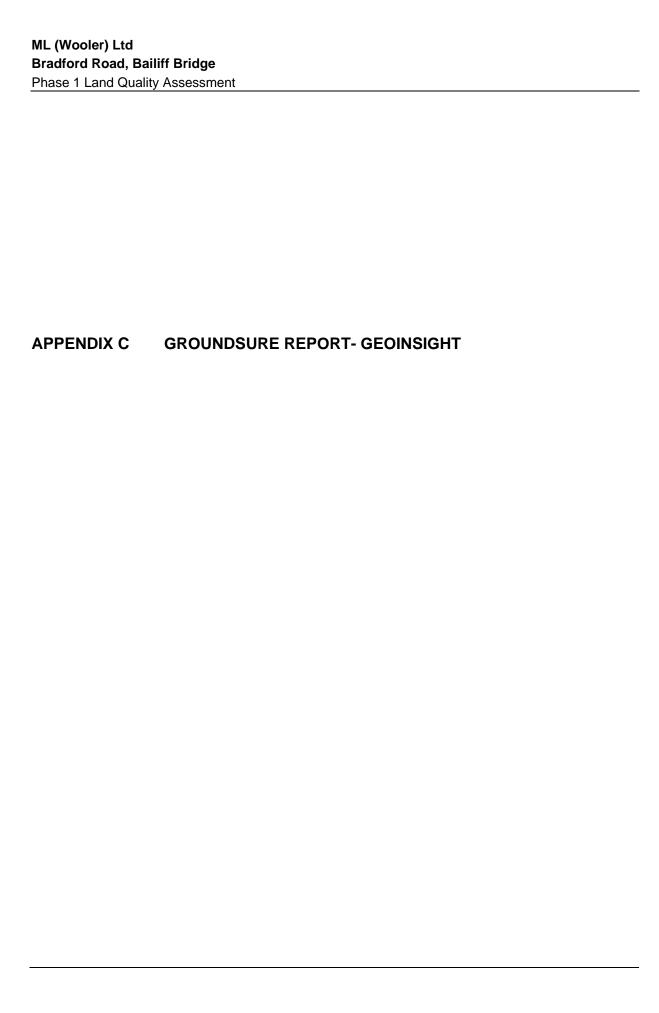
- 11.1 The Client warrants that it shall:
- (i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery  $Act\ 2010$ ;
- (ii) comply with such of Groundsure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and
- (iii) promptly report to Groundsure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.
- 11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

#### 12 General

- 12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.
- 12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through Groundsure.
- 12.3 Groundsure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of Groundsure.
- 12.4 No failure on the part of Groundsure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.
- 12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.
- 12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.
- 12.7 Groundsure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:
- (i) the Client or Beneficiary's failure to provide facilities, access or information:
  - (ii) fire, storm, flood, tempest or epidemic;
  - (iii) Acts of God or the public enemy;
  - (iv) riot, civil commotion or war;
  - (v) strikes, labour disputes or industrial action;
  - (vi) acts or regulations of any governmental or other agency;
- (vii) suspension or delay of services at public registries by Third Party Data Providers;
  - (viii) changes in law; or
  - (ix) any other reason beyond Groundsure's reasonable control.

In the event that Groundsure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then Groundsure shall be entitled to terminate this Contract immediately on written notice to the Client.

- 12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.
- 12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.
- 12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.
- 12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.
- 12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.
- 12.13 Groundsure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.
- 12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at Groundsure who will respond in a timely manner. In the event you are not satisfied with Groundsure's complaints handling process or you are unable to resolve the complaint, at your discretion you may refer the complaint to The Property Ombudsman Scheme at the following URL/email: website www.tpos.co.uk or email: admin@tpos.co.uk
- 12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law. © Groundsure Limited June 2013





LOCATION INTELLIGENCE

PSA Design

The Old Bank House, 6 Berry Lane, Longridge, Preston, PR33JA

Groundsure Reference:

HMD-336-2748864

Your Reference: G2240

Report Date

15 Feb 2016

Report Delivery Email - pdf

Method:

#### **Groundsure Geoinsight Plus**

Address: Former Clifton Mills, BRADFORD ROAD, BRIGHOUSE, HD6 4DY

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geoinsightplus** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,

Managing Director **Groundsure Limited** 

Groundsure Geoinsight Plus



## Groundsure Groundsure Geoinsight Plus

Address: Former Clifton Mills, BRADFORD ROAD, BRIGHOUSE, HD6 4DY

Date: 15 Feb 2016

Reference: HMD-336-2748864

Client: **PSA Design** 

NE



SE

Aerial Photograph Capture date: 26-Mar-2012 Grid Reference: 414906,425205

Site Size: 0.60ha



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### **Overview of Findings**

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

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

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

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



	/ 1:50,000 Scale	

2.3 Bedrock, Solid

Geology and Faults 2.3.1 For records of Bedrock and Solid Geology beneath the study site\* see the detailed findings section.

> $2.3.2 \ \text{Are there} \ \text{any} \ \text{records} \ \text{of faults} \ \text{within} \ 500 \text{m} \ \text{of the study} \ \text{site}$ boundary?

Yes

2.3.3 Are there any records of faults within 500m of the study site boundary?

Yes

#### Section 3: Radon

3. Radon

3.1Is the property in a Radon Affected Area as defined by the Health The property is not in a Radon Affected Protection Agency (HPA) and if so what percentage of homes are above the Action Level?

Area, as less than 1% of properties are above the Action Level.

3.2Radon Protection

No radon protective measures are necessary.

Section 4: Ground Workings	On-site	0-50m	51-250	251-500	501-1000
4.1 Historical Surface Ground Working Features from Small Scale Mapping	0	3	19	Not Searched	Not Searched
4.2 Historical Underground Workings from Small Scale Mapping	0	0	7	1	16
4.3 Current Ground Workings	0	0	0	0	8
Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.1 Historical Mining	0	0	7	1	17
5.2 Coal Mining	1	0	0	0	0
5.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
5.4 Non-Coal Mining*	1	0	5	1	8
5.5 Non-Coal Mining Cavities	0	0	1	0	0
5.5 Natural Cavities	0	0	0	0	0

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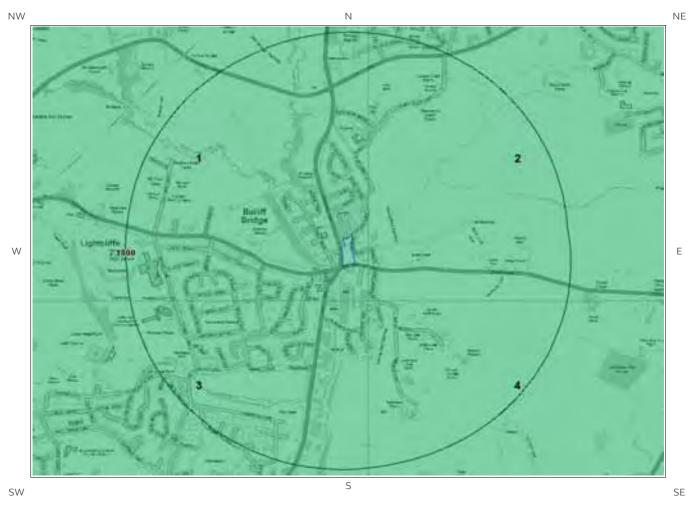


				LOCATION IN	NTELLIGENCE
Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.6 Brine Extraction	0	0	0	0	0
5.7 Gypsum Extraction	0	0	0	0	0
5.8 Tin Mining	0	0	0	0	0
5.9 Clay Mining	0	0	0	0	0
Section 6: Natural Ground Subsidence	On-sit	te			
6.1 Shrink-Swell Clay	Very Lo	)W			
6.2 Landslides	Low				
6.3 Ground Dissolution of Soluble Rocks	Negligik	ole			
6.4 Compressible Deposits	Modera	ite			
6.5 Collapsible Deposits	Very Lo	)W			
6.5 Running Sand	Low				
Section 7: Borehole Records	On-si	te	0-50m	5	1-250
7 BGS Recorded Boreholes	0		0		6
Section 8: Estimated Background Soil Chemistry	On-si	te	0-50m	5	1-250
8 Records of Background Soil Chemistry	1		1		0
Section 9: Railways and Tunnels	On-site	0-50m	51-250	250-500	
9.1 Tunnels	0	0	0	Not Searched	I
9.2 Historical Railway and Tunnel Features	0	0	0	Not Searched	I
9.3 Historical Railways	0	0	3	Not Searched	I
9.4 Active Railways	0	0	0	Not Searched	I
9.5 Railway Projects	0	0	0	0	

Report Reference: HMD-336-2748864 Client Reference: G2240

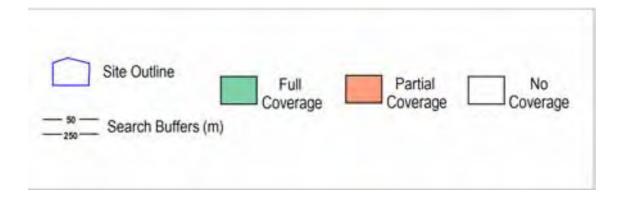


## 1:10,000 Scale Availability



1\_10,000 Availability Legend

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Report Reference: HMD-336-2748864



## Availability of 1:10,000 Scale Geology Mapping

The following information represents the availability of the key components of the 1:10,000 scale geological data.

ID	Distance	Artificial Coverage	Superficial Coverage	Bedrock Coverage	Mass Movement Coverage
1	0.0	Some deposits are mapped	Full	Full	Some deposits are mapped
2	59.0	Some deposits are mapped	Full	Full	Some deposits are mapped
3	171.0	Some deposits are mapped	Full	Full	Some deposits are mapped
4	194.0	Some deposits are mapped	Full	Full	Some deposits are mapped

Guidance: The 1:10,000 scale geological interpretation is the most detailed generally available from BGS and is the scale at which most geological surveying is carried out in the field. The database is presented as four types of geology (artificial, mass movement, superficial and bedrock), although not all themes are mapped or available on every map sheet. Therefore a coverage layer showing the availability of the four themes is presented above.

