



Phase I Geoenvironmental Report & Coal Mining Risk Assessment

Project: Siddal Top Lane,
Siddal,
Halifax,
HX3 9TU

Client: Robert Halstead Chartered Surveyors and
Town Planners

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FOR AND ON BEHALF OF JNP GROUP

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Contents

EXECUTIVE SUMMARY.....	4
1 INTRODUCTION	5
1.1 GENERAL	5
1.2 OBJECTIVES.....	5
1.3 METHODOLOGY.....	5
2 SITE DESCRIPTION.....	6
3 GEOLOGY, HYDROGEOLOGY AND HYDROLOGY.....	7
3.1 GEOLOGY	7
3.2 BGS BOREHOLE RECORDS	8
3.3 RADON	8
3.4 BACKGROUND SOIL CHEMICAL CONCENTRATIONS	8
3.5 MINING, MINERAL EXTRACTION AND NATURAL CAVITIES	8
3.6 HYDROGEOLOGY.....	9
3.7 HYDROLOGY.....	9
3.8 POLLUTION INCIDENTS TO CONTROLLED WATERS.....	10
3.9 DISCHARGE CONSENTS	10
4 COAL MINING RISK ASSESSMENT	11
4.1 SCOPE OF THE COAL MINING RISK ASSESSMENT	11
4.2 SOURCES OF INFORMATION	11
4.3 GEOLOGY	11
4.4 CONSULTANTS COAL MINING REPORT.....	11
4.5 IDENTIFICATION AND ASSESSMENT OF SITE-SPECIFIC COAL MINING RISKS	12
4.6 THE COAL AUTHORITY PERMISSION	13
4.7 RECOMMENDATIONS.....	13
5 SITE HISTORY	14
5.1 HISTORICAL MAPPING	14
5.2 UNEXPLODED ORDNANCE REVIEW.....	14
5.3 SITE HISTORICAL SUMMARY.....	15
6 INFORMATION HELD BY STATUTORY AUTHORITIES	16
6.1 SUMMARY	16
6.2 ENVIRONMENTALLY SENSITIVE AREAS	17
7 UK CONTAMINATED LAND LEGISLATIVE FRAMEWORK.....	18
7.1 GENERAL	18
8 CONCEPTUAL SITE MODEL AND PRELIMINARY RISK ASSESSMENT	20
8.1 GENERAL	20
8.2 POTENTIAL SOURCES OF CONTAMINATION	20
8.3 RECEPTORS.....	20
8.4 PATHWAYS	21
8.5 POLLUTANT LINKAGES	22

8.6	PRELIMINARY RISK ASSESSMENT.....	24
9	CONCLUSIONS OF DESK STUDY / PREVIOUS REPORTS & RECOMMENDATIONS	25
9.1	CONCLUSIONS	25
9.2	RECOMMENDATIONS.....	26
10	REFERENCES	27
	FIGURES / DRAWINGS	31
Appendix A	LIMITATIONS	32
	INTRODUCTION.....	33
	OBJECTIVES	33
Appendix B	GROUNDSURE REPORT	35
Appendix C	CONSULTANTS COAL MINING REPORT.....	36

EXECUTIVE SUMMARY

Site location	Siddal Top Lane, Siddal, Halifax, HX3 9TU	
Development scheme	Demolition of existing buildings and redevelopment with a single detached residential property.	
NGR	410576, 423281	
Current use	On-site: Unknown buildings.	Off-site: Agricultural and residential.
Historical use And UXO	<p>The site was undeveloped land until approximately 1964, when a small rectangular building was constructed in the south-eastern corner of the site. The rest of the site was covered with buildings by 1984.</p> <p>The surrounding area was mostly agricultural land, interspersed with a variety of coal mining and non-coal mining features, such as coal pits, shafts, air shafts, and quarries. There were several brick works, copperas works, and other unspecified works and mills in the villages to the east and west of the site, but none within 200m of the site.</p> <p>A low UXO risk has been identified at the site.</p>	
Geology	Pennine Lower Coal Measures Formation.	
Coal Mining Risk Assessment	<p>Coal measures strata are present beneath the site, and historic underground workings have been identified beneath and around the site.</p> <p>Based on the assessment of the site-specific coal mining risks identified, it is considered that the risk to the site from historic coal workings is likely to be low and at this stage we do not recommend that any further investigation works are required. We would however recommend that this report is submitted to building control / warranty provider in order to gain there agreement that no additional investigation works are required.</p>	
Hydrogeology	Secondary A Aquifer.	
Hydrology	Hebble Brook is 610m west of the site.	
Foundation design	<p>Based on the underlying geology, it is likely that traditional strip foundations will be feasible, placed within the residual soils and/or bedrock of the Pennine Lower Coal Measures Formation deepened in accordance with NHBC Standards Chapter 4.2 as appropriate and subject to a full ground investigation.</p> <p>The identified landslide risk affecting the north-western corner of the site may affect the development should proposed structures be altered and be present in this area. This may lead to the requirement of specialist foundations or a more in-depth assessment of foundations.</p>	
Other Geotechnical Hazards of Note	A moderate landslide risk has been identified in the north-western area of the site which requires further investigation and consideration for the development in terms of building locations and levels. This may require a slope stability assessment.	
Contamination	The site is considered to pose a MEDIUM risk to human receptors, due to the historic and recent use of the site, and the potential for landfill gas and/or mine gas to affect the site.	

1 INTRODUCTION

1.1 General

- 1.1.1 JNP Group was instructed by the client to produce a Phase 1 Geoenvironmental Report and Coal Mining Risk Assessment of a site at:

Siddal Top Lane,
Siddal,
Halifax,
HX3 9TU

hereinafter referred to as 'the site'. This report is subject to the limitations presented in Appendix A.

- 1.1.2 It is understood that the existing buildings are to be demolished, and the site redeveloped with a detached residential property.

- 1.1.3 All comments given are based on the understanding that the proposed redevelopment will be as detailed above.

1.2 Objectives

- 1.2.1 The scope of work comprised non-intrusive (desk-based) research only. This report contains details of the site, development of an initial conceptual model, and a preliminary risk assessment regarding contaminated land issues, as well as an assessment of the risk posed to the proposed development by historic coal mining.

1.3 Methodology

- 1.3.1 This report has been compiled in accordance with the on-line Land contamination: risk management (LCRM) guidance produced by the Environment Agency (June 2019). This can be found on the UK government website: <https://www.gov.uk/guidance/land-contamination-how-to-manage-the-risks>.
- 1.3.2 Regarding geotechnical aspects, reference is also made to the requirements of BS EN 1997, Eurocode 7, Geotechnical Design, and associated standards.

2 SITE DESCRIPTION

- 2.1.1 The site is located off Siddal Top Lane, in Halifax, West Yorkshire, approximately 2km south-east of Halifax town centre (see Figure 1 Key Plan). The centre of the site is located at National Grid Reference 410576, 423281. The site covers an area of approximately 0.07 hectares.
- 2.1.2 The boundaries of the site are Siddal Top Lane to the north and east, a boundary wall to the south, and agricultural land to the west.
- 2.1.3 Adjacent land uses are residential and agricultural.
- 2.1.4 The site and the surrounding area slope steeply to the west and south-west.
- 2.1.5 Ground coverage across the site is mostly hardstanding and covered by the footprints of the buildings.
- 2.1.6 From aerial photos and available online resources, the buildings on site appear to be single storey storage buildings or workshop buildings.
- 2.1.7 There are several mature trees to the north of the site.
- 2.1.8 The surrounding land uses are summarised in Table 2.1 below.

Table 2.1 Surrounding Land Use

Direction	Land Use
North	Siddal Top Lane, residential, agricultural
East	Siddal Top Lane, residential, agricultural
South	Agricultural, residential
West	Agricultural, residential

3 GEOLOGY, HYDROGEOLOGY AND HYDROLOGY

3.1 Geology

- 3.1.1 The geology of the site has been determined by reference to the 1:50,000 scale British Geological Survey (BGS) online Geoindex Tool (<http://mapapps2.bgs.ac.uk/geoindex/home.html>) as well as to the BGS 1:50,000 Series published geological map, Sheet 77 Huddersfield (Solid and Drift, dated 2003), accessed via the website (<http://www.bgs.ac.uk/data/maps/home.html>); these were both accessed on 21/04/2022.
- 3.1.2 No recorded artificial or made ground is indicated at the site, however, from the aerial imagery viewed, buildings are present across most of the site. Given the developed nature of the site, made ground is anticipated to be present.
- 3.1.3 No superficial deposits are indicated to be present at the site.
- 3.1.4 The underlying “bedrock” geology is indicated to be strata of the Pennine Lower Coal Measures Formation, which is described by the BGS as *“interbedded grey mudstone, siltstone, and pale grey sandstone, commonly with mudstones containing marine fossils in the lower part, and more numerous and thicker coal seams in the upper part”*.
- 3.1.5 The geological map indicates that the strata beneath the site dip gently to the east at an angle of around 4 degrees.
- 3.1.6 The nearest coal seam is 40m south-west of the site. There are eight further coal seams within 500m of the site, all to the west and south-west of the site. Due to the dip of the strata beneath the site, it is anticipated that most of the coal seams that outcrop to the west and south of the site extend laterally beneath the site.
- 3.1.7 There are two faults within 500m of the site – one 140m south of the site, and another 175m south of the site.
- 3.1.8 The following Table 3.1 summarises the risk potentials of a range of geological hazards at the site as identified in a site-specific Groundsure Report which has been obtained and is included in Appendix B.

Table 3.1 Geological Hazards

Hazard	Risk
Shrinking or swelling clay	Negligible to very low
Landslide ground	Very low to moderate
Ground dissolution	Negligible
Compressible soils	Negligible
Collapsible soils	Very low
Running sand	Negligible

- 3.1.9 Based upon the above, most of these geological hazards are not considered to pose a constraint to the proposed development. However, risks relating to landslide ground are indicated to be moderate in the north-western corner of the site and may warrant further investigation/consideration.

3.2 BGS Borehole Records

3.2.1 There are no publicly available borehole records within 250m of the site.

3.3 Radon

3.3.1 The Groundsure Report states that the Health Protection Agency identified less than 1% of homes above the action level. The British Geological Survey Information Services Group indicates that no radon protection measures are necessary for the intended development at the site.

3.3.2 Reference to BRE211 'Radon: guidance on protective measures for new dwellings' indicates that the site does not lie within an area where geological information indicates that basic radon protection may be required. Therefore, this confirms that no radon protection measures are necessary for the proposed development.

3.4 Background Soil Chemical Concentrations

3.4.1 From a review of the Groundsure Report and the UK Soil Observatory map viewer (<http://mapapps2.bgs.ac.uk/ukso/home.html>) the following range of background metallic soil concentrations are anticipated at the site:

- Arsenic 35mg/kg
- Barium 259mg/kg
- Cadmium 1.8mg/kg
- Chromium 120mg/kg
- Copper 54mg/kg
- Lead 200mg/kg
- Nickel 30mg/kg
- Vanadium 72mg/kg
- Zinc 87mg/kg

3.4.2 Therefore, naturally elevated concentrations of arsenic and lead may be present at the site.

3.5 Mining, Mineral Extraction and Natural Cavities

- BritPits records within 250m:
 - 8m NE: Siddell Wells Coal Pit – underground coal mine.
 - 134m SE: Siddell Top – sandstone quarry.
 - 201m SW: Siddal Top Mine – underground fireclay mine.
- The Groundsure report identifies the following surface ground workings within 250m of the site: unspecified holes, unspecified heaps, unspecified ground workings, brick works, refuse heaps, unspecified disused quarries, unspecified quarries, and unspecified pits. An unspecified hole is recorded on the site in 1955.
- The Groundsure report identifies the following underground workings within 250m of the site: unspecified mines, unspecified disused shafts, unspecified old shafts, air shafts,

tunnels, and unspecified shafts. An unspecified mine is recorded on the site in 1981 and 1989.

- Coal mining is indicated to have occurred within close proximity of the site.
- Non-coal mining for the Elland Flag Sandstone is indicated to have occurred at the site. Further review of the geological map indicates that the Elland Flags outcrop to the east of the site and dip away to the east and as such this unit is not present beneath the site.
- There is one mining cavity within 500m of the site – 476m south-east of the site.
- There are no natural cavities located within 500m of the site.
- No brine or gypsum extraction has occurred at the site.
- No tin or clay mining has occurred at the site.

3.6 Hydrogeology

3.6.1 The Aquifer Maps contained in the Groundsure Report indicates that the site is underlain by a Secondary A Aquifer – the Pennine Lower Coal Measures Formation.

3.6.2 The Environment Agency define a Secondary A Aquifer as:

“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.”

3.6.3 The Groundsure Report lists no groundwater abstractions within 1km of the site.

3.6.4 The site’s proximity to groundwater Source Protection Zones (SPZs) was determined by reference to Defra’s Magic Map website (<https://magic.defra.gov.uk/>). These zones show the risk of contamination of major licensed groundwater abstractions from any activities that might cause pollution in the area, with the closer the activity, the greater the associated risk. The maps show four main zones (inner, outer, total catchment and special interest) to a groundwater source.

3.6.5 There are no SPZs within 1km of the site.

3.6.6 Note that not all abstractions are licensed and not all licensed abstractions have a SPZ. Abstractions could therefore still be at risk, and it is an offence to cause pollution to a controlled water anyway, whether contributing to an abstraction or not.

3.6.7 According to the Groundsure Report, the site is at negligible risk of groundwater flooding.

3.7 Hydrology

3.7.1 The nearest surface water feature is Hebble Brook which flows north to south and is located 610m to the west of the site.

3.7.2 River quality data from the publicly available River Basin Management Plans implemented by the Water Framework Directive (<http://environment.data.gov.uk/catchment-planning/>) indicates that this section of Hebble Brook from source to River Calder recorded a chemical quality of Fail in 2019, and the ecological quality was reported to be Moderate in 2019. This has resulted in an overall river quality of Moderate in 2019, it is anticipated to be Good in 2027.

- 3.7.3 According to the Groundsure Report, the site does not lie in area considered by the Environment Agency to be at risk of fluvial flooding. The risk of surface water flooding is assessed as negligible on-site.
- 3.7.4 The Groundsure Report lists no surface water abstractions within 500m of the site.
- 3.8 **Pollution Incidents to Controlled Waters**
- 3.8.1 Records held by the Environment Agency identified no pollution incidents within 500m of the site.
- 3.9 **Discharge Consents**
- 3.9.1 The Groundsure Report identifies one licensed discharge consent within 500m of the site, summarised as follows:
- 475m east of the site, issued in July 2001, to discharge trade discharges – site drainage, into groundwater. The license was revoked in December 2004.

4 COAL MINING RISK ASSESSMENT

4.1 Scope of the Coal Mining Risk Assessment

4.1.1 The purpose of this Coal Mining Risk Assessment is to:

- Present a desk-based review of all available information on the coal mining issues which are relevant to the application site.
- Use that information to identify and assess the risks to the proposed development from coal mining legacy, including the cumulative impact of issues.
- Set out appropriate mitigation measures to address the coal mining legacy issues affecting the site, including any necessary remedial works and/or demonstrate how coal mining issues have influenced the proposed development.
- Demonstrate to the Local Planning Authority that the application site is, or can be made, safe and stable to meet the requirements of National Planning Policy regarding development on unstable land.

4.2 Sources of Information

4.2.1 The following sources of information have been obtained, upon which the risk assessment of coal mining issues has been based:

- An up-to-date Consultants Coal Mining Report (Appendix C).
- Mining data obtained from the Coal Authority online interactive viewer (<http://mapapps2.bgs.ac.uk/coalauthority/home.html>).
- Geological information obtained from the British Geological Survey including GeoIndex (<https://www.bgs.ac.uk/map-viewers/geoindex-onshore/>) and 1:50,000 Map Sheet 77, Huddersfield, Solid and Drift, published 2003.
- Ciria Abandoned Mine Workings Manual C758D Dated 2019

4.3 Geology

4.3.1 The geology of the site is summarised in Section 3 above.

4.4 Consultants Coal Mining Report

4.4.1 A Consultants Coal Mining Report was obtained for the site, and is included in Appendix C.

4.4.2 The report identifies two incidents of past underground mining beneath the site:

Table 4.1 Past Underground Mining

Seam	Depth (m)	Direction to working	Dip of seam (degrees)	Dip direction of seam	Extraction thickness (m)	Year last mined
36 Yards Band	32	Beneath property	3	East	3.04	1911
36 Yards Band	32	North-west	3	East	3.04	1906

4.4.3 The report indicates there are no probably unrecorded shallow workings beneath the site.

4.4.4 The report identifies the following mine entries:

Entry Type	Distance from site (m)	Direction from site	Treatment description
Adit	100	West	N/A
Shaft	105	West-south-west	N/A
Shaft	20	East	Was capped in 1978 (4x4m concrete). Inspected by CA in 2021 and found to be 0.2m bgl.
Shaft	105	South-south-west	N/A

4.4.5 The report identifies the following coal seam outcrops:

Coal seam	Distance from site (m)	Direction from site	Bearing of outcrop
36 Yards Band	44.6	South-west	157

4.5 Identification and Assessment of Site-Specific Coal Mining Risks

4.5.1 The historic underground mining of the 36 Yards Band at a depth of 32m beneath the site has the potential to impact the proposed development. However, given the age of the workings are early 1900's we would anticipate that the method of mining would have been longwall mining which results in a total collapse of the mined area with settlement generally completed within 4 years as detailed in Ciria C758D. Therefore, all associated movement should by now have ceased.

4.5.2 Should the workings have been undertaken by pillar and stall methods (which is believed unlikely given the worked thickness) then making a conservative assumption that rockhead is present at a depth of 3.0m or less due to the absence of superficial deposits, then a seam thickness to rock cover ratio of 9 times has been achieved and as such it is unlikely that any voids would migrate to surface.

4.5.3 The adit 100m west of the site it anticipated to intercept the workings in the 36 Yards Band Coal and as such will be at a depth beneath the site as per the above and is not anticipated to be a risk.

4.5.4 The two shafts to the south-west of the site are unlikely to impact the proposed development due to their distance from the site, and the shaft 20m east of the site is unlikely to have an impact, as it has been capped and recently inspected.

4.5.5 Based on the historic coal mining that has occurred around and beneath the site, there is the potential for mine gas to affect the proposed development.

4.6 **Recommendations**

4.6.1 Based on the assessment of the site-specific coal mining risks identified, it is considered that the risk to the site from historic coal workings is likely to be low and at this stage we do not recommend that any further investigation works are required. We would however recommend that this report is submitted to building control / warranty provider in order to gain their agreement that no additional investigation works are required.

5 SITE HISTORY

5.1 Historical Mapping

- 5.1.1 The history of the site and the surrounding area has been determined from a review of historical map extracts, obtained as part of the Groundsure report. Copies of these extracts are included in Appendix B. The historical land uses on site and in close proximity to the site are summarised in the table below.

Table 5.1 Site Historical Summary

Date	On-site Historical Land Use	Off-site Historical Land Use
1854	The site was undeveloped land, with a track running along the western boundary.	The site was surrounded by agricultural land in all directions. There were several coal pits: 350m north of the site; 20m east of the site; 700m south-west of the site; 350m north-west of the site; 520m north-north-west of the site. There were several sandstone quarries around the site: 600m north-east, 350m east, 200m south-east, 700m south-east. There was a brick works 300m north-west of the site. There was a copperas works 300m west of the site. The Lancashire and Yorkshire Railway was 850m west of the site, running north to south.
1905 - 1907	No significant changes.	There was an old shaft 100m west-south-west of the site.
1930 - 1933	No significant changes.	There were two old shafts 500m east and 625m east of the site, and two air shafts 300m west-north-west and 300m north-north-west of the site.
1964	There was a small rectangular building in the south-eastern corner of the site.	No significant changes.
1976	No significant changes.	There was a large works 500m east of the site.
1984	Most of the site was covered with buildings – a large building taking up the centre and south of the site, and a smaller building in the north-western portion of the site.	No significant changes.
2010	No significant changes.	No significant changes.
2022	No significant changes.	No significant changes.

5.2 Unexploded Ordnance Review

- 5.2.1 Whilst JNP Group are not experts on this, according to online mapping provided by Zetica (<https://zeticauxo.com/downloads-and-resources/risk-maps/>) the site lies with an area at low risk of unexploded ordnance (UXO).

5.3 **Site Historical Summary**

- 5.3.1 The site was undeveloped land until approximately 1964, when a small rectangular building was constructed in the south-eastern corner of the site. The rest of the site was covered with buildings by 1984.
- 5.3.2 The surrounding area was mostly agricultural land, interspersed with a variety of coal mining and non-coal mining features, such as coal pits, shafts, air shafts, and quarries. There were several brick works, copperas works, and other unspecified works and mills in the villages to the east and west of the site, but none within 200m of the site.

6 INFORMATION HELD BY STATUTORY AUTHORITIES

6.1 Summary

6.1.1 This section details any relevant information held in the registers maintained by statutory bodies as identified in the Groundsure Report (Appendix B).

Table 6.1 Statutory Information Summary

	On-Site	0-250m	250-500m	Details
Waste				
Waste Management Facilities	0	0	0	There are no licensed waste sites recorded within 500m of the site.
Landfills	0	0	0	There are no active or recent landfills recorded within 500m of the site.
Historical Landfills	0	2	1	201m S: Westfield Farm; inert waste; June 1991 – July 1990. 235m SW: Siddal Fireclay Mine; inert waste; April 1986 – August 1988. 330m NW: Land to the south of Cinderhills Works; inert industrial waste; March 1985 – August 1989.
Environmental Permits, Incidents and Registers				
Part A(1) and IPPC Authorised Activities	0	0	0	None recorded within 500m.
Part A(2) and Part B Activities and Enforcements	0	0	0	None recorded within 500m.
COMAH & NIHHS Sites	0	0	0	None recorded within 500m.
Industrial and Contaminative Premises				
Fuel Sites	0	0	0	None recorded within 500m.
Historical industrial land uses	1	16	68	On site: unspecified mine, 1981 – 1989. 51m SW: unspecified hole, 1981. 70m SW: unspecified heap, 1893 – 1981. 82m W: unspecified old hole, 1938. 82m W: brick works, 1905. 83m W: disused shaft, 1969 – 1976. 92m W: railway sidings, 1905. 96m W: old shaft, 1905 – 1955.
Recent industrial land uses	0	2	0	130m SW: adit (disused). 169m SW: Siddal Top Mine (disused).

6.2 **Environmentally Sensitive Areas**

6.2.1 The environmental designation map within the Groundsure Report indicates:

- The site is within an area of Green Belt.
- The site is within a SSSI Impact Risk Zone.

7 UK CONTAMINATED LAND LEGISLATIVE FRAMEWORK

7.1 General

- 7.1.1 Given that the site is being assessed with the potential for future development, the most applicable appraisal relates to the requirements of the Planning Regime as described in the National Planning Policy Framework.
- 7.1.2 In order to proceed with an assessment of contamination issues it is essential that there is compliance with UK guidance as detailed in the on-line Land contamination: risk management (LCRM) guidance produced by the Environment Agency (June 2019). This can be found on the UK government website: <https://www.gov.uk/guidance/land-contamination-how-to-manage-the-risks>.
- 7.1.3 Part IIA of the Environmental Protection Act, 1990, which was enacted by Section 57 of the Environment Act 1995, and the associated Contaminated Land (England) Regulations 2000 (SI 2000/227), was introduced on 1 April 2000. It created a new statutory regime for the identification and remediation of land where contamination poses an unacceptable risk to human health and the environment. The guidance was subject to a review by DEFRA in 2012, and a revision was published.
- 7.1.4 Part IIA provides a statutory definition of contaminated land:
- 7.1.5 *“any land which appears to the Local Authority in whose area it is situated to be in such a condition by reason of substances in, on or under the land, that significant harm is being caused, or that there is a significant possibility of significant harm being caused, or that pollution of controlled waters is being or is likely to be caused”.*
- 7.1.6 Controlled waters are considered to be all groundwaters, inland surface waters, and estuarine and coastal waters.
- 7.1.7 To determine whether land falls under the Part IIA definition of contaminated land, the site should be evaluated in the context of a risk-based framework. The assessment of contaminated land is typically a two-phase process, which is initially based on a qualitative assessment of the likelihood of complete pollution linkages, with a quantitative element that seeks to determine the degree and the significance of the harm. Land is only defined as ‘Contaminated Land’ if a “significant pollutant linkage” is present.
- 7.1.8 A pollutant linkage must comprise the following:
- Source** - a contaminant at a concentration capable of causing adverse health or environmental effects.
- Receptor** - there must be a receptor (e.g. human, controlled waters, ecological, or property) present, which may be at risk of harm or impact from the source.
- Pathway** - there must be an exposure pathway through which the receptor comes into contact with the contamination source.
- 7.1.9 Each of these elements can exist independently, but they create risk only when they are linked together, so that a particular contaminant affects a particular receptor, through a particular pathway.
- 7.1.10 The responsible authority then needs to consider whether the identified pollution linkage:
- is resulting in significant harm being caused to the receptor in the pollutant linkage;

- presents a significant possibility of significant harm being caused to that receptor;
 - is resulting in the pollution of controlled waters, which constitute the receptor; or is likely to result in such pollution.
- 7.1.11 If a pollutant linkage is demonstrated, then the Part IIA legislation provides powers for remedial action to be enforced by the Local Authority in whose area the contaminated land is situated.
- 7.1.12 In addition, JNP Group has undertaken a preliminary risk assessment based on the probability of receptor exposure to the identified source and the consequences of such exposure.
- 7.1.13 Risk management, which can include site surfacing, formal management systems, legal requirements; is then considered to provide an overall residual risk. The categories of environmental risk used by JNP Group are given in the table that follows.

Table 7.1 Risk Matrix

Environmental Risks		
HIGH		Issues within this category likely to provide a significant cost or liability. Further detailed investigation may be required to clarify the risk.
MEDIUM		It is possible that issues within this category may provide a cost or liability. Further investigation may be required to clarify the risk.
LOW		It is unlikely that issues within this category will provide a significant cost or liability. Basic investigation may be required to clarify the risk.
NONE		No source – pathway – receptor linkage present.

8 CONCEPTUAL SITE MODEL AND PRELIMINARY RISK ASSESSMENT

8.1 General

8.1.1 This section uses information from field observations and all the data sources presented herein to provide a conceptual model and qualitative assessment of the potential risks posed to human health and environmental receptors from potential on-site and off-site sources of contamination. The assessment is presented as a 'source-pathway-receptor' model in accordance with Part IIA of the Environmental Protection Act 1990.

8.1.2 The conceptual site model has been developed assuming that the site will be redeveloped for residential housing with private gardens.

8.2 Potential Sources of Contamination

8.2.1 Potential On-Site Sources of Contamination

- The site remained undeveloped until around 1964, when a small rectangular building was present in the south-eastern corner of the site. The rest of the site was developed with buildings by 1984.
- The use/purpose of the buildings is unknown, but they appear to be storage buildings or workshops. If used as storage buildings or a workshop, there is the potential for contamination from hydrocarbons and metals.
- Heavy metals, hydrocarbons, and soil gas associated with limited made ground materials may be present as a result of previous phases of development including imported and site generated fill materials.
- In accordance with C733 guidance, any structure built, refurbished, or modified during the Twentieth Century has the potential to contain asbestos containing materials (ACM). In addition, any demolition material either stockpiled or used as backfill on site also has the potential to contain asbestos containing materials (intact or broken up).
- Drainage runs including gullies are a potential source of contaminated material such as hydrocarbons and heavy metals.
- The site is known to be underlain by historic underground coal mine workings. Therefore, there is a risk of mine gas at the site.

8.2.2 Potential Off-Site Sources of Contamination

- There are two historical landfills within 250m of the site, and the site is known to be underlain, and surrounded by, historic underground coal mine workings. Therefore, there is a risk of landfill gas and/or mine gas at the site.
- There are no other potential off-site sources of contamination that could impact on ground conditions at the site – the site is surrounded by agricultural land and a few residential properties.

8.3 Receptors

8.3.1 The site is to be redeveloped for residential housing with private gardens. In addition, the site overlies a Secondary A Aquifer (Pennine Lower Coal Measures Formation). The primary receptors, considered to be potentially at risk from any identified contamination are as follows:

Human Health

- Construction workers during the redevelopment phase.
- Residential end users.

Controlled Waters

- The Pennine Lower Coal Measures Formation beneath the site, which is classified as a Secondary A Aquifer.
- The nearest controlled surface water is Hebble Brook, 610m west of the south. It is not considered to be a sensitive receptor due to its distance from the site.

Ecological

- The site is within an area of Green Belt and a SSSI Impact Risk Zone.
- Given the site setting sensitive species are considered unlikely to be present at the site (subject to any ecological survey undertaken).

Property / Infrastructure

- Concrete vulnerability to aggressive ground conditions.
- Build-up of gases with potential for explosion.
- Water supply pipework.

8.4 Pathways

8.4.1 Potential contaminant migration pathways considered relevant to the site are:

Human Health

- Ingestion of contaminated soils and dust particles.
- Direct physical contact with near surface soils and contaminated dust particles.
- Inhalation of wind-blown contaminated dust.
- Inhalation of vapours and gases, migrating vertically into the atmosphere.
- Inhalation of vapours and gases, migrating vertically into buildings and confined spaces.
- Consumption of vegetables cultivated in contaminated soils.
- Consumption of soil attached to vegetables cultivated in contaminated soils.
- Consumption of contaminated potable water.

Controlled Waters

- Leaching of contaminants in made ground / natural ground into groundwater.
- Vertical migration of contaminated shallow groundwater impacting deeper groundwater in the aquifer sequence.

Ecological

- Migration of contamination through groundwater and subsequent uptake by plant roots.
- Direct contact between ecological receptors and contaminated surface water.
- Direct contact between ecological receptors and contaminated soils.
- Ingestion of contaminated soils/surface waters by ecological receptors.
- Inhalation of vapours or wind-blown dust by ecological receptors.

Property

- Direct physical contact with near surface soils.
- Migration of vapours and gases into buildings and confined spaces.

8.5 Pollutant Linkages

8.5.1 A 'pollutant linkage' describes the relationship between a contaminant, a pathway and a receptor, a 'pollutant' being the contaminant in a pollutant linkage. A contaminant, pathway and receptor must all be present for a pollutant linkage to exist, which forms the basis for determination that a piece of land is Contaminated Land. Potential sources, pathways and receptors have been assessed. The following Tables summarise the significant pollutant linkages potentially active at the site.

Table 8.1 Potential Source-Pathway-Receptor Linkages for Human Health Risk Assessment

Source	Pathway	Receptor
Contaminated soils and waters	Ingestion of soil	On-site female child: 0 - 6 yrs old
		On-site construction worker
	Ingestion of household dust	On-site female child: 0 - 6 yrs old
	Ingestion of contaminated vegetables	On-site female child: 0 - 6 yrs old
	Ingestion of soil attached to vegetables	On-site female child: 0 - 6 yrs old
	Dermal contact	On-site female child: 0 - 6 yrs old
		On-site construction worker
	Dermal contact with household dust	On-site female child: 0 - 6 yrs old
	Inhalation of fugitive soil dust	On-site construction worker
		On-site female child: 0 - 6 yrs old
	Inhalation of fugitive household dust	On-site female child: 0 - 6 yrs old
	Inhalation of vapours in outdoor air	On-site female child: 0 - 6 yrs old
		On-site construction worker
	Inhalation of vapours in indoor air	On-site female child: 0 - 6 yrs old
	Consumption of contaminated potable water	On-site female child: 0 - 6 yrs old
Mine gas and landfill gas	Vertical and lateral migration	End users

Table 8.2 Source Pathway Receptor Linkages for Controlled Waters Risk Assessment

Source	Pathway	Receptor
Contaminated soils	Leaching mechanisms	Groundwater stored in the Pennine Lower Coal Measures Formation
Contaminated groundwater	Vertical migration	Groundwater stored in the Pennine Lower Coal Measures Formation

Table 8.3 Potential Source-Pathway-Receptor Linkages for Ecological Risk Assessment

Source	Pathway	Receptor
Contaminated soils and waters	Migration of contamination through groundwater and subsequent uptake by plant roots.	Ecological receptors
	Direct contact between ecological receptors and contaminated surface water.	
	Direct contact between ecological receptors and contaminated soils.	
	Ingestion of contaminated soils/surface waters by ecological receptors.	
	Inhalation of vapours or wind-blown dust by ecological receptors.	
Mine gas and landfill gas	Inhalation of gases.	

Table 8.4 Potential Source-Pathway-Receptor Linkages for Property Risk Assessment

Source	Pathway	Receptor
Contaminated soils	Contact with contaminated soils	Concrete
		Water supply pipe materials
Mine gas and landfill gas	Vertical and lateral migration and accumulation in voids	Residential housing / Commercial properties

8.6 Preliminary Risk Assessment

8.6.1 From the information obtained from the desk study JNP Group has undertaken a preliminary risk assessment.

Table 8.5 Preliminary Risk Assessment

Risk Receptor	Risk		Justification
HUMAN HEALTH	MEDIUM		Historical land use as suspected storage buildings suggests potential sources of contamination present on site. Mine workings beneath the site and nearby historic landfills pose a potential gas risk to the site.
GROUNDWATER	MEDIUM		The site is located on a Secondary A Aquifer, and the buildings on site could be a potential source of hydrocarbon or other contamination to groundwater, depending on their use.
SURFACE WATER	LOW		The nearest surface water course is 610m west of the site.
ECOLOGY	NONE		Based on the assumption that there are no sensitive/ protected species on site (subject to any ecological survey undertaken).
PROPERTY & INFRASTRUCURE	MEDIUM		Historical land use as suspected storage buildings suggests potential sources of contamination present on site. Mine workings beneath the site and nearby historic landfills pose a potential gas risk to the site.

8.6.2 In line with BS ISO 18400-202:2018 based on the conceptual site model as above the site is probably contaminated, and required further investigation.

9 CONCLUSIONS OF DESK STUDY / PREVIOUS REPORTS & RECOMMENDATIONS

9.1 Conclusions

9.1.1 The desk-based research has identified that:

- The geological succession below the site comprises the Pennine Lower Coal Measures Formation.
- It identifies that the site has a current and historic potentially contaminative use – the specific use of the buildings on site is unknown, but they appear to be storage buildings or workshop buildings.

Potential On-Site Sources of Contamination

- The site remained undeveloped until around 1964, when a small rectangular building was present in the south-eastern corner of the site. The rest of the site was developed with buildings by 1984.
- The use/purpose of the buildings is unknown, but they appear to be storage buildings or workshops. If used as storage buildings or a workshop, there is the potential for contamination from hydrocarbons and metals.
- Heavy metals, hydrocarbons, and soil gas associated with limited made ground materials may be present as a result of previous phases of development including imported and site generated fill materials.
- In accordance with C733 guidance, any structure built, refurbished, or modified during the Twentieth Century has the potential to contain asbestos containing materials (ACM). In addition, any demolition material either stockpiled or used as backfill on site also has the potential to contain asbestos containing materials (intact or broken up).
- Drainage runs including gullies are a potential source of contaminated material such as hydrocarbons and heavy metals.
- The site is known to be underlain by historic underground coal mine workings. Therefore, there is a risk of mine gas at the site.

Potential Off-Site Sources of Contamination

- There are two historical landfills within 250m of the site, and the site is known to be underlain, and surrounded by, historic underground coal mine workings. Therefore, there is a risk of landfill gas and/or mine gas at the site.
- There are no other potential off-site sources of contamination that could impact on ground conditions at the site – the site is surrounded by agricultural land and a few residential properties.

9.1.2 No radon protection measures are required for the proposed development.

9.1.3 The site is within an area at low risk of unexploded ordnance, and hence no further consideration of this issue is considered necessary.

9.1.4 The site is not in an area predicted to be at fluvial or surface water flood risk

- 9.1.5 Based on information contained within desk study or from the previous investigation, it is the opinion of JNP Group that the potential site conditions provide a MEDIUM to LOW environmental risk and hence further investigation and assessment is required.
- 9.1.6 The Coal Mining Risk Assessment has identified underground workings beneath the site. Discussions should be had with building control / warranty provider to confirm our assessment that no remedial works are required.
- 9.1.7 The Groundsure Report identified that the north-western corner of the site is at moderate risk of landslides, and hence further consideration should be given to the stability of this portion of the site.
- 9.1.8 Based on the underlying geology of the site, it is considered likely that traditional shallow foundations would be feasible, placed within the residual soils and/or bedrock of the Pennine Lower Coal Measures Formation, subject to the findings of an intrusive ground investigation.
- 9.2 **Recommendations**
- 9.2.1 Based on the conclusions from the desk study and the intended redevelopment of the site, JNP Group recommends that the following intrusive works are undertaken:
- Chemical testing of made ground and natural soils beneath the site. This testing should concentrate on areas in proximity to any underground or above ground fuel storage tanks (if present) and surface water interceptors, as these locations are considered the most likely sources of contamination. Ideally, exploratory holes should be sited hydrogeologically down-gradient of the sources of contamination, should the site layout permit. The testing should comprise an extensive suite of hydrocarbon contaminants commonly associated with vehicle repair workshops, including metals, Total Petroleum Hydrocarbons, Polycyclic Aromatic Hydrocarbons, benzene, toluene, ethylbenzene, xylene and MTBE, and Soil Organic Matter.
 - Testing of the soils to identify volume change potential of any cohesive material, concrete classification, and design CBR values.
 - Installation of gas and groundwater monitoring standpipes to clarify the risk posed to the site by landfill gas and mine gas.
- 9.2.2 JNP Group recommend that the scope of the intrusive works is agreed with the Regulatory Authorities as they may have requirements that need to be considered.
- 9.2.3 As mentioned above, there is a potential landslide risk in the north-western corner of the site, and it may therefore be necessary to undertake a slope stability assessment for this portion of the site following the intrusive ground investigation.