The definitions of coverage are as follows:

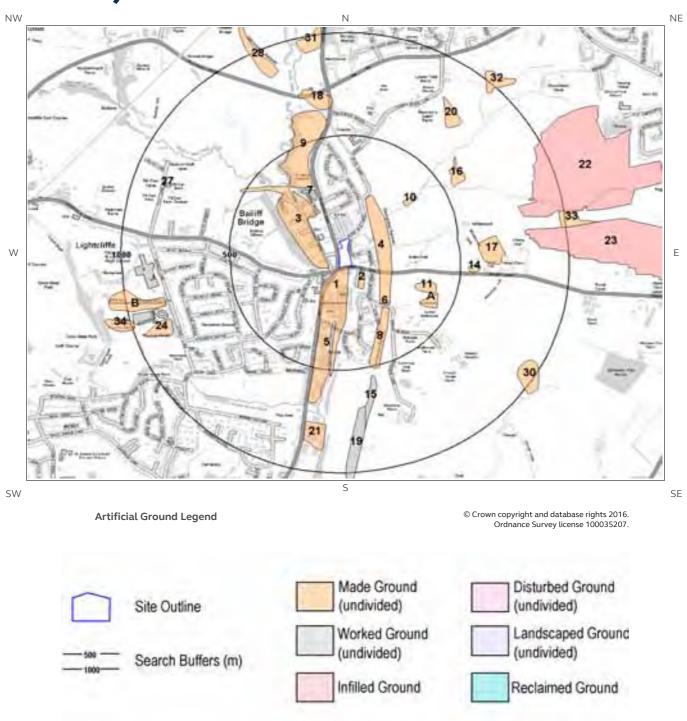
Geology	Full Coverage	Partial Coverage	No Coverage
Bedrock	The whole tile has been mapped	Some but not all the tile has been mapped	No coverage
Superficial	The whole tile has been mapped	Some but not all of the tile has been mapped	No coverage
Artificial	Some deposits are mapped on this tile	-	No deposits are mapped
Mass Movement	Some deposits are mapped on this tile	-	No coverage

Report Reference: HMD-336-2748864



## 1 Geology (1:10,000 scale).

## 1.1 Artificial Ground Map (1:10,000 scale)



Report Reference: HMD-336-2748864



## 1. Geology 1:10,000 scale

#### 1.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

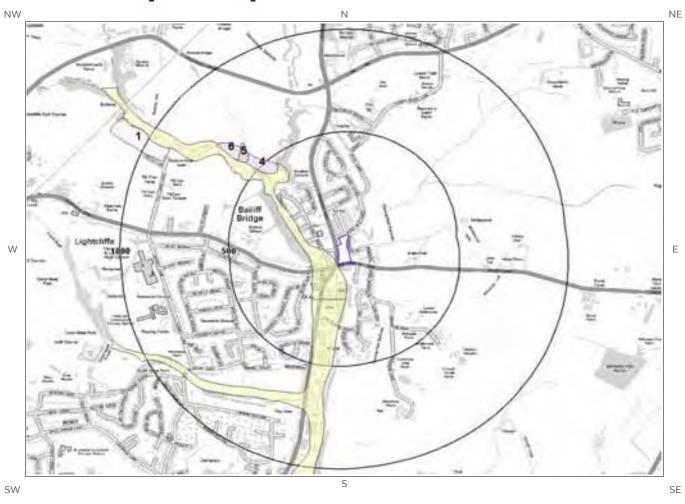
Are there any records of Artificial/ Made Ground within 500m of the study site boundary at 1:10,000 scale? Yes

ID	Distance	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	43.0	SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	50.0	W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
4	111.0	E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
5	171.0	S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
6	224.0	SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
7	228.0	NW	WGR-VOID	Worked Ground (Undivided)	Void
8	248.0	SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
9	295.0	NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
10	304.0	NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
11	305.0	Е	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
12A	358.0	SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
13A	362.0	SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

Report Reference: HMD-336-2748864

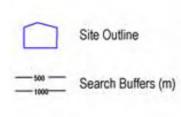


## 1.2 Superficial Deposits and Landslips Map (1:10,000 scale)



**Artificial Ground Legend** 

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Report Reference: HMD-336-2748864



## 1.2 Superficial Deposits and Landslips

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping

#### 1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary at 1:10,000 scale?

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
2	7.0	SW	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
3	171.0	S	ALV-XCSV	Alluvium - Clay, Sand And Gravel	Clay, Sand And Gravel
4	432.0	NW	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel

#### 1.2.2 Landslip

Are there any records of Landslip within 500m of the study site boundary at 1:10,000 scale?

No

Database searched and no data found.

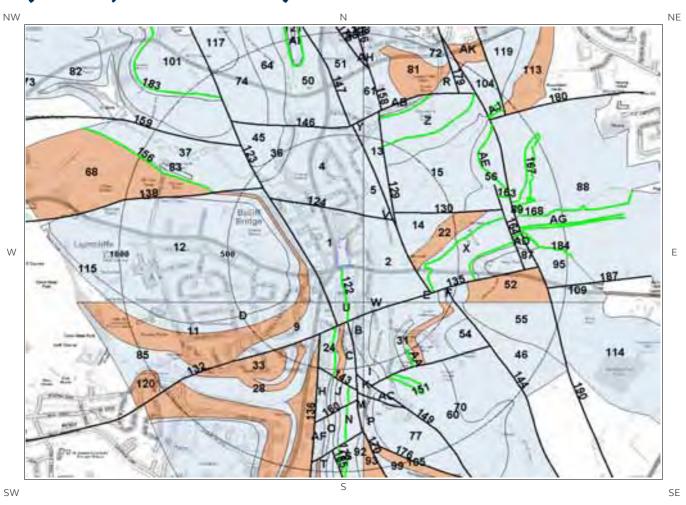
The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:10,000 scale

This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

Report Reference: HMD-336-2748864

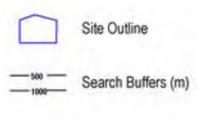


## 1.3 Bedrock and Faults Map (1:10,000 scale)



Bedrock and Faults Legend

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Report Reference: HMD-336-2748864



### 1.3 Bedrock and Faults

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

#### 1.3.1 Bedrock/ Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary at 1:10,000 scale.

D	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
2	59.0	Е	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
3A	101.0	SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
4	124.0	N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
5	133.0	NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
6A	139.0	W	GM-SDST	Greenmoor Rock - Sandstone	Langsettian Sub-age
7U	171.0	S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
8	173.0	W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
9	176.0	S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
10W	194.0	S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
11	216.0	SW	GM-SDST	Greenmoor Rock - Sandstone	Langsettian Sub-age
12	222.0	W	GR-SDST	Grenoside Sandstone - Sandstone	Langsettian Sub-age
13	230.0	NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
14	233.0	Е	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
15	247.0	NE	CLRK-SDST	Clifton Rock - Sandstone	Langsettian Sub-age
16	251.0	S	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
17	251.0	SE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
18B	254.0	S	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
19D	258.0	SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
20B	263.0	S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
21C	269.0	S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
22	272.0	E	CLRK-SDST	Clifton Rock - Sandstone	Langsettian Sub-age
	274.0	S	TKS-SDST	Thick Stone - Sandstone	Langsettian Sub-age

Report Reference: HMD-336-2748864



					LOCATION INTELLIGENCE
ID	Distance (m)	Direction	LEX Code	Description	Rock Age
24	283.0	S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
25E	302.0	SE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
26D	311.0	SW	GR-SDST	Grenoside Sandstone - Sandstone	Langsettian Sub-age
27X	312.0	E	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
28	335.0	S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
29	335.0	S	EF-SDST	Elland Flags - Sandstone	Langsettian Sub-age
30C	352.0	S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
31	384.0	SE	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
32Z	385.0	NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
33	401.0	SW	EF-SDST	Elland Flags - Sandstone	Langsettian Sub-age
34E	424.0	E	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
35	425.0	SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
36	428.0	NW	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
37	429.0	NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
38G	431.0	SE	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
39Y	447.0	N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
40F	450.0	Е	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
41F	457.0	E	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
42G	462.0	SE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
431	463.0	S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
44H	497.0	S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age

#### 1.3.2 Faults

Are there any records of Faults within 500m of the study site boundary at 1:10,000 scale?

Yes

ID	Distance (m)	Direction	Category Description	Feature Description
122	16.0	S	ROCK	Coal seam, inferred
123	101.0	SW	FAULT	Normal fault, inferred
124	124.0	Ν	FAULT	Normal fault, inferred

Report Reference: HMD-336-2748864



				LOCATION INTELLIGENCE
ID	Distance (m)	Direction	<b>Category Description</b>	Feature Description
125V	133.0	NE	FAULT	Normal fault, inferred
126U	176.0	S	FAULT	Normal fault, inferred; crossmarks on downthrow side
127U	176.0	S	ROCK	Coal seam, inferred
128V	230.0	NE	FAULT	Normal fault, inferred
129	233.0	Е	FAULT	Normal fault, inferred
130	247.0	NE	FAULT	Normal fault, inferred
131W	251.0	S	FAULT	Normal fault, inferred; crossmarks on downthrow side
132	254.0	S	FAULT	Normal fault, inferred; crossmarks on downthrow side
1331	269.0	S	FAULT	Normal fault, inferred; crossmarks on downthrow side
134C	291.0	S	ROCK	Coal seam, inferred
135	302.0	SE	FAULT	Normal fault, inferred
136	335.0	S	FAULT	Normal fault, inferred; crossmarks on downthrow side
137X	343.0	Е	ROCK	Coal seam, inferred
138	429.0	NW	FAULT	Normal fault, inferred
139Y	447.0	N	FAULT	Normal fault, inferred
140F	457.0	E	FAULT	Normal fault, inferred
141Z	472.0	N	ROCK	Coal seam, inferred
142AA	484.0	SE	ROCK	Coal seam, inferred
143	497.0	S	FAULT	Normal fault, inferred; crossmarks on downthrow side

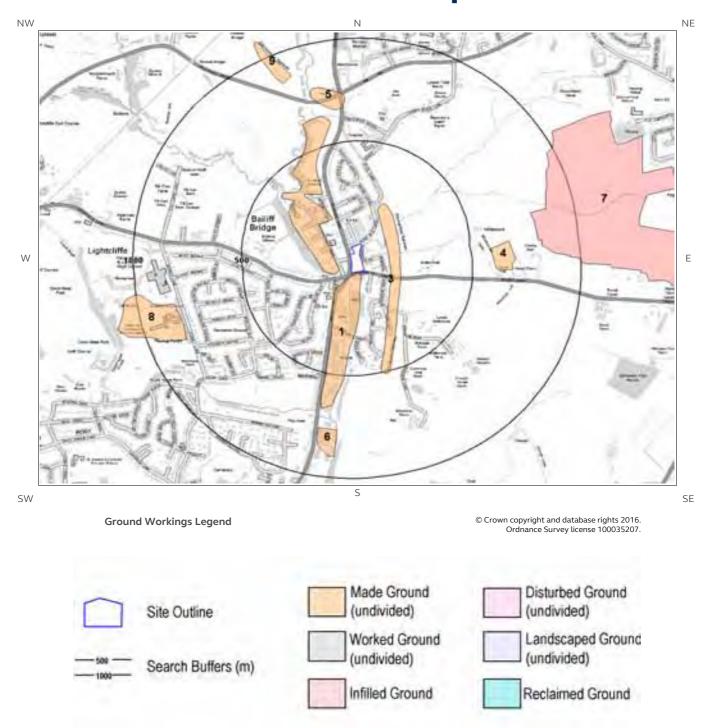
The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of great Britain at 1:10,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

Report Reference: HMD-336-2748864



# 2 Geology 1:50,000 Scale2.1 Artificial Ground Map



Report Reference: HMD-336-2748864



### 2. Geology 1:50,000 scale

#### 2.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 077

#### 2.1.1 Artificial/ Made Ground

Are there any records of Artificial/ Made Ground within 500m of the study site boundary?

Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	55.0	W	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
3	112.0	E	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

#### 2.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary?

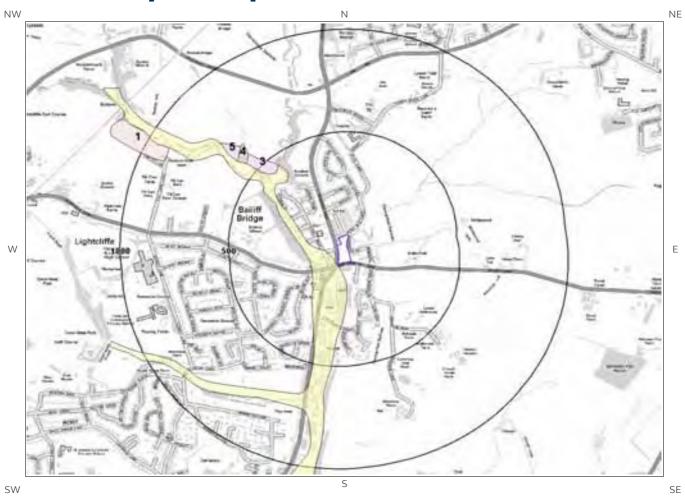
Yes

Dista	nce (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
	0.0	On Site	Mixed	Very High	Low

Report Reference: HMD-336-2748864

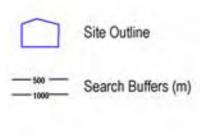


## 2.2 Superficial Deposits and Landslips Map (1:50,000 scale)



**Ground Workings Legend** 

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## 2.2 Superficial Deposits and Landslips

#### 2.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

ID	Distance	Direction	LEX Code	Description	Rock Description
2A	7.0	SW	ALV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]
3	428.0	NW	GFDMP	GLACIOFLUVIAL DEPOSITS, MID PLEISTOCENE	SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]
6A	7.0	SW	ALV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]

#### 2.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
7.0	SW	Intergranular	High	Very Low

#### 2.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary?

No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, there are: Artificial/ Made Ground, Superficial/ Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

Report Reference: HMD-336-2748864



#### 2.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site boundary?

No

Database searched and no data found.

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# 2.3 Bedrock and Faults Map (1:50,000 scale)



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## 2.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 077

#### 2.3.1 Bedrock/Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary:

ID	Distance	Direction	LEX Code	Rock Description	Rock Age
1	0.0	On Site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
2	100.0	SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
3	124.0	N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
4	137.0	W	GM-SDST	Greenmoor Rock - Sandstone	Langsettian
5	177.0	W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
6	223.0	W	GR-SDST	Grenoside Sandstone - Sandstone	Langsettian
7	228.0	NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
8	234.0	E	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
9	246.0	NE	CLRK-SDST	Clifton Rock - Sandstone	Langsettian
10	252.0	S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
11	252.0	S	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian
12	263.0	S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
13A	269.0	S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
14A	274.0	S	TKS-SDST	Thick Stone - Sandstone	Langsettian
15	276.0	E	CLRK-SDST	Clifton Rock - Sandstone	Langsettian
16G	284.0	S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
17H	315.0	Е	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
18	335.0	S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
19	335.0	S	EF-SDST	Elland Flags - Sandstone	Langsettian
20	358.0	S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian

Report Reference: HMD-336-2748864



					LOCATION INTELLIGENCE
ID	Distance	Direction	LEX Code	Rock Description	Rock Age
211	380.0	NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
22	385.0	SE	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian
23	402.0	SW	EF-SDST	Elland Flags - Sandstone	Langsettian
24	425.0	SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
25B	426.0	Е	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian
26	428.0	NW	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian
27	431.0	NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
28B	443.0	E	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
29	461.0	Е	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
30C	499.0	S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
31	499.0	NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian

#### 2.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site boundary?

Distanc e	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	High	Low

#### 2.3.3 Faults

Are there any records of Faults within 500m of the study site boundary?

Yes

ID	Distance	Direction	Category Description	Feature Description
87	18.0	S	ROCK	Coal seam, inferred
88	100.0	SW	FAULT	Fault, inferred, displacement unknown
89	124.0	N	FAULT	Fault, inferred, displacement unknown
90	228.0	NE	FAULT	Fault, inferred, displacement unknown
91	234.0	Е	FAULT	Fault, inferred, displacement unknown
92	246.0	NE	FAULT	Fault, inferred, displacement unknown
93	252.0	S	FAULT	Fault, inferred, displacement unknown
94	269.0	S	FAULT	Fault, inferred, displacement unknown
95G	293.0	S	ROCK	Coal seam, inferred

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ID	Distance	Direction	Category Description	Feature Description
		- Direction		<b>'</b>
96	335.0	S	FAULT	Fault, inferred, displacement unknown
97H	374.0	Е	ROCK	Coal seam, inferred
98	431.0	NW	FAULT	Fault, inferred, displacement unknown
99	461.0	Е	FAULT	Fault, inferred, displacement unknown
1001	475.0	Ν	ROCK	Coal seam, inferred
101	486.0	SE	ROCK	Coal seam, inferred
102	499.0	S	FAULT	Fault, inferred, displacement unknown

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nation wide coverage.

Report Reference: HMD-336-2748864



### 3 Radon Data

#### 3.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

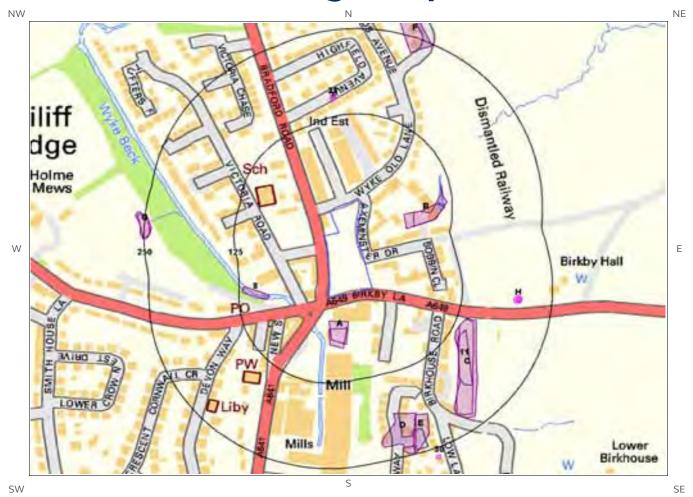
#### 3.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary.

Report Reference: HMD-336-2748864

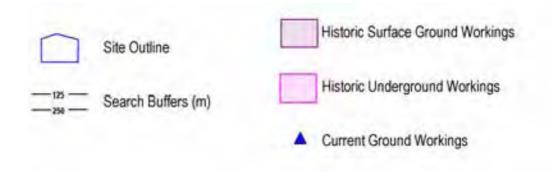


## 4 Ground Workings Map



**Ground Workings Legend** 

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Report Reference: HMD-336-2748864



### **4 Ground Workings**

#### 4.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on Groundsure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Use	Date
1A	34.0	S	414895 425120	Pond	1892
2A	45.0	S	414893 425112	Pond	1973
3A	45.0	S	414893 425112	Pond	1984
4B	58.0	E	415031 425305	Reservoir	1948
5B	58.0	Е	415031 425305	Pond	1905
6B	58.0	E	415031 425305	Pond	1892
7B	72.0	E	415020 425293	Pond	1967
8	84.0	W	414779 425178	Unspecified Pit	1892
9C	132.0	SE	415071 425067	Unspecified Heap	1948
10C	132.0	SE	415069 425071	Unspecified Heap	1951
11	138.0	SE	415070 425084	Unspecified Heap	1905
12D	185.0	S	414978 424973	Refuse Heap	1981
13D	185.0	S	414978 424973	Refuse Heap	1976
14E	195.0	S	415009 424973	Refuse Heap	1975
15E	195.0	S	415009 424973	Refuse Heap	1985
16F	227.0	N	414964 425622	Cuttings	1892
17F	227.0	N	414964 425622	Cuttings	1948
18F	227.0	N	414964 425622	Cuttings	1905
19G	240.0	W	414625 425276	Pond	1905
20G	240.0	W	414625 425276	Pond	1948
21G	240.0	W	414625 425276	Pond	1892

Report Reference: HMD-336-2748864



ID	Distance (m)	Direction	NGR	Use	Date
22G	242.0	W	414623 425278	Pond	1951

#### 4.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the Groundsure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary?

Yes

The following Historical Underground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
23	149.0	N	414886 425464	Unspecified Old Shaft	1905
24H	197.0	E	415143 425169	Unspecified Disused Shaft	1983
25H	197.0	Е	415143 425169	Unspecified Disused Shaft	1974
26H	197.0	Е	415143 425169	Unspecified Disused Shaft	1990
27H	201.0	Е	415144 425168	Unspecified Old Shaft	1948
28H	202.0	Е	415146 425169	Unspecified Old Shaft	1951
29H	202.0	Е	415146 425169	Unspecified Disused Shaft	1967
30	260.0	S	415033 424938	Unspecified Old Shaft	1905
Not shown	633.0	Ν	414985 425948	Unspecified Old Shaft	1905
Not shown	633.0	N	414985 425948	Unspecified Old Shaft	1948
Not shown	637.0	Ν	414989 425952	Unspecified Old Shaft	1951
Not shown	674.0	Е	415616 425246	Unspecified Old Shafts	1948
Not shown	675.0	E	415617 425244	Unspecified Shafts	1905
Not shown	678.0	E	415618 425244	Unspecified Old Shafts	1951
Not shown	681.0	Е	415623 425234	Unspecified Old Shafts	1948
Not shown	684.0	E	415626 425233	Unspecified Old Shafts	1951
Not shown	690.0	E	415634 425199	Unspecified Old Shafts	1948
Not shown	868.0	N	414764 426174	Unspecified Old Shaft	1948
Not shown	868.0	N	414764 426174	Unspecified Old Shaft	1905

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ID	Distance (m)	Direction	NGR	Use	Date
Not shown	872.0	N	414769 426178	Unspecified Old Shaft 1951	
Not shown	953.0	NE	415595 426114	Unspecified Disused Mine 1990	
Not shown	953.0	NE	415595 426114	Unspecified Disused Mine	1983
Not shown	969.0	NE	415632 426116	Unspecified Disused Mine 1967	
Not shown	995.0	E	415932 425345	Unspecified Shafts	1948

#### **4.3 Current Ground Workings**

This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

Are there any BGS Current Ground Workings within 1000m of the study site boundary?

Yes

The following Current Ground Workings information is provided by British Geological Survey:

ID	Distanc e (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	524.0	NE	415382 425569	Coal, Deep	Whitwood Coal Pit	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	577.0	NE	415430 425592	Coal, Deep	Whitwood Coal Pit	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	607.0	Ν	414947 425922	Coal, Deep	Lower Wyke	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	698.0	N	415142 425978	Coal, Deep	Lower Wyke	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	719.0	NW	414294 425713	Coal, Deep	Bottom Hall	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	763.0	W	414115 425335	Sandstone	St Matthew's Church	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	905.0	N	415213 426173	Coal, Deep	Shirley Manor	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	961.0	N	415154 426248	Coal, Deep	Shirley Manor	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

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## 5 Mining, Extraction & Natural Cavities Map



Report Reference: HMD-336-2748864



## 5 Mining, Extraction & Natural Cavities

#### 5.1 Historical Mining

This dataset is derived from Groundsure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary?

Yes

The following Historical Mining information is provided by Groundsure:

ID	Distance (m)	Direction	NGR	Details	Date
17	149.0	N	414886 425464	Unspecified Old Shaft	1905
18A	197.0	Е	415143 425169	Unspecified Disused Shaft	1974
19A	197.0	Е	415143 425169	Unspecified Disused Shaft	1990
20A	197.0	Е	415143 425169	Unspecified Disused Shaft	1983
21A	201.0	Е	415144 425168	Unspecified Old Shaft	1948
22A	202.0	Е	415146 425169	Unspecified Old Shaft	1951
23A	202.0	E	415146 425169	Unspecified Disused Shaft	1967
24B	260.0	S	415033 424938	Unspecified Old Shaft	1905
Not shown	633.0	N	414985 425948	Unspecified Old Shaft	1905
Not shown	633.0	N	414985 425948	Unspecified Old Shaft	1948
Not shown	637.0	N	414989 425952	Unspecified Old Shaft	1951
28	659.0	Е	415835 425595	Opencast Workings	1967
29C	674.0	Е	415616 425246	Unspecified Old Shafts	1948
30C	675.0	Е	415617 425244	Unspecified Shafts	1905
31C	678.0	Е	415618 425244	Unspecified Old Shafts	1951
32C	681.0	Е	415623 425234	Unspecified Old Shafts	1948
33C	684.0	Е	415626 425233	Unspecified Old Shafts	1951
34	690.0	Е	415634 425199	Unspecified Old Shafts	1948
Not shown	868.0	N	414764 426174	Unspecified Old Shaft	1948
Not shown	868.0	Ν	414764 426174	Unspecified Old Shaft	1905

Report Reference: HMD-336-2748864



ID	Distance (m)	Direction	NGR	Details	Date
Not shown	872.0	N	414769 426178	Unspecified Old Shaft	1951
Not shown	953.0	NE	415595 426114	Unspecified Disused Mine	1990
Not shown	953.0	NE	415595 426114	Unspecified Disused Mine	1983
Not shown	969.0	NE	415632 426116	Unspecified Disused Mine	1967
Not shown	995.0	E	415932 425345	Unspecified Shafts	1948

#### **5.2 Coal Mining**

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary?

Yes

The following Coal Mining information provided by the Coal Authority is not represented on Mapping:

Distance (m) Direction Details		Details
0.0	On Site	The study site is located within the specified search distance of an identified mining area. Further details concerning this can be obtained from the Coal Authority Helpline on 0845 762 6848.

#### 5.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary?

No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

#### 5.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary?

Yes

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

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	0.0	On Site	Elland Flag Mines	Sandstone - Elland Flags	Underground mining is known or considered likely to have occurred within or close to the area. The location extent and nature of past mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.

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	Distance				LOCATION INTELLIGENCE
ID	(m)	Direction	Name	Commodity	Assessment of likelihood
2	59.0	E	Elland Flag Mines	Sandstone - Elland Flags	Underground mining is known or considered likely to have occurred within or close to the area. The location extent and nature of past mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
3	171.0	S	Elland Flag Mines	Sandstone - Elland Flags	Underground mining is known or considered likely to have occurred within or close to the area. The location extent and nature of past mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
4	177.0	W	Elland Flag Mines	Sandstone - Elland Flags	Underground mining is known or considered likely to have occurred within or close to the area. The location extent and nature of past mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
5	194.0	S	Elland Flag Mines	Sandstone - Elland Flags	Underground mining is known or considered likely to have occurred within or close to the area. The location extent and nature of past mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
6	246.0	NE	Leeds/Bradford area	Iron Ore (Bedded)	Rare and localised small scale mining may have occurred.
7	256.0	SW	Elland Flag Mines	Sandstone - Elland Flags	Underground mining is known or considered likely to have occurred within or close to the area. The location extent and nature of past mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
8	550.0	Е	Leeds/Bradford area	Iron Ore (Bedded)	Rare and localised small scale mining may have occurred.
9	566.0	Е	Leeds/Bradford area	Iron Ore (Bedded)	Rare and localised small scale mining may have occurred.
Not shown	603.0	NW	Leeds/Bradford area	Iron Ore (Bedded)	Rare and localised small scale mining may have occurred.
Not shown	631.0	S	Leeds/Bradford area	Iron Ore (Bedded)	Rare and localised small scale mining may have occurred.
Not shown	857.0	Ν	Leeds/Bradford area	Iron Ore (Bedded)	Rare and localised small scale mining may have occurred.
Not shown	941.0	NE	Leeds/Bradford area	Iron Ore (Bedded)	Rare and localised small scale mining may have occurred.
Not shown	965.0	W	Elland Flag Mines	Sandstone - Elland Flags	Underground mining is known or considered likely to have occurred within or close to the area. The location extent and nature of past mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
Not shown	977.0	NE	Leeds/Bradford area	Iron Ore (Bedded)	Rare and localised small scale mining may have occurred.

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#### 5.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled "Review of mining instability in Great Britain, 1990" PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary?

Yes

The following Non-Coal Mining Cavities information provided by Peter Brett Associates:

ID	Distance (m)	Direction	NGR	Address	Superficial Deposits	Bedrock Deposits	Extracted Mineral
16B	194.0	S	415000 425000	, West Yorkshire	-	-	Flagstone

#### 5.6 Natural Cavities

This dataset provides information based on Peter Brett Associates natural cavities database.

Are there any Natural Cavities within 1000m of the study site boundary?

Nο

Database searched and no data found.

#### **5.7 Brine Extraction**

This data provides information from the Coal Authority issued on behalf of the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary?

No

Database searched and no data found.

#### 5.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary?

No

Database searched and no data found.

#### 5.9 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level..

Are there any Tin Mining areas within 1000m of the study site boundary?

No

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#### Database searched and no data found.

#### 5.10 Clay Mining

This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

Are there any Clay Mining areas within 1000m of the study site boundary?

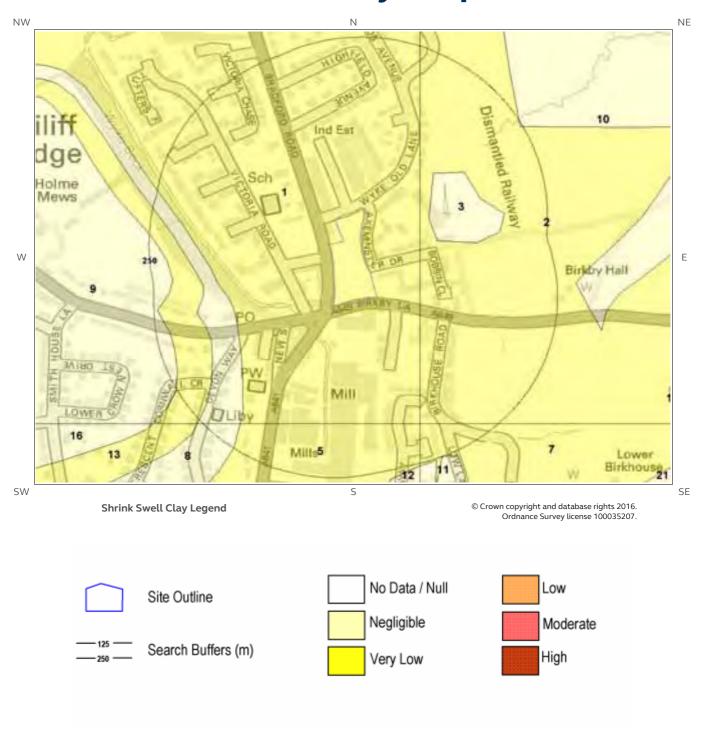
No

Database searched and no data found.

Report Reference: HMD-336-2748864



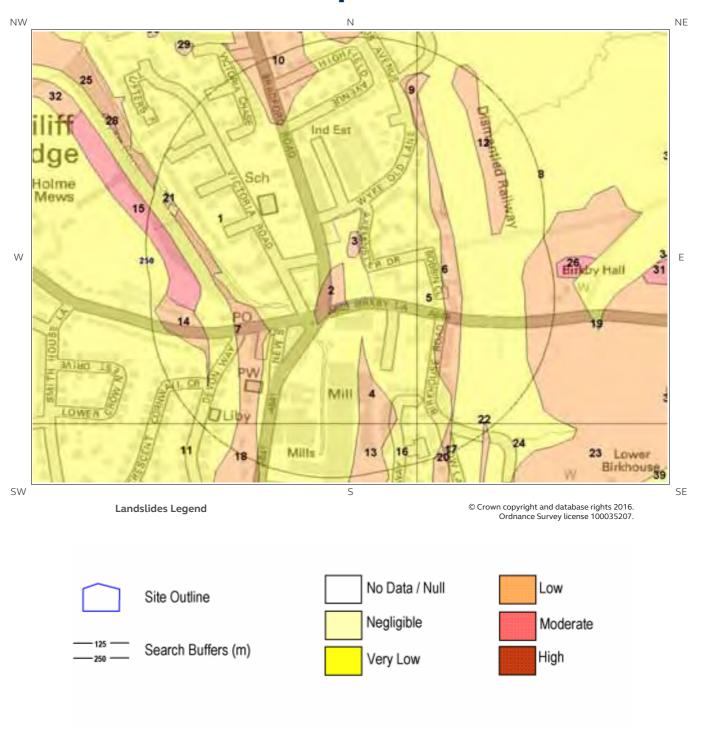
# 6 Natural Ground Subsidence6.1 Shrink-Swell Clay Map