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FIGURES / DRAWINGS

Figure 1

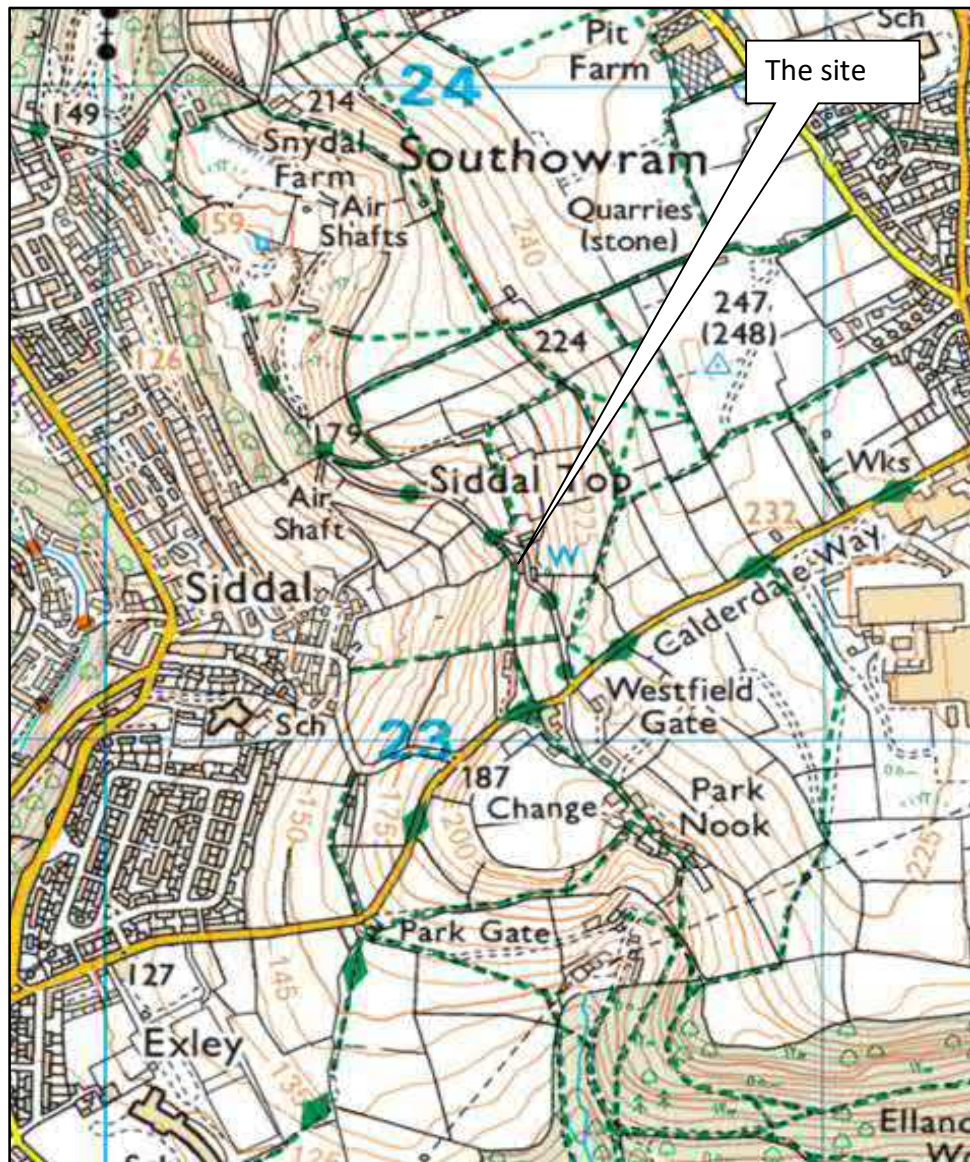
Site Location Plan

Project:

Siddal Top Lane, Siddal, Halifax, HX3 9TU

Project No:

S11787



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Appendix A **LIMITATIONS**

INTRODUCTION

This report is confidential and has been prepared solely for the benefit of the client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from JNP Group; a charge may be levied against such approval. JNP Group accepts no responsibility or liability for the consequences of this document being used for any purpose or project other than for which it was commissioned, and: this document to any third party with whom and agreement has not been executed.

Any comments given within this report are based on the understanding that the proposed works to be undertaken will be as described in the introduction and the information referred to and provided by others and will be assumed to be correct and will not have been checked by JNP Group and JNP Group will not accept any liability or responsibility for any inaccuracy in such information.

Any deviation from the recommendations or conclusions contained in this report should be referred to JNP Group in writing for comment and JNP Group reserve the right to reconsider their recommendations and conclusions contained within. JNP Group will not accept any liability or responsibility for any changes or deviations from the recommendations noted in this report without prior consultation and our full approval.

The details contained within this report reflect the site conditions prevailing at the time of investigation. JNP Group warrants the accuracy of this report up to and including that date. Additional information, improved practice or changes in legislation may necessitate this report having to be reviewed in whole or in part after that date. If necessary, this report should be referred back to JNP Group for re-assessment and, if necessary, re-appraisal.

This report is only valid when used in its entirety. Any information or advice included in the report should not be relied upon until considered in the context of the whole report. Whilst this report and the opinion made herein are correct to the best of JNP Group's belief, JNP Group cannot guarantee the accuracy or completeness of any information provided by third parties.

The report represents the finding and opinions of experience geotechnical and geo-environmental engineers. JNP Group does not provide legal advice and the advice of lawyers may also be required.

It should be noted that the following were not included as part of the agreed scope of works with the client: detailed ecological surveys and assessment; intrusive investigation; site walkover.

JNP Group has provided advice and made recommendations based on the findings of the work undertaken, however this is subject to the approval / acceptance by the relevant Regulatory Authorities.

Objectives

The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the site. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only to the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, JNP Group reserves the right to review such information and, if warranted, to modify the opinions

accordingly. It should be noted that any risks identified in this report are perceived risks based on the information reviewed; actual risks can only be assessed following a physical investigation of the site.

Appendix B **GROUNDSURE REPORT**

410576, 423278

Order Details

Date: 21/04/2022
Your ref: 1531
Our Ref: GS-8687421
Client: Ciaran Jeanes

Site Details

Location: 410574 423285
Area: 0.07 ha
Authority: [Calderdale Metropolitan Borough Council](#)



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Summary of findings

p. 2 **Aerial image**

p. 8

OS MasterMap site plan

p.13 groundsure.com/insightuserguide

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
14	1.1	<u>Historical industrial land uses</u>	2	0	41	100	-
20	1.2	<u>Historical tanks</u>	0	0	0	4	-
20	1.3	<u>Historical energy features</u>	0	0	0	1	-
21	1.4	Historical petrol stations	0	0	0	0	-
21	1.5	Historical garages	0	0	0	0	-
21	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
22	2.1	<u>Historical industrial land uses</u>	3	0	60	140	-
30	2.2	<u>Historical tanks</u>	0	0	0	6	-
30	2.3	<u>Historical energy features</u>	0	0	0	3	-
31	2.4	Historical petrol stations	0	0	0	0	-
31	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
32	3.1	Active or recent landfill	0	0	0	0	-
32	3.2	Historical landfill (BGS records)	0	0	0	0	-
33	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
33	3.4	<u>Historical landfill (EA/NRW records)</u>	0	0	2	1	-
34	3.5	<u>Historical waste sites</u>	0	0	2	6	-
35	3.6	Licensed waste sites	0	0	0	0	-
35	3.7	<u>Waste exemptions</u>	0	0	9	7	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
37	4.1	<u>Recent industrial land uses</u>	0	0	2	-	-
38	4.2	Current or recent petrol stations	0	0	0	0	-
38	4.3	Electricity cables	0	0	0	0	-
38	4.4	Gas pipelines	0	0	0	0	-
38	4.5	Sites determined as Contaminated Land	0	0	0	0	-



38	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
39	4.7	Regulated explosive sites	0	0	0	0	-
39	4.8	Hazardous substance storage/usage	0	0	0	0	-
39	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
39	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
39	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
40	4.12	Radioactive Substance Authorisations	0	0	0	0	-
40	4.13	<u>Licensed Discharges to controlled waters</u>	0	0	0	1	-
40	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
40	4.15	Pollutant release to public sewer	0	0	0	0	-
41	4.16	List 1 Dangerous Substances	0	0	0	0	-
41	4.17	List 2 Dangerous Substances	0	0	0	0	-
41	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
41	4.19	Pollution inventory substances	0	0	0	0	-
41	4.20	Pollution inventory waste transfers	0	0	0	0	-
42	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
43	5.1	Superficial aquifer	None (within 500m)				
44	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
45	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
46	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
46	5.5	Groundwater vulnerability- local information	None (within 0m)				
47	5.6	<u>Groundwater abstractions</u>	0	0	0	0	31
55	5.7	<u>Surface water abstractions</u>	0	0	0	0	7
57	5.8	<u>Potable abstractions</u>	0	0	0	0	12
60	5.9	Source Protection Zones	0	0	0	0	-
61	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
62	6.1	Water Network (OS MasterMap)	0	0	0	-	-



62	6.2	Surface water features	0	0	0	-	-
63	6.3	<u>WFD Surface water body catchments</u>	1	-	-	-	-
63	6.4	<u>WFD Surface water bodies</u>	0	0	0	-	-
64	6.5	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
65	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
65	7.2	Historical Flood Events	0	0	0	-	-
65	7.3	Flood Defences	0	0	0	-	-
66	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
66	7.5	Flood Storage Areas	0	0	0	-	-
67	7.6	Flood Zone 2	None (within 50m)				
67	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
68	8.1	Surface water flooding	Negligible (within 50m)				
Page	Section	Groundwater flooding					
69	9.1	<u>Groundwater flooding</u>	Negligible (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
70	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
71	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
71	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
71	10.4	Special Protection Areas (SPA)	0	0	0	0	0
71	10.5	National Nature Reserves (NNR)	0	0	0	0	0
72	10.6	<u>Local Nature Reserves (LNR)</u>	0	0	0	0	1
72	10.7	<u>Designated Ancient Woodland</u>	0	0	0	0	8
73	10.8	Biosphere Reserves	0	0	0	0	0
73	10.9	Forest Parks	0	0	0	0	0
73	10.10	Marine Conservation Zones	0	0	0	0	0
73	10.11	<u>Green Belt</u>	1	0	0	0	0
74	10.12	Proposed Ramsar sites	0	0	0	0	0



74	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
74	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
74	10.15	Nitrate Sensitive Areas	0	0	0	0	0
75	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
76	<u>10.17</u>	<u>SSSI Impact Risk Zones</u>	1	-	-	-	-
77	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
78	11.1	World Heritage Sites	0	0	0	-	-
79	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
79	11.3	National Parks	0	0	0	-	-
79	<u>11.4</u>	<u>Listed Buildings</u>	0	0	1	-	-
80	11.5	Conservation Areas	0	0	0	-	-
80	11.6	Scheduled Ancient Monuments	0	0	0	-	-
80	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
81	<u>12.1</u>	<u>Agricultural Land Classification</u>	Grade 4 (within 250m)				
82	12.2	Open Access Land	0	0	0	-	-
82	12.3	Tree Felling Licences	0	0	0	-	-
82	12.4	Environmental Stewardship Schemes	0	0	0	-	-
83	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
84	<u>13.1</u>	<u>Priority Habitat Inventory</u>	0	0	1	-	-
85	13.2	Habitat Networks	0	0	0	-	-
85	<u>13.3</u>	<u>Open Mosaic Habitat</u>	0	0	1	-	-
85	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
86	<u>14.1</u>	<u>10k Availability</u>	Identified (within 500m)				
87	<u>14.2</u>	<u>Artificial and made ground (10k)</u>	0	0	7	15	-
89	14.3	Superficial geology (10k)	0	0	0	0	-



89	14.4	<u>Landslip (10k)</u>	0	0	0	1	-
91	14.5	<u>Bedrock geology (10k)</u>	2	1	14	8	-
93	14.6	<u>Bedrock faults and other linear features (10k)</u>	0	1	8	6	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
94	15.1	<u>50k Availability</u>	Identified (within 500m)				
95	15.2	<u>Artificial and made ground (50k)</u>	0	0	0	3	-
96	15.3	Artificial ground permeability (50k)	0	0	-	-	-
97	15.4	Superficial geology (50k)	0	0	0	0	-
97	15.5	Superficial permeability (50k)	None (within 50m)				
97	15.6	Landslip (50k)	0	0	0	0	-
97	15.7	Landslip permeability (50k)	None (within 50m)				
98	15.8	<u>Bedrock geology (50k)</u>	2	2	12	5	-
99	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
100	15.10	<u>Bedrock faults and other linear features (50k)</u>	0	1	6	5	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
101	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence					
102	17.1	<u>Shrink swell clays</u>	Very low (within 50m)				
103	17.2	<u>Running sands</u>	Negligible (within 50m)				
104	17.3	<u>Compressible deposits</u>	Negligible (within 50m)				
105	17.4	<u>Collapsible deposits</u>	Very low (within 50m)				
106	17.5	<u>Landslides</u>	Moderate (within 50m)				
108	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
110	18.1	Natural cavities	0	0	0	0	-
111	18.2	<u>BritPits</u>	0	1	3	15	-
114	18.3	<u>Surface ground workings</u>	1	0	50	-	-
116	18.4	<u>Underground workings</u>	2	0	5	20	24
118	18.5	<u>Historical Mineral Planning Areas</u>	2	0	2	2	-



<u>119</u>	<u>18.6</u>	<u>Non-coal mining</u>	1	0	0	3	3
<u>120</u>	<u>18.7</u>	<u>Mining cavities</u>	0	0	0	1	12
121	18.8	JPB mining areas	None (within 0m)				
<u>121</u>	<u>18.9</u>	<u>Coal mining</u>	Identified (within 0m)				
122	18.10	Brine areas	None (within 0m)				
122	18.11	Gypsum areas	None (within 0m)				
122	18.12	Tin mining	None (within 0m)				
122	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
<u>123</u>	<u>19.1</u>	<u>Radon</u>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
<u>124</u>	<u>20.1</u>	<u>BGS Estimated Background Soil Chemistry</u>	2	4	-	-	-
124	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
125	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
126	21.1	Underground railways (London)	0	0	0	-	-
126	21.2	Underground railways (Non-London)	0	0	0	-	-
127	21.3	Railway tunnels	0	0	0	-	-
<u>127</u>	<u>21.4</u>	<u>Historical railway and tunnel features</u>	0	0	2	-	-
127	21.5	Royal Mail tunnels	0	0	0	-	-
127	21.6	Historical railways	0	0	0	-	-
128	21.7	Railways	0	0	0	-	-
128	21.8	Crossrail 1	0	0	0	0	-
128	21.9	Crossrail 2	0	0	0	0	-
128	21.10	HS2	0	0	0	0	-



Recent aerial photograph



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Capture Date: 30/05/2021

Site Area: 0.07ha



Recent site history - 2018 aerial photograph



Capture Date: 02/07/2018

Site Area: 0.07ha



Recent site history - 2012 aerial photograph



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Capture Date: 26/03/2012

Site Area: 0.07ha



Recent site history - 2000 aerial photograph

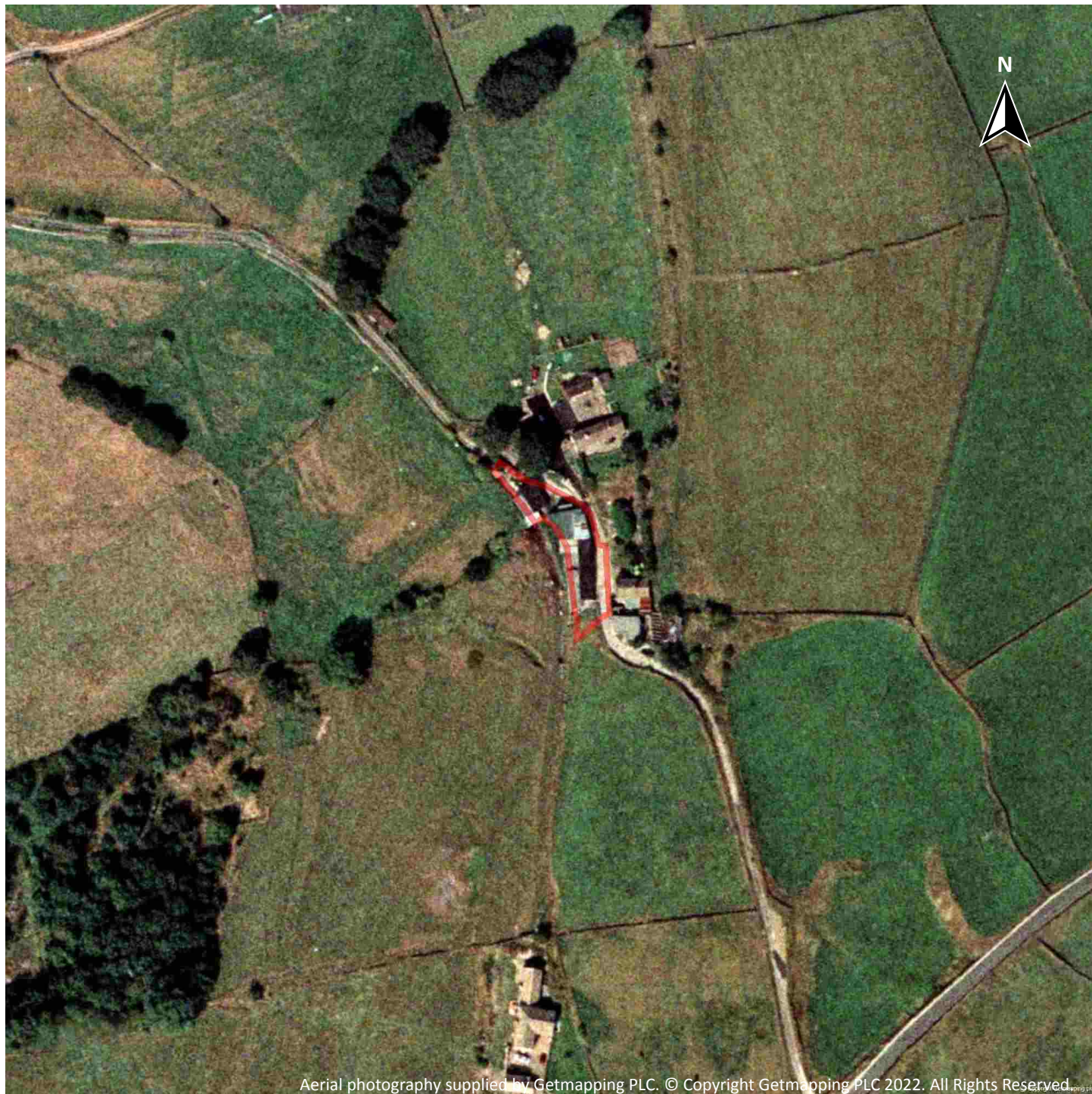


Capture Date: 25/08/2000

Site Area: 0.07ha



Recent site history - 1999 aerial photograph



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Capture Date: 05/09/1999

Site Area: 0.07ha



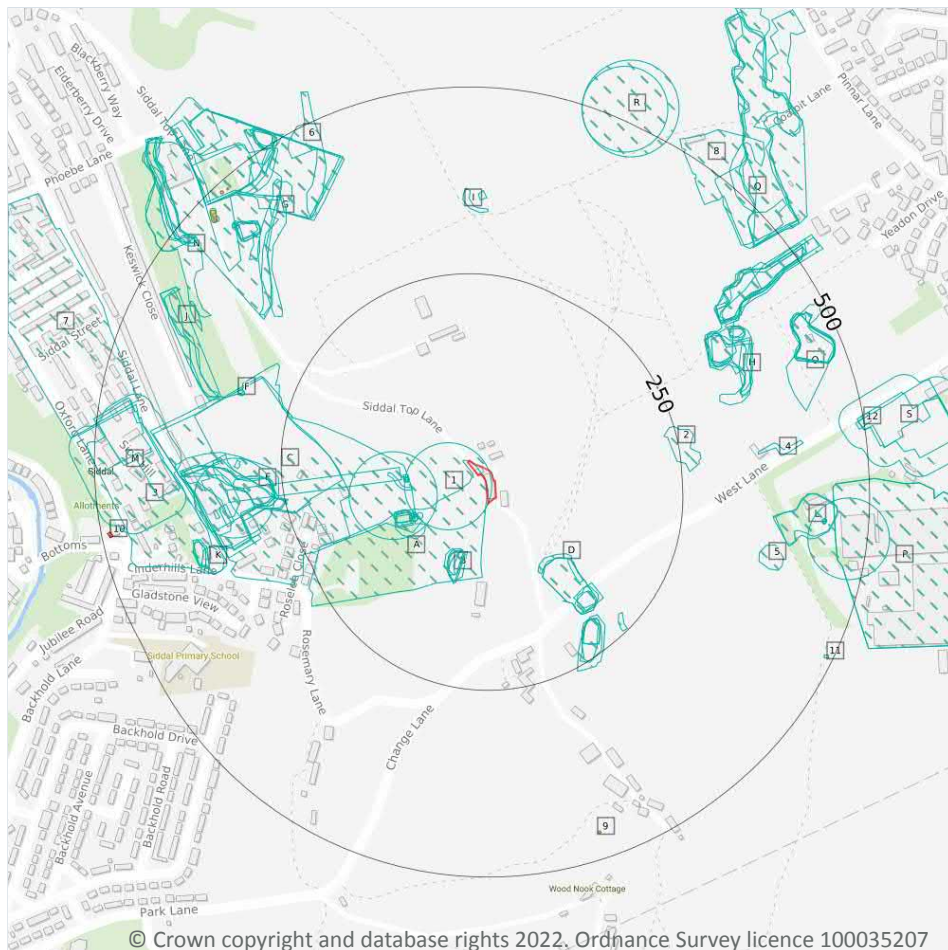
OS MasterMap site plan



Site Area: 0.07ha



1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features

1.1 Historical industrial land uses

Records within 500m

143

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
1	On site	Unspecified Hole	1955	1524139



ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Mine	1981 - 1989	1464518
A	51m SW	Unspecified Hole	1981	1497682
B	70m SW	Unspecified Heap	1893	1486209
B	71m SW	Unspecified Heap	1938	1556136
B	71m SW	Unspecified Heap	1948	1466887
B	72m SW	Unspecified Heap	1905	1522815
B	77m SW	Unspecified Ground Workings	1955 - 1981	1508160
A	82m W	Unspecified Old Hole	1938	1422002
C	82m W	Brick Works	1905	1510489
A	83m SW	Unspecified Ground Workings	1938	1510778
A	83m W	Old Day Hole	1930	1450879
A	83m W	Unspecified Hole	1948	1458915
A	83m W	Unspecified Hole	1905	1546114
A	89m W	Refuse Heap	1893	1436807
A	89m W	Unspecified Disused Shaft	1969 - 1976	1470221
C	92m W	Railway Sidings	1905	1409384
A	96m W	Unspecified Old Shaft	1948	1463441
A	96m W	Unspecified Old Shaft	1905	1508877
A	97m W	Unspecified Old Shaft	1938	1533527
A	99m W	Unspecified Old Shaft	1930	1537035
A	100m SW	Unspecified Old Shaft	1955	1556566
A	102m SW	Unspecified Heap	1930	1551085
A	102m SW	Unspecified Heap	1938	1525013
A	103m SW	Unspecified Heap	1948	1463526
D	104m SE	Unspecified Ground Workings	1955 - 1981	1499062
A	104m SW	Unspecified Heap	1955	1490890
D	113m SE	Unspecified Quarry	1905	1426738
D	113m SE	Unspecified Disused Quarry	1948	1488734



ID	Location	Land use	Dates present	Group ID
E	163m W	Brick Works	1893	1496409
D	168m SE	Unspecified Disused Quarry	1930 - 1938	1472349
D	169m SE	Unspecified Disused Quarry	1955	1527823
E	170m W	Brick Works	1948 - 1955	1464172
D	173m SE	Unspecified Pit	1893	1452382
D	204m SE	Refuse Heap	1893 - 1905	1537172
D	205m SE	Unspecified Heap	1955 - 1981	1476884
D	205m SE	Unspecified Heap	1938	1544160
D	206m SE	Unspecified Disused Quarry	1948	1448584
D	207m SE	Unspecified Heap	1930	1465577
D	226m SE	Unspecified Ground Workings	1955	1412459
2	234m E	Unspecified Quarry	1893 - 1905	1486864
E	246m W	Refuse Heap	1969	1514566
E	248m W	Refuse Heap	1976	1490923
E	254m W	Brick Works	1930	1496403
E	257m W	Unspecified Ground Workings and Heap	1930	1418526
E	261m W	Refuse Heap	1938 - 1948	1467353
E	261m W	Brick Works	1938	1484614
E	263m W	Unspecified Tank	1955	1480086
E	264m W	Unspecified Level	1955	1440165
E	305m W	Unspecified Level	1930 - 1948	1534592
E	309m W	Unspecified Pit	1893	1452383
F	313m W	Unspecified Shaft	1948	1468373
F	313m W	Unspecified Shaft	1905	1468491
G	316m NW	Unspecified Ground Workings	1969 - 1981	1492658
H	319m E	Unspecified Heap	1893	1415417
E	323m W	Unspecified Tank	1938 - 1948	1501611
H	325m NE	Unspecified Disused Quarry	1938 - 1948	1507906



ID	Location	Land use	Dates present	Group ID
H	326m NE	Unspecified Disused Quarry	1930	1496318
H	329m NE	Unspecified Quarry	1893 - 1905	1545286
H	330m NE	Unspecified Ground Workings	1955	1412450
H	331m NE	Unspecified Old Quarry	1905	1440734
H	332m NE	Unspecified Pit	1969 - 1976	1543945
I	332m N	Unspecified Heap	1893	1415418
G	333m NW	Fire Clay Works	1948	1468228
G	337m NW	Unspecified Ground Workings	1955	1557661
E	340m W	Unspecified Tank	1930	1492575
J	342m W	Unspecified Ground Workings	1938	1554413
J	343m W	Unspecified Ground Workings	1948	1554771
J	345m W	Unspecified Ground Workings	1955	1476935
I	349m N	Unspecified Disused Shaft	1989	1424455
3	349m SW	Unspecified Works	1893 - 1989	1477535
K	351m W	Refuse Heap	1905	1466554
4	354m E	Unspecified Heap	1893	1415420
5	360m E	Unspecified Heap	1905	1415416
H	367m NE	Unspecified Disused Quarry	1955	1497105
H	367m NE	Unspecified Disused Quarry	1938	1532962
H	367m NE	Unspecified Disused Quarry	1930	1521142
H	367m NE	Unspecified Heap	1930	1510608
K	367m W	Refuse Heap	1930 - 1938	1474727
H	368m NE	Unspecified Disused Quarry	1948	1462240
H	368m NE	Unspecified Heap	1938	1506902
H	369m NE	Unspecified Heap	1955	1536997
K	370m W	Refuse Heap	1948	1542417
H	370m NE	Unspecified Disused Quarry	1981	1546366
K	370m W	Refuse Heap	1955	1511710



ID	Location	Land use	Dates present	Group ID
L	372m E	Refuse Heap	1930	1483937
H	372m NE	Unspecified Disused Quarry	1969 - 1976	1460310
L	375m E	Refuse Heap	1938	1552823
M	381m W	Unspecified Disused Works	1905	1425000
G	383m NW	Brick Works	1893	1428874
M	387m W	Unspecified Works	1955	1516046
G	387m NW	Fire Clay Works	1930 - 1938	1538644
6	388m NW	Unspecified Ground Workings	1969 - 1981	1519068
G	388m NW	Fire Clay Works	1955	1511456
G	392m NW	Unspecified Pit	1905	1452398
N	396m NW	Refuse Heap	1969	1487887
J	396m NW	Refuse Heap	1955	1538502
G	407m NW	Fire Clay Works	1905	1524446
G	414m NW	Unspecified Level	1930	1499125
G	414m NW	Unspecified Level	1948	1530600
G	415m NW	Unspecified Level	1938	1545604
O	415m E	Unspecified Pit	1893	1503331
G	419m NW	Unspecified Level	1955	1472620
L	421m E	Unspecified Old Shaft	1955	1513587
M	424m W	Unspecified Works	1930 - 1938	1547809
O	433m NE	Unspecified Pit	1955 - 1981	1486633
O	434m E	Unspecified Pit	1905	1468518
O	434m E	Unspecified Pit	1948	1504565
O	434m NE	Unspecified Pit	1938	1489529
O	435m E	Unspecified Pit	1930	1466593
L	438m E	Unspecified Old Shaft	1938	1489042
L	438m E	Unspecified Old Shaft	1938	1528833
L	438m E	Unspecified Old Shaft	1930	1484125



ID	Location	Land use	Dates present	Group ID
G	438m NW	Chimney	1969	1528160
G	441m NW	Chimney	1976 - 1989	1528886
7	449m W	Chemical Works	1893	1443322
P	451m E	Unspecified Works	1976 - 1981	1504727
P	451m E	Unspecified Works	1989	1520286
Q	452m NE	Unspecified Quarries	1955	1497420
R	453m NE	Freestone Quarries	1981	1457487
8	454m NE	Freestone Quarries	1969 - 1976	1487753
R	457m NE	Stone Quarries	1989	1423431
G	459m NW	Unspecified Ground Workings and Heap	1930	1418525
Q	462m NE	Unspecified Quarries	1893 - 1905	1536862
G	464m NW	Unspecified Tank	1905	1433582
N	464m NW	Refuse Heap	1930	1526266
G	465m NW	Unspecified Ground Workings	1955	1412478
Q	465m NE	Unspecified Quarries	1938 - 1948	1552750
Q	466m NE	Unspecified Quarries	1930	1509258
S	467m E	Unspecified Works	1976	1475065
N	468m NW	Refuse Heap	1938	1482092
N	468m NW	Refuse Heap	1955	1521374
G	471m NW	Unspecified Works	1969 - 1989	1537708
G	472m NW	Refuse Heap	1905	1436802
N	473m NW	Refuse Heap	1976 - 1981	1510254
G	475m NW	Unspecified Tank	1905	1433583
11	487m SE	Unspecified Shaft	1905	1425036
12	489m E	Smithy	1905	1456896
S	492m E	Unspecified Works	1981 - 1989	1516429
S	493m E	Engineering Works	1969	1423613
G	495m NW	Unspecified Heap	1930	1536841



ID	Location	Land use	Dates present	Group ID
G	495m NW	Unspecified Heap	1948	1540945
G	497m NW	Unspecified Heap	1938	1543093

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

4

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
9	463m S	Unspecified Tank	1892 - 1907	234649
G	466m NW	Tanks	1907	230853
G	485m NW	Unspecified Tank	1964 - 1982	249786
G	486m NW	Unspecified Tank	1894	224226

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

1

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
10	485m W	Electricity Substation	1989 - 1997	136190

This data is sourced from Ordnance Survey / Groundsure.



1.4 Historical petrol stations

Records within 500m**0**

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m**0**

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m**0**

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.

2 Past land use - un-grouped



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features

2.1 Historical industrial land uses

Records within 500m

203

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 22**

ID	Location	Land Use	Date	Group ID
1	On site	Unspecified Hole	1955	1524139
A	On site	Unspecified Mine	1989	1464518
A	On site	Unspecified Mine	1981	1464518



ID	Location	Land Use	Date	Group ID
A	51m SW	Unspecified Hole	1981	1497682
B	70m SW	Unspecified Heap	1893	1486209
B	71m SW	Unspecified Heap	1938	1556136
B	71m SW	Unspecified Heap	1938	1556136
B	71m SW	Unspecified Heap	1948	1466887
B	72m SW	Unspecified Heap	1905	1522815
B	77m SW	Unspecified Ground Workings	1976	1508160
B	77m SW	Unspecified Ground Workings	1981	1508160
B	77m SW	Unspecified Ground Workings	1969	1508160
B	77m SW	Unspecified Ground Workings	1955	1508160
A	82m W	Unspecified Old Hole	1938	1422002
C	82m W	Brick Works	1905	1510489
A	83m SW	Unspecified Ground Workings	1938	1510778
A	83m SW	Unspecified Ground Workings	1938	1510778
A	83m W	Old Day Hole	1930	1450879
A	83m W	Unspecified Hole	1948	1458915
A	83m W	Unspecified Hole	1905	1546114
A	89m W	Unspecified Disused Shaft	1976	1470221
A	89m W	Refuse Heap	1893	1436807
A	89m W	Unspecified Disused Shaft	1969	1470221
C	92m W	Railway Sidings	1905	1409384
A	96m W	Unspecified Old Shaft	1948	1463441
A	96m W	Unspecified Old Shaft	1905	1508877
A	97m W	Unspecified Old Shaft	1938	1533527
A	97m W	Unspecified Old Shaft	1938	1533527
A	99m W	Unspecified Old Shaft	1930	1537035
A	100m SW	Unspecified Old Shaft	1955	1556566
A	102m SW	Unspecified Heap	1930	1551085



ID	Location	Land Use	Date	Group ID
A	102m SW	Unspecified Heap	1938	1525013
A	102m SW	Unspecified Heap	1938	1525013
A	103m SW	Unspecified Heap	1948	1463526
D	104m SE	Unspecified Ground Workings	1976	1499062
D	104m SE	Unspecified Ground Workings	1981	1499062
D	104m SE	Unspecified Ground Workings	1969	1499062
D	104m SE	Unspecified Ground Workings	1955	1499062
A	104m SW	Unspecified Heap	1955	1490890
D	113m SE	Unspecified Disused Quarry	1948	1488734
D	113m SE	Unspecified Quarry	1905	1426738
E	163m W	Brick Works	1893	1496409
D	168m SE	Unspecified Disused Quarry	1938	1472349
D	169m SE	Unspecified Disused Quarry	1955	1527823
E	170m W	Brick Works	1955	1464172
D	171m SE	Unspecified Disused Quarry	1930	1472349
D	173m SE	Unspecified Pit	1893	1452382
D	204m SE	Refuse Heap	1905	1537172
D	205m SE	Unspecified Heap	1976	1476884
D	205m SE	Unspecified Heap	1981	1476884
D	205m SE	Unspecified Heap	1969	1476884
D	205m SE	Unspecified Heap	1955	1476884
D	205m SE	Unspecified Heap	1938	1544160
D	205m SE	Unspecified Heap	1938	1544160
D	206m SE	Unspecified Disused Quarry	1948	1448584
D	207m SE	Unspecified Heap	1930	1465577
D	208m SE	Refuse Heap	1893	1537172
E	216m W	Brick Works	1948	1464172
D	226m SE	Unspecified Ground Workings	1955	1412459



ID	Location	Land Use	Date	Group ID
F	234m E	Unspecified Quarry	1893	1486864
F	238m E	Unspecified Quarry	1905	1486864
E	246m W	Refuse Heap	1969	1514566
E	248m W	Refuse Heap	1976	1490923
E	254m W	Brick Works	1930	1496403
E	257m W	Unspecified Ground Workings and Heap	1930	1418526
E	261m W	Refuse Heap	1938	1467353
E	261m W	Brick Works	1938	1484614
E	261m W	Refuse Heap	1938	1467353
E	261m W	Brick Works	1938	1484614
E	261m W	Refuse Heap	1948	1467353
E	263m W	Unspecified Tank	1955	1480086
E	264m W	Unspecified Level	1955	1440165
E	305m W	Unspecified Level	1938	1534592
E	305m W	Unspecified Level	1938	1534592
E	305m W	Unspecified Level	1948	1534592
E	305m W	Unspecified Level	1930	1534592
E	309m W	Unspecified Pit	1893	1452383
G	313m W	Unspecified Shaft	1948	1468373
G	313m W	Unspecified Shaft	1905	1468491
H	316m NW	Unspecified Ground Workings	1976	1492658
H	316m NW	Unspecified Ground Workings	1981	1492658
H	316m NW	Unspecified Ground Workings	1969	1492658
I	319m E	Unspecified Heap	1893	1415417
E	323m W	Unspecified Tank	1938	1501611
E	324m W	Unspecified Tank	1948	1501611
I	325m NE	Unspecified Disused Quarry	1948	1507906
I	326m NE	Unspecified Disused Quarry	1930	1496318



ID	Location	Land Use	Date	Group ID
I	329m NE	Unspecified Quarry	1893	1545286
I	330m NE	Unspecified Ground Workings	1955	1412450
I	330m NE	Unspecified Disused Quarry	1938	1507906
I	331m NE	Unspecified Old Quarry	1905	1440734
I	332m NE	Unspecified Pit	1976	1543945
I	332m NE	Unspecified Pit	1969	1543945
J	332m N	Unspecified Heap	1893	1415418
H	333m NW	Fire Clay Works	1948	1468228
H	337m NW	Unspecified Ground Workings	1955	1557661
E	340m W	Unspecified Tank	1930	1492575
K	342m W	Unspecified Ground Workings	1938	1554413
K	342m W	Unspecified Ground Workings	1938	1554413
K	343m W	Unspecified Ground Workings	1948	1554771
K	345m W	Unspecified Ground Workings	1955	1476935
J	349m N	Unspecified Disused Shaft	1989	1424455
2	349m SW	Unspecified Works	1893	1477535
L	351m W	Refuse Heap	1905	1466554
3	354m E	Unspecified Heap	1893	1415420
4	360m E	Unspecified Heap	1905	1415416
I	367m NE	Unspecified Disused Quarry	1955	1497105
I	367m NE	Unspecified Disused Quarry	1938	1532962
I	367m NE	Unspecified Disused Quarry	1930	1521142
I	367m NE	Unspecified Heap	1930	1510608
L	367m W	Refuse Heap	1938	1474727
L	367m W	Refuse Heap	1938	1474727
I	368m NE	Unspecified Disused Quarry	1948	1462240
I	368m NE	Unspecified Quarry	1905	1545286
I	368m NE	Unspecified Heap	1938	1506902