Report Reference: HMD-336-2748864



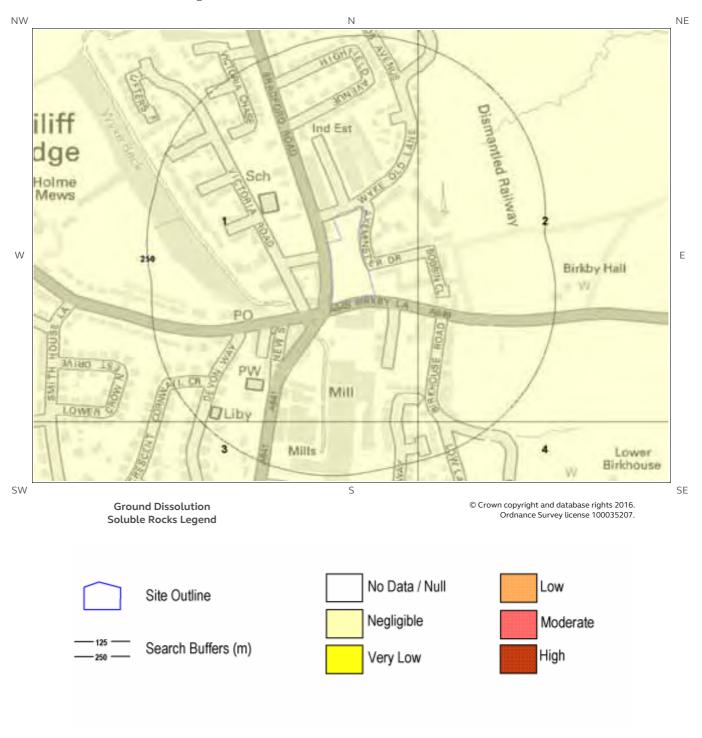
## 6.2 Landslides Map



Report Reference: HMD-336-2748864



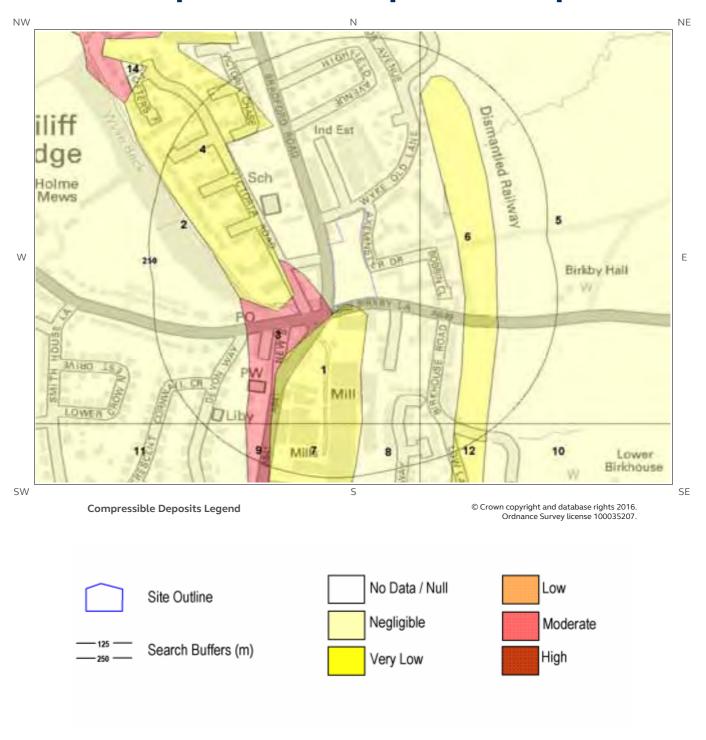
# 6.3 Ground Dissolution of Soluble Rocks Map



Report Reference: HMD-336-2748864



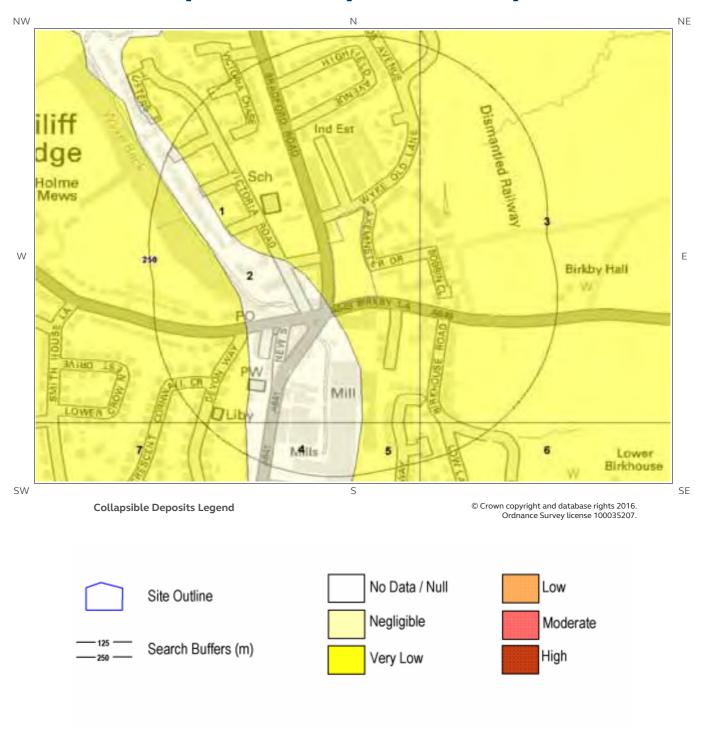
## 6.4 Compressible Deposits Map



Report Reference: HMD-336-2748864



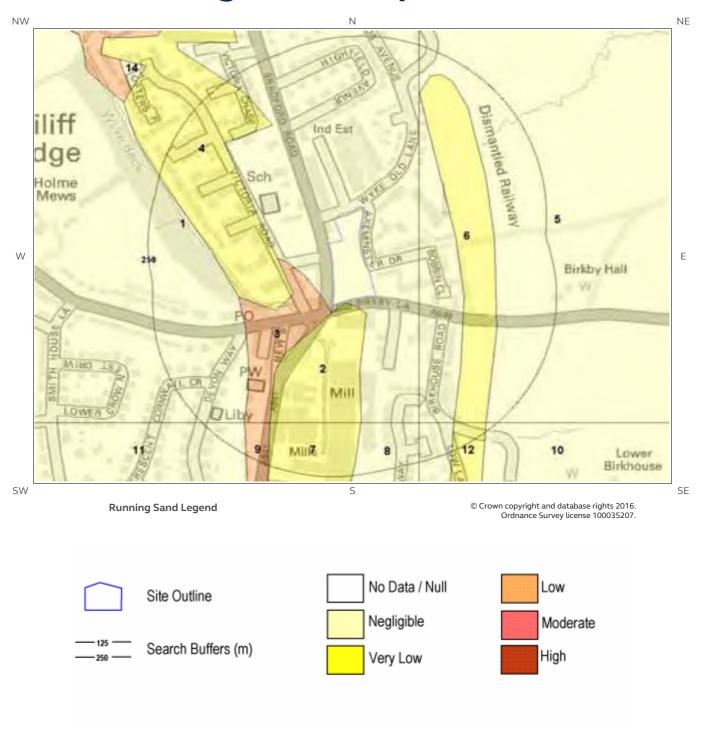
## 6.5 Collapsible Deposits Map



Report Reference: HMD-336-2748864



## 6.6 Running Sand Map



Report Reference: HMD-336-2748864



### **6 Natural Ground Subsidence**

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site\*\* boundary? Moderate

#### 6.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

#### 6.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.
2	0.0	On Site	Low	Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property - no significant increase in insurance risk due to natural slope instability problems.
3	0.0	On Site	Low	Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property - no significant increase in insurance risk due to natural slope instability problems.

This includes an automatically generated 50m buffer zone around the site

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#### **6.3 Ground Dissolution of Soluble Rocks**

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

#### **6.4 Compressible Deposits**

The following Compressible Deposits information provided by the British Geological Survey:

ID	ID Distance Direction (m)		Hazard Rating	Details			
1	0.0	On Site	Very Low	Very low potential for compressible deposits to be present. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.			
2	0.0	On Site	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.			
3	7.0	SW	Moderate	Significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build - consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Extra construction costs are likely. For existing property - possible increase in insurance risk from compressibility, especially if water conditions or loading of the ground change significantly.			

#### **6.5 Collapsible Deposits**

The following Collapsible Rocks information provided by the British Geological Survey:

ID	Distance (m)	e Direction	Hazard Rating	Details		
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.		
2	7.0	SW	Negligible	No indicators for collapsible deposits identified. No actions required to avoid problems due to collapsible deposits. No special ground investigation required, or increased construction costs or increased financial risk due to potential problems with collapsible deposits.		

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#### 6.6 Running Sands

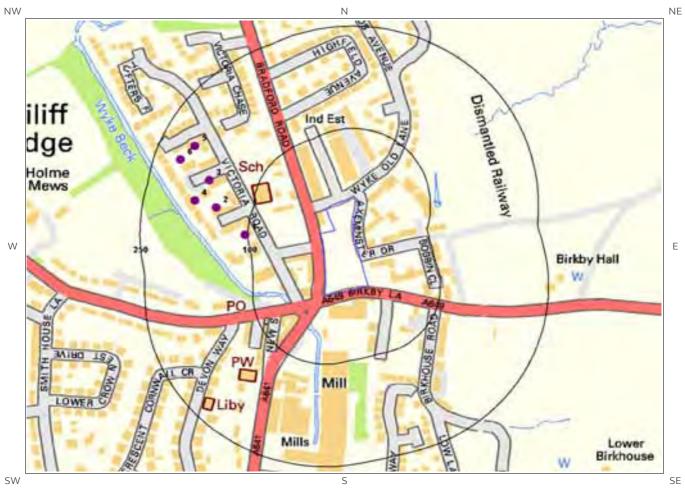
The following Running Sands information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details				
1 0.0 On Site Negligible				No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.				
2	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.				
3	7.0	SW	Low	Possibility of running sand problems after major changes in ground conditions.  Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build - consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property - no significant increase in insurance risk due to running sand problems is likely.				