ID	Location	Land Use	Date	Group ID
I	368m NE	Unspecified Heap	1938	1506902
L	368m W	Refuse Heap	1930	1474727
I	369m NE	Unspecified Heap	1955	1536997
L	370m W	Refuse Heap	1948	1542417
I	370m NE	Unspecified Disused Quarry	1981	1546366
L	370m W	Refuse Heap	1955	1511710
M	372m E	Refuse Heap	1930	1483937
I	372m NE	Unspecified Disused Quarry	1976	1460310
I	372m NE	Unspecified Disused Quarry	1969	1460310
M	375m E	Refuse Heap	1938	1552823
M	375m E	Refuse Heap	1938	1552823
N	381m W	Unspecified Disused Works	1905	1425000
H	383m NW	Brick Works	1893	1428874
N	387m W	Unspecified Works	1955	1516046
H	387m NW	Fire Clay Works	1938	1538644
O	388m NW	Unspecified Ground Workings	1976	1519068
O	388m NW	Unspecified Ground Workings	1981	1519068
O	388m NW	Unspecified Ground Workings	1969	1519068
H	388m NW	Fire Clay Works	1955	1511456
H	392m NW	Unspecified Pit	1905	1452398
P	396m NW	Refuse Heap	1969	1487887
K	396m NW	Refuse Heap	1955	1538502
H	407m NW	Fire Clay Works	1905	1524446
H	414m NW	Unspecified Level	1930	1499125
H	414m NW	Unspecified Level	1948	1530600
H	415m NW	Unspecified Level	1938	1545604
H	415m NW	Unspecified Level	1938	1545604
Q	415m E	Unspecified Pit	1893	1503331



ID	Location	Land Use	Date	Group ID
N	417m W	Unspecified Works	1989	1477535
H	419m NW	Unspecified Level	1955	1472620
M	421m E	Unspecified Old Shaft	1955	1513587
N	424m W	Unspecified Works	1930	1547809
N	425m W	Unspecified Works	1938	1547809
Q	433m NE	Unspecified Pit	1976	1486633
Q	433m NE	Unspecified Pit	1981	1486633
Q	433m NE	Unspecified Pit	1969	1486633
Q	433m NE	Unspecified Pit	1955	1486633
Q	434m E	Unspecified Pit	1948	1504565
Q	434m E	Unspecified Pit	1905	1468518
Q	434m NE	Unspecified Pit	1938	1489529
Q	434m NE	Unspecified Pit	1938	1489529
Q	435m E	Unspecified Pit	1930	1466593
M	438m E	Unspecified Old Shaft	1938	1489042
M	438m E	Unspecified Old Shaft	1938	1528833
M	438m E	Unspecified Old Shaft	1930	1484125
H	438m NW	Chimney	1969	1528160
H	441m NW	Chimney	1989	1528886
H	441m NW	Chimney	1976	1528886
H	441m NW	Chimney	1981	1528886
H	447m NW	Fire Clay Works	1930	1538644
S	449m W	Chemical Works	1893	1443322
R	451m E	Unspecified Works	1989	1520286
R	451m E	Unspecified Works	1976	1504727
R	451m E	Unspecified Works	1981	1504727
S	452m NE	Unspecified Quarries	1955	1497420
T	453m NE	Freestone Quarries	1981	1457487



ID	Location	Land Use	Date	Group ID
U	454m NE	Freestone Quarries	1976	1487753
U	454m NE	Freestone Quarries	1969	1487753
T	457m NE	Stone Quarries	1989	1423431
H	459m NW	Unspecified Ground Workings and Heap	1930	1418525
S	462m NE	Unspecified Quarries	1905	1536862
H	464m NW	Unspecified Tank	1905	1433582
P	464m NW	Refuse Heap	1930	1526266
H	465m NW	Unspecified Ground Workings	1955	1412478
S	465m NE	Unspecified Quarries	1948	1552750
S	466m NE	Unspecified Quarries	1930	1509258
W	467m E	Unspecified Works	1976	1475065
S	468m NE	Unspecified Quarries	1938	1552750
P	468m NW	Refuse Heap	1938	1482092
P	468m NW	Refuse Heap	1938	1482092
P	468m NW	Refuse Heap	1955	1521374
H	471m NW	Unspecified Works	1989	1537708
H	471m NW	Unspecified Works	1976	1537708
H	471m NW	Unspecified Works	1981	1537708
H	471m NW	Unspecified Works	1969	1537708
H	472m NW	Refuse Heap	1905	1436802
P	473m NW	Refuse Heap	1976	1510254
P	473m NW	Refuse Heap	1981	1510254
H	475m NW	Unspecified Tank	1905	1433583
6	487m SE	Unspecified Shaft	1905	1425036
7	489m E	Smithy	1905	1456896
W	492m E	Unspecified Works	1989	1516429
W	492m E	Unspecified Works	1981	1516429
W	493m E	Engineering Works	1969	1423613



ID	Location	Land Use	Date	Group ID
H	495m NW	Unspecified Heap	1930	1536841
H	495m NW	Unspecified Heap	1948	1540945
H	497m NW	Unspecified Heap	1938	1543093
H	497m NW	Unspecified Heap	1938	1543093

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

6

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 22**

ID	Location	Land Use	Date	Group ID
V	463m S	Unspecified Tank	1907	234649
V	463m S	Unspecified Tank	1892	234649
H	466m NW	Tanks	1907	230853
H	485m NW	Unspecified Tank	1964	249786
H	485m NW	Unspecified Tank	1982	249786
H	486m NW	Unspecified Tank	1894	224226

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

3

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 22**

ID	Location	Land Use	Date	Group ID
X	485m W	Electricity Substation	1989	136190



ID	Location	Land Use	Date	Group ID
X	486m W	Electricity Substation	1997	136190
X	486m W	Electricity Substation	1996	136190

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

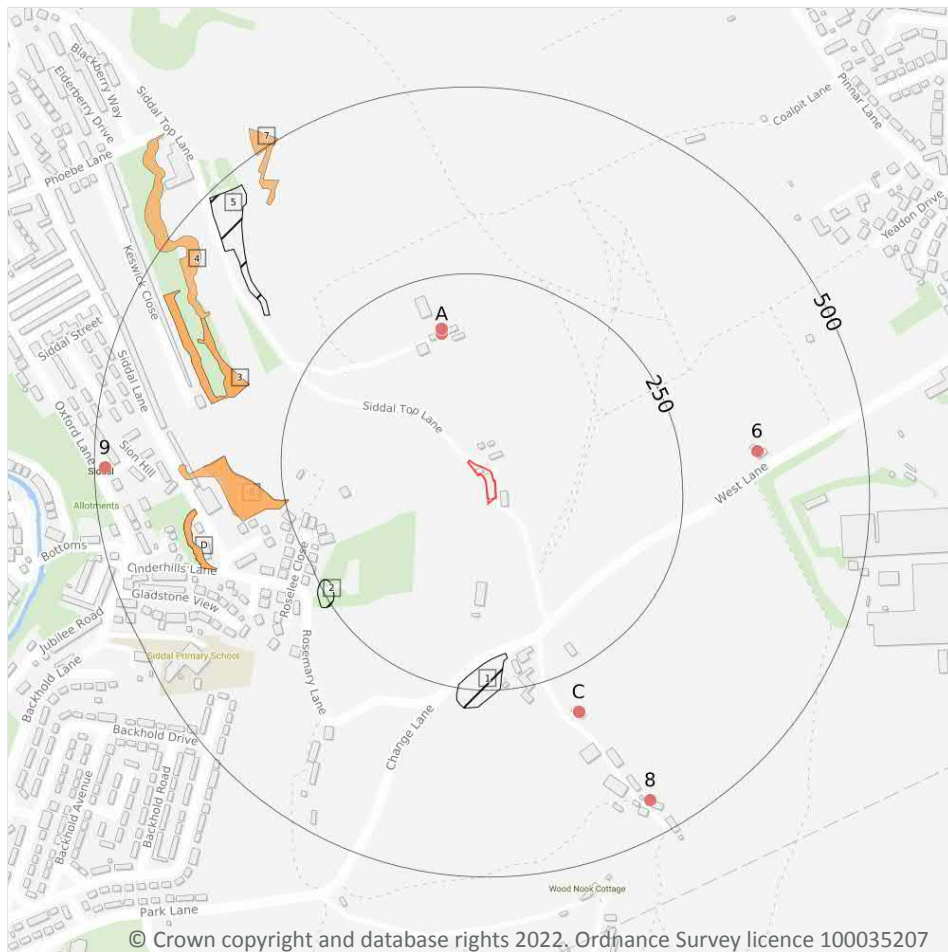
Records within 500m

0

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical landfill (EA/NRW)
- Historical waste sites
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m

0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m

0

Landfill sites identified from Local Authority records and high detail historical mapping.

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m

3

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

Features are displayed on the Waste and landfill map on **page 32**

ID	Location	Details		
1	201m S	Site Address: Westfield Farm, Change Lane, Westfield Gate, Southowram Licence Holder Address: -	Waste Licence: - Site Reference: C1825 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: Mr Marshall First Recorded 30/06/1990 Last Recorded: 31/07/1990
2	235m SW	Site Address: Siddal Fireclay Mine, Rosemary Lane, Siddal, Halifax Licence Holder Address: -	Waste Licence: - Site Reference: C1804 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: Shand Limited Licence Holder: Siddal Fireclay Mine First Recorded 30/04/1986 Last Recorded: 31/08/1988
5	330m NW	Site Address: Land to the South of Cinderhills Works and East of Siddal Lane, Cinderhills Works, Siddal, Halifax Licence Holder Address: Cinderhills Works, Siddal, Halifax	Waste Licence: Yes Site Reference: 4700/0482 Waste Type: Inert, Industrial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 05/02/1985 Licence Surrender: 15/04/1991	Operator: - Licence Holder: John Shackleton UK Limited First Recorded 31/03/1985 Last Recorded: 31/08/1989

This data is sourced from the Environment Agency and Natural Resources Wales.



3.5 Historical waste sites

Records within 500m

8

Waste site records derived from Local Authority planning records and high detail historical mapping.

Features are displayed on the Waste and landfill map on **page 32**

ID	Location	Address	Further Details	Date
B	244m W	Site Address: N/A	Type of Site: Ground Workings and Refuse Heap Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1977
B	245m W	Site Address: N/A	Type of Site: Ground Workings and Refuse Heap Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1964
3	310m W	Site Address: N/A	Type of Site: Ground Workings and Refuse Heap Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1982
4	310m W	Site Address: N/A	Type of Site: Ground Workings and Refuse Heap Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1964
D	364m SW	Site Address: N/A	Type of Site: Ground Workings and Refuse Heap Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1964
D	364m SW	Site Address: N/A	Type of Site: Ground Workings and Refuse Heap Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1982
D	364m SW	Site Address: N/A	Type of Site: Ground Workings and Refuse Heap Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1977



ID	Location	Address	Further Details	Date
7	433m NW	Site Address: N/A	Type of Site: Ground Workings and Refuse Heap Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1907

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m	0
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Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.7 Waste exemptions

Records within 500m	16
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Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 32**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	173m N	BACKHOLD ROYD FARM, SIDDAL TOP LANE, HALIFAX, HX3 9TX	WEX191787	Using waste exemption	On a Farm	Use of waste for a specified purpose
A	173m N	BACKHOLD ROYD FARM, SIDDAL TOP LANE, HALIFAX, HX3 9TX	WEX191787	Treating waste exemption	On a Farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	173m N	BACKHOLD ROYD FARM, SIDDAL TOP LANE, HALIFAX, HX3 9TX	WEX191787	Disposing of waste exemption	On a Farm	Burning waste in the open
A	173m N	BACKHOLD ROYD FARM, SIDDAL TOP LANE, HALIFAX, HX3 9TX	WEX029705	Disposing of waste exemption	On a farm	Burning waste in the open
A	173m N	BACKHOLD ROYD FARM, SIDDAL TOP LANE, HALIFAX, HX3 9TX	WEX029705	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising



ID	Location	Site	Reference	Category	Sub-Category	Description
A	173m N	BACKHOLD ROYD FARM, SIDDAL TOP LANE, HALIFAX, HX3 9TX	WEX029705	Using waste exemption	On a farm	Use of waste for a specified purpose
A	180m N	Backhold Royd Farm Siddal Top Lane HALIFAX West Yorkshire HX3 9TX	EPR/MH0370V K/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
A	180m N	Backhold Royd Farm Siddal Top Lane HALIFAX West Yorkshire HX3 9TX	EPR/MH0370V K/A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	180m N	Backhold Royd Farm Siddal Top Lane HALIFAX West Yorkshire HX3 9TX	EPR/MH0370V K/A001	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose
C	305m SE	PARK NOOK FARM, PARK NOOK, HALIFAX, HX3 9TT	WEX121400	Storing waste exemption	On a farm	Storage of waste in a secure place
C	305m SE	PARK NOOK FARM, PARK NOOK, HALIFAX, HX3 9TT	WEX121400	Treating waste exemption	On a farm	Screening and blending of waste
C	305m SE	PARK NOOK FARM, PARK NOOK, HALIFAX, HX3 9TT	WEX121400	Using waste exemption	On a farm	Use of waste in construction
C	305m SE	PARK NOOK FARM, PARK NOOK, HALIFAX, HX3 9TT	WEX121400	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
6	353m E	West Lane Works West Lane HALIFAX West Yorkshire HX3 9RG	EPR/DF0306KZ /A001	Treating waste exemption	Non-Agricultural Waste Only	Preparatory treatments (baling, sorting, shredding etc)
8	453m SE	Park Nook Farm Park Nook Halifax West Yorkshire HX3 9TT	EPR/KF0036JV /A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste in construction
9	486m W	115 Oxford Lane HALIFAX West Yorkshire HX3 9DG	EPR/EF0333W Q/A001	Treating waste exemption	Non-Agricultural Waste Only	Sorting and de-naturing of controlled drugs for disposal

This data is sourced from the Environment Agency and Natural Resources Wales.



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Licensed Discharges to controlled waters

4.1 Recent industrial land uses

Records within 250m

2

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 37**

ID	Location	Company	Address	Activity	Category
A	130m SW	Adit (Disused)	West Yorkshire, HX3	Unspecified Quarries Or Mines	Extractive Industries
A	169m SW	Siddal Top Mine (Disused)	West Yorkshire, HX3	Unspecified Quarries Or Mines	Extractive Industries

This data is sourced from Ordnance Survey.



4.2 Current or recent petrol stations

Records within 500m	0
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Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0
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High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0
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High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0
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Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0
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Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m

0

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from Local Authority records.



4.12 Radioactive Substance Authorisations

Records within 500m

0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.13 Licensed Discharges to controlled waters

Records within 500m

1

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on **page 37**

ID	Location	Address	Details	
1	475m E	MARSHALLS MONO LTD, WEST LANE WORKS, SOUTHOWRAM, HALIFAX, WEST YORKSHIRE, HX3 9TW	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE (CONTAM SURFACE WATER, NOT WASTE SIT Permit Number: WRA7728 Permit Version: 1 Receiving Water: GROUNDWATER	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 02/07/2001 Effective Date: 02/07/2001 Revocation Date: 31/12/2004

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Pollutant release to surface waters (Red List)

Records within 500m

0

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to public sewer

Records within 500m

0

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.



4.16 List 1 Dangerous Substances

Records within 500m**0**

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 2 Dangerous Substances

Records within 500m**0**

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m**0**

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution inventory substances

Records within 500m**0**

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m**0**

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.21 Pollution inventory radioactive waste

Records within 500m

0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.



5 Hydrogeology - Superficial aquifer

5.1 Superficial aquifer

Records within 500m

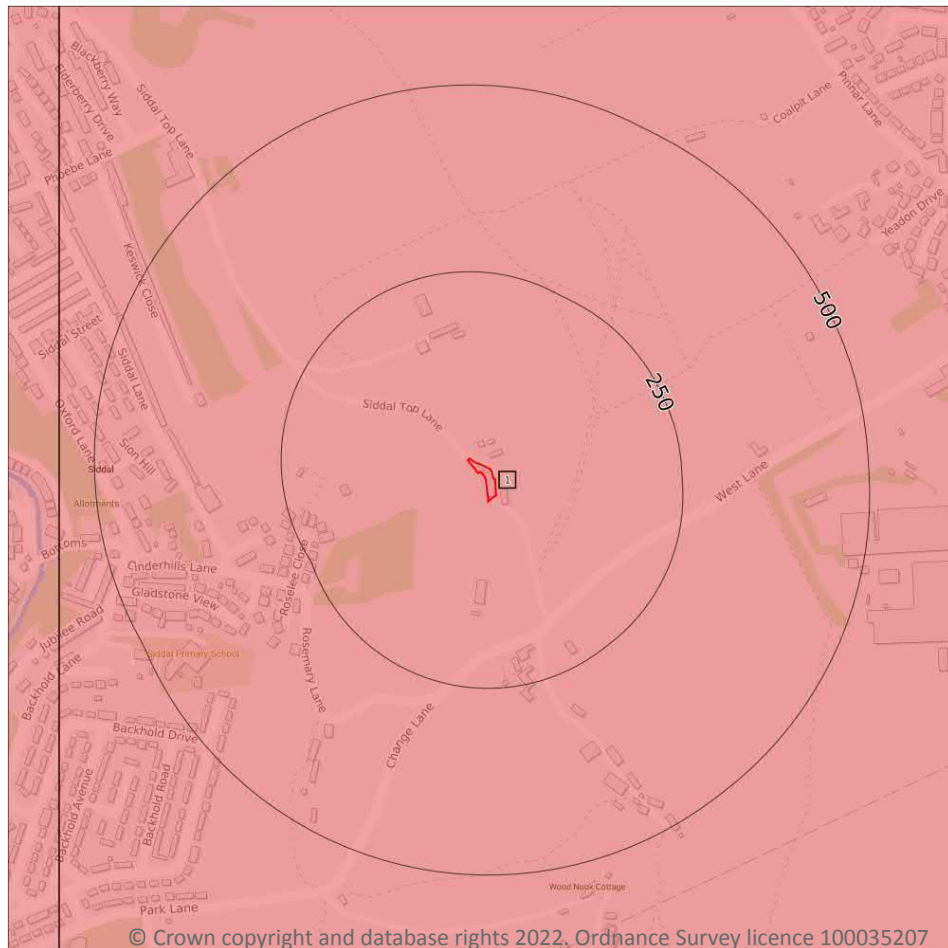
0

Aquifer status of groundwater held within superficial geology.

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Bedrock aquifer



- Site Outline
- Search buffers in metres (m)
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive

5.2 Bedrock aquifer

Records within 500m

1

Aquifer status of groundwater held within bedrock geology.

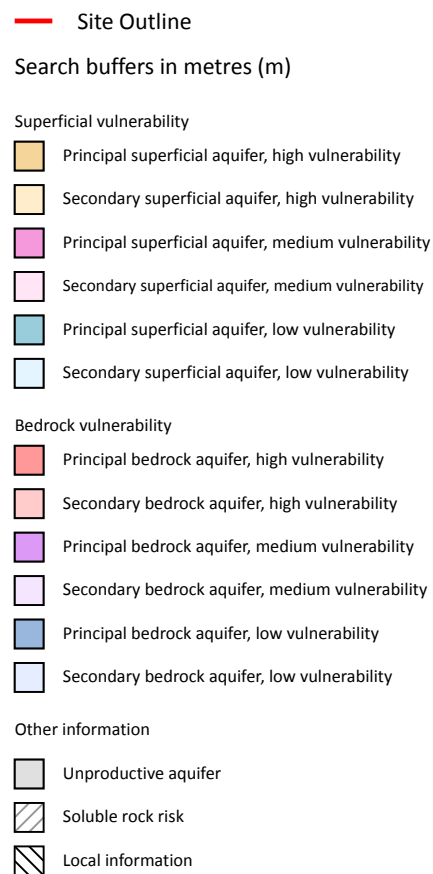
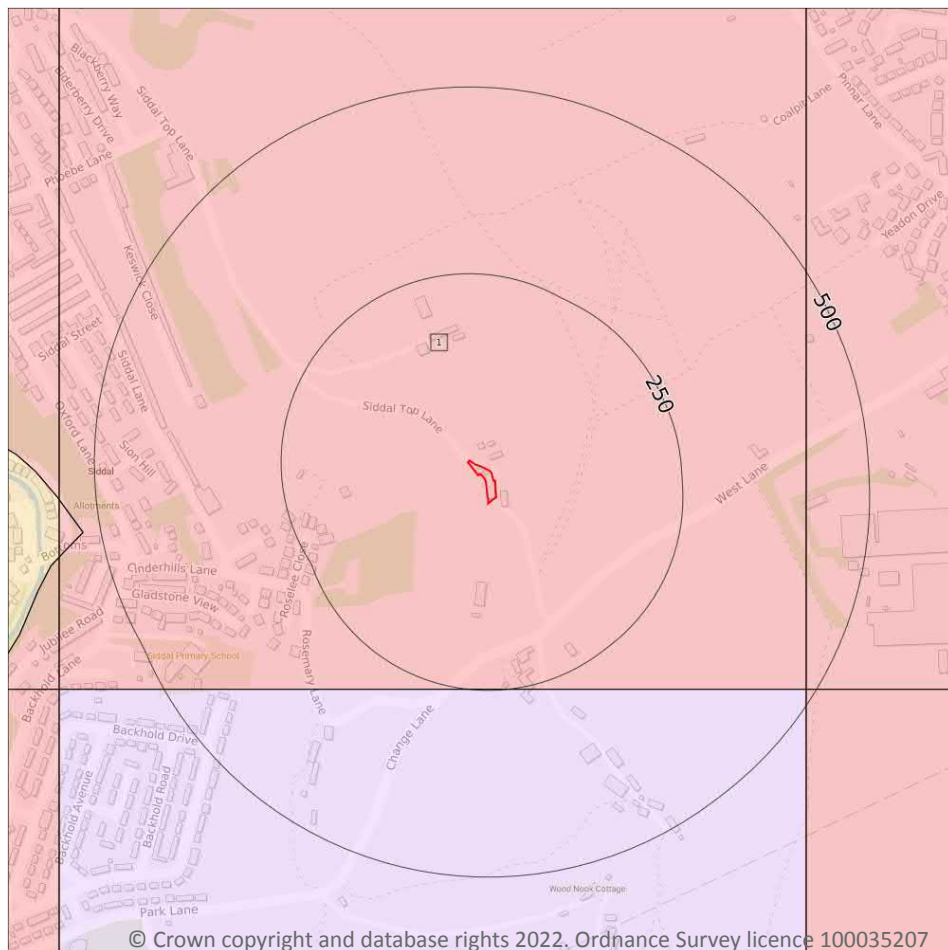
Features are displayed on the Bedrock aquifer map on **page 44**

ID	Location	Designation	Description
1	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

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

1

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 45**



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0
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This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

This data is sourced from the British Geological Survey and the Environment Agency.

5.5 Groundwater vulnerability- local information

Records on site	0
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This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk.

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones



- Site Outline
- Search buffers in metres (m)**
- Source Protection Zone 1
Inner catchment
- Source Protection Zone 2
Outer catchment
- Source Protection Zone 3
Total catchment
- Source Protection Zone 4
Zone of Special Interest
- Source Protection Zone 1c
Inner catchment - confined aquifer
- Source Protection Zone 2c
Outer catchment - confined aquifer
- Source Protection Zone 3c
Total catchment - confined aquifer
- Drinking water abstraction licences
Point features
- Drinking water abstraction licences
Polygon features
- Drinking water abstraction licences
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m

31

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 47**



ID	Location	Details	
-	1674m NW	Status: Historical Licence No: 2/27/12/177 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: GROUNDWATERS Point: SPRING Data Type: Point Name: NESTLE UK LTD NESTLE ROWNTREE DIVISION Easting: 409900 Northing: 424850	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/11/1968 Version End Date: -
-	1674m NW	Status: Historical Licence No: 2/27/12/177 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: GROUNDWATERS Point: SPRING - MILLSTONE GRIT Data Type: Point Name: NESTLE UK LTD Easting: 409900 Northing: 424850	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/11/1968 Version End Date: -
-	1674m NW	Status: Historical Licence No: 2/27/12/177 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: GROUNDWATERS Point: SPRING - MILLSTONE GRIT Data Type: Point Name: NESTLE UK LTD Easting: 409900 Northing: 424850	Annual Volume (m ³): 295951 Max Daily Volume (m ³): 1006.612 Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/11/1968 Version End Date: -
-	1674m NW	Status: Active Licence No: 2/27/12/177 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: GROUNDWATERS Point: SPRING - MILLSTONE GRIT - ALBION MILLS Data Type: Point Name: NESTLE UK LTD Easting: 409900 Northing: 424850	Annual Volume (m ³): 295,951 Max Daily Volume (m ³): 1,006.61 Original Application No: 4325 Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/11/1968 Version End Date: -

ID	Location	Details	
-	1698m NW	Status: Historical Licence No: 2/27/12/177 Details: General use relating to Secondary Category (Low Loss) Direct Source: GROUNDWATERS Point: BOREHOLE NO2 - MILLSTONE GRIT Data Type: Point Name: NESTLE UK LTD Easting: 409760 Northing: 424810	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/11/1968 Version End Date: -
-	1698m NW	Status: Active Licence No: 2/27/12/177 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE NO2 - MILLSTONE GRIT - ALBION MILLS Data Type: Point Name: NESTLE UK LTD Easting: 409760 Northing: 424810	Annual Volume (m ³): 295,951 Max Daily Volume (m ³): 1,006.61 Original Application No: 4325 Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/11/1968 Version End Date: -
-	1698m NW	Status: Active Licence No: 2/27/12/177 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: GROUNDWATERS Point: BOREHOLE NO2 - MILLSTONE GRIT - ALBION MILLS Data Type: Point Name: NESTLE UK LTD Easting: 409760 Northing: 424810	Annual Volume (m ³): 295,951 Max Daily Volume (m ³): 1,006.61 Original Application No: 4325 Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/11/1968 Version End Date: -
-	1698m NW	Status: Active Licence No: 2/27/12/177 Details: Process Water Direct Source: GROUNDWATERS Point: BOREHOLE NO2 - MILLSTONE GRIT - ALBION MILLS Data Type: Point Name: NESTLE UK LTD Easting: 409760 Northing: 424810	Annual Volume (m ³): 295,951 Max Daily Volume (m ³): 1,006.61 Original Application No: 4325 Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/11/1968 Version End Date: -



ID	Location	Details	
-	1708m E	Status: Historical Licence No: 2/27/12/304 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: WELL(SPRING FED) Data Type: Point Name: ASHDAY (1986) LIMITED Easting: 412200 Northing: 422700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 28/06/1994 Expiry Date: - Issue No: 100 Version Start Date: 28/06/1994 Version End Date: -
-	1708m E	Status: Historical Licence No: 2/27/12/304 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: WELL - SPRING FED - COAL MEASURES - ELLAND Data Type: Point Name: ASHDAY (1986) LTD Easting: 412200 Northing: 422700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 28/06/1994 Expiry Date: - Issue No: 100 Version Start Date: 28/06/1994 Version End Date: -
-	1792m NW	Status: Historical Licence No: 2/27/12/177 Details: General use relating to Secondary Category (Low Loss) Direct Source: GROUNDWATERS Point: BOREHOLE 1 - MILLSTONE GRIT - ALBION MILLS Data Type: Point Name: NESTLE UK LTD NESTLE ROWNTREE DIVISION Easting: 409790 Northing: 424930	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/11/1968 Version End Date: -
-	1792m NW	Status: Historical Licence No: 2/27/12/177 Details: General use relating to Secondary Category (Low Loss) Direct Source: GROUNDWATERS Point: BOREHOLE 1 - MILLSTONE GRIT - ALBION MILLS Data Type: Point Name: NESTLE UK LTD Easting: 409790 Northing: 424930	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/11/1968 Version End Date: -



ID	Location	Details	
-	1792m NW	Status: Active Licence No: 2/27/12/177 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: GROUNDWATERS Point: BOREHOLE 1 - MILLSTONE GRIT - ALBION MILLS Data Type: Point Name: NESTLE UK LTD Easting: 409790 Northing: 424930	Annual Volume (m ³): 295,951 Max Daily Volume (m ³): 1,006.61 Original Application No: 4325 Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/11/1968 Version End Date: -
-	1792m NW	Status: Active Licence No: 2/27/12/177 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE 1 - MILLSTONE GRIT - ALBION MILLS Data Type: Point Name: NESTLE UK LTD Easting: 409790 Northing: 424930	Annual Volume (m ³): 295,951 Max Daily Volume (m ³): 1,006.61 Original Application No: 4325 Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/11/1968 Version End Date: -
-	1792m NW	Status: Active Licence No: 2/27/12/177 Details: Process Water Direct Source: GROUNDWATERS Point: BOREHOLE 1 - MILLSTONE GRIT - ALBION MILLS Data Type: Point Name: NESTLE UK LTD Easting: 409790 Northing: 424930	Annual Volume (m ³): 295,951 Max Daily Volume (m ³): 1,006.61 Original Application No: 4325 Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/11/1968 Version End Date: -
-	1808m E	Status: Historical Licence No: 2/27/12/304 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: ASHDAY (1986) LIMITED Easting: 412270 Northing: 422600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 28/06/1994 Expiry Date: - Issue No: 100 Version Start Date: 28/06/1994 Version End Date: -

ID	Location	Details	
-	1808m E	Status: Historical Licence No: 2/27/12/304 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - ELLAND Data Type: Point Name: ASHDAY (1986) LTD Easting: 412270 Northing: 422600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 28/06/1994 Expiry Date: - Issue No: 100 Version Start Date: 28/06/1994 Version End Date: -
-	1919m S	Status: Historical Licence No: 2/27/12/183 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: CENTURY DYEWORKS (ELLAND) LTD Easting: 410780 Northing: 421340	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/03/1966 Version End Date: -
-	1919m S	Status: Active Licence No: 2/27/12/183 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - ELLAND Data Type: Point Name: CENTURY DYEWORKS (ELLAND) LTD Easting: 410780 Northing: 421340	Annual Volume (m ³): 40,914 Max Daily Volume (m ³): 181.84 Original Application No: 4752 Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/03/1966 Version End Date: -
-	1962m W	Status: Historical Licence No: 2/27/12/320 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: THE OLD CROSSLEYANS CLUB C/O ADRIAN MOORE SECRETARY Easting: 408590 Northing: 423160	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 11/08/1998 Expiry Date: 31/10/2007 Issue No: 100 Version Start Date: 11/08/1998 Version End Date: -

ID	Location	Details	
-	1962m W	Status: Historical Licence No: 2/27/12/320 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: THE OLD CROSSLEYANS CLUB C/O ADRIAN MOORE SECRETARY Easting: 408590 Northing: 423160	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 11/08/1998 Expiry Date: 31/10/2007 Issue No: 100 Version Start Date: 11/08/1998 Version End Date: -
-	1962m W	Status: Historical Licence No: 2/27/12/320 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - HALIFAX Data Type: Point Name: THE OLD CROSSLEYANS CLUB Easting: 408590 Northing: 423160	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 11/08/1998 Expiry Date: 31/10/2007 Issue No: 100 Version Start Date: 11/08/1998 Version End Date: -
-	1962m W	Status: Historical Licence No: 2/27/12/320 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - HALIFAX Data Type: Point Name: THE OLD CROSSLEYANS CLUB Easting: 408590 Northing: 423160	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 11/08/1998 Expiry Date: 31/10/2007 Issue No: 100 Version Start Date: 11/08/1998 Version End Date: -
-	1962m W	Status: Historical Licence No: 2/27/12/320 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - HALIFAX Data Type: Point Name: THE OLD CROSSLEYANS CLUB Easting: 408590 Northing: 423160	Annual Volume (m ³): 7650 Max Daily Volume (m ³): 50 Original Application No: - Original Start Date: 11/08/1998 Expiry Date: 31/10/2007 Issue No: 100 Version Start Date: 11/08/1998 Version End Date: -

ID	Location	Details	
-	1962m W	Status: Historical Licence No: 2/27/12/320 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - HALIFAX Data Type: Point Name: THE OLD CROSSLEYANS CLUB Easting: 408590 Northing: 423160	Annual Volume (m ³): 7650 Max Daily Volume (m ³): 50 Original Application No: - Original Start Date: 11/08/1998 Expiry Date: 31/10/2007 Issue No: 100 Version Start Date: 11/08/1998 Version End Date: -
-	1962m W	Status: Historical Licence No: 2/27/12/338 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - HALIFAX Data Type: Point Name: THE OLD CROSSLEYANS CLUB Easting: 408590 Northing: 423160	Annual Volume (m ³): 7650 Max Daily Volume (m ³): 50 Original Application No: - Original Start Date: 05/12/2007 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 05/12/2007 Version End Date: -
-	1962m W	Status: Historical Licence No: 2/27/12/338 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - HALIFAX Data Type: Point Name: THE OLD CROSSLEYANS CLUB Easting: 408590 Northing: 423160	Annual Volume (m ³): 7650 Max Daily Volume (m ³): 50 Original Application No: - Original Start Date: 05/12/2007 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 05/12/2007 Version End Date: -
-	1965m W	Status: Historical Licence No: 2/27/12/338 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - HALIFAX Data Type: Point Name: THE OLD CROSSLEYANS CLUB Easting: 408587 Northing: 423165	Annual Volume (m ³): 7650 Max Daily Volume (m ³): 50 Original Application No: - Original Start Date: 05/12/2007 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 05/12/2007 Version End Date: -
-	1965m W	Status: Historical Licence No: 2/27/12/338 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - HALIFAX Data Type: Point Name: THE OLD CROSSLEYANS CLUB Easting: 408587 Northing: 423165	Annual Volume (m ³): 7650 Max Daily Volume (m ³): 50 Original Application No: - Original Start Date: 05/12/2007 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 05/12/2007 Version End Date: -



ID	Location	Details	
-	1965m W	Status: Active Licence No: 2/27/12/338/R01 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - HALIFAX Data Type: Point Name: Crossleyans Club Ltd Easting: 408587 Northing: 423165	Annual Volume (m ³): 7,650 Max Daily Volume (m ³): 50 Original Application No: NPS/WR/016987 Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2015 Version End Date: -
-	1965m W	Status: Active Licence No: 2/27/12/338/R01 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - HALIFAX Data Type: Point Name: Crossleyans Club Ltd Easting: 408587 Northing: 423165	Annual Volume (m ³): 7,650 Max Daily Volume (m ³): 50 Original Application No: NPS/WR/016987 Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2015 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m

7

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 47**

ID	Location	Details	
-	748m SW	Status: Historical Licence No: NE/027/0012/048 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: SURFACE WATER Point: HEBBLE BROOK AT SALTERHEBBLE HALIFAX Data Type: Point Name: Canal and River Trust Easting: 409871 Northing: 422984	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 26/03/2021 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 26/03/2021 Version End Date: -



ID	Location	Details	
-	748m SW	Status: Active Licence No: NE/027/0012/048 Details: Supply To A Canal For Throughflow Direct Source: SURFACE WATER Point: HEBBLE BROOK AT SALTERHEBBLE HALIFAX Data Type: Point Name: Canal and River Trust Easting: 409871 Northing: 422984	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: NPS/NA/000947 Original Start Date: 26/03/2021 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 26/03/2021 Version End Date: -
-	1931m NE	Status: Historical Licence No: 2/27/12/149 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: 2 RESERVOIRS Data Type: Line Name: MONOPLAS INDUSTRIES LIMITED Easting: 411960 Northing: 424720	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 07/07/1988 Version End Date: -
-	1931m NE	Status: Historical Licence No: 2/27/12/149 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: 2 RESERVOIRS - HIPPERHOLME WORKS Data Type: Line Name: MONOPLAS INDUSTRIES LIMITED Easting: 411960 Northing: 424720	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 07/07/1988 Version End Date: -
-	1952m S	Status: Historical Licence No: 2/27/12/096 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: CATCHPIT - BRIDGE END WORKS ELLAND Data Type: Point Name: PENNINE YARN DYEING LTD Easting: 410700 Northing: 421300	Annual Volume (m ³): 56825 Max Daily Volume (m ³): 272.76 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 09/05/1984 Version End Date: -



ID	Location	Details	
-	1963m SE	Status: Historical Licence No: 2/27/12/237 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: CALDER & HEBBLE NAVIGATION Data Type: Point Name: BRITISH WATERWAYS BOARD Easting: 412300 Northing: 422300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 26/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 26/05/1966 Version End Date: -
-	1963m SE	Status: Active Licence No: 2/27/12/237 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: CALDER AND HEBBLE NAVIGATION - BRIGHOUSE Data Type: Point Name: Canal and River Trust Easting: 412300 Northing: 422300	Annual Volume (m ³): 8,183 Max Daily Volume (m ³): 22.42 Original Application No: 2302 Original Start Date: 26/05/1966 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2008 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m	12
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Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 47**

ID	Location	Details	
-	1698m NW	Status: Active Licence No: 2/27/12/177 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE NO2 - MILLSTONE GRIT - ALBION MILLS Data Type: Point Name: NESTLE UK LTD Easting: 409760 Northing: 424810	Annual Volume (m ³): 295,951 Max Daily Volume (m ³): 1,006.61 Original Application No: 4325 Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/11/1968 Version End Date: -



ID	Location	Details	
-	1708m E	Status: Historical Licence No: 2/27/12/304 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: WELL(SPRING FED) Data Type: Point Name: ASHDAY (1986) LIMITED Easting: 412200 Northing: 422700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 28/06/1994 Expiry Date: - Issue No: 100 Version Start Date: 28/06/1994 Version End Date: -
-	1708m E	Status: Historical Licence No: 2/27/12/304 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: WELL - SPRING FED - COAL MEASURES - ELLAND Data Type: Point Name: ASHDAY (1986) LTD Easting: 412200 Northing: 422700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 28/06/1994 Expiry Date: - Issue No: 100 Version Start Date: 28/06/1994 Version End Date: -
-	1792m NW	Status: Active Licence No: 2/27/12/177 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE 1 - MILLSTONE GRIT - ALBION MILLS Data Type: Point Name: NESTLE UK LTD Easting: 409790 Northing: 424930	Annual Volume (m ³): 295,951 Max Daily Volume (m ³): 1,006.61 Original Application No: 4325 Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 15/11/1968 Version End Date: -
-	1808m E	Status: Historical Licence No: 2/27/12/304 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: ASHDAY (1986) LIMITED Easting: 412270 Northing: 422600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 28/06/1994 Expiry Date: - Issue No: 100 Version Start Date: 28/06/1994 Version End Date: -

ID	Location	Details	
-	1808m E	Status: Historical Licence No: 2/27/12/304 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - ELLAND Data Type: Point Name: ASHDAY (1986) LTD Easting: 412270 Northing: 422600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 28/06/1994 Expiry Date: - Issue No: 100 Version Start Date: 28/06/1994 Version End Date: -
-	1962m W	Status: Historical Licence No: 2/27/12/320 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: THE OLD CROSSLEYANS CLUB C/O ADRIAN MOORE SECRETARY Easting: 408590 Northing: 423160	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 11/08/1998 Expiry Date: 31/10/2007 Issue No: 100 Version Start Date: 11/08/1998 Version End Date: -
-	1962m W	Status: Historical Licence No: 2/27/12/320 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - HALIFAX Data Type: Point Name: THE OLD CROSSLEYANS CLUB Easting: 408590 Northing: 423160	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 11/08/1998 Expiry Date: 31/10/2007 Issue No: 100 Version Start Date: 11/08/1998 Version End Date: -
-	1962m W	Status: Historical Licence No: 2/27/12/320 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - HALIFAX Data Type: Point Name: THE OLD CROSSLEYANS CLUB Easting: 408590 Northing: 423160	Annual Volume (m ³): 7650 Max Daily Volume (m ³): 50 Original Application No: - Original Start Date: 11/08/1998 Expiry Date: 31/10/2007 Issue No: 100 Version Start Date: 11/08/1998 Version End Date: -

ID	Location	Details	
-	1962m W	Status: Historical Licence No: 2/27/12/338 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - HALIFAX Data Type: Point Name: THE OLD CROSSLEYANS CLUB Easting: 408590 Northing: 423160	Annual Volume (m ³): 7650 Max Daily Volume (m ³): 50 Original Application No: - Original Start Date: 05/12/2007 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 05/12/2007 Version End Date: -
-	1965m W	Status: Historical Licence No: 2/27/12/338 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - HALIFAX Data Type: Point Name: THE OLD CROSSLEYANS CLUB Easting: 408587 Northing: 423165	Annual Volume (m ³): 7650 Max Daily Volume (m ³): 50 Original Application No: - Original Start Date: 05/12/2007 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 05/12/2007 Version End Date: -
-	1965m W	Status: Active Licence No: 2/27/12/338/R01 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - HALIFAX Data Type: Point Name: Crossleyans Club Ltd Easting: 408587 Northing: 423165	Annual Volume (m ³): 7,650 Max Daily Volume (m ³): 50 Original Application No: NPS/WR/016987 Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2015 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m	0
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Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.10 Source Protection Zones (confined aquifer)

Records within 500m

0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.



6 Hydrology



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- ⋯ WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m

0

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

0

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.



This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 62**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	River	Hebble Brook from Source to River Calder	GB104027062780	Calder Middle	Aire and Calder

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

Records identified

1

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on **page 62**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	580m W	River	Hebble Brook from Source to River Calder	GB104027062780	Moderate	Fail	Moderate	2019

This data is sourced from the Environment Agency and Natural Resources Wales.



6.5 WFD Groundwater bodies

Records on site

1

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 62**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	On site	Aire & Calder Carb Limestone / Millstone Grit / Coal Measures.	<u>GB40402G700400</u>	Poor	Poor	Good	2019

This data is sourced from the Environment Agency and Natural Resources Wales.



7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m

0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m

0

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m

0

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.



7.4 Areas Benefiting from Flood Defences

Records within 250m

0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

Records within 250m

0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0
--------------------	---

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.7 Flood Zone 3

Records within 50m	0
--------------------	---

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.



8 Surface water flooding

8.1 Surface water flooding

Highest risk on site

Negligible

Highest risk within 50m

Negligible

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site. The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Negligible
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



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— Site Outline
Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

9.1 Groundwater flooding

Highest risk on site

Negligible

Highest risk within 50m

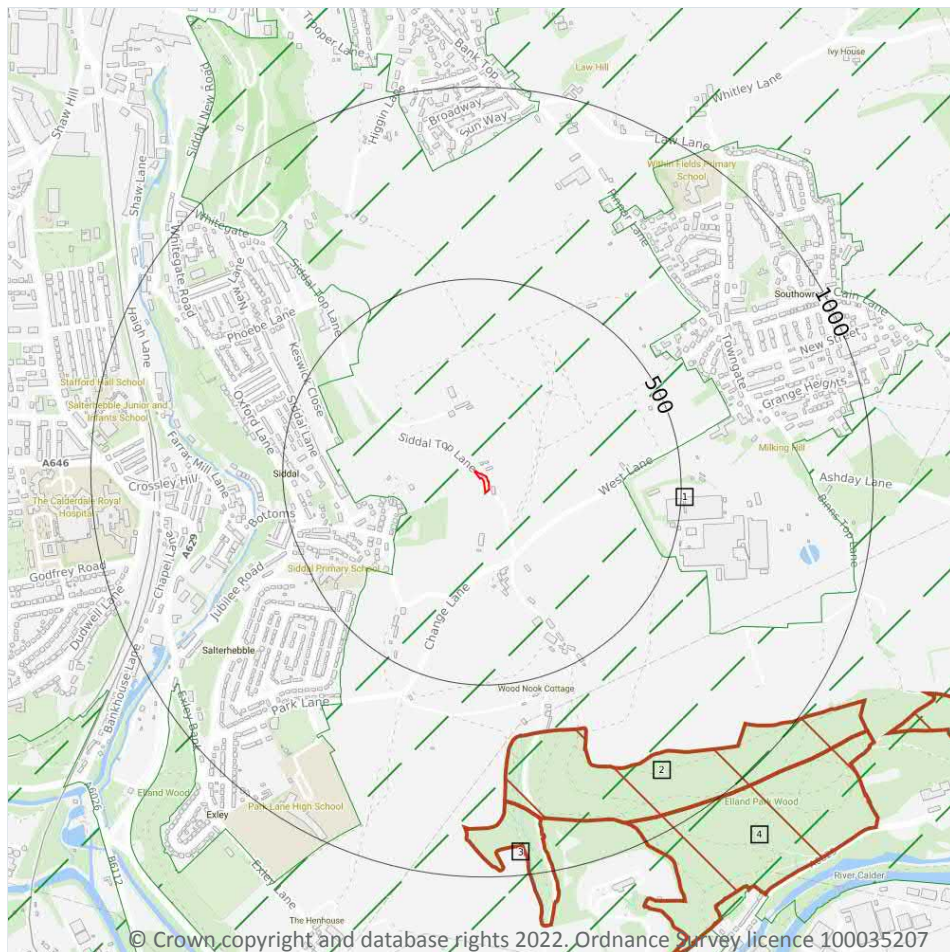
Negligible

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 69**

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- + Local Nature Reserves (LNR)
- ▨ Designated Ancient Woodland
- - - Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m**0**

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m**0**

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m**0**

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m**0**

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.6 Local Nature Reserves (LNR)

Records within 2000m

1

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

Features are displayed on the Environmental designations map on **page 70**

ID	Location	Name	Data source
-	1933m W	Scarr & Long Woods	Natural England

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m

8

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on **page 70**

ID	Location	Name	Woodland Type
2	638m S	Elland Park Wood	Ancient & Semi-Natural Woodland
3	803m S	Elland Park Wood	Ancient Replanted Woodland
4	933m SE	Elland Park Wood	Ancient Replanted Woodland
5	1220m SE	Unknown	Ancient Replanted Woodland
-	1678m E	Freeman`s Wood	Ancient & Semi-Natural Woodland
-	1740m SW	North Dean Wood	Ancient & Semi-Natural Woodland
-	1911m SW	North Dean Wood	Ancient Replanted Woodland
-	1933m W	Long Wood	Ancient & Semi-Natural Woodland

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m**0**

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.9 Forest Parks

Records within 2000m**0**

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m**0**

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m**1**

Areas designated to prevent urban sprawl by keeping land permanently open.

Features are displayed on the Environmental designations map on **page 70**

ID	Location	Name	Local Authority name
1	On site	South and West Yorkshire	Calderdale

This data is sourced from the Ministry of Housing, Communities and Local Government.



10.12 Proposed Ramsar sites

Records within 2000m

0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.



10.16 Nitrate Vulnerable Zones

Records within 2000m

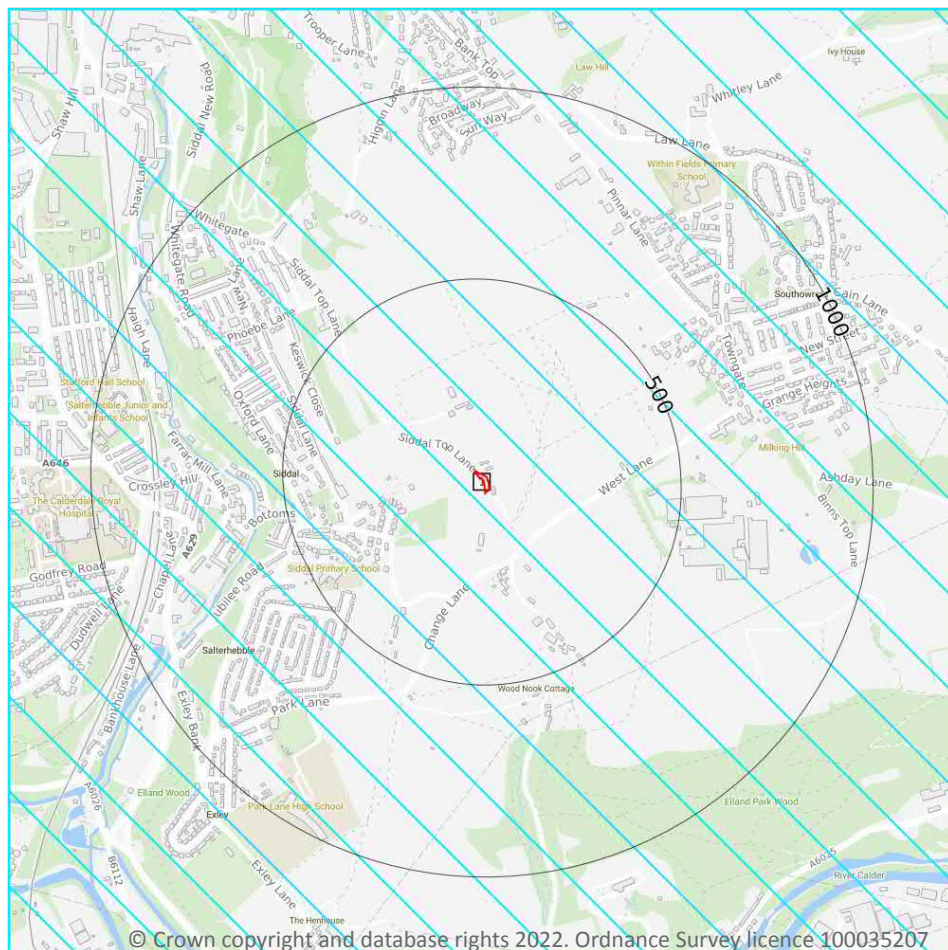
0

Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

This data is sourced from Natural England and Natural Resources Wales.



SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

1

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on **page 76**

ID	Location	Type of developments requiring consultation
1	On site	<p>Infrastructure - Airports, helipads and other aviation proposals.</p> <p>Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 4000m².</p> <p>Combustion - General combustion processes >50mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p>



This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

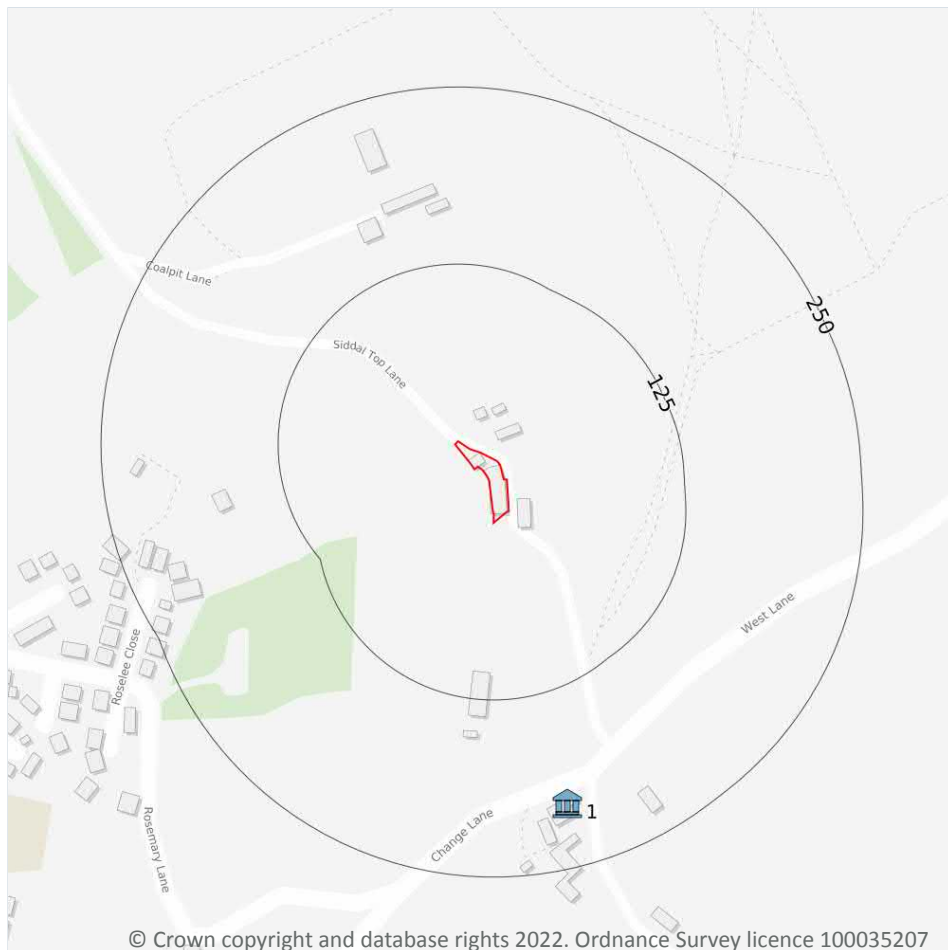
0

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

This data is sourced from Natural England and Natural Resources Wales.



11 Visual and cultural designations



- Site Outline
- Search buffers in metres (m)
- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

11.1 World Heritage Sites

Records within 250m

0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m**0**

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m**0**

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m**1**

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

Features are displayed on the Visual and cultural designations map on **page 78**

ID	Location	Name	Grade	Reference Number	Listed date
1	205m S	Westfield Gate Farmhouse and Attached Barn, Town, Calderdale, HX3	II	1185215	06/06/1983

This data is sourced from Historic England, Cadw and Historic Environment Scotland.



11.5 Conservation Areas

Records within 250m

0

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m

0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.7 Registered Parks and Gardens

Records within 250m

0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.



12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m

3

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on **page 81**

ID	Location	Classification	Description
1	On site	Grade 4	Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

ID	Location	Classification	Description
2	147m SW	Urban	-
3	202m NE	Grade 4	Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m

0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m

0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.



12.5 Countryside Stewardship Schemes

Records within 250m

0

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

This data is sourced from Natural England.



13 Habitat designations



— Site Outline

Search buffers in metres (m)

Priority Habitat Inventory

Open Mosaic Habitat

Limestone Pavement Orders

Habitat Networks

Primary Habitat

Restorable Habitat

Associated Habitats

Habitat Restoration-Creation

Network Enhancement Zone 1

Network Enhancement Zone 2

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13.1 Priority Habitat Inventory

Records within 250m

1

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

Features are displayed on the Habitat designations map on **page 84**

ID	Location	Main Habitat	Other habitats
1	107m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

1

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

Features are displayed on the Habitat designations map on **page 84**

ID	Location	Site reference	Identification confidence	Primary source	Secondary source	Tertiary source
2	242m W	BRITPITS ref: 13551	Low	British Geological Survey BRITPITS database	UK Perspectives Aerial Photography	-

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

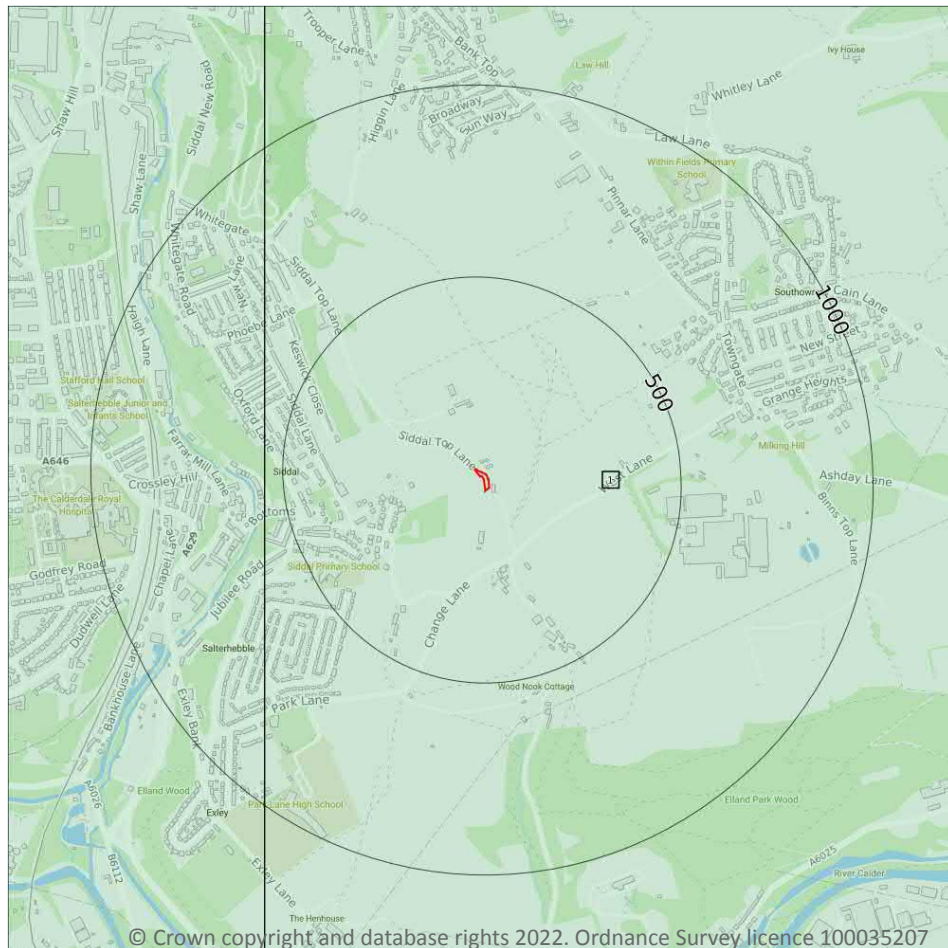
0

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— Site Outline
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

1

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

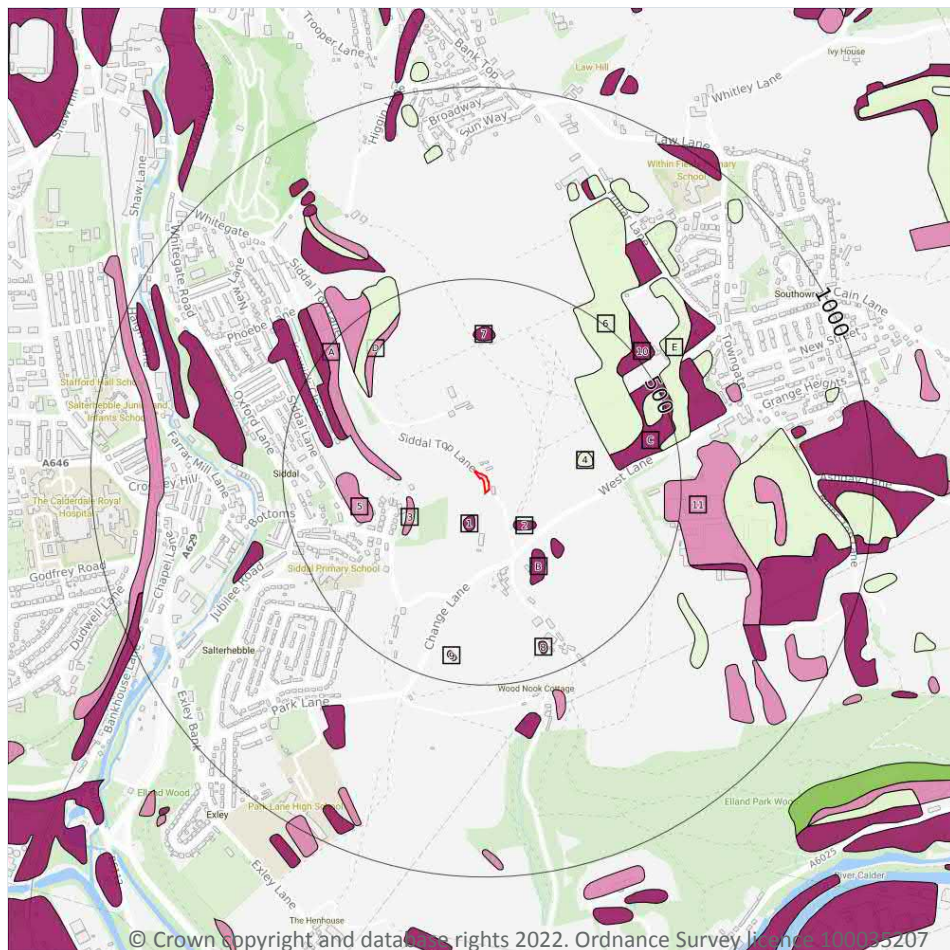
Features are displayed on the Geology 1:10,000 scale - Availability map on **page 86**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SE12SW

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Artificial and made ground



— Site Outline
Search buffers in metres (m)

- Reclaimed ground
- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m

22

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 87**

ID	Location	LEX Code	Description	Rock description
1	66m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	106m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	178m SW	WGR-VOID	Worked Ground (Undivided)	Void
A	192m W	WGR-VOID	Worked Ground (Undivided)	Void

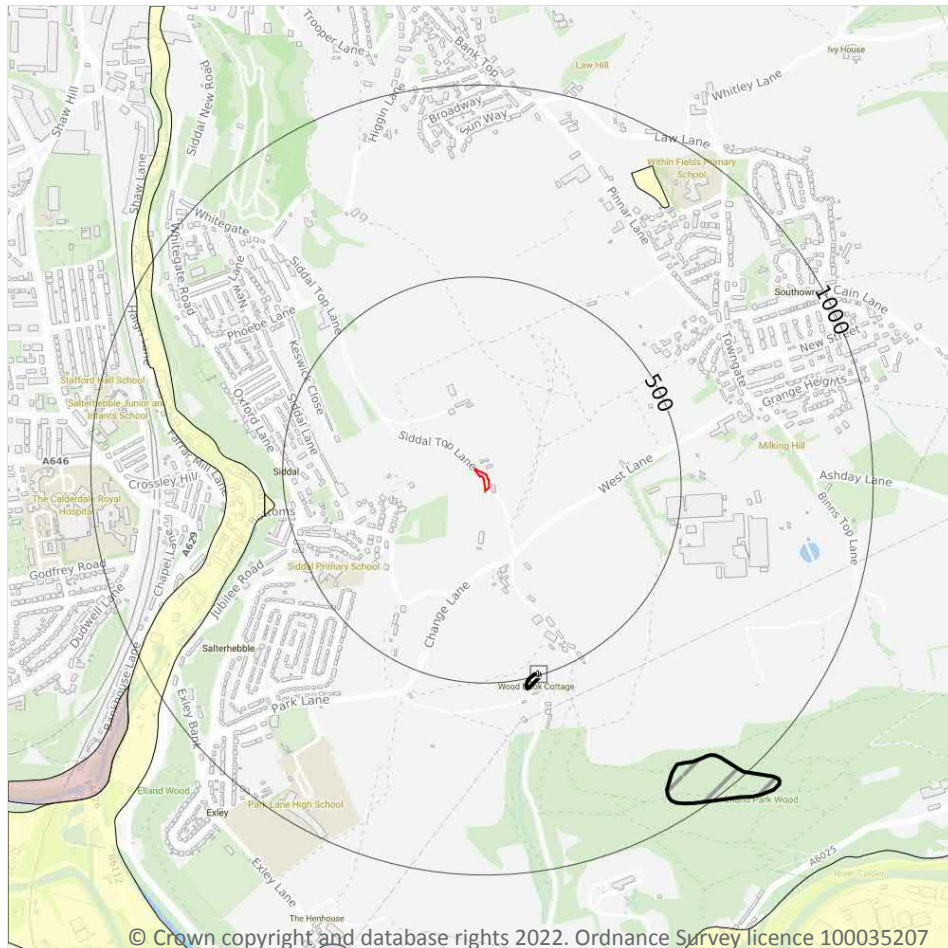


ID	Location	LEX Code	Description	Rock description
B	194m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	208m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
4	236m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit
5	283m W	WGR-VOID	Worked Ground (Undivided)	Void
6	309m NE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
C	322m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
D	333m NW	WGR-VOID	Worked Ground (Undivided)	Void
D	337m NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
7	340m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	343m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	377m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
D	408m NW	WGR-VOID	Worked Ground (Undivided)	Void
8	412m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
9	420m S	WGR-VOID	Worked Ground (Undivided)	Void
10	437m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
C	437m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit
E	455m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit
11	456m E	WGR-VOID	Worked Ground (Undivided)	Void

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



— Site Outline

Search buffers in metres (m)

▨ Landslip (10k)

Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m

0

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

1

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.



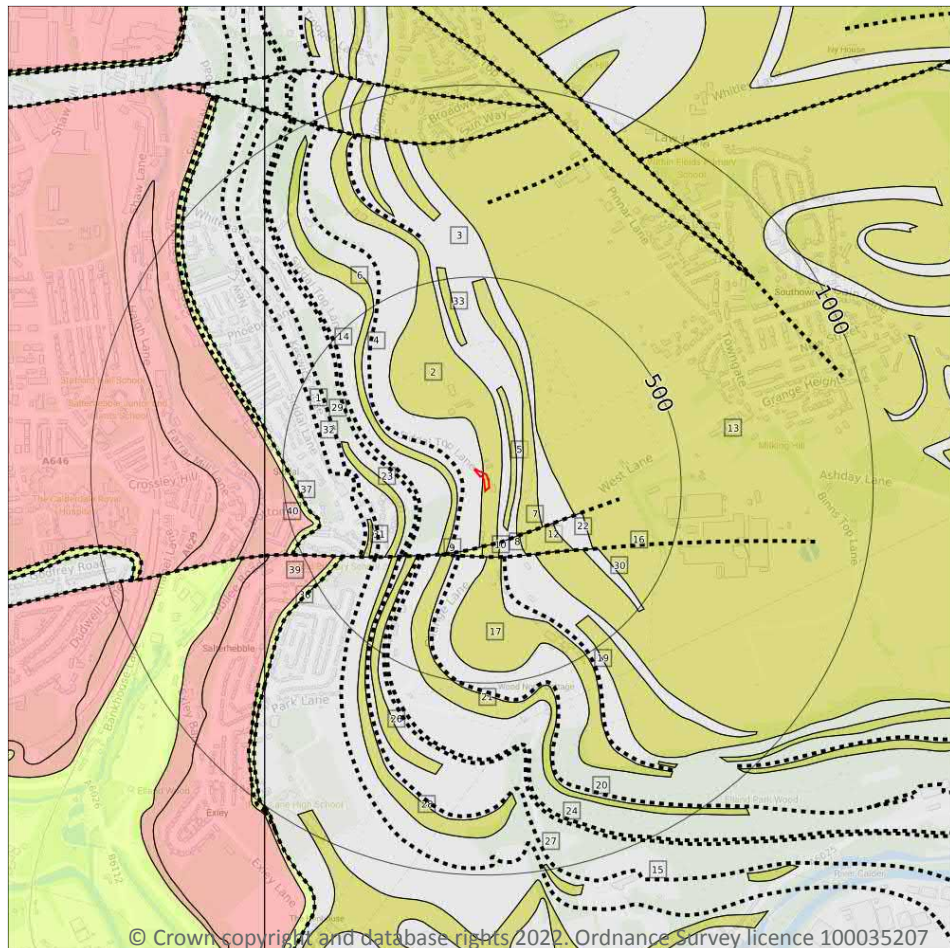
Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 89**

ID	Location	LEX Code	Description	Rock description
1	493m S	SLIP-UNKNOWN	Landslide Deposits	Unknown/unclassified Entry

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



- Site Outline
- Search buffers in metres (m)
- Bedrock faults and other linear features (10k)
- Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m

25

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 91**

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
2	On site	EYR-SDST	80 Yard Rock - Sandstone	Langsettian Sub-age
3	29m E	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age



ID	Location	LEX Code	Description	Rock age
5	53m E	EF-SDST	Elland Flags - Sandstone	Langsettian Sub-age
6	60m SW	STNR-SDST	Stanningley Rock - Sandstone	Langsettian Sub-age
7	83m E	EF-SDST	Elland Flags - Sandstone	Langsettian Sub-age
8	139m S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
10	139m S	EYR-SDST	80 Yard Rock - Sandstone	Langsettian Sub-age
11	144m S	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age
12	146m SE	EF-SDST	Elland Flags - Sandstone	Langsettian Sub-age
13	161m E	EF-SDST	Elland Flags - Sandstone	Langsettian Sub-age
15	171m S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
17	172m S	EYR-SDST	80 Yard Rock - Sandstone	Langsettian Sub-age
21	187m SW	STNR-SDST	Stanningley Rock - Sandstone	Langsettian Sub-age
22	190m SE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
23	207m SW	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
26	245m SW	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
28	284m SW	MBR-SDST	Middle Band Rock - Sandstone	Langsettian Sub-age
30	291m SE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
31	300m SW	MBR-SDST	Middle Band Rock - Sandstone	Langsettian Sub-age
33	322m N	EF-SDST	Elland Flags - Sandstone	Langsettian Sub-age
36	407m SW	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age
37	426m W	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age
39	427m SW	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age
40	443m W	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age

This data is sourced from the British Geological Survey.



14.6 Bedrock faults and other linear features (10k)

Records within 500m

15

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

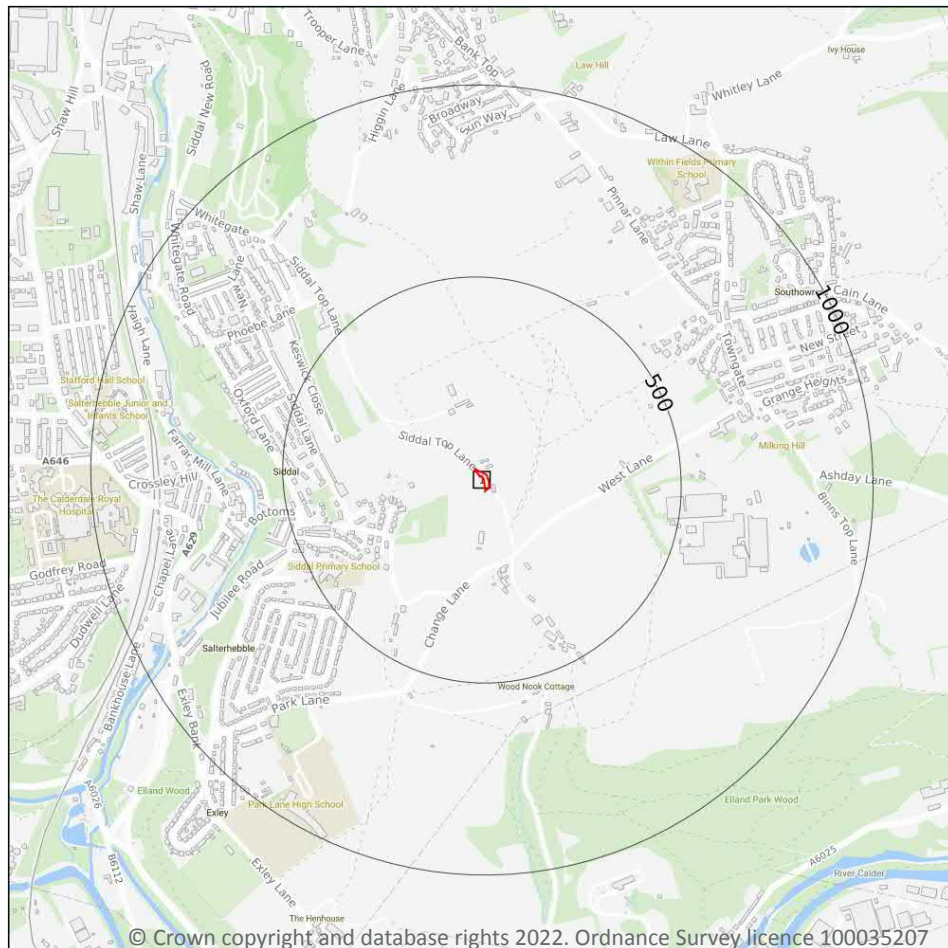
Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 91**

ID	Location	Category	Description
4	40m SW	ROCK	Coal seam, inferred
9	139m S	FAULT	Normal fault, inferred; crossmarks on downthrow side
14	163m W	FOSSIL_HORIZON	Fossil horizon, marine band
16	171m S	FAULT	Normal fault, inferred; crossmarks on downthrow side
18	173m SW	ROCK	Coal seam, inferred
19	179m S	ROCK	Coal seam, inferred
20	182m S	ROCK	Coal seam, inferred
24	233m SW	FOSSIL_HORIZON	Fossil horizon, marine band
25	240m SW	ROCK	Coal seam, inferred
27	280m SW	ROCK	Coal seam, inferred
29	290m W	ROCK	Coal seam, inferred
32	316m W	ROCK	Coal seam, inferred
34	333m SW	ROCK	Coal seam, inferred
35	407m SW	FOSSIL_HORIZON	Fossil horizon, marine band coincident with bedrock geology boundary
38	426m W	FOSSIL_HORIZON	Fossil horizon, marine band coincident with bedrock geology boundary

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline
Search buffers in metres (m)

☐ Geological map tile

15.1 50k Availability

Records within 500m

1

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

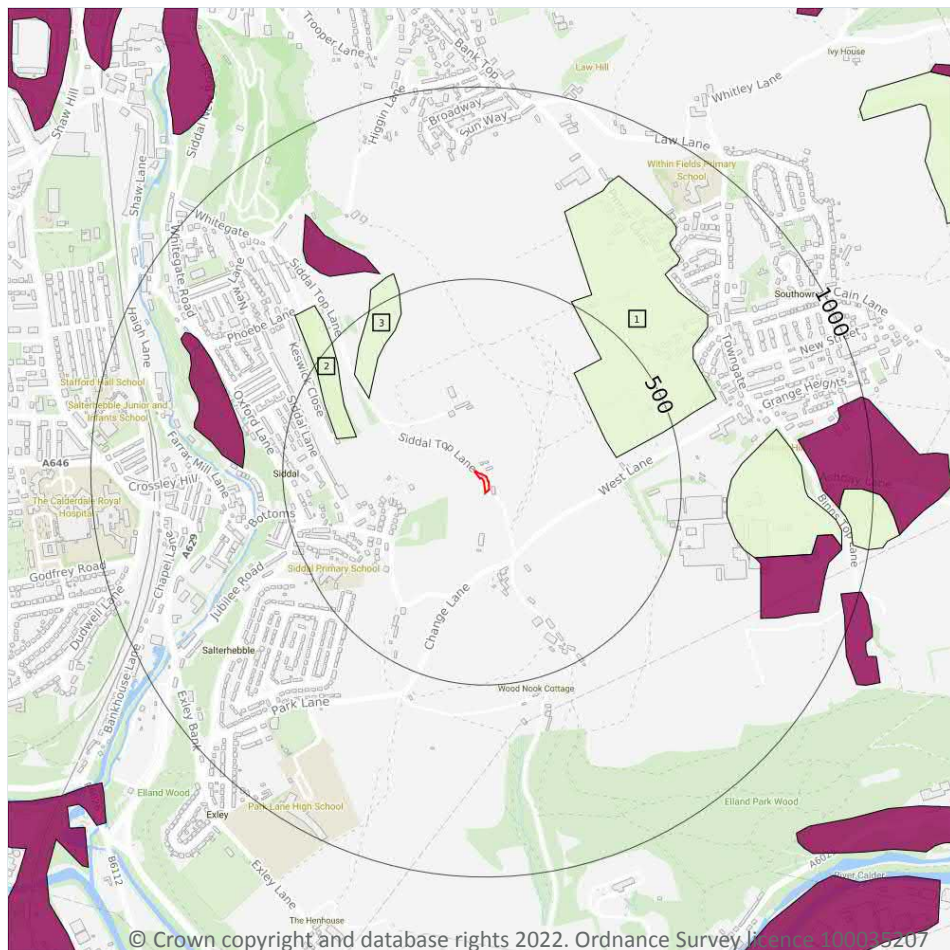
Features are displayed on the Geology 1:50,000 scale - Availability map on **page 94**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW077_huddersfield_v4

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Artificial and made ground



- Site Outline**
- Search buffers in metres (m)**
- Made ground
 - Worked ground
 - Infilled ground
 - Disturbed ground
 - Landscaped ground

15.2 Artificial and made ground (50k)

Records within 500m

3

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 95**

ID	Location	LEX Code	Description	Rock description
1	321m NE	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
2	321m W	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
3	335m NW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.