Report Reference: HMD-336-2748864 Client Reference: G2240



## 7 Borehole Records Map



**Borehole Records Legend** 

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### 7 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

6

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	104.0	W	414770 425260	SE12NW786	-1.0	VICTORIA MILLS TP107
2	149.0	W	414730 425300	SE12NW785	-1.0	VICTORIA MILLS TP106
3	167.0	W	414720 425340	SE12NW783	-1.0	VICTORIA MILLS TP104
4	180.0	W	414700 425310	SE12NW784	-1.0	VICTORIA MILLS TP105
5	203.0	NW	414700 425390	SE12NW781	-1.0	VICTORIA MILLS TP102
6	214.0	W	414680 425370	SE12NW782	-1.0	VICTORIA MILLS TP103

The borehole records are available using the hyperlinks below: Please note that if the donor of the borehole record has requested the information be held as commercial-in-confidence, the additional data will be held separately by the BGS and a formal request must be made for its release.

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## 8 Estimated Background Soil **Chemistry**

Records of background estimated soil chemistry within 250m of the study site boundary:

For further information on how this data is calculated and limitations upon its use, please see the Groundsure Geoinsight Plus User Guide, available on request.

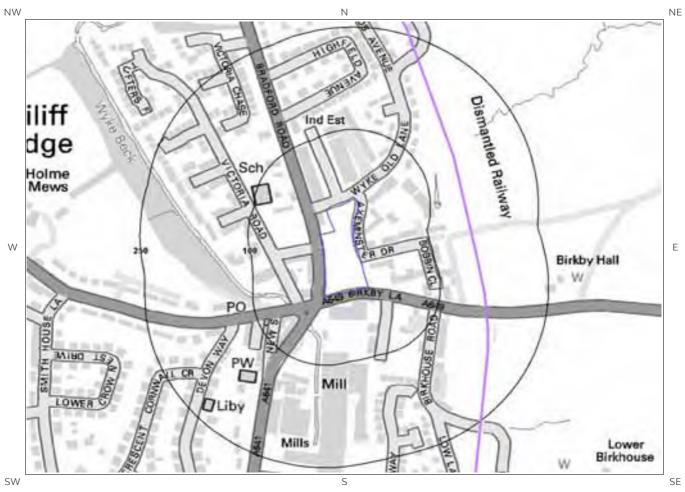
Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	RuralSoil	35 - 45 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
 7.0	SW	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	120 - 180 mg/kg	30 - 45 mg/kg	<100 mg/kg

<sup>\*</sup>As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

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## 9 Railways and Tunnels Map



Railways and Tunnels Legend

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### 9 Railways and Tunnels

#### 9.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary?

Have any underground railway lines been identified within 250m of the study site boundary?

No No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary?

Nο

Have any other railway tunnels been identified within 250m of the site boundary?

No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

#### 9.2 Historical Railway and Tunnel Features

This data is derived from Groundsure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary?

No

Have any historical railway or tunnel features been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

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# 9.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary?

No

Have any historical railway lines been identified within 250m of the study site boundary?

Yes

Distance (m)	Direction	Status
145	Е	Abandoned
162	Е	Abandoned
176	Е	Abandoned

Multiple sections of the same track may be listed in the detail above Any records that have been identified are represented on the Railways and Tunnels Map.

# 9.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary?

No

Have any active railway lines been identified within 250m of the study site boundary?

Nο

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above Any records that have been identified are represented on the Railways and Tunnels Map.

## 9.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail 1

Is the study site within 5km of the route of the High Speed 2 rail project?

No

Is the study site within 500m of the route of the Crossrail 1 rail project?

No

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a **Groundsure HS2** and **Crossrail 1 Report**.

The route data has been digitised from publicly available maps by Groundsure. The route as provided relates to the Crossrail 1 project only, and does not include any details of the Crossrail 2 project, as final details of the route for Crossrail 2 are still under consultation.

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Client Reference: G2240



# **Contact Details**

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



LOCATION INTELLIGENCE

Geological Survey

British

#### **British Geological Survey Enquiries**

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Email:enquiries@bgs.ac.uk Web:www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries



British Gypsum Ltd East Leake Loughborough Leicestershire LE12 6HX



#### The Coal Authority

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



#### **Public Health England**

**P**ublic information access office Public Health England, Wellington House 133-155 Waterloo Road, London, SE1 8UG

 $\label{lem:https://www.gov.uk/government/organisations/public-health-england$ 

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Website:http://www.peterbrett.com/home



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Report Reference: HMD-336-2748864

Client Reference: G2240

#### **Standard Terms and Conditions**

#### 1 Definitions

In these terms and conditions unless the context otherwise requires:

"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.

"Client" means the party or parties entering into a Contract with Groundsure.

"Commercial" means any building or property which is not Residential.

"Confidential Information" means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by Groundsure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

**"Support Services"** means Support Services provided by Groundsure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

"Contract" means the contract between Groundsure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

**"Third Party Data Provider"** means any third party providing Third Party Content to Groundsure.

"Data Reports" means reports comprising factual data with no accompanying interpretation.

"Fees" has the meaning set out in clause 5.1.

"Groundsure" means Groundsure Limited, a company registered in England and Wales under number 03421028.

"Groundsure Materials" means all materials prepared by Groundsure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

"Intellectual Property" means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

"Mapping" means a map, map data or a combination of historical maps of various ages, time periods and scales.

"Order" means an electronic, written or other order form submitted by the Client requesting Services from Groundsure in respect of a specified Site.

**"Ordnance Survey"** means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

**"Order Website"** means the online platform through which Orders may be placed by the Client and accepted by Groundsure.

"Report" means a Risk Screening Report or Data Report for Commercial or Residential property.

**"Residential"** means any building or property used as or intended to be used as a single dwelling.

**"Risk Screening Report"** means a risk screening report comprising factual data with an accompanying interpretation by Groundsure.

**"Services"** means any Report, Mapping and/or Support Services which Groundsure has agreed to provide by accepting an Order pursuant to clause 2.6.

"Site" means the area of land in respect of which the Client has requested Groundsure to provide the Services.

"Third Party Content" means data, database information or other information which is provided to Groundsure by a Third Party Data Provider

"User Guide" means the user guide, as amended from time to time, available upon request from Groundsure and on the website (www.Groundsure.com) and forming part of this Contract.

# 2 Scope of Services, terms and conditions, requests for insurance and quotations

- 2.1 Groundsure agrees to provide the Services in accordance with the Contract.
- 2.2 Groundsure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of Groundsure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, Groundsure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and Groundsure will have no liability therefor. In addition you acknowledge and agree that Groundsure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 Groundsure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by Groundsure. Groundsure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by Groundsure. Groundsure's acceptance of an Order shall be binding only when made in writing and signed by Groundsure's authorised representative or when accepted through the Order Website.

## 3 The Client's obligations

3.1The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to Groundsure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to Groundsure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as Groundsure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable Groundsure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the Groundsure Materials, or use the Groundsure Materials in a manner for which they were not intended. The Client may make the Groundsure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that Groundsure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

### 4 Reliance

4.1The Client acknowledges that the Services provided by Groundsure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by Groundsure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,

- (ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),
  - (iv) the first purchaser or first tenant of the Site, and
- (v) the professional advisers and lenders of the first purchaser or tenant of the Site.
- 4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.
- 4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by Groundsure. Any party considering such Reports and Services does so at their own risk.

#### **5 Fees and Disbursements**

- 5.1Groundsure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by Groundsure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").
- 5.2 The Client shall pay all outstanding Fees to Groundsure in full without deduction, counterclaim or set off within 30 days of the date of Groundsure's invoice or such other period as may be agreed in writing between Groundsure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.
- 5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of Groundsure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

#### 6 Intellectual Property and Confidentiality

6.1 Subject to

- (i) full payment of all relevant Fees and
- (ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the Groundsure Materials.
- 6.2 All Intellectual Property in the Groundsure Materials are and shall remain owned by Groundsure or Groundsure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.
- 6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.
- 6.4 The Client shall, and shall procure that any recipients of the Groundsure Materials shall:
- (i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to Groundsure or any third party from the Services;
- (ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;
- (iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);
- (iv) not combine the Services with or incorporate such Services into any other information data or service;
- (v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

- (vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and
- (vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey.
- 6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the Groundsure Materials in order to advise the Beneficiary in a professional capacity. However, Groundsure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.
- 6.6 The Client shall procure that any person to whom the Services are made available shall notify Groundsure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

# 7.Liability: Particular Attention Should Be Paid To This Clause

- 7.1 This Clause 7 sets out the entire liability of Groundsure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:
- (i) any breach of contract, including any deliberate breach of the Contract by Groundsure or its employees, agents or subcontractors;
- (ii) any use made of the Reports, Services, Materials or any part of them; and
- (iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract
- 7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.
- 7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 Groundsure shall not be liable for

- (i) loss of profits;
- (ii) loss of business;
- (iii) depletion of goodwill and/or similar losses;
- (iv) loss of anticipated savings;
- (v) loss of goods;
- (vi) loss of contract;
- (vii) loss of use;
- (viii) loss or corruption of data or information;
- (ix) business interruption;
- (x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;
- (xi) loss or damage that arise as a result of the use of all or part of the Groundsure Materials in breach of the Contract;
- (xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the Groundsure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;
- (xiii) loss or damage to a computer, software, modem, telephone or other property; and
- (xiv) loss or damage caused by a delay or loss of use of Groundsure's internet ordering service.
- 7.5 Groundsure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.
- 7.6 Groundsure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of Groundsure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against Groundsure in relation to the Services or other matters arising pursuant to the Contract.

## 8 Groundsure's right to suspend or terminate

- 8.1 If Groundsure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, Groundsure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.
- 8.2 Groundsure shall be entitled to terminate the Contract immediately on written notice in the event that:
- (i) the Client fails to pay any sum due to Groundsure within 30 days of the Payment Date; or
- (ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or
- (iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or
- (iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

#### 9. Client's Right to Terminate and Suspend

- 9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.
- 9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:
- (i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon Groundsure's acceptance of the Order; and
- $\hbox{ (ii) } \qquad \hbox{the Reports and/or Mapping provided under this } \\ \hbox{Contract are }$ 
  - (a) supplied to the Client's specification(s) and in

any event

(b) by their nature cannot be returned.

# 10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

- (i) Groundsure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in Groundsure's possession or control; and
- (ii) the Client shall pay to Groundsure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay Groundsure any additional costs incurred in relation to the termination or suspension of the Contract.

#### 11 Anti-Bribery

- 11.1 The Client warrants that it shall:
- (i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;
- (ii) comply with such of Groundsure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and
- (iii) promptly report to Groundsure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.
- 11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

#### 12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

- 12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through Groundsure.
- 12.3 Groundsure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of Groundsure.
- 12.4 No failure on the part of Groundsure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.
- 12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract
- 12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.
- 12.7 Groundsure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:
- (i) the Client or Beneficiary's failure to provide facilities, access or information;
  - (ii) fire, storm, flood, tempest or epidemic;
  - (iii) Acts of God or the public enemy;
  - (iv) riot, civil commotion or war;
  - (v) strikes, labour disputes or industrial action;
- $\hbox{ (vi)} \qquad \hbox{acts or regulations of any governmental or other} \\ \hbox{agency;} \\$
- (vii) suspension or delay of services at public registries by Third Party Data Providers;
  - (viii) changes in law; or
- (ix) any other reason beyond Groundsure's reasonable

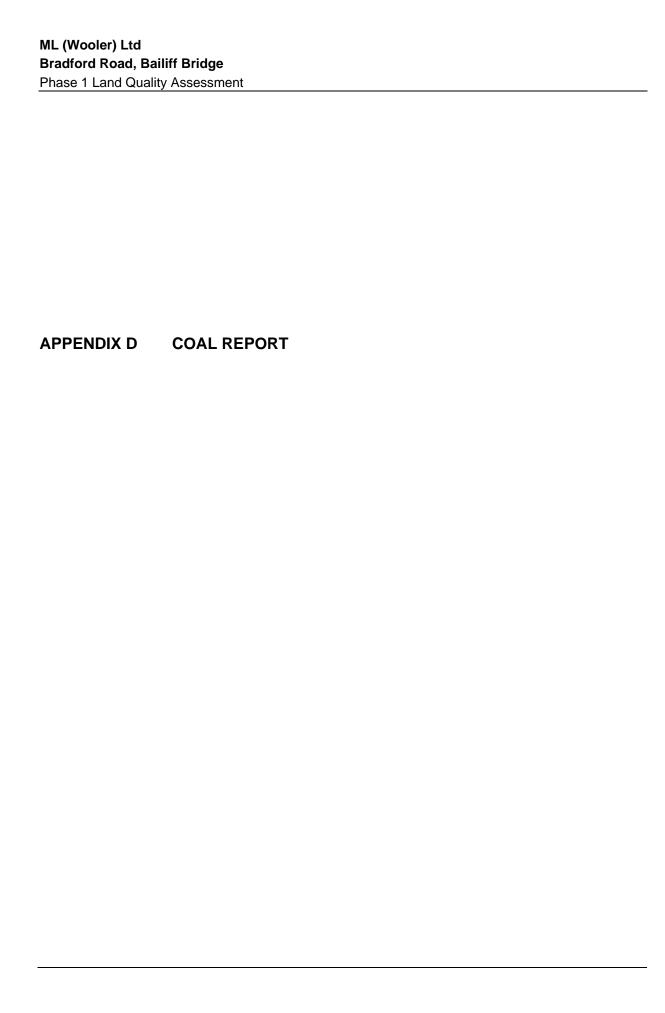
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In the event that Groundsure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then Groundsure shall be entitled to terminate this Contract immediately on written notice to the Client.

- 12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.
- 12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.
- 12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.
- 12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.
- 12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.
- 12.13 Groundsure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.
- 12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at Groundsure who will respond in a timely manner. In the event you are not satisfied with Groundsure's complaints handling process or you are unable to resolve the complaint, at your discretion you may refer the complaint to The Property Ombudsman Scheme at the following URL/email: website www.tpos.co.uk or email: admin@tpos.co.uk

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law

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Issued by:

The Coal Authority, Property Search Services, 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire, NG18 4RG Website: www.groundstability.com Phone: 0345 762 6848

GROUNDSURE LIMITED SOVEREIGN HOUSE CHURCH STREET BRIGHTON BN1 3UJ

Our reference: 51001102751001
Your reference: HMD-336-2748863
Date of your enquiry: 15 February 2016
Date we received your enquiry: 15 February 2016
Date of issue: 15 February 2016

This report is for the property described in the address below and the attached plan.

# **Non-Residential Coal Authority Mining Report**

# FORMER CLIFTON MILLS, BRADFORD ROAD, BRIGHOUSE, WEST YORKSHIRE, HD6 4DY

This report is based on and limited to the records held by, the Coal Authority, and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

Coal mining	See comments below	
Brine Compensation District	No	

## Information from the Coal Authority

## **Underground coal mining**

## **Past**

According to the records in our possession, the property is not within the zone of likely physical influence on the surface from past underground workings.

However the property is in an area where the Coal Authority believe 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 prior to any site works or future development activity. Your attention is drawn to the Comments on Coal Authority Information section of the report.

### **Present**

The property is not in the likely zone of influence of any present underground coal workings.

### **Future**

The property is not in an area for which the Coal Authority is determining whether to grant a licence to remove coal using underground methods.

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

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The property is not in an area that is likely to be affected at the surface from any planned future workings.

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

No notice of the risk of the land being affected by subsidence has been given under section 46 of the Coal Mining Subsidence Act 1991.

#### Mine entries

Within, or within 20 metres of, the boundary of the property there are 2 mine entries, the approximate positions of which are shown on the attached plan.

Our records disclose the following information:

414425-005. was searched for by a combination of excavation to natural strata and by probe drilling in July 2004 by Encia Consulting Ltd for Miller Homes but was not found. We have no record of what steps, if any, have been taken to treat this shaft.

414425-006. was found filled and subsequently drilled and grouted to full depth in July 2004 by Encia Consulting Ltd for Miller Homes.

Records may be incomplete. Consequently, there may exist in the local area mine entries of which the Coal Authority has no knowledge.

For an additional fee, the Coal Authority will provide a supplementary Mine Entry Interpretive Report. The report will provide a separate assessment for the mine entry (entries) referred to in this report. It will give details based on information in the Coal Authority's possession, together with an opinion on the likelihood of mining subsidence damage arising from ground movement as a consequence of the existence of the mine entry/entries. It will also give details of the remedies available for subsidence damage where the mine entry was sunk in connection with coal mining.

Please note that it may not be possible to produce a report if the main building to the property cannot be identified from Coal Authority plans (ie. for development sites and new build).

For further advice on how to order this additional information visit www.groundstability.com or telephone 0345 7626 848.

# Coal mining geology

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

# **Opencast coal mining**

### **Past**

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

## **Present**

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

#### **Future**

The property is not within 800 metres of the boundary of an opencast site for which the Coal Authority is determining whether to grant a licence to remove coal by opencast methods.

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.

### Coal mining subsidence

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

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

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# Mine gas

There is no record of a mine gas emission requiring action by the Coal Authority within the boundary of the property.

# Hazards related to coal mining

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

# Withdrawal of support

The property is not in an area for which a notice of entitlement to withdraw support has been published.

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

# Working facilities orders

The property is not in an area for which 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.

# Payments to owners of former copyhold land

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

# **Comments on Coal Authority information**

The attached plan shows the approximate location of the disused mine entry/entries referred to in this report. For reasons of clarity, mine entry symbols may not be drawn to the same scale as the plan.

Property owners have the benefit of statutory protection (under the Coal Mining Subsidence act 1991\*). This contains provision for the making good, to the reasonable satisfaction of the owner, of physical damage from disused coal mine workings including disused coal mine entries. A leaflet setting out the rights and the obligations of either the Coal Authority or other responsible persons under the 1991 Act can be obtained by telephoning 0345 762 6848.

If you wish to discuss the relevance of any of the information contained in this report you should seek the advice of a qualified mining engineer or surveyor. If you or your adviser wish to examine the source plans from which the information has been taken these are normally available at our Mansfield office, free of charge, by prior appointment, telephone 01623 637225. Should you or your adviser wish to carry out any physical investigations that may enter, disturb or interfere with any disused mine entry the prior permission of the owner must be sought. For coal mine entries the owner will normally be the Coal Authority.

The Coal Authority, regardless of responsibility and in conjunction with other public bodies, provide an emergency call out facility in coalfield areas to assess the public safety implications of mining features (including disused mine entries). Our emergency telephone number at all times is 01623 646333.

\*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.

In view of the mining circumstances a prudent developer would seek appropriate technical advice before any works are undertaken.

Therefore 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 good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. Developers should be aware that the investigation of coal seams/former mines of coal may have the potential to

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generate and/or displace underground gases and these risks both under and adjacent to the development should be fully considered in developing any proposals. The need for effective measures to prevent gases entering into public properties either during investigation or after development also needs to be assessed and properly addressed. This is necessary due to the public safety implications of any development in these circumstances.

# Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

### Additional Remarks

Information provided by the Coal Authority in this report is compiled in response to the Law Society's Con29M Coal Mining and Brine Subsidence Claim enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL. Please note that Brine Subsidence Claim enquiries are only relevant for England and Wales. This report is prepared in accordance with the Law Society's Guidance Notes 2006, the User Guide 2006 and the Coal Authority and Cheshire Brine Board's Terms and Conditions applicable at the time the report was produced.

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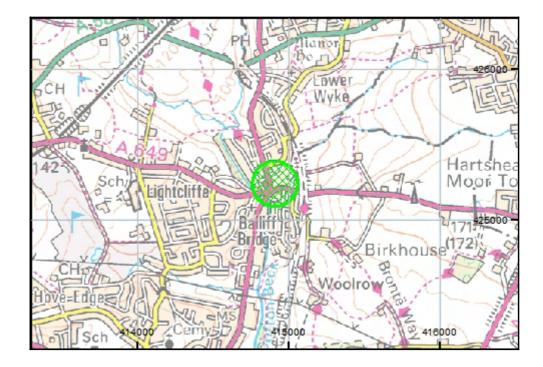
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Non-Residential Coal Authority Mining Report - 51001102751001

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# **Location map**



Approximate position of property



# **Enquiry boundary**

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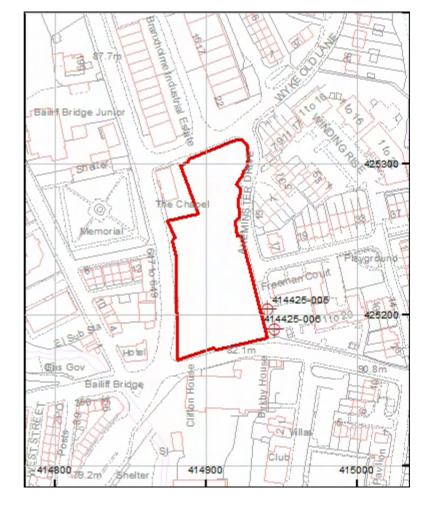
# Key