15.3 Artificial ground permeability (50k)

Records within 50m

0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial

15.4 Superficial geology (50k)

Records within 500m

0

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m

0

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

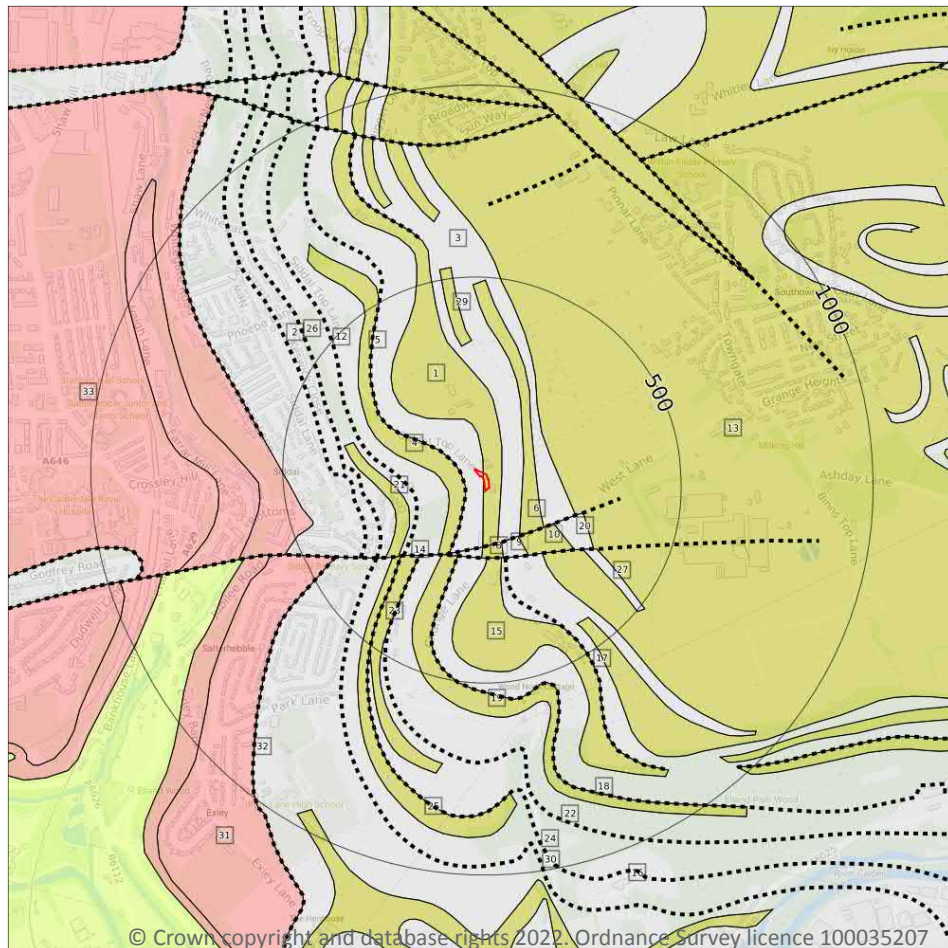
Records within 50m

0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



- Site Outline
- Search buffers in metres (m)
- Bedrock faults and other linear features (50k)
- Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m

21

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 98**

ID	Location	LEX Code	Description	Rock age
1	On site	EYR-SDST	80 YARD ROCK - SANDSTONE	WESTPHALIAN
2	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
3	31m E	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN



ID	Location	LEX Code	Description	Rock age
4	37m W	STNR-SDST	STANNINGLEY ROCK - SANDSTONE	WESTPHALIAN
6	86m E	EF-SDST	ELLAND FLAGS - SANDSTONE	WESTPHALIAN
8	140m S	EYR-SDST	80 YARD ROCK - SANDSTONE	WESTPHALIAN
9	140m S	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
10	146m SE	EF-SDST	ELLAND FLAGS - SANDSTONE	WESTPHALIAN
11	146m S	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
13	172m E	EF-SDST	ELLAND FLAGS - SANDSTONE	WESTPHALIAN
15	175m S	EYR-SDST	80 YARD ROCK - SANDSTONE	WESTPHALIAN
16	175m S	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
19	183m SW	STNR-SDST	STANNINGLEY ROCK - SANDSTONE	WESTPHALIAN
20	192m SE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
21	197m SW	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
23	240m SW	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
25	277m SW	MBR-SDST	MIDDLE BAND ROCK - SANDSTONE	WESTPHALIAN
27	292m SE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
29	322m N	EF-SDST	ELLAND FLAGS - SANDSTONE	WESTPHALIAN
31	426m SW	RR-SDST	ROUGH ROCK - SANDSTONE	NAMURIAN
33	442m W	RR-SDST	ROUGH ROCK - SANDSTONE	NAMURIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m

3

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).



Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	High	Moderate
On site	Fracture	Moderate	Low
37m S	Fracture	High	Moderate

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	12
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Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 98**

ID	Location	Category	Description
5	37m W	ROCK	Coal seam, inferred
7	140m S	FAULT	Fault, inferred
12	170m W	ROCK	Coal seam, inferred
14	175m S	FAULT	Fault, inferred
17	181m S	ROCK	Coal seam, inferred
18	183m SW	ROCK	Coal seam, inferred
22	240m SW	ROCK	Coal seam, inferred
24	277m SW	ROCK	Coal seam, inferred
26	284m W	ROCK	Coal seam, inferred
28	319m SW	ROCK	Coal seam, inferred
30	332m SW	ROCK	Coal seam, inferred
32	426m SW	FOSSIL_HORIZON	Marine band

This data is sourced from the British Geological Survey.



16 Boreholes

16.1 BGS Boreholes

Records within 250m

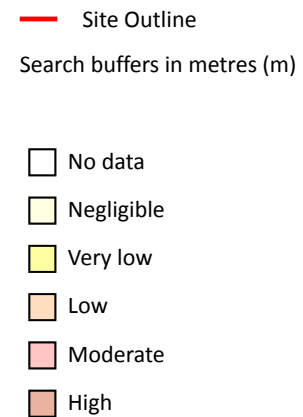
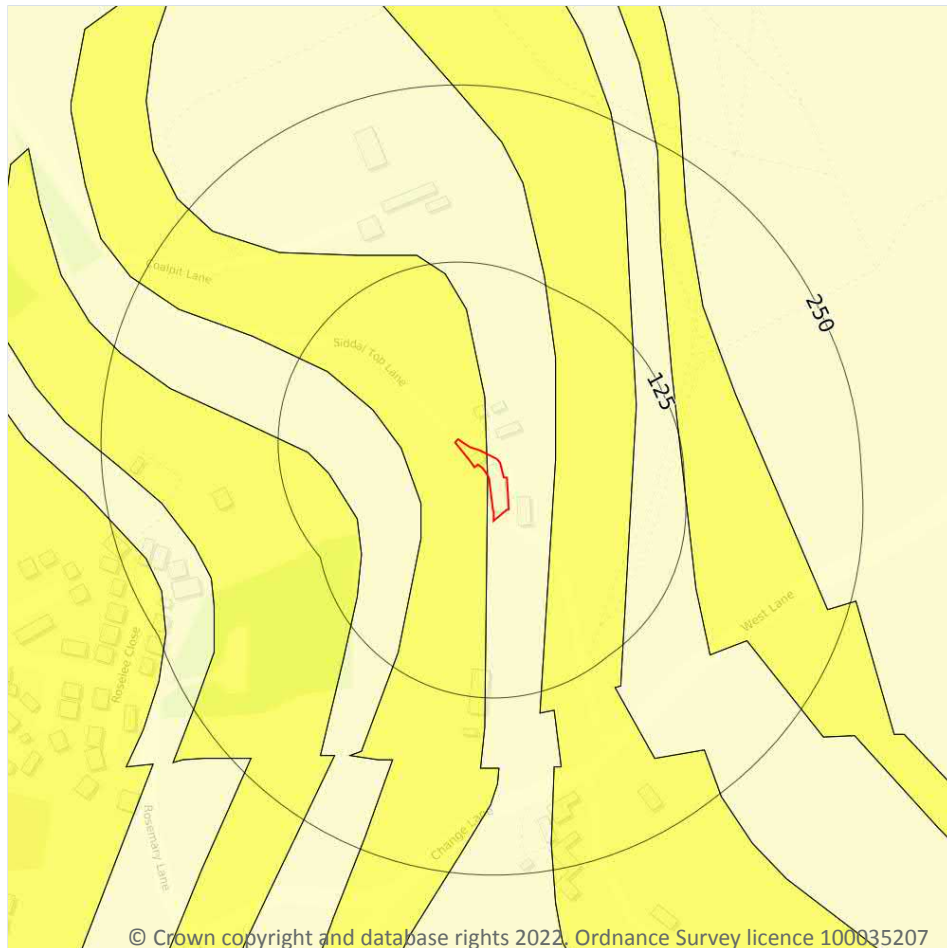
0

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

2

The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

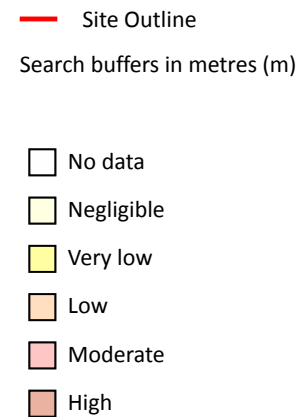
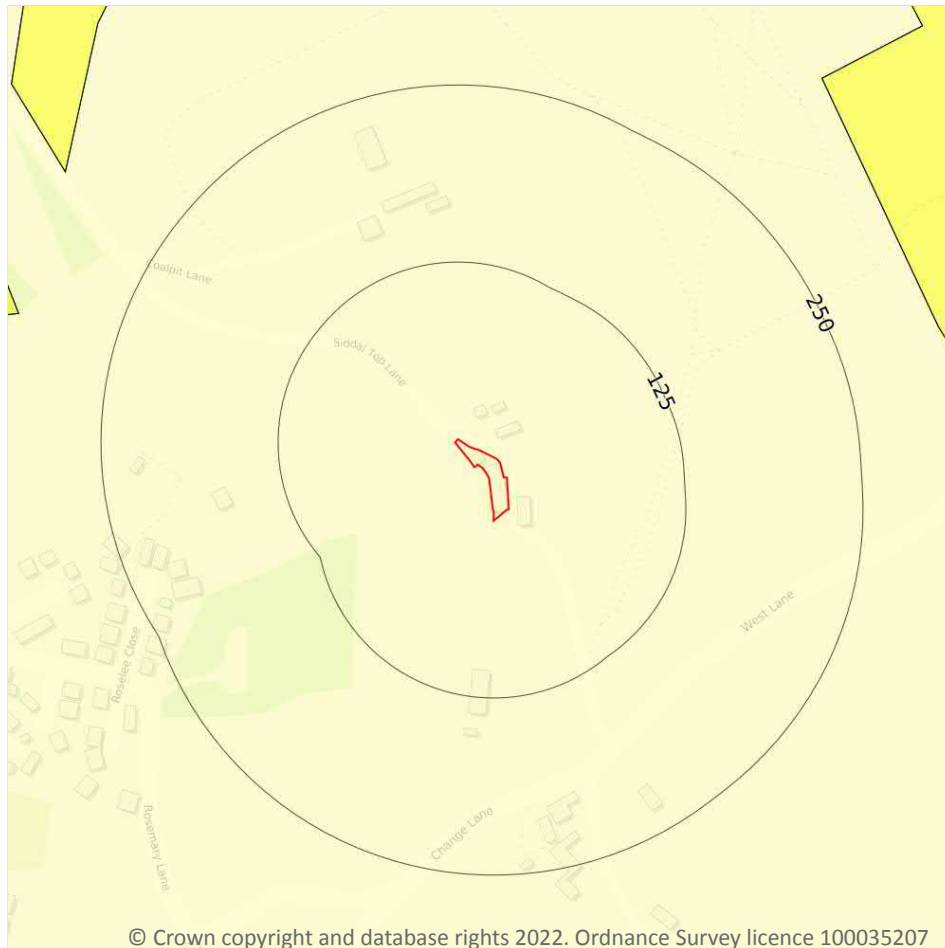
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 102**

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

1

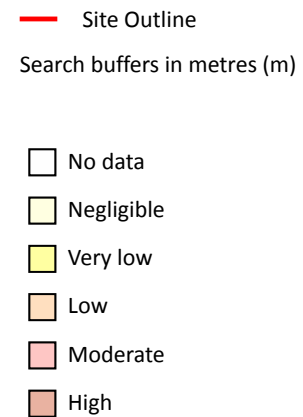
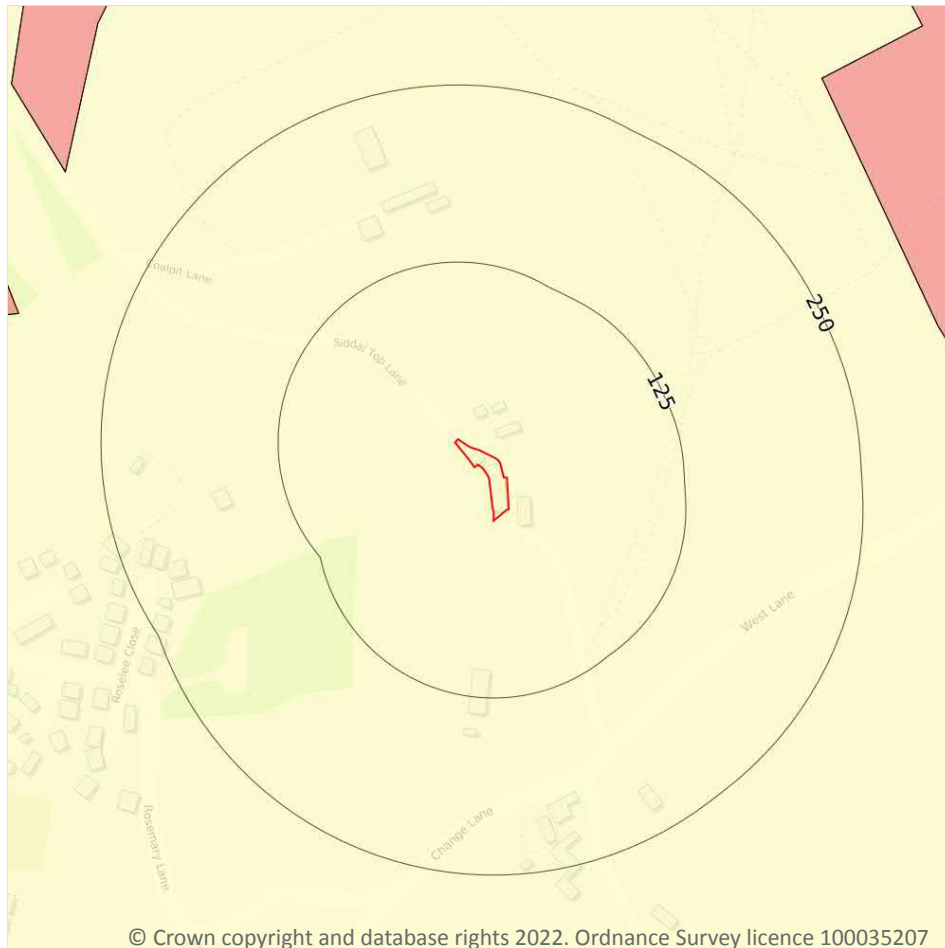
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 103**

Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

1

The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

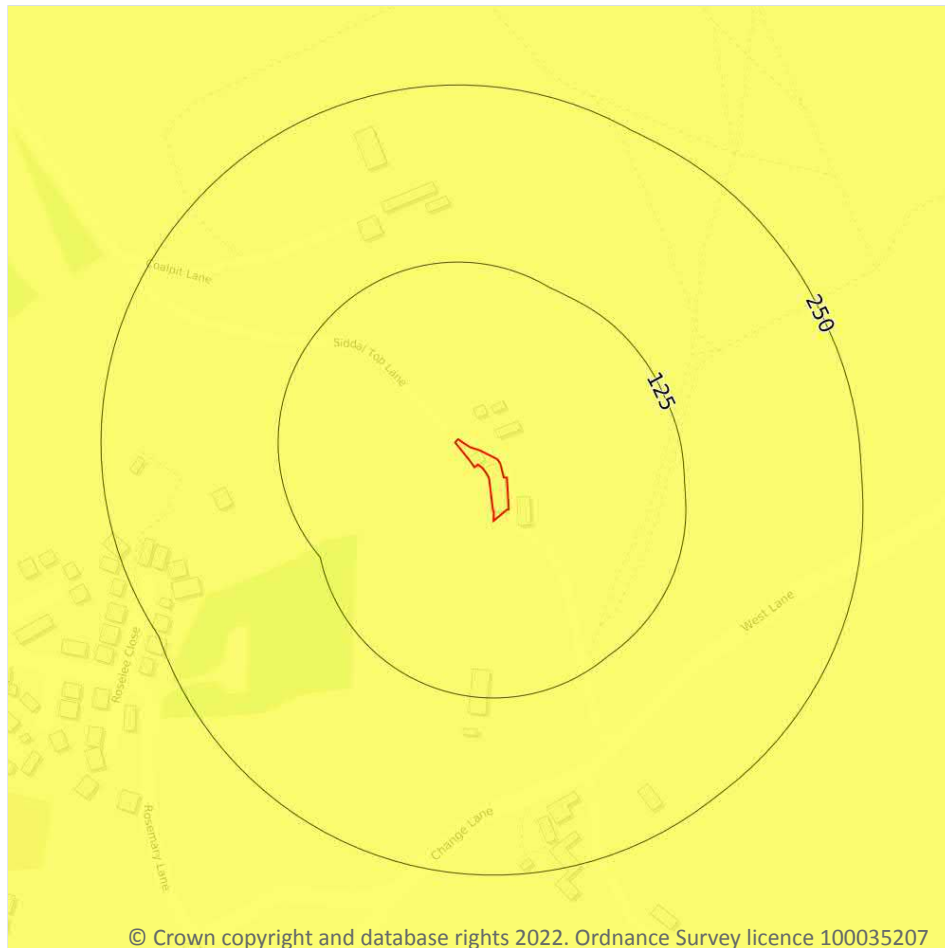
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 104**

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



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

17.4 Collapsible deposits

Records within 50m

1

The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

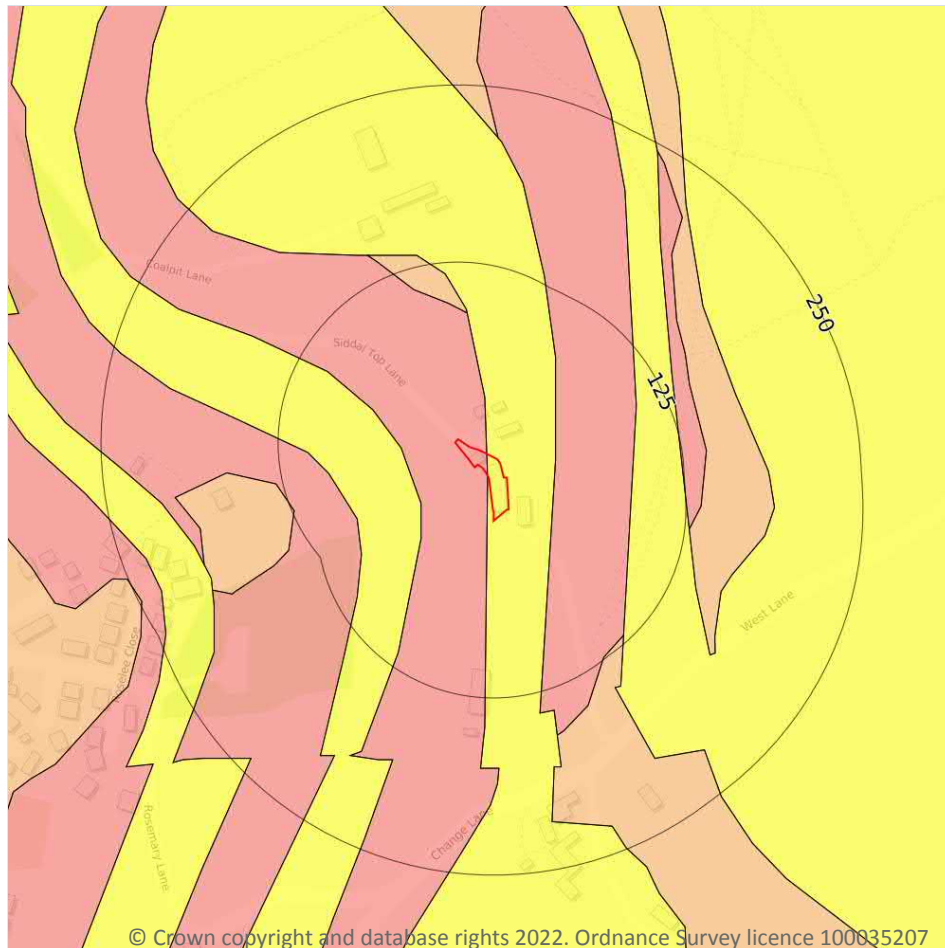
Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 105**

Location	Hazard rating	Details
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



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

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17.5 Landslides

Records within 50m

4

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

Features are displayed on the Natural ground subsidence - Landslides map on **page 106**

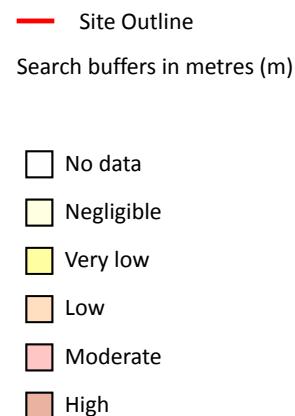
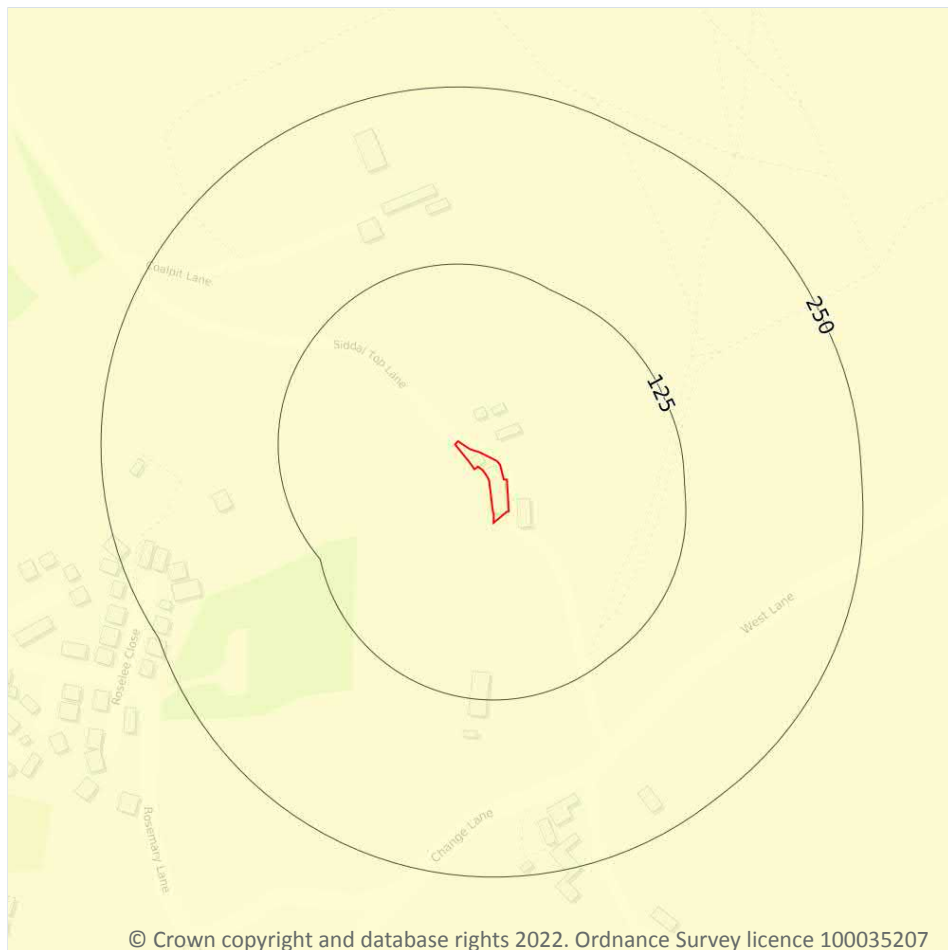
Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

Location	Hazard rating	Details
On site	Moderate	Slope instability problems are probably present or have occurred in the past. Land use should consider specifically the stability of the site.
31m E	Moderate	Slope instability problems are probably present or have occurred in the past. Land use should consider specifically the stability of the site.
37m W	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

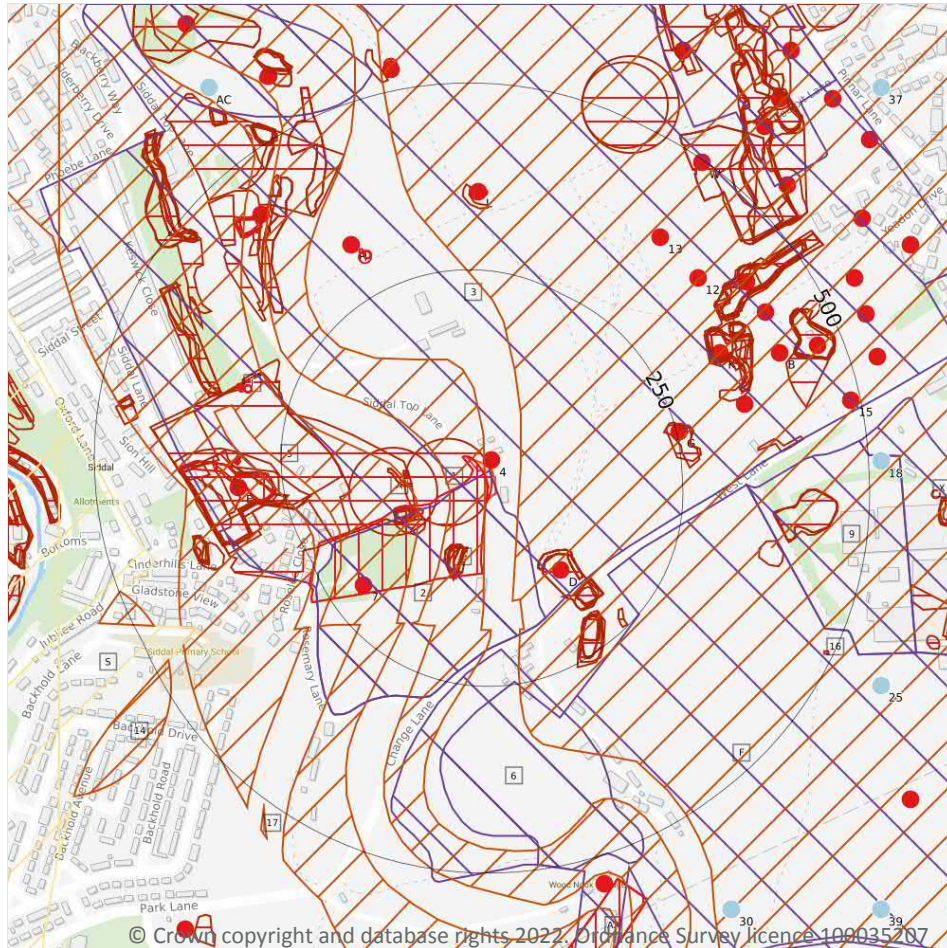
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 108**

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

This data is sourced from the British Geological Survey.



18 Mining, ground workings and natural cavities



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

18.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m

19

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 110**

ID	Location	Details	Description
4	8m NE	Name: Siddell Wells Coal Pit Address: Southowram, HALIFAX, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
D	134m SE	Name: Siddell Top Address: Southowram, HALIFAX, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
D	178m SE	Name: Siddal Top Address: Southowram, HALIFAX, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
7	201m SW	Name: Siddal Top Mine Address: Siddal, HALIFAX, West Yorkshire Commodity: Fireclay Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority



ID	Location	Details	Description
G	253m E	Name: West Lane Address: Southowram, HALIFAX, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
E	309m W	Name: Siddal Brickworks Address: Southowram, HALIFAX, West Yorkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
H	323m NW	Name: Clipster Hall Coal Pit Address: Southowram, HALIFAX, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
K	343m NE	Name: Bell Croft Address: Southowram, HALIFAX, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
K	348m E	Name: Longlands Delf Address: Southowram, HALIFAX, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
L	354m N	Name: Hard Bed Pit Address: Southowram, HALIFAX, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority



ID	Location	Details	Description
12	376m NE	Name: Pinnar Lane Quarry Address: Southowram, HALIFAX, West Yorkshire Commodity: Sandstone Status: Inactive	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, is not extracting minerals, but which still has a valid planning permission to do so, and can restart at any time. May be considered Mothballed by operator. May be considered to have Active or Dormant planning permission
13	383m NE	Name: Pinnar Lane Quarry Extension Address: Southowram, HALIFAX, West Yorkshire Commodity: Sandstone Status: Active	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which is actively extracting mineral products, or in the case of wharfs and rail depots, is actively handing minerals
B	415m NE	Name: Longlands Delf Address: Southowram, HALIFAX, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
K	422m NE	Name: Longlands Delf Address: Southowram, HALIFAX, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
K	423m NE	Name: Longlands Delf Address: Southowram, HALIFAX, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
J	427m NW	Name: Cinder Hill Fire Clay Works Address: Southowram, HALIFAX, West Yorkshire Commodity: Fireclay Status: Ceased	Type: 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) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
B	465m E	Name: Longlands Quarry Address: Southowram, HALIFAX, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
15	487m E	Name: Winter Hill Quarry Address: Southowram, HALIFAX, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
W	496m NE	Name: Bell Croft Address: Southowram, HALIFAX, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	51
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Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining, ground workings and natural cavities map on **page 110**

ID	Location	Land Use	Year of mapping	Mapping scale
1	On site	Unspecified Hole	1955	1:10560
A	51m SW	Unspecified Hole	1981	1:10000
C	70m SW	Unspecified Heap	1893	1:10560
C	71m SW	Unspecified Heap	1938	1:10560
C	71m SW	Unspecified Heap	1938	1:10560
C	71m SW	Unspecified Heap	1948	1:10560
C	72m SW	Unspecified Heap	1905	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
C	77m SW	Unspecified Ground Workings	1981	1:10000
C	77m SW	Unspecified Ground Workings	1969	1:10560
C	77m SW	Unspecified Ground Workings	1955	1:10560
C	77m SW	Unspecified Ground Workings	1976	1:10000
A	82m W	Unspecified Old Hole	1938	1:10560
5	82m W	Brick Works	1905	1:10560
A	83m SW	Unspecified Ground Workings	1938	1:10560
A	83m SW	Unspecified Ground Workings	1938	1:10560
A	83m W	Unspecified Hole	1948	1:10560
A	83m W	Unspecified Hole	1905	1:10560
A	89m W	Refuse Heap	1893	1:10560
A	102m SW	Unspecified Heap	1930	1:10560
A	102m SW	Unspecified Heap	1938	1:10560
A	102m SW	Unspecified Heap	1938	1:10560
A	103m SW	Unspecified Heap	1948	1:10560
D	104m SE	Unspecified Ground Workings	1981	1:10000
D	104m SE	Unspecified Ground Workings	1969	1:10560
D	104m SE	Unspecified Ground Workings	1955	1:10560
D	104m SE	Unspecified Ground Workings	1976	1:10000
A	104m SW	Unspecified Heap	1955	1:10560
D	113m SE	Unspecified Disused Quarry	1948	1:10560
D	113m SE	Unspecified Quarry	1905	1:10560
E	163m W	Brick Works	1893	1:10560
D	168m SE	Unspecified Disused Quarry	1938	1:10560
D	169m SE	Unspecified Disused Quarry	1955	1:10560
E	170m W	Brick Works	1955	1:10560
D	171m SE	Unspecified Disused Quarry	1930	1:10560
D	173m SE	Unspecified Pit	1893	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
D	204m SE	Refuse Heap	1905	1:10560
D	205m SE	Unspecified Heap	1981	1:10000
D	205m SE	Unspecified Heap	1969	1:10560
D	205m SE	Unspecified Heap	1955	1:10560
D	205m SE	Unspecified Heap	1976	1:10000
D	205m SE	Unspecified Heap	1938	1:10560
D	205m SE	Unspecified Heap	1938	1:10560
D	206m SE	Unspecified Disused Quarry	1948	1:10560
D	207m SE	Unspecified Heap	1930	1:10560
D	208m SE	Refuse Heap	1893	1:10560
E	216m W	Brick Works	1948	1:10560
D	226m SE	Unspecified Ground Workings	1955	1:10560
G	234m E	Unspecified Quarry	1893	1:10560
G	238m E	Unspecified Quarry	1905	1:10560
E	246m W	Refuse Heap	1969	1:10560
E	248m W	Refuse Heap	1976	1:10000

This data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m

51

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 110**

ID	Location	Land Use	Year of mapping	Mapping scale
A	On site	Unspecified Mine	1989	1:10000
A	On site	Unspecified Mine	1981	1:10000
A	89m W	Unspecified Disused Shaft	1976	1:10000
A	89m W	Unspecified Disused Shaft	1969	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
A	96m W	Unspecified Old Shaft	1948	1:10560
A	96m W	Unspecified Old Shaft	1905	1:10560
A	100m SW	Unspecified Old Shaft	1951	1:10560
E	264m W	Unspecified Level	1951	1:10560
H	293m NW	Air Shaft	1948	1:10560
H	298m NW	Air Shaft	1976	1:10000
H	298m NW	Air Shaft	1981	1:10000
H	298m NW	Air Shaft	1969	1:10560
I	304m W	Air Shaft	1989	1:10000
I	304m W	Air Shaft	1976	1:10000
I	304m W	Air Shaft	1981	1:10000
I	304m W	Air Shaft	1969	1:10560
E	305m W	Unspecified Level	1948	1:10560
H	308m NW	Air Shaft	1951	1:10560
I	313m W	Unspecified Shaft	1948	1:10560
I	313m W	Unspecified Shaft	1905	1:10560
I	318m W	Air Shaft	1951	1:10560
L	349m N	Unspecified Disused Shaft	1989	1:10000
L	350m N	Air Shaft	1976	1:10000
L	350m N	Air Shaft	1969	1:10560
J	414m NW	Unspecified Level	1948	1:10560
J	419m NW	Unspecified Level	1951	1:10560
16	487m SE	Unspecified Shaft	1905	1:10560
Z	520m N	Air Shaft	1989	1:10000
Z	520m N	Air Shaft	1976	1:10000
Z	520m N	Air Shaft	1981	1:10000
Z	520m N	Air Shaft	1969	1:10560
Z	527m N	Air Shaft	1948	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
Z	531m N	Air Shaft	1951	1:10560
AA	537m S	Unspecified Mine	1989	1:10000
AA	537m S	Unspecified Mine	1976	1:10000
AA	537m S	Unspecified Mine	1981	1:10000
AA	537m S	Unspecified Mine	1969	1:10560
Y	566m NW	Air Shaft	1948	1:10560
Y	567m NW	Air Shaft	1989	1:10000
Y	567m NW	Air Shaft	1976	1:10000
Y	567m NW	Air Shaft	1981	1:10000
Y	567m NW	Air Shaft	1969	1:10560
Y	569m NW	Air Shaft	1951	1:10560
X	583m E	Unspecified Old Shaft	1948	1:10560
-	814m W	Tunnel	1981	1:10000
-	814m W	Tunnel	1967	1:10560
AK	835m SE	Unspecified Shafts	1893	1:10560
-	900m SE	Unspecified Shafts	1893	1:10560
-	902m SE	Unspecified Old Shaft	1905	1:10560
-	958m SE	Unspecified Shafts	1893	1:10560
-	962m SE	Unspecified Shaft	1905	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

6

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 110**



ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
2	On site	Siddal Top	Fireclay	Working is wholly underground	Valid	6/68
3	On site	Cinder Hill Fire Clay Works	Fireclay	Working is wholly underground	Valid	9/66
F	185m SE	Park Nook Fireclay Mine	Fireclay	Working is wholly underground	Valid	Not available
6	201m S	Park Nook	Fireclay	Surface mineral working	Valid	Not available
9	336m E	Towngate	Sandstone	Surface mineral working	Valid	Not available
X	490m E	West Lane	Sandstone	Surface mineral working	Valid	Not available

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

7

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 110**

ID	Location	Name	Commodity	Class	Likelihood
B	On site	Elland Flag Mines	Sandstone - Elland Flags	D	Underground mining is known or considered likely to have occurred within or close to the area. Potential for difficult ground conditions are at a level where they should be considered
S	426m SW	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
S	476m SW	Not available	Vein Mineral/Elland Flags	D	Underground mining is known or considered likely to have occurred within or close to the area. Potential for difficult ground conditions are at a level where they should be considered
14	479m SW	Not available	Vein Mineral/Elland Flags	D	Underground mining is known or considered likely to have occurred within or close to the area. Potential for difficult ground conditions are at a level where they should be considered



ID	Location	Name	Commodity	Class	Likelihood
17	510m SW	Elland Flag Mines	Sandstone - Elland Flags	D	Underground mining is known or considered likely to have occurred within or close to the area. Potential for difficult ground conditions are at a level where they should be considered
22	547m W	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
28	608m NW	Elland Flag Mines	Sandstone - Elland Flags	D	Underground mining is known or considered likely to have occurred within or close to the area. Potential for difficult ground conditions are at a level where they should be considered

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m

13

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 110**

ID	Location	Mine Address	Mineral	Data source	Publisher
F	476m SE	Park Nook Farm, West Yorkshire	Fireclay	MINERIAL PLANNING RIGHTS APPLICATION RECORDS.	UNPUBLISHED
18	517m E	Southowram, West Yorkshire	Flagstone	MINING IN THE ELLAND FLAGS:A FORGOTTEN YORKSHIRE INDUSTRY BGS REPORT VOL16 NO4	NATURAL ENVIRONMENT RESEARCH COUNCIL
25	576m SE	Southowram, West Yorkshire	Flagstone	MINING IN THE ELLAND FLAGS:A FORGOTTEN YORKSHIRE INDUSTRY BGS REPORT VOL16 NO4	NATURAL ENVIRONMENT RESEARCH COUNCIL
AC	605m NW	Staney Brow, West Yorkshire	Chert, Silica	MINERIAL PLANNING RIGHTS APPLICATION RECORDS.	UNPUBLISHED
X	618m E	West Lane, Southowram, West Yorkshire	Flagstone	MINING IN THE ELLAND FLAGS:A FORGOTTEN YORKSHIRE INDUSTRY BGS REPORT VOL16 NO4	NATURAL ENVIRONMENT RESEARCH COUNCIL
30	638m SE	Sibden Hall Estate, West Yorkshire	Fireclay	LOCAL MINE PLAN RECORDS CATALOGUE.	UNPUBLISHED



ID	Location	Mine Address	Mineral	Data source	Publisher
37	729m NE	Southowram, West Yorkshire	Flagstone	MINING IN THE ELLAND FLAGS:A FORGOTTEN YORKSHIRE INDUSTRY BGS REPORT VOL16 NO4	NATURAL ENVIRONMENT RESEARCH COUNCIL
39	759m SE	Park Nook, West Yorkshire	Fireclay	LOCAL MINE PLAN RECORDS CATALOGUE.	UNPUBLISHED
AK	830m SE	Southowram, West Yorkshire	Flagstone	-	-
-	830m E	South Lane, Southowram, West Yorkshire	Flagstone	MINING IN THE ELLAND FLAGS:A FORGOTTEN YORKSHIRE INDUSTRY BGS REPORT VOL16 NO4	NATURAL ENVIRONMENT RESEARCH COUNCIL
-	885m NW	Bolton, West Yorkshire	Flagstone	MINING IN THE ELLAND FLAGS:A FORGOTTEN YORKSHIRE INDUSTRY BGS REPORT VOL16 NO4	NATURAL ENVIRONMENT RESEARCH COUNCIL
-	906m SE	Southowram, West Yorkshire	Flagstone	-	-
-	934m SE	Southowram, West Yorkshire	Flagstone	-	-

This data is sourced from Stantec UK Ltd.