Approximate position of enquiry boundary shown



Disused Adit or Mineshaft

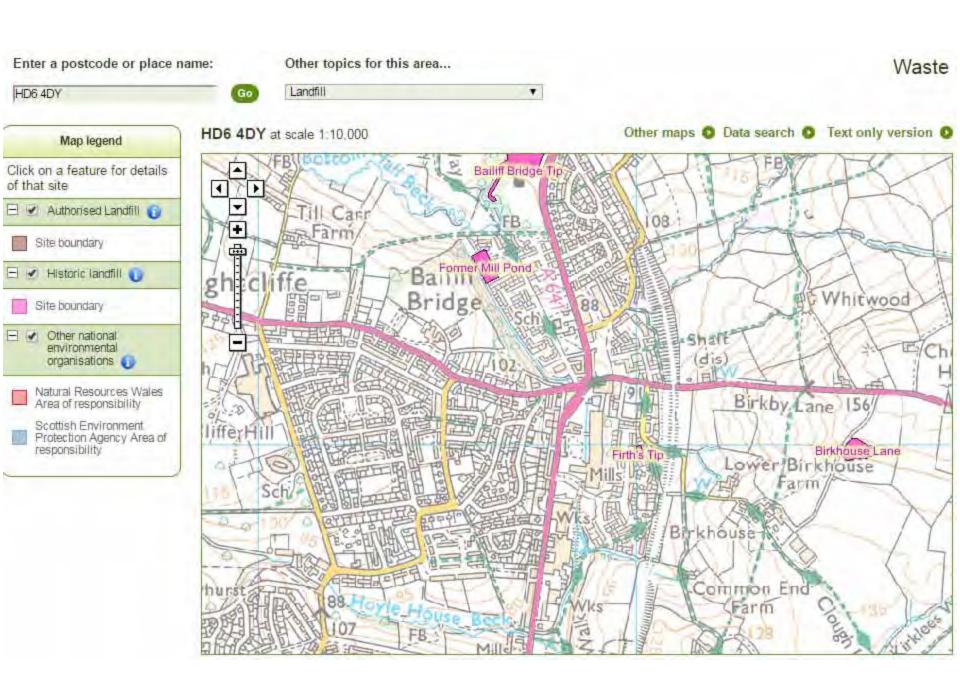


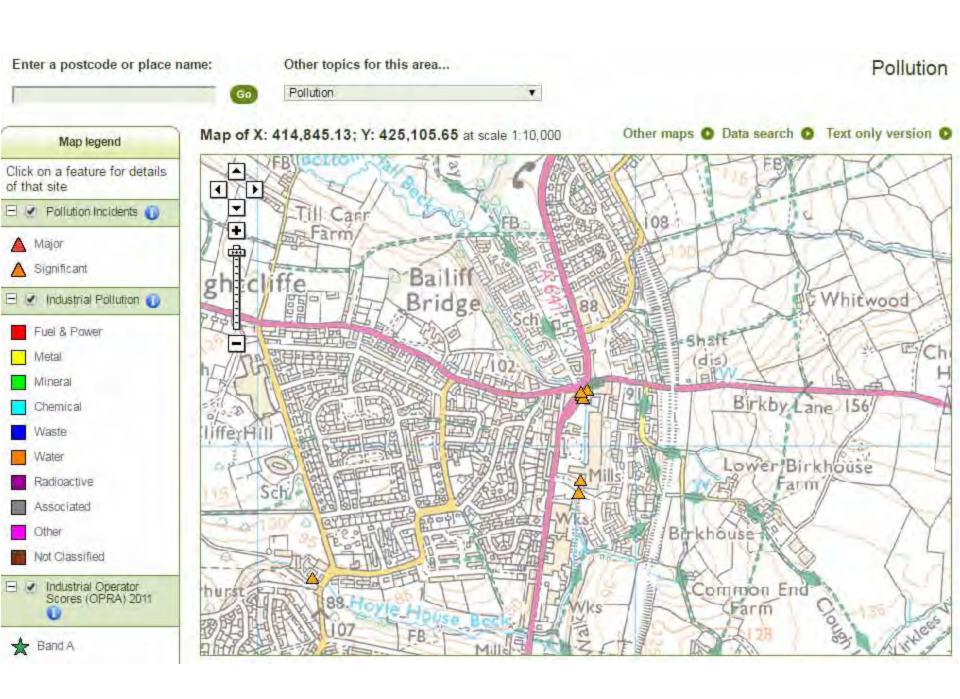


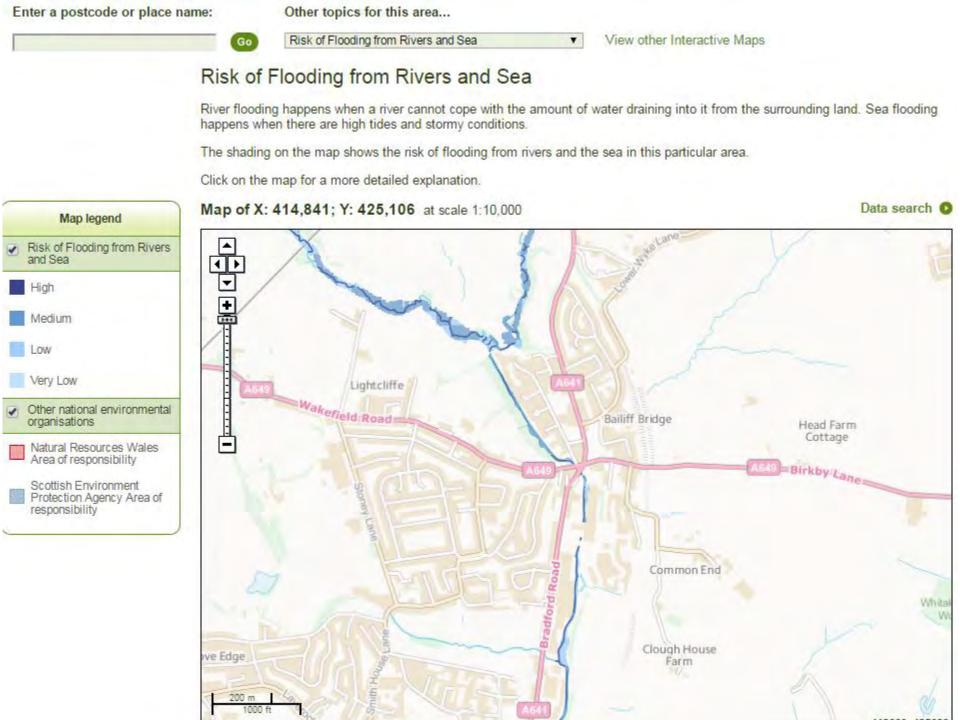


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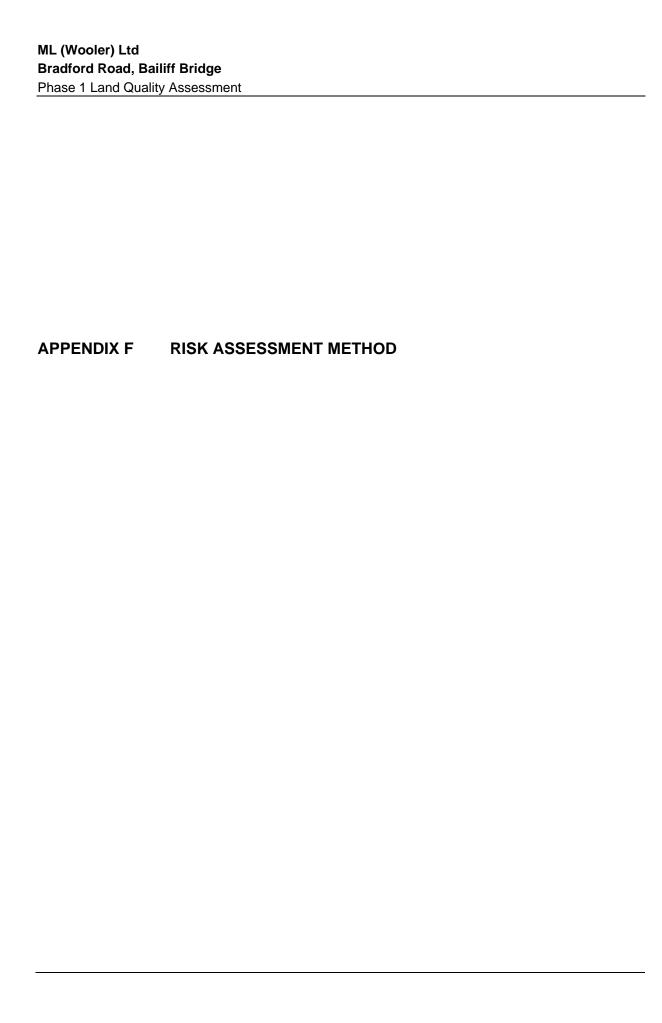


 Table 6.3
 Classification of Consequence

Classification	Definition	Examples
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.	High concentrations of cyanide on the surface of an informal recreation area.  Major spillage of contaminants from site into controlled water.
	Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem (note: the definitions of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000).	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	Concentrations of a contaminant from site exceed the generic, or site -specific assessment criteria.
	of pollution). A significant change in 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).	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	Pollution of non-classified groundwater.
	and services ("significant harm" as defined in the <i>Draft Circular on Contaminated Land</i> , DETR, 2000). Damage to sensitive buildings/structures or the environment.	Damage to building rendering it unsafe to occupy (e.g. 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 health (easily prevented by means such	The presence of contaminants at such concentrations that protective equipment is required during site works.
	as personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services.	The loss of plants in a landscaping scheme.
		Discoloration of concrete.

Table 6.4	Classification of Probability
Classification	Definition
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 an event would take place, and is less likely in the shorter term.
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term.

 Table 6.5
 Comparison of consequence against probability

moderate/ low risk

probability

unlikely

	consequence			
	severe	medium	mild	minor
high likelihood	very high risk	high risk	moderate risk	moderate/ low risk
likely	high risk	moderate risk	moderate/ low risk	low risk
low likelihood	moderate risk	moderate/low risk	low risk	very 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	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.
	This risk, if realised, is likely to result in a substantial liability.
	Urgent investigation (if not undertaken already) and remediation are likely to be required.
High risk	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 (if not undertaken already) is required and remedial work may be necessary in the short term and are likely over the longer term.
Moderate risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, if 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.
	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.
Low risk	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 risk	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.





Photo 1 – Site, sloping from N to S, looking S, taken from Wyke Old Lane.



Photo 2 –Current site access road, by side of Chapel, off Wyke Old Lane, looking S.



Photo 3-N area of site, with relict road surface still present, looking S.



Photo 4 – Sloping site with ground dropping away from E-W (RHS to LHS) to Bradford Road, along W boundary, looking NW.



Photo 5 - SW area of site, looking SW. Wild grass vegetation on surface of site.



Photo 6 – W area of site, looking S. Land within SW corner approximately 2m lower than the ground level within the SE area.



Photo 7 - N area of site, in area of proposed large building, looking N. New residential development to E (RHS) of site boundary and Chapel in background.



Photo 8 – SW corner of site, with possible stockpile in foreground with overgrown wild grass covering the hard-core material surface, looking SW. Mill building to S of boundary (LHS).



Photo 9 – SE corner of site, looking SE.



Photo 10 - N area of site, looking N.