18.8 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site

1

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

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

This data is sourced from the Coal Authority.



18.10 Brine areas

Records on site	0
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The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

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

18.11 Gypsum areas

Records on site	0
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Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0
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Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

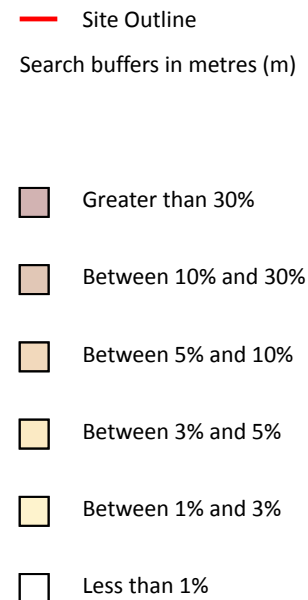
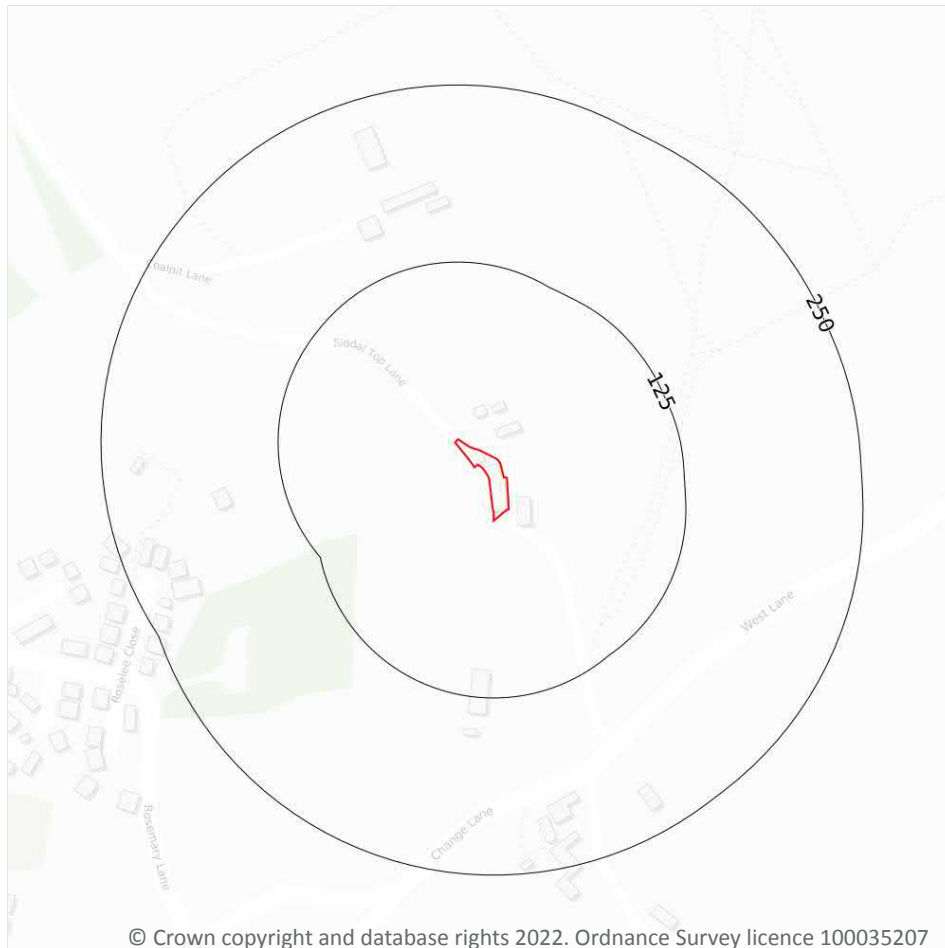
18.13 Clay mining

Records on site	0
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Generalised areas that may be affected by kaolin and ball clay extraction.

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

19 Radon



19.1 Radon

Records on site

1

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

Features are displayed on the Radon map on **page 123**

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

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



20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

6

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
31m NE	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
37m SW	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
47m W	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
48m NW	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km²).

This data is sourced from the British Geological Survey.



20.3 BGS Measured Urban Soil Chemistry

Records within 50m

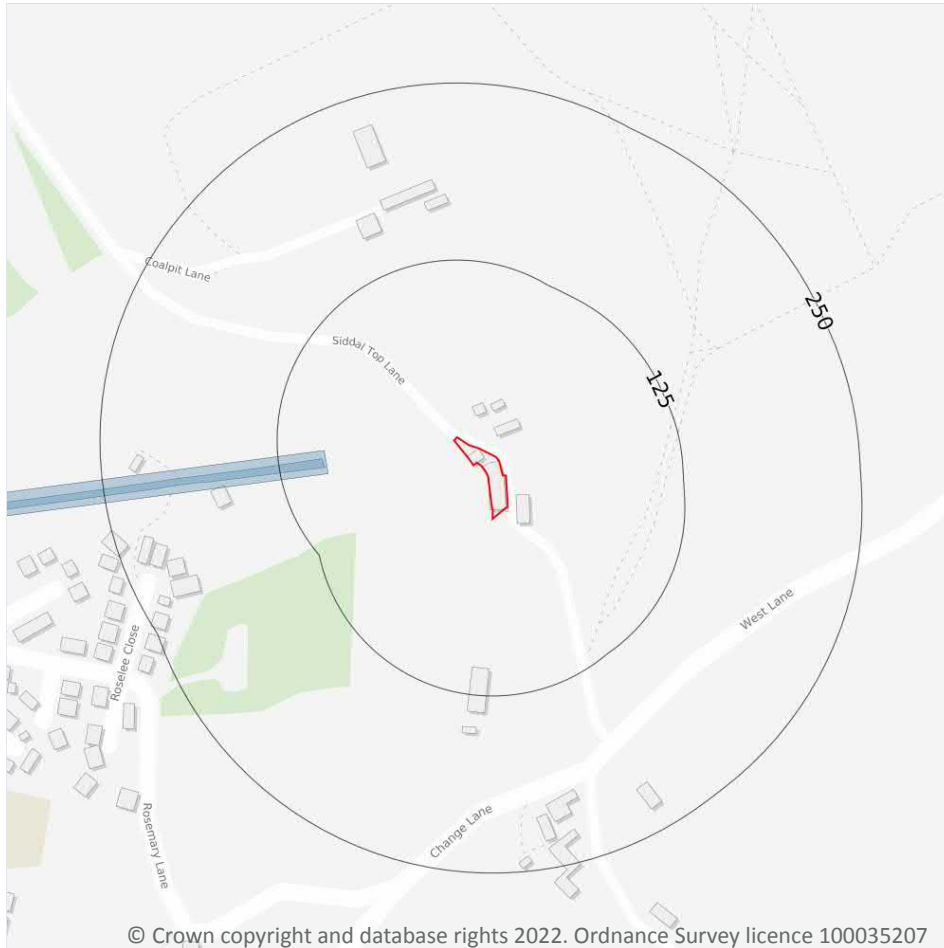
0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects



- Site Outline
- Search buffers in metres (m)
- C1 Crossrail 1 Stations
- Crossrail 1 Route
- Crossrail 1 Worksites
- C2 Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- ... Active railways
- ... Active tunnels
- ... Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

21.1 Underground railways (London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m

0

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



This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m

2

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

Features are displayed on the Railway infrastructure and projects map on **page 126**

Location	Land Use	Year of mapping	Mapping scale
92m W	Railway Sidings	1905	10560
93m W	Tramway Sidings	1907	2500

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m

0

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

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m

0

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

This data is sourced from OpenStreetMap.



21.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.

Data providers

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

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Site Details:

410576, 423278

Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: County Series

Map date: 1892-1894

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1894
Revised 1894
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

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

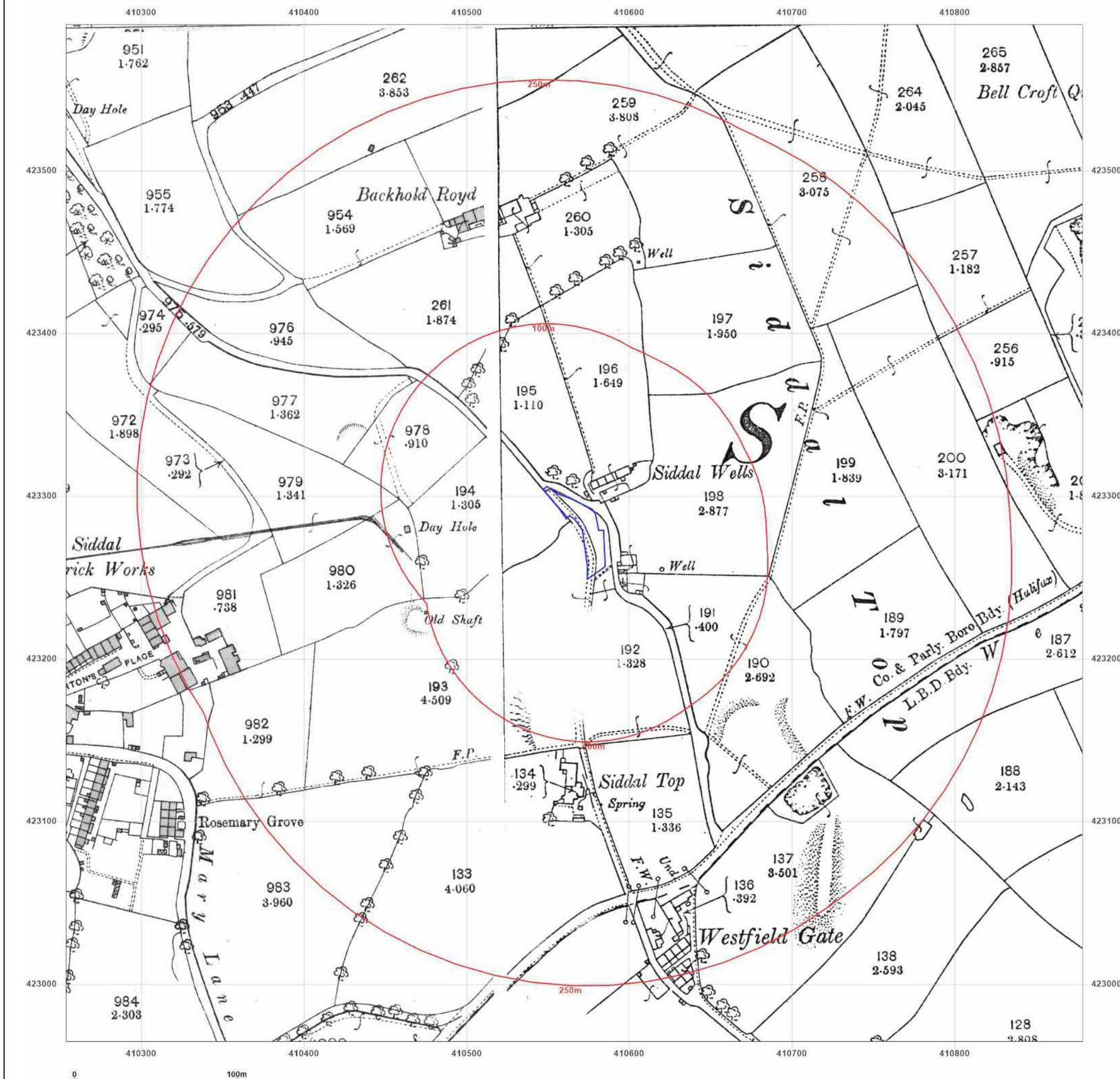


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Site Details:

410576, 423278

Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: County Series

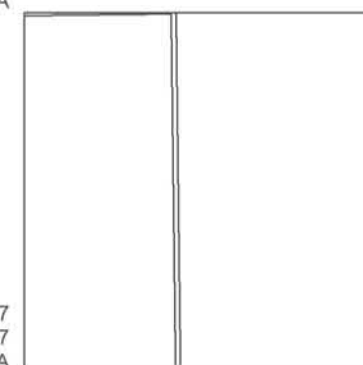
Map date: 1907

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1907
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1907
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1907
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

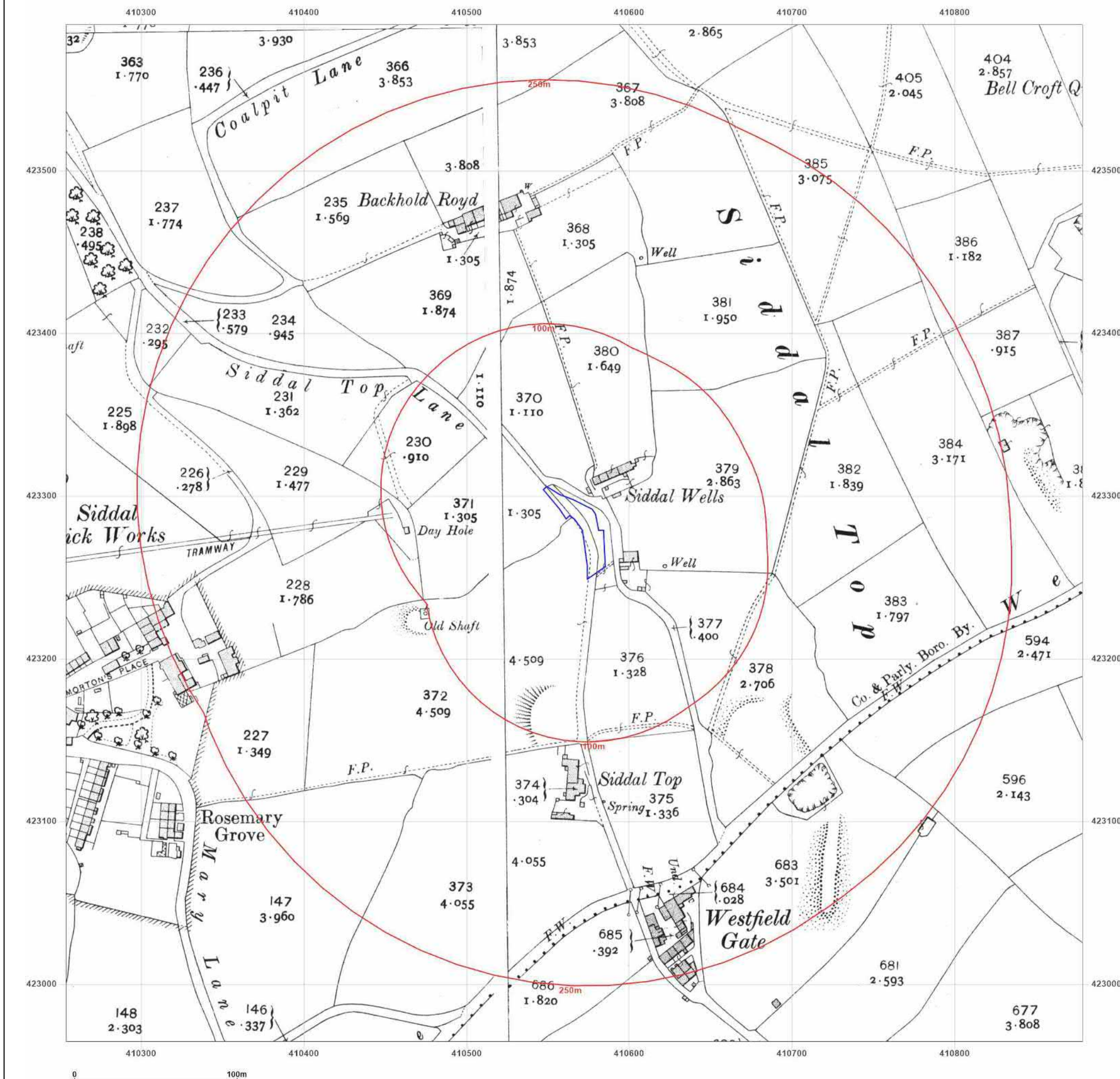


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Site Details:

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Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: County Series

Map date: 1933

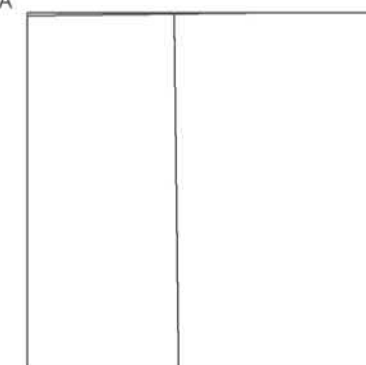
Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1933
 Revised 1933
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1933
 Revised 1933
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1933
 Revised 1933
 Edition N/A
 Copyright N/A
 Levelled N/A

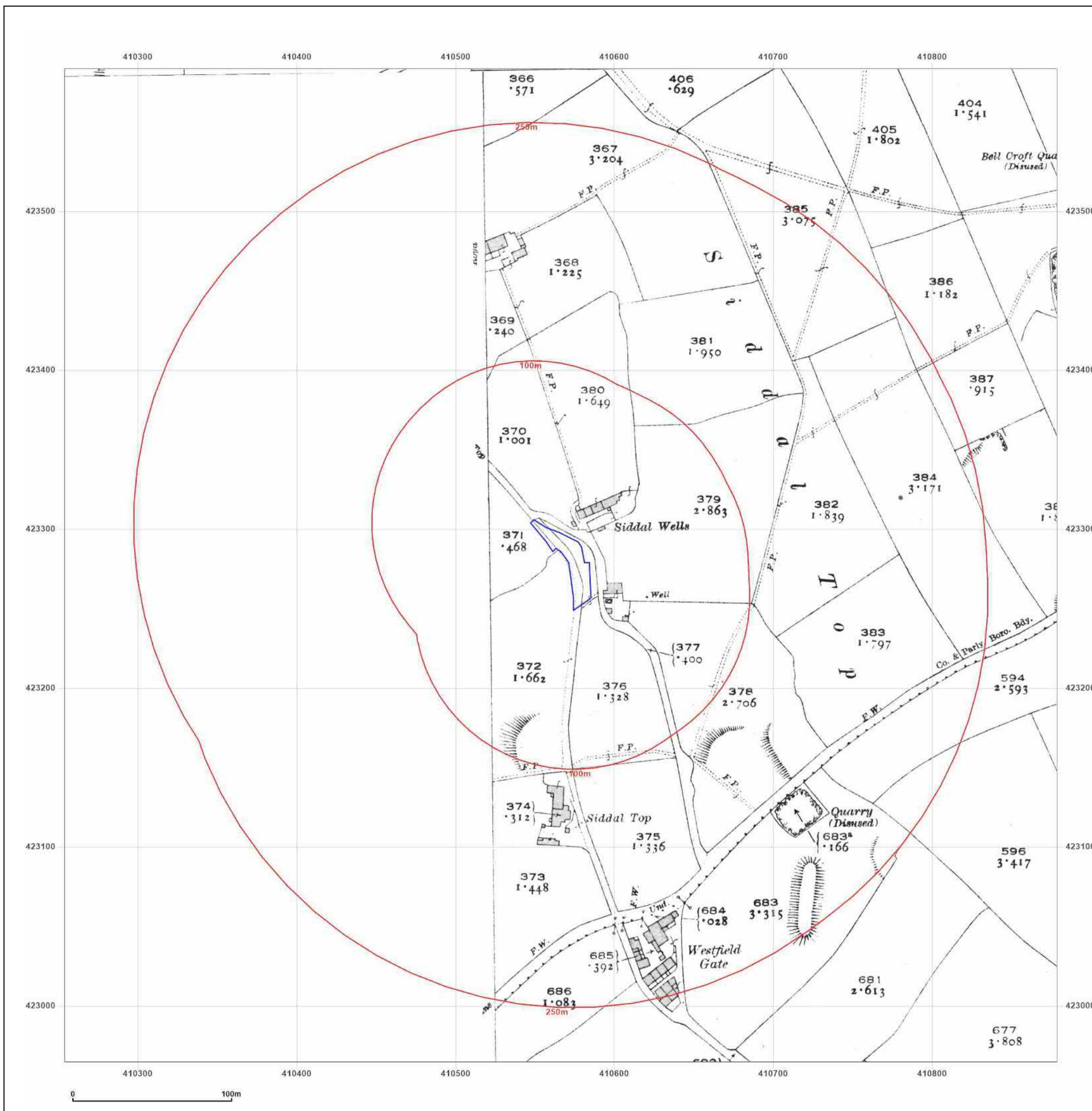


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Site Details:

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Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: National Grid

Map date: 1960

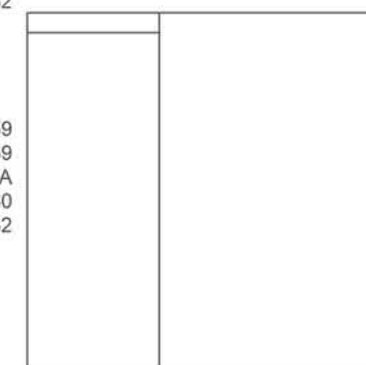
Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1959
 Revised 1959
 Edition N/A
 Copyright 1960
 Levelled 1932

Surveyed 1959
 Revised 1959
 Edition N/A
 Copyright 1960
 Levelled 1932

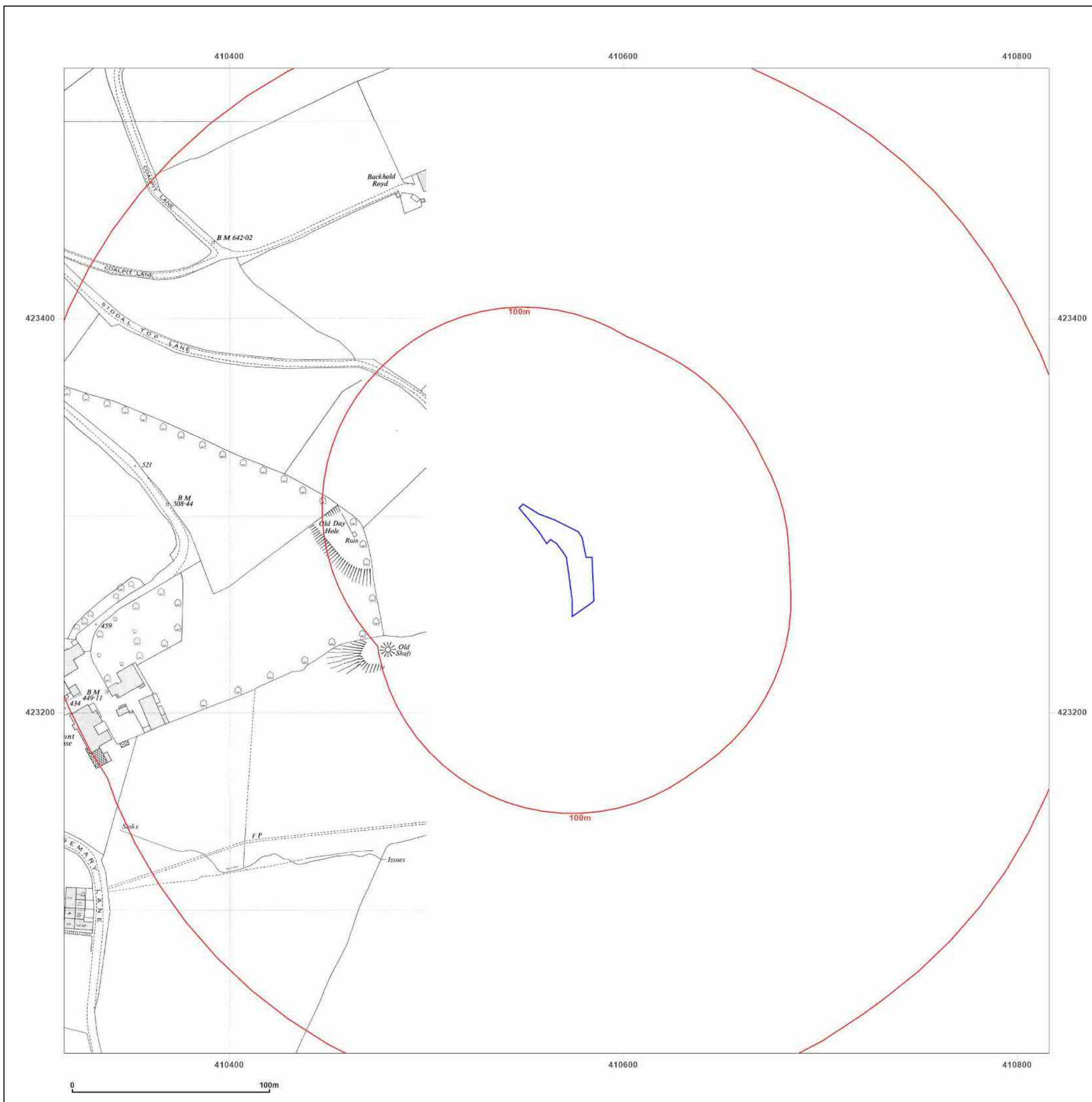


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Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: National Grid

Map date: 1964-1966

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1959
 Revised 1964
 Edition 1966
 Copyright 1966
 Levelled 1962

Surveyed 1963
 Revised 1963
 Edition 1964
 Copyright 1964
 Levelled 1962

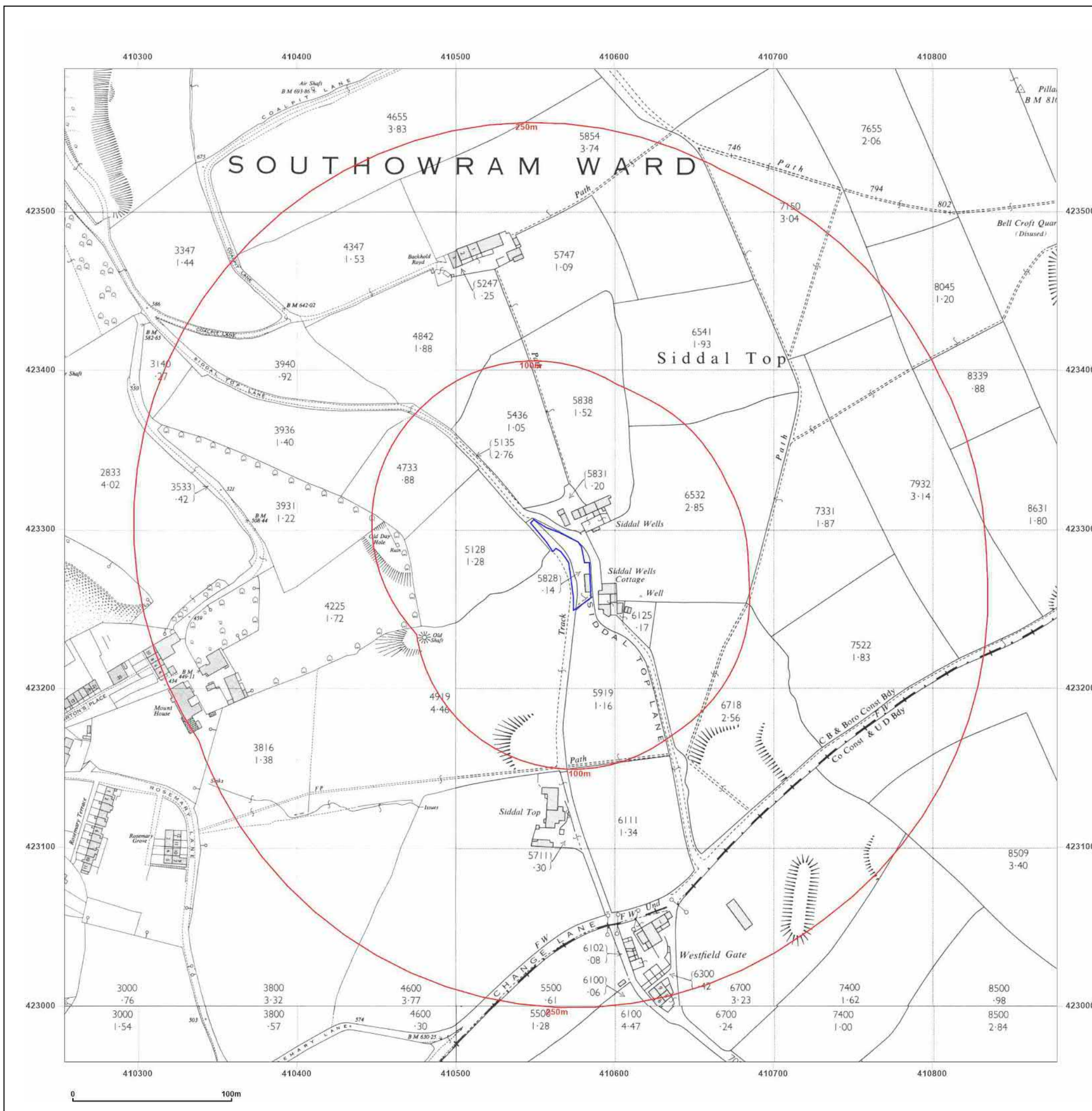


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Site Details:

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Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: National Grid

Map date: 1974-1976

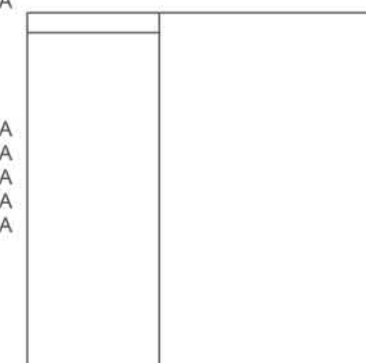
Scale: 1:1,250

Printed at: 1:2,000



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

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

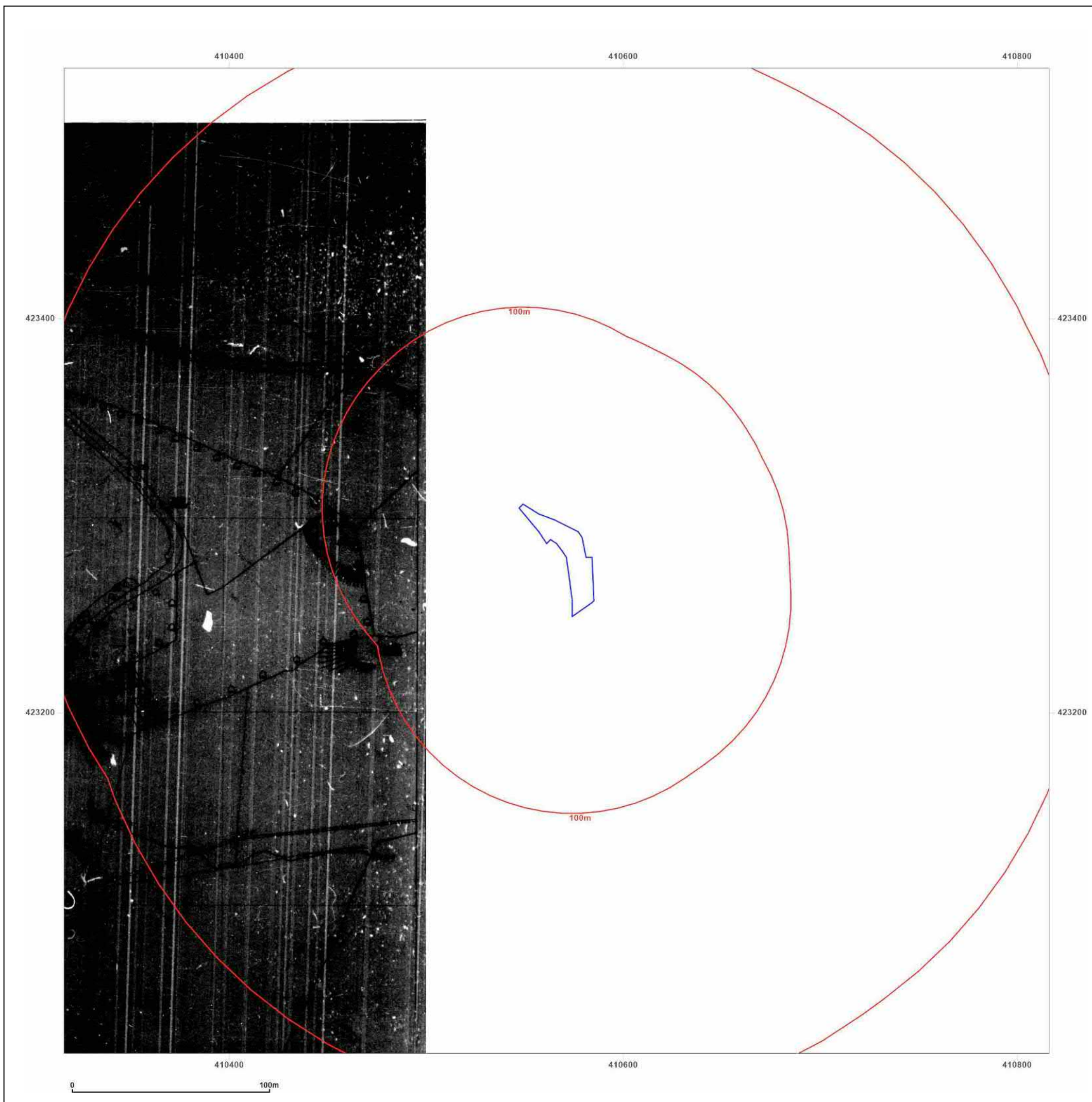


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Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: National Grid

Map date: 1976-1981

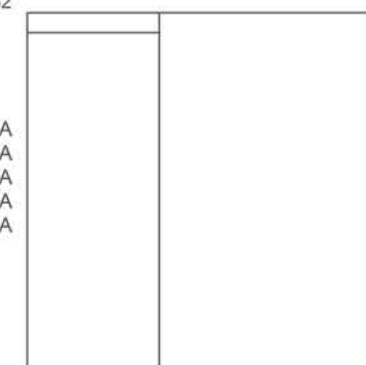
Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1981
 Levelled 1962

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

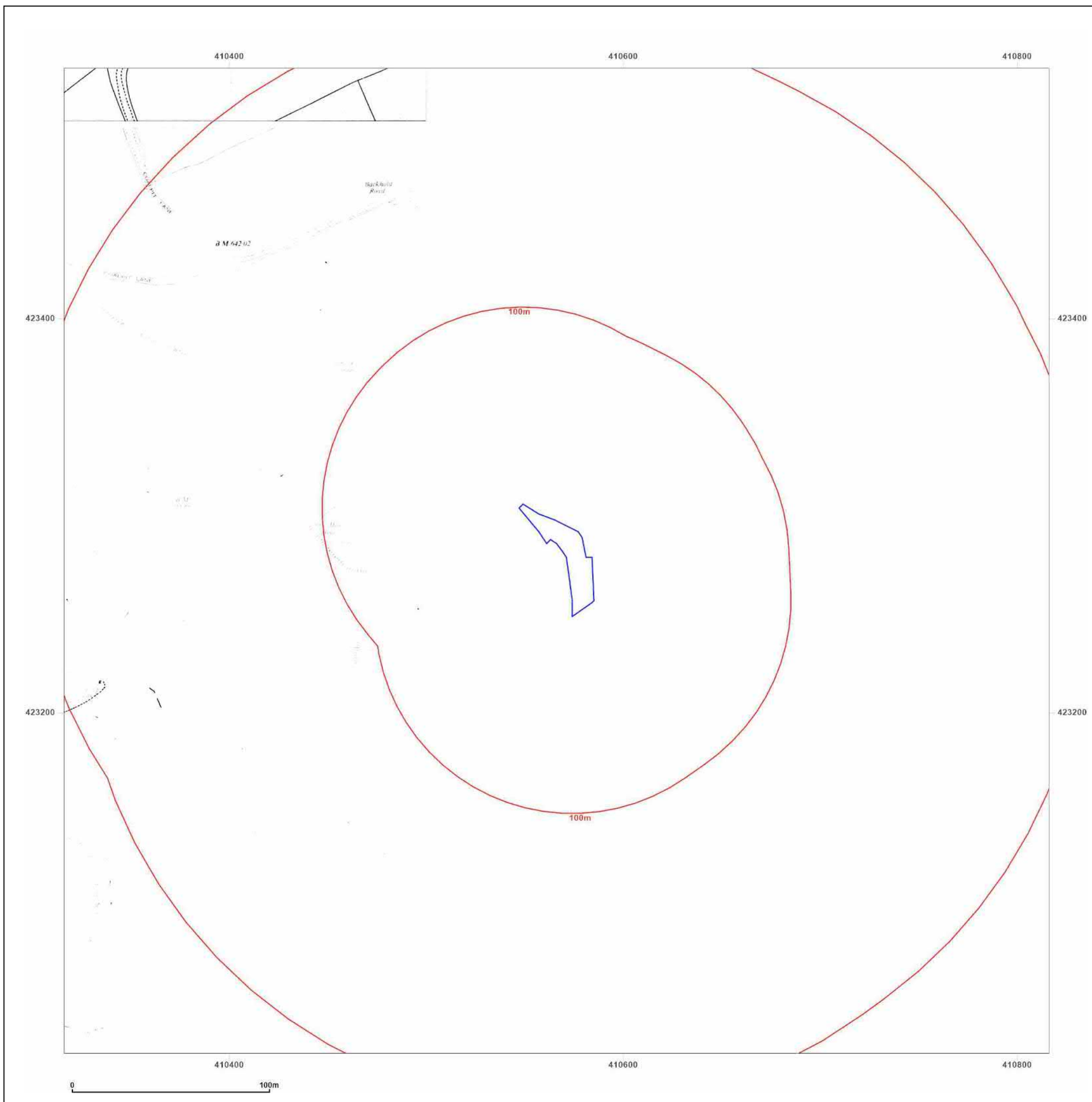


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Site Details:

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Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: National Grid

Map date: 1984

Scale: 1:1,250

Printed at: 1:2,000



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

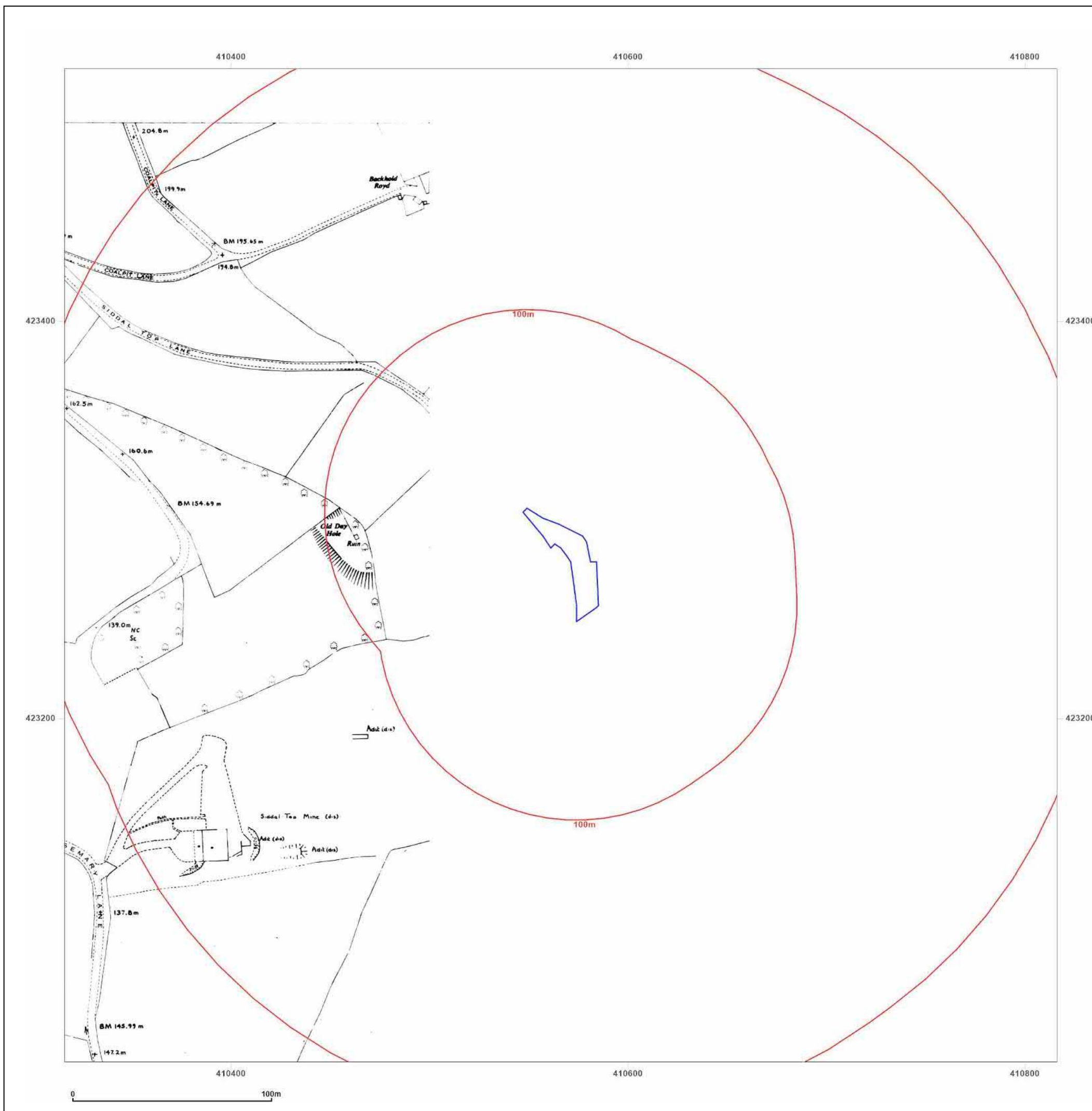


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Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: National Grid

Map date: 1984

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1959
 Revised 1982
 Edition N/A
 Copyright 1984
 Levelled 1962

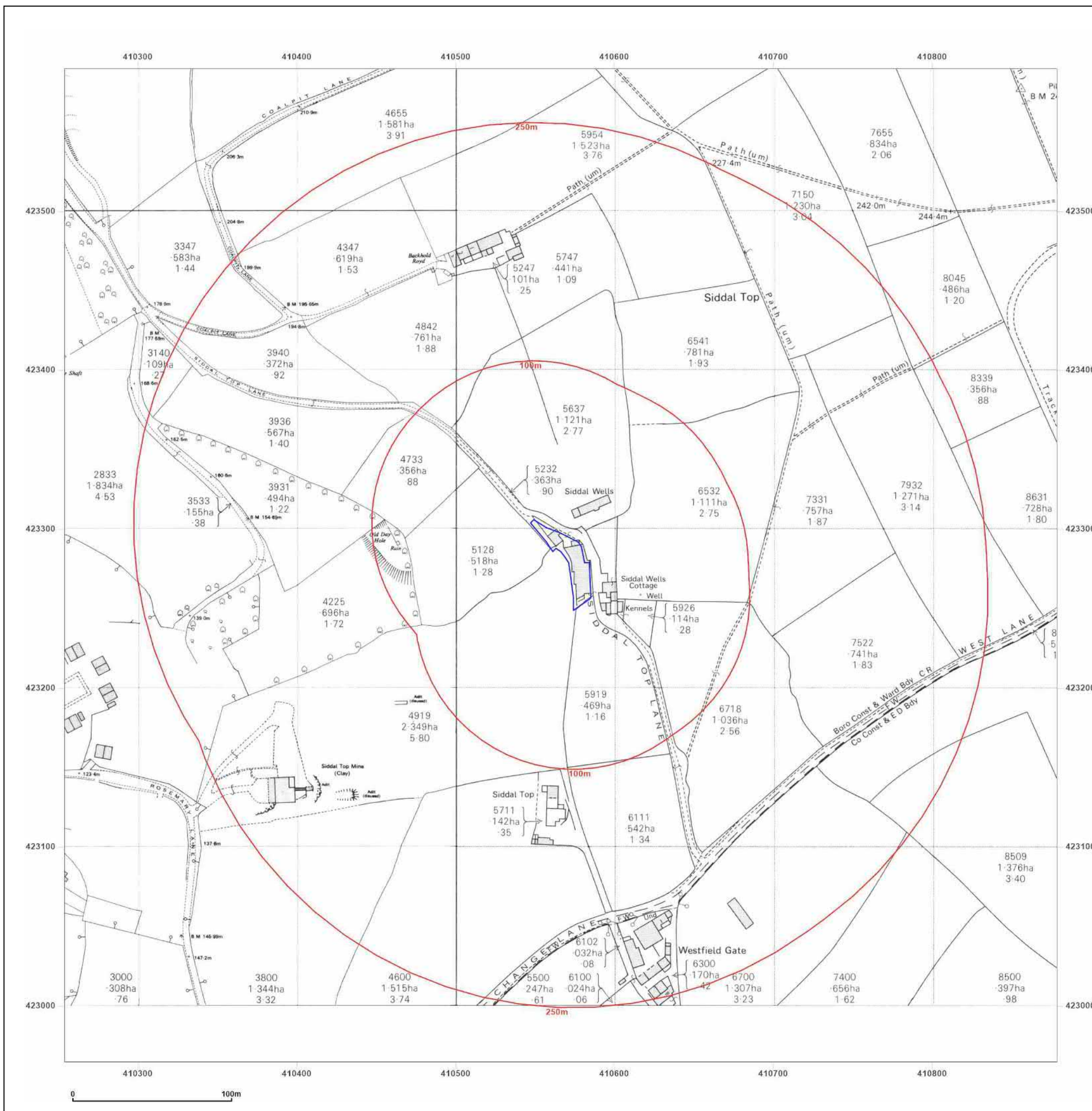


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Site Details:

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Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: National Grid

Map date: 1984

Scale: 1:2,500

Printed at: 1:2,500



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

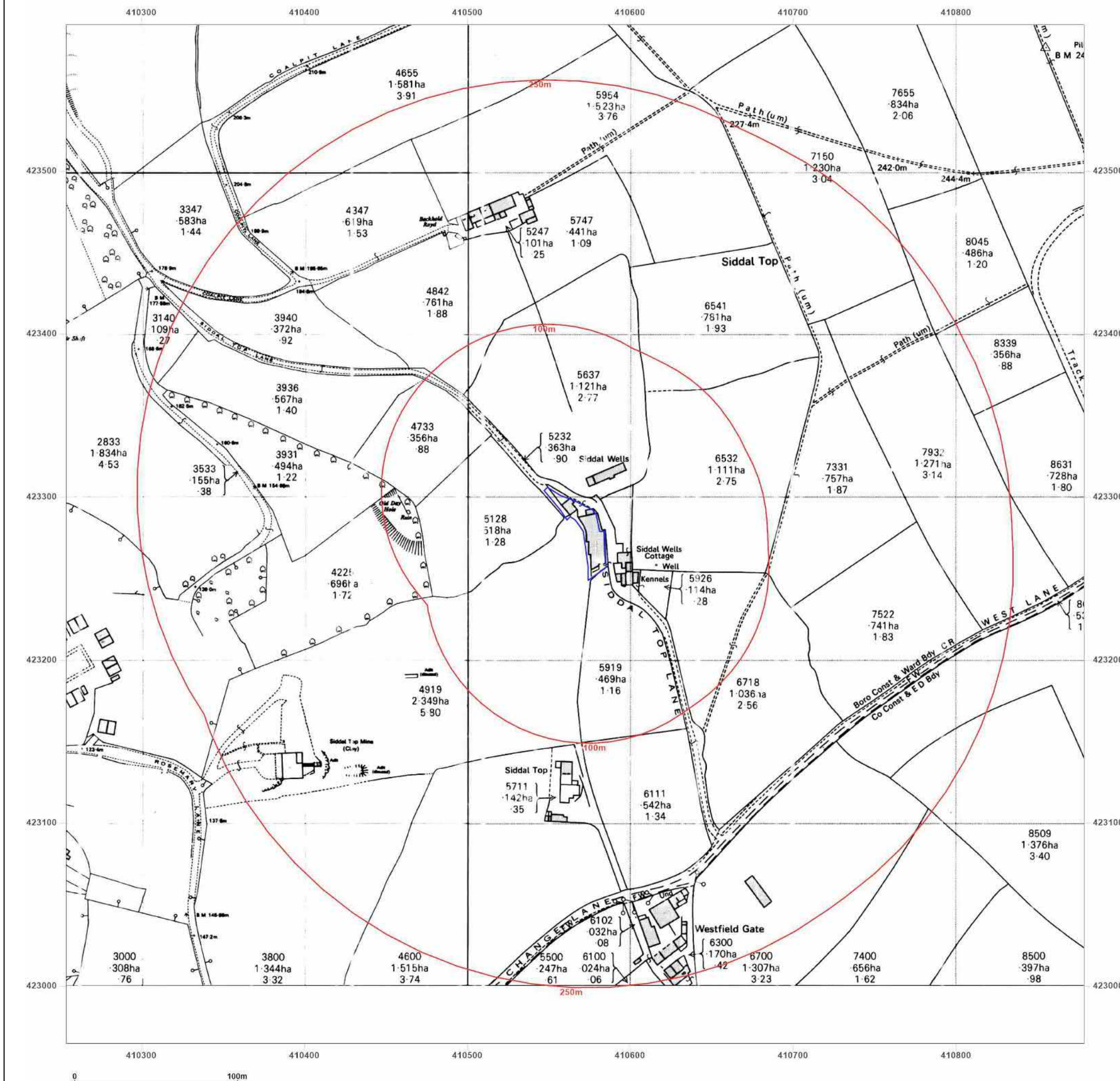


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Site Details:

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Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: National Grid

Map date: 1986

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1962
 Revised 1986
 Edition N/A
 Copyright 1986
 Levelled 1962

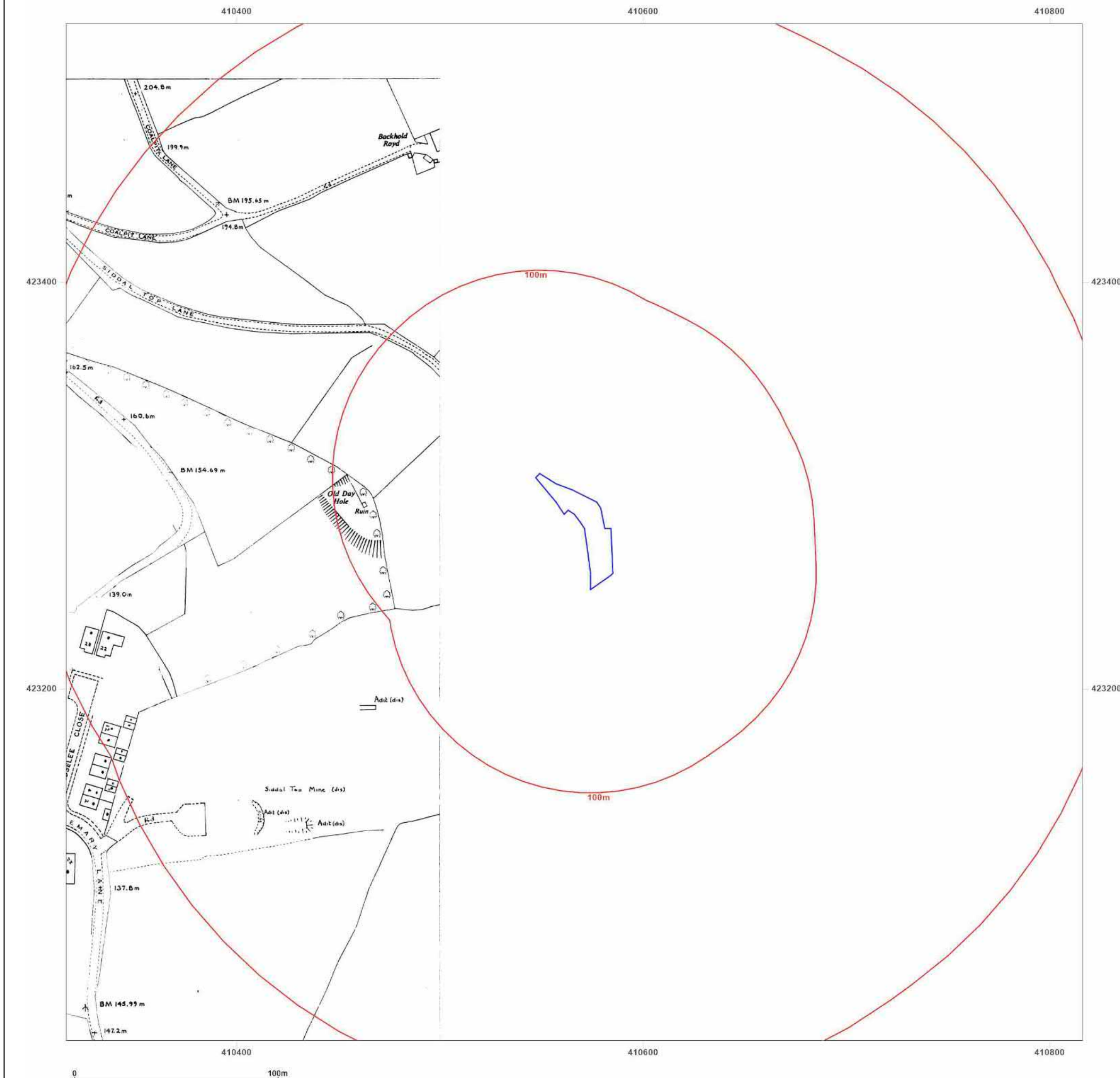


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Site Details:

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Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: National Grid

Map date: 1989-1992

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1992
 Revised 1992
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1992
 Revised 1992
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1959
 Revised 1988
 Edition N/A
 Copyright 1989
 Levelled N/A

Surveyed 1992
 Revised 1992
 Edition N/A
 Copyright N/A
 Levelled N/A

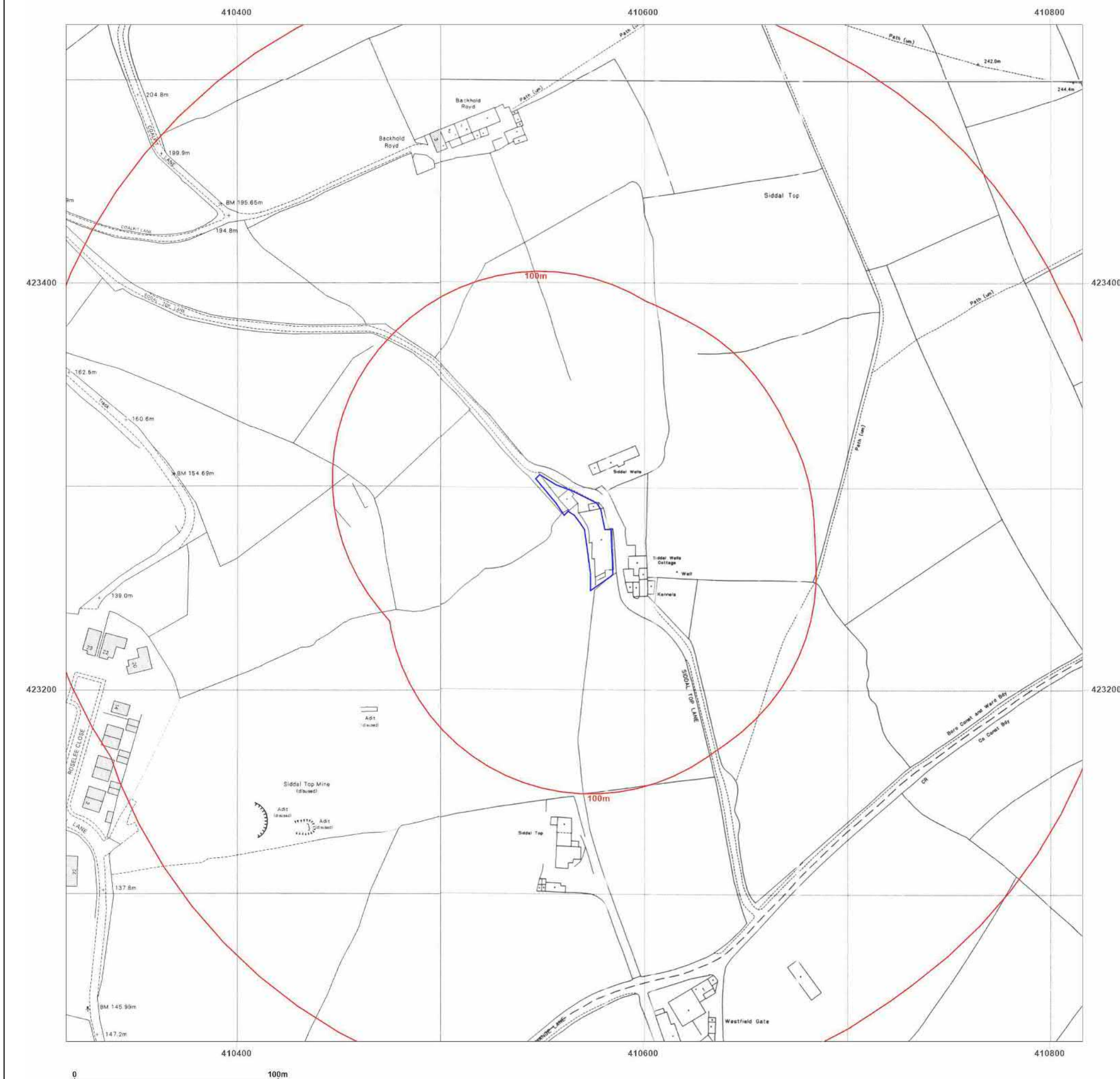


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Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: National Grid

Map date: 1992

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1992
 Levelled N/A

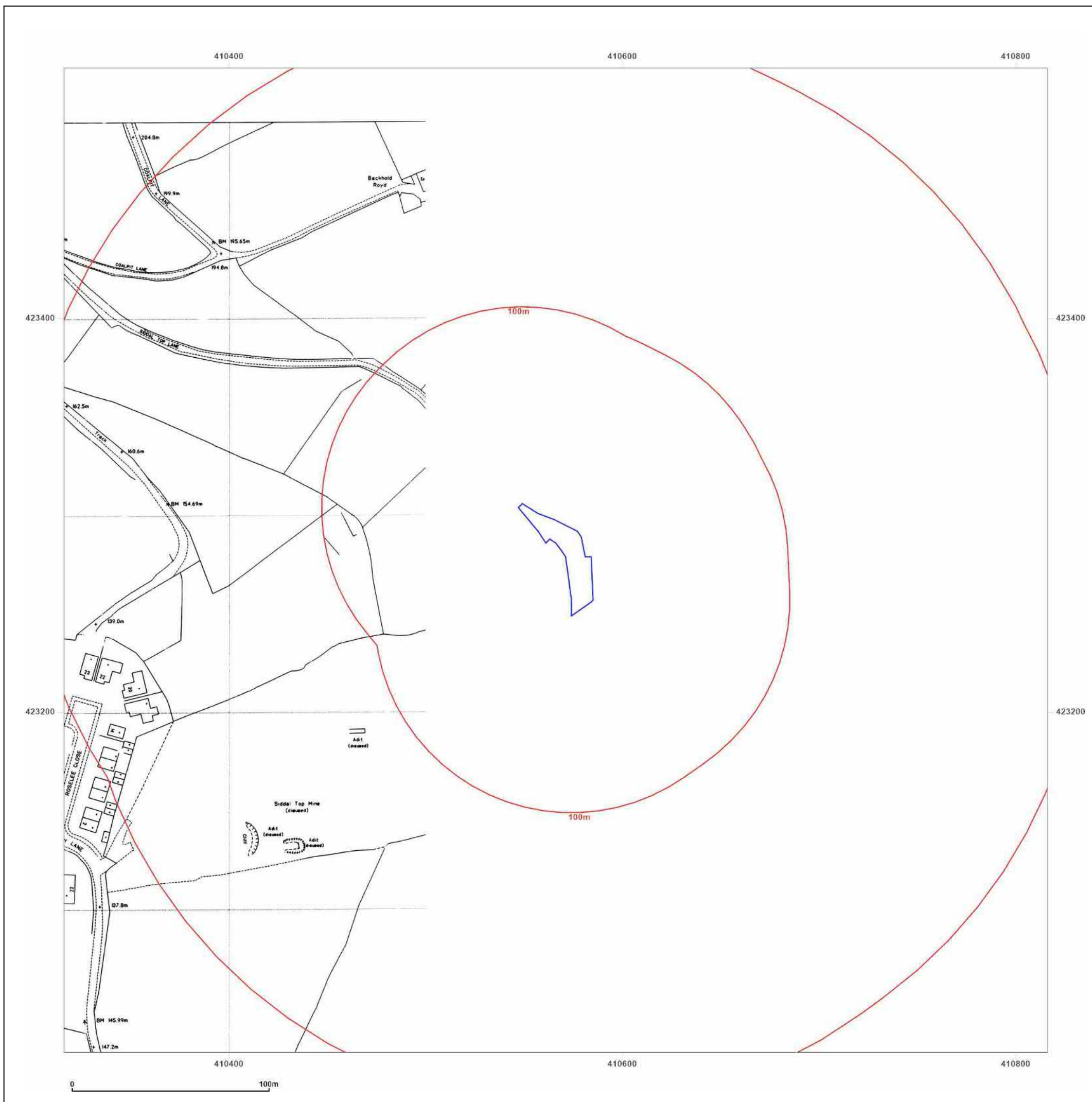


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Site Details:

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Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



2003

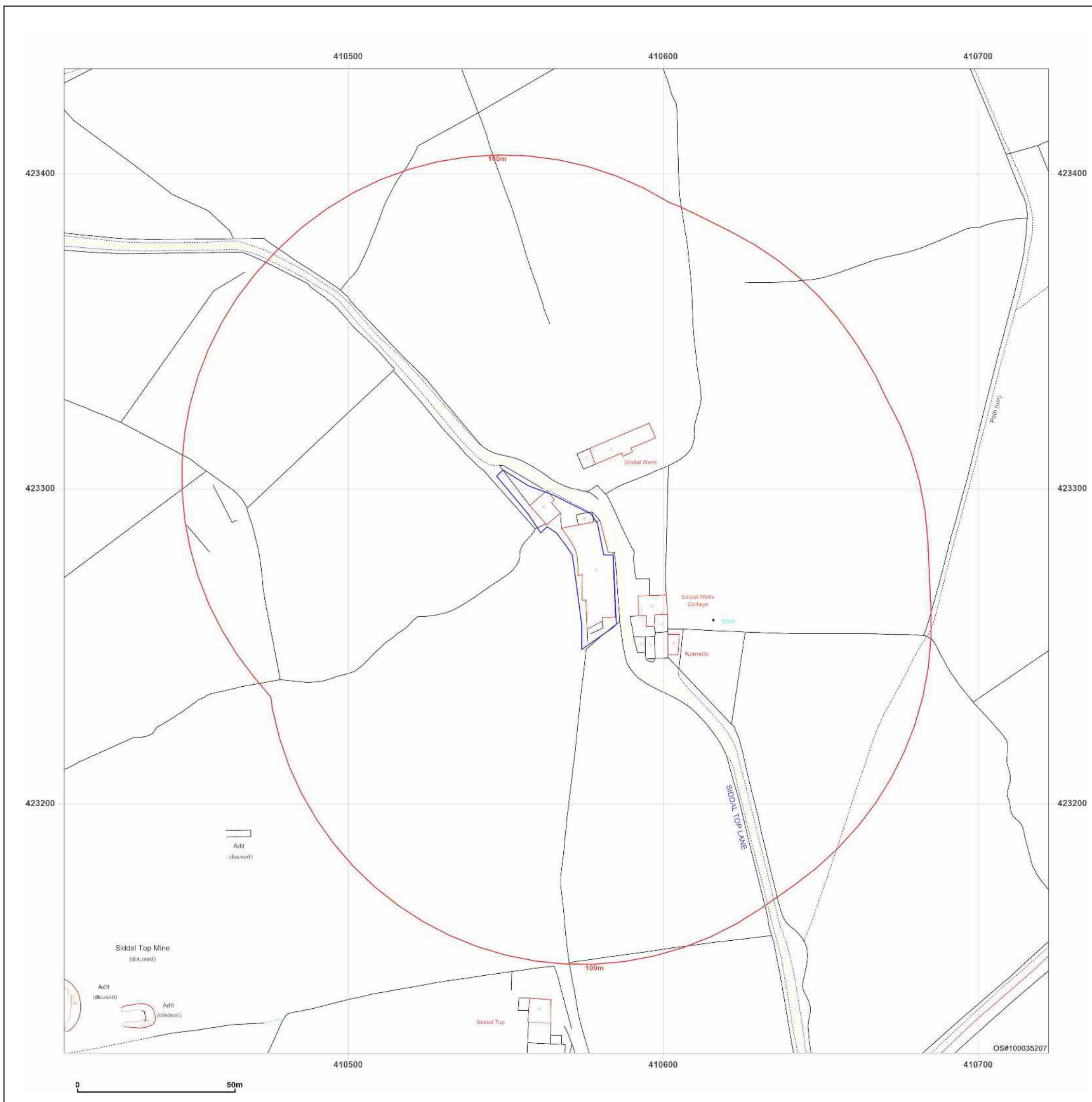


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Site Details:

410576, 423278

Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: County Series

Map date: 1854

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1849
Revised N/A
Edition 1854
Copyright N/A
Levelled N/A

Surveyed 1850
Revised N/A
Edition 1854
Copyright N/A
Levelled 1853

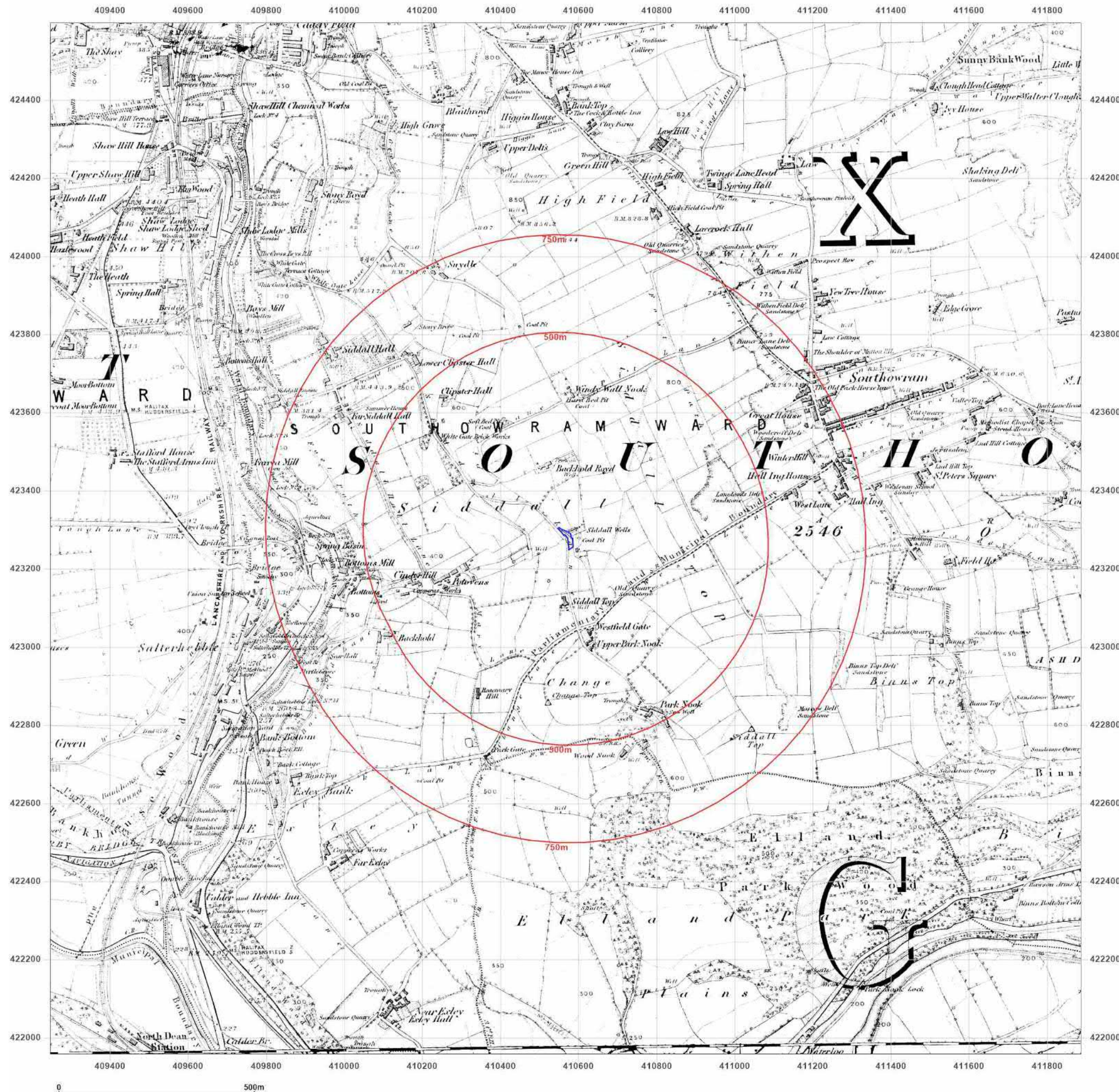


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Site Details:

410576, 423278

Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: County Series

Map date: 1892-1893

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1892
Revised 1892
Edition N/A
Copyright N/A
Levelled N/A

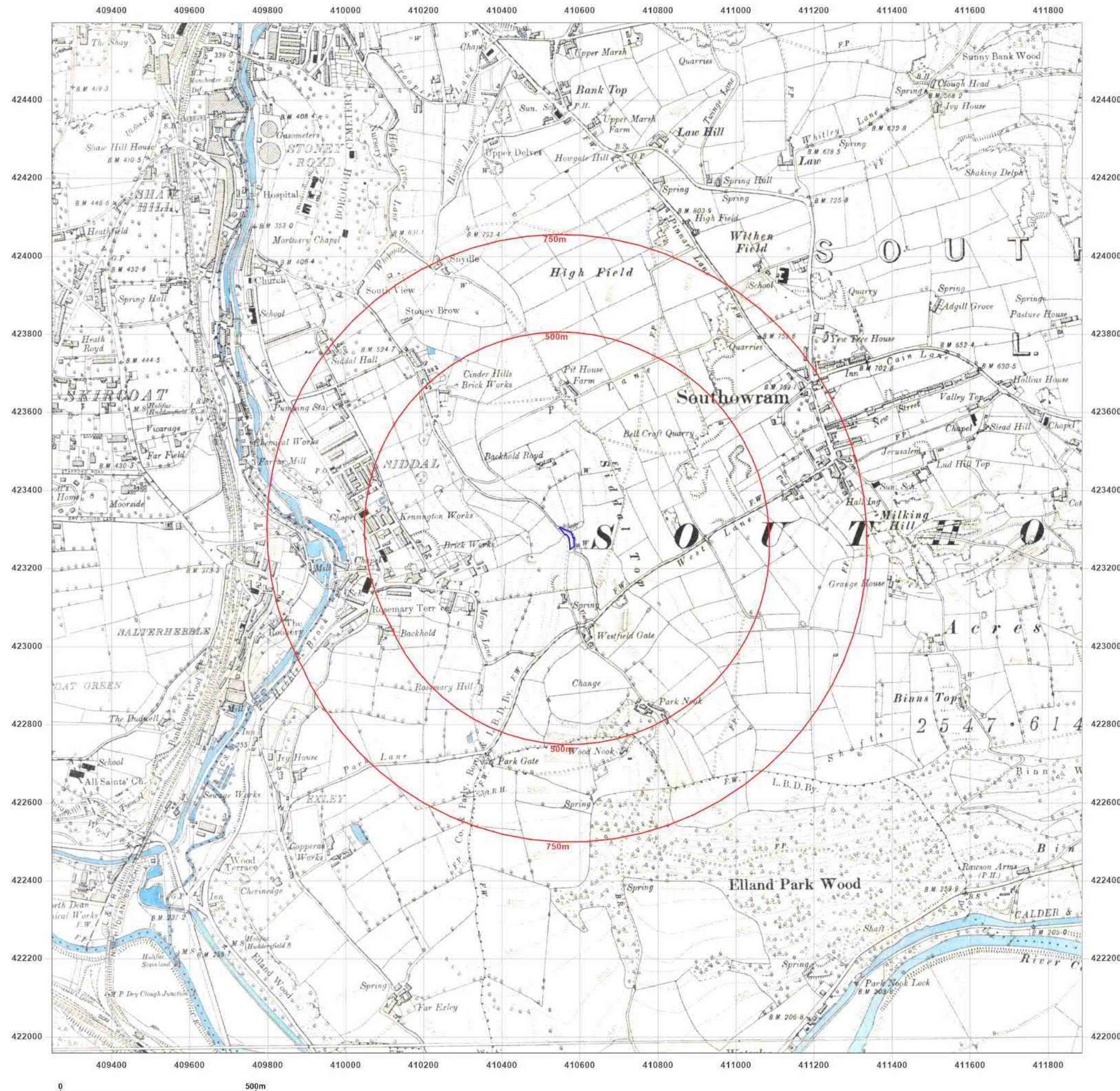


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Site Details:

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Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: County Series

Map date: 1905

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1889
Revised 1905
Edition N/A
Copyright N/A
Levelled N/A

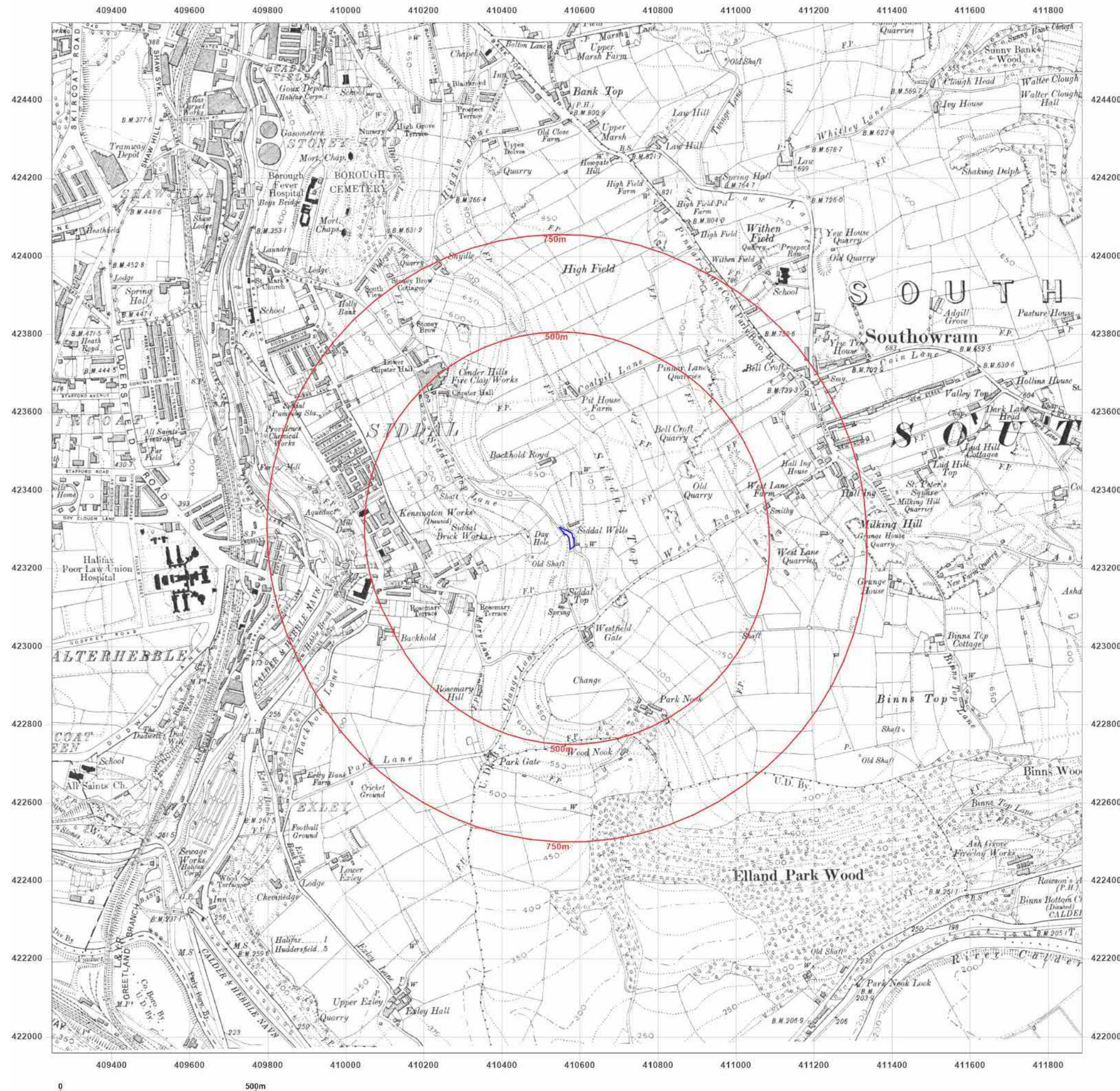


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Site Details:

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Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: County Series

Map date: 1930

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1850
Revised 1930
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1849
Revised 1930
Edition N/A
Copyright N/A
Levelled N/A

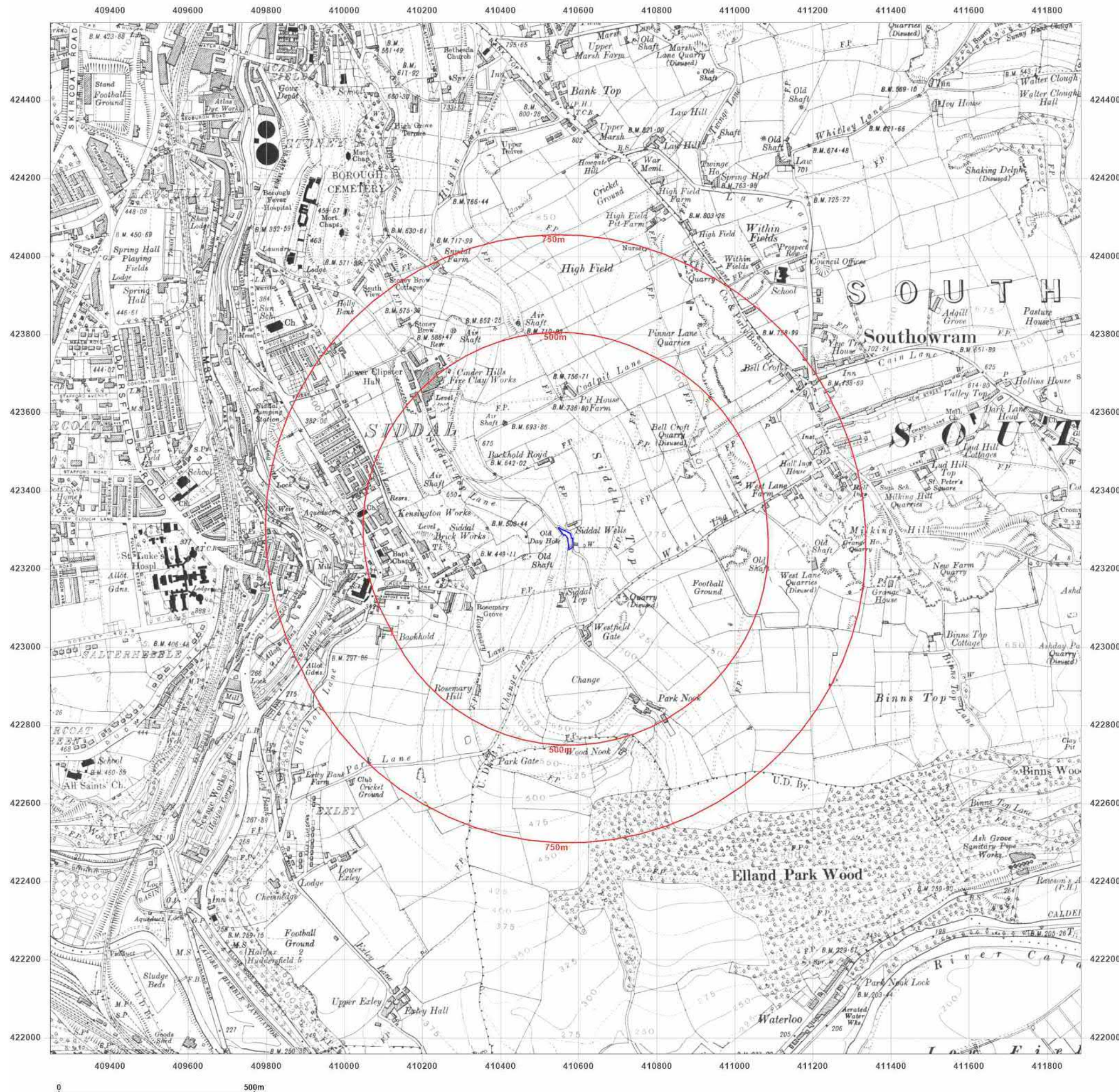


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Site Details:

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Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1850
Revised 1938
Edition 1938
Copyright N/A
Levelled N/A

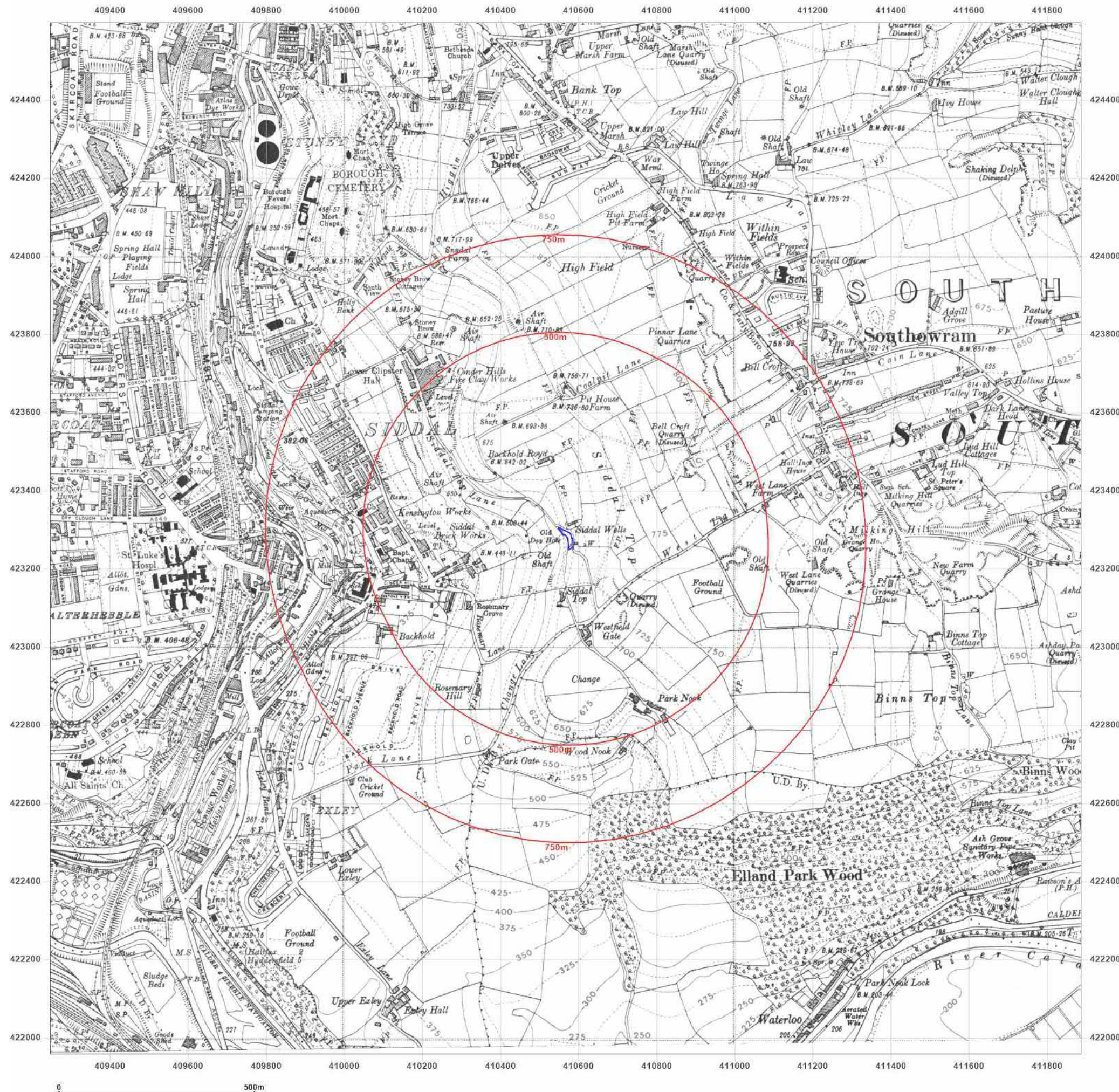


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Site Details:

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Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: County Series

Map date: 1948

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1850
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1849
Revised 1948
Edition 1948
Copyright N/A
Levelled N/A

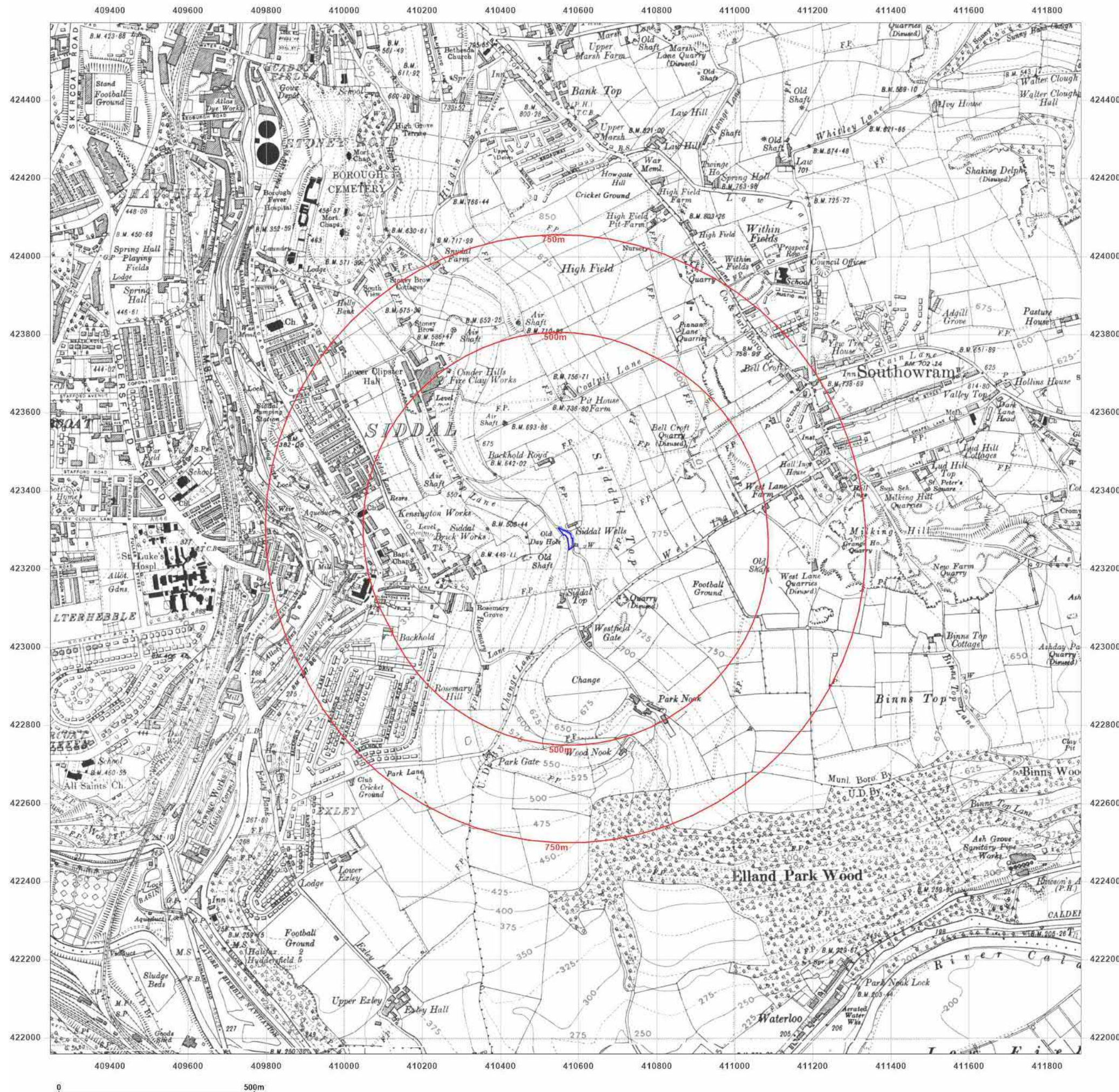


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Site Details:

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Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: Provisional

Map date: 1955

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1951
Revised 1955
Edition N/A
Copyright N/A
Levelled N/A

Surveyed N/A
Revised 1955
Edition N/A
Copyright N/A
Levelled N/A

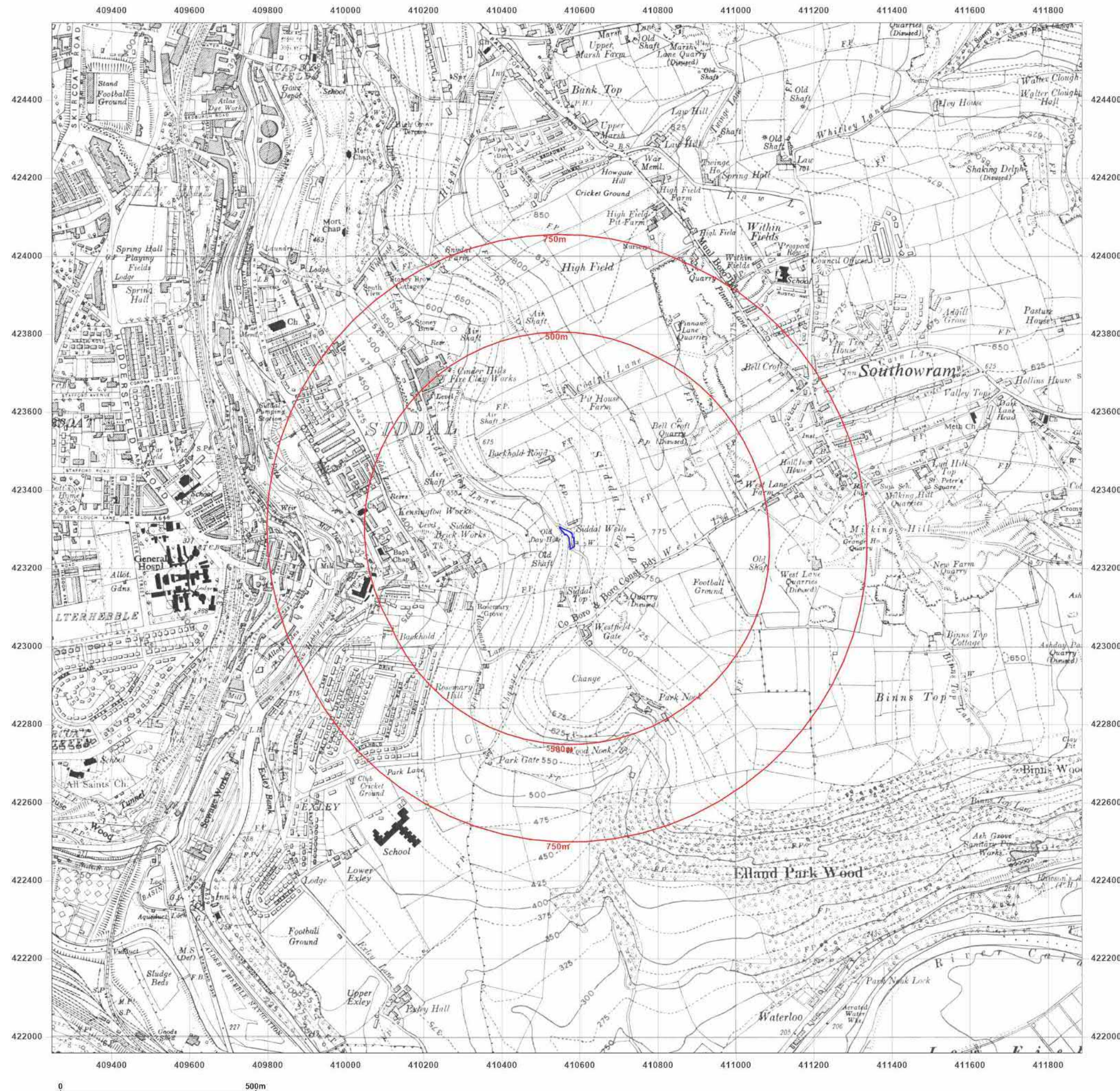


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Site Details:

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Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: Provisional

Map date: 1967-1969

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1967
 Revised 1967
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1969
 Revised 1969
 Edition N/A
 Copyright N/A
 Levelled N/A

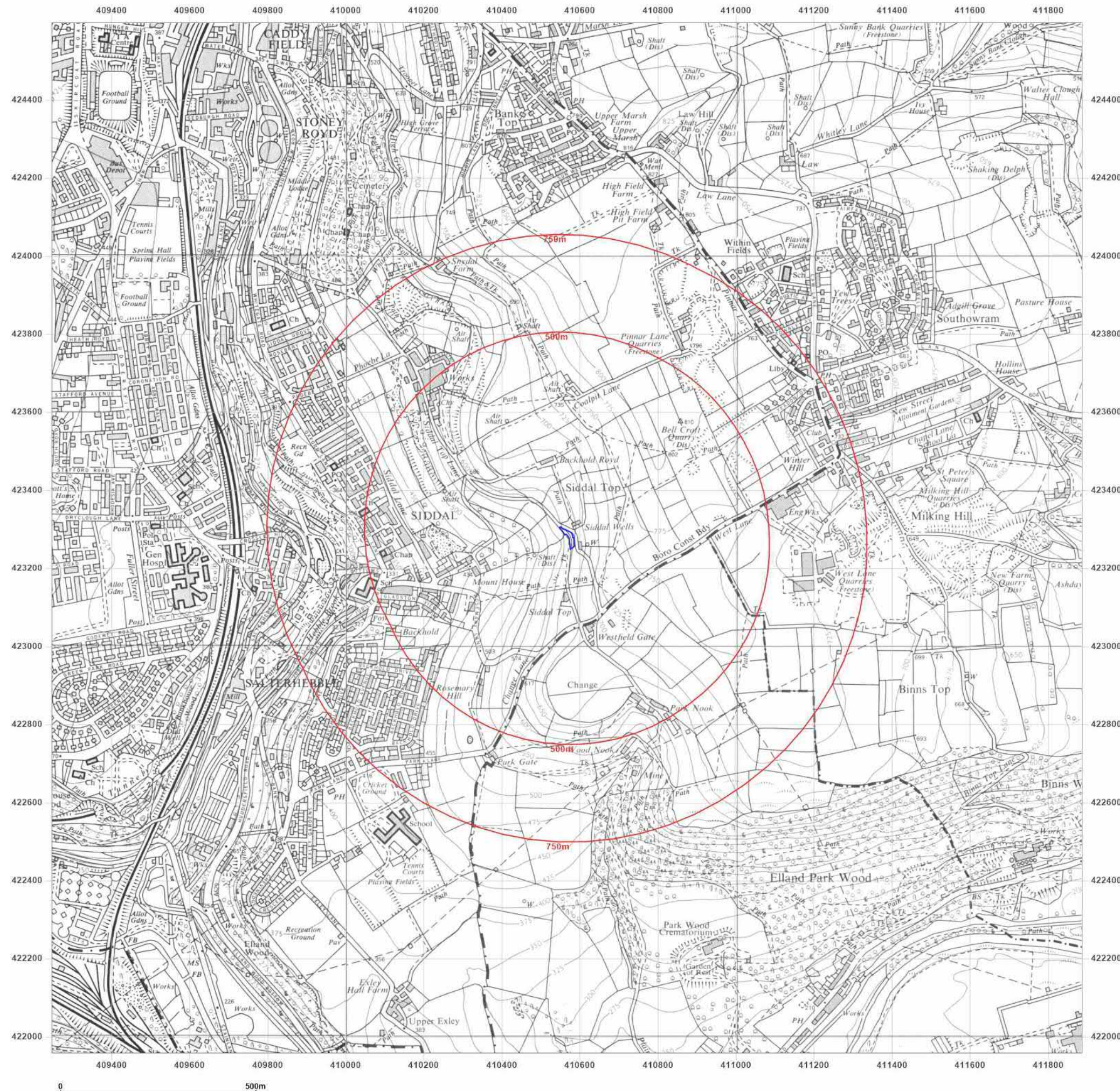


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Site Details:

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Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: National Grid

Map date: 1976-1981

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1978
 Revised 1981
 Edition N/A
 Copyright N/A
 Levelled N/A

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

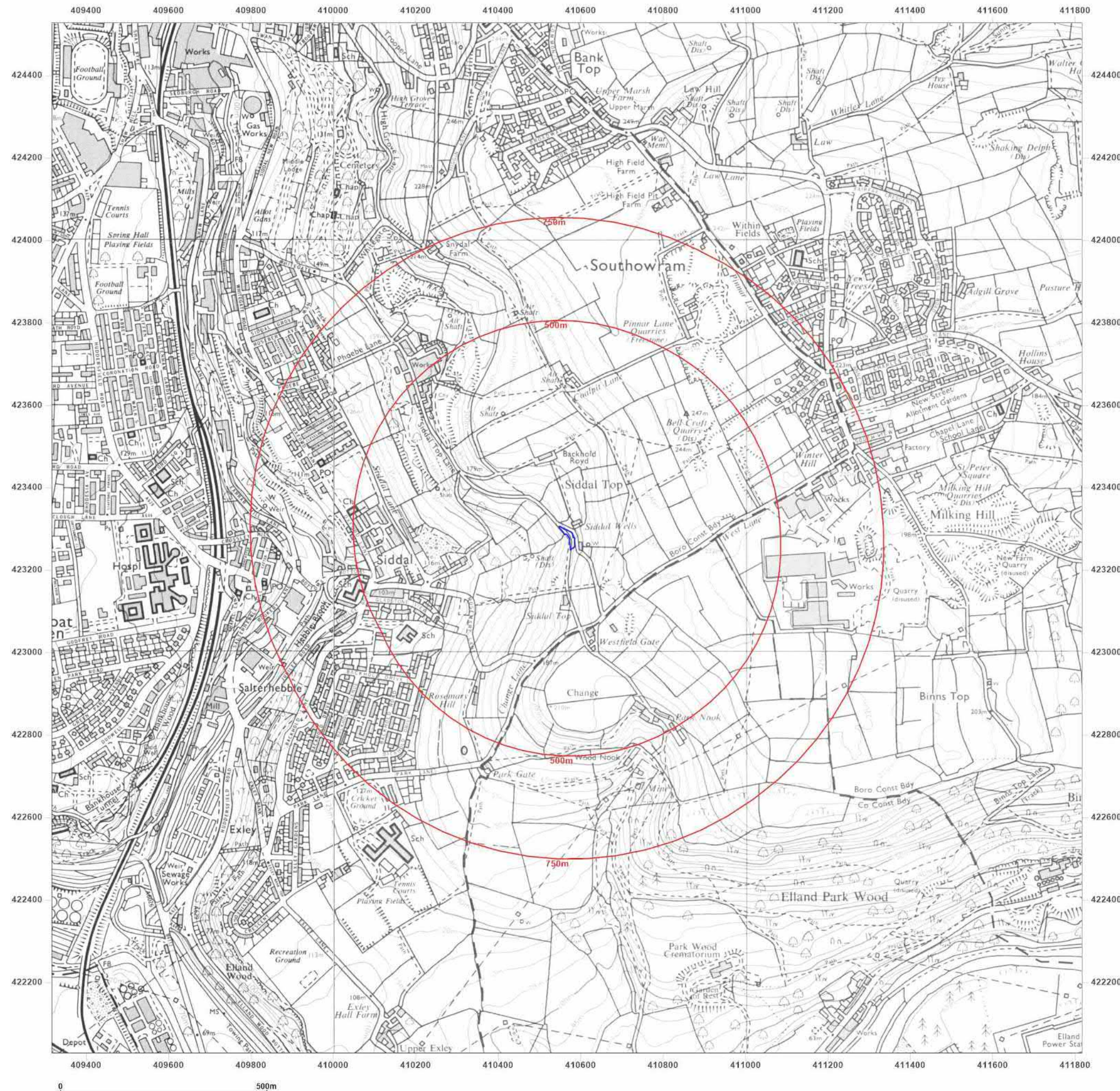


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Site Details:

410576, 423278

Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: National Grid

Map date: 1981

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1981
 Revised 1981
 Edition N/A
 Copyright N/A
 Levelled N/A

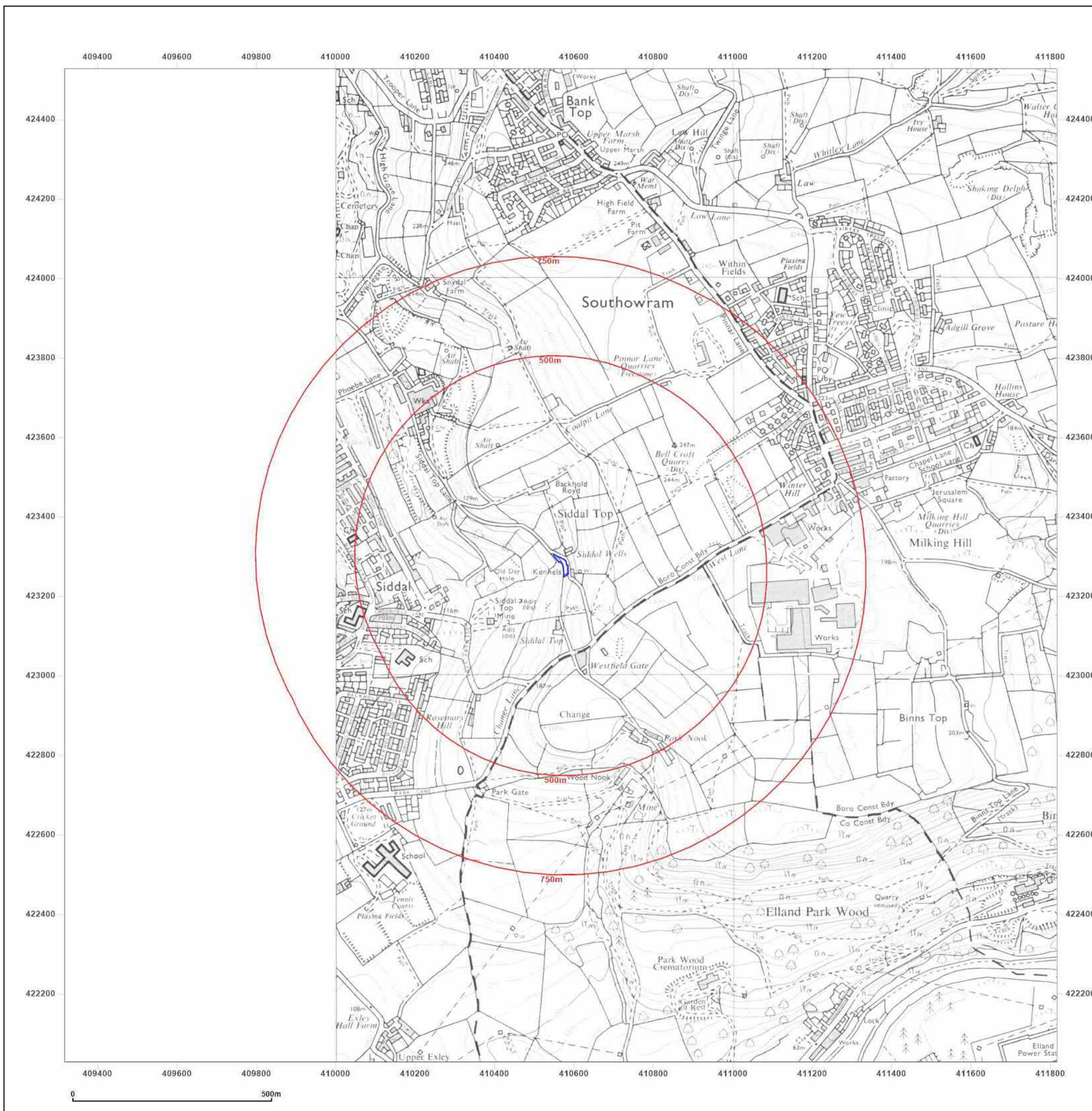


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Production date: 21 April 2022

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Site Details:

410576, 423278

Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: National Grid

Map date: 1989

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1987
 Revised 1989
 Edition N/A
 Copyright N/A
 Levelled N/A

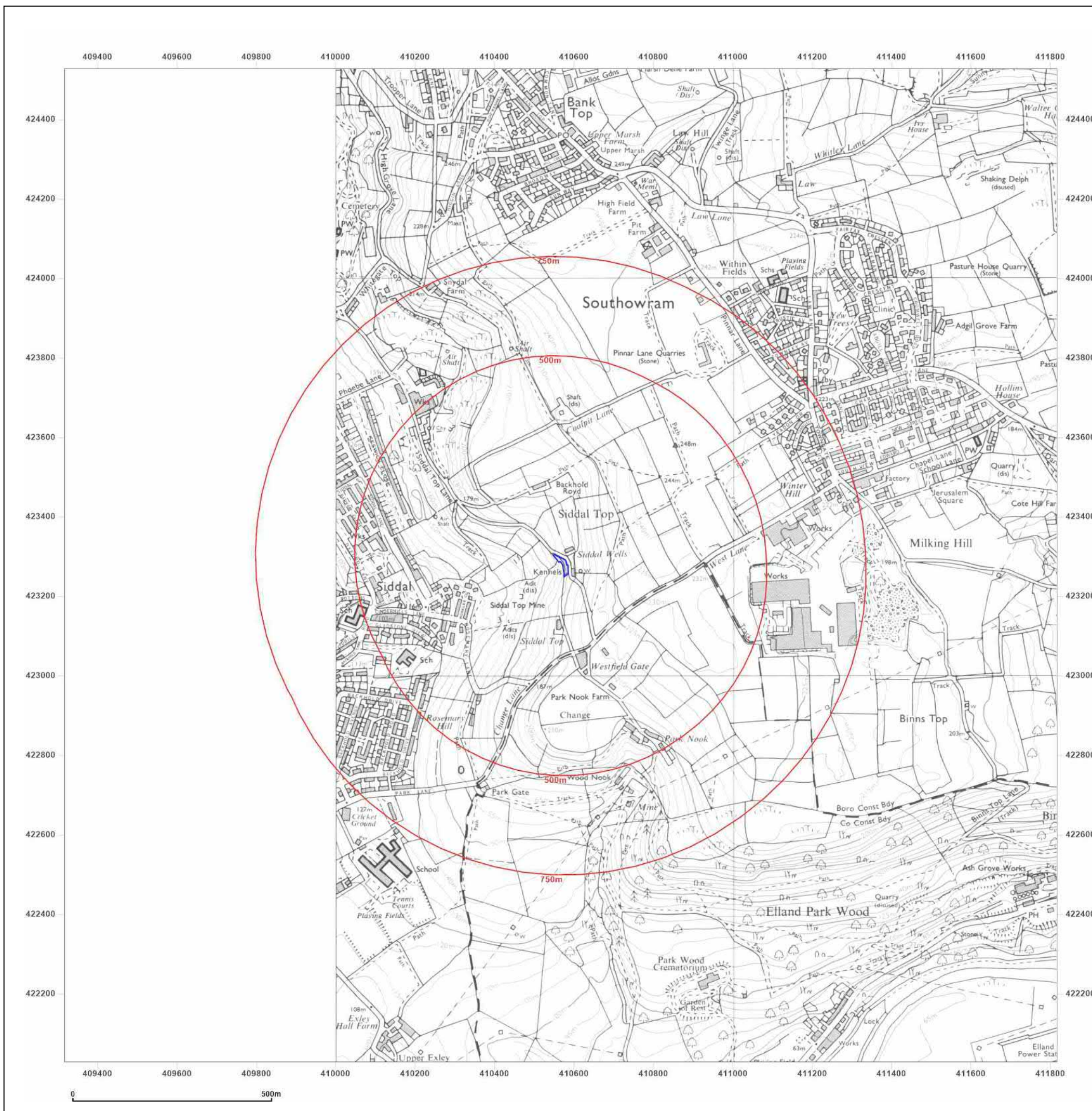


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Site Details:

410576, 423278

Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000



2001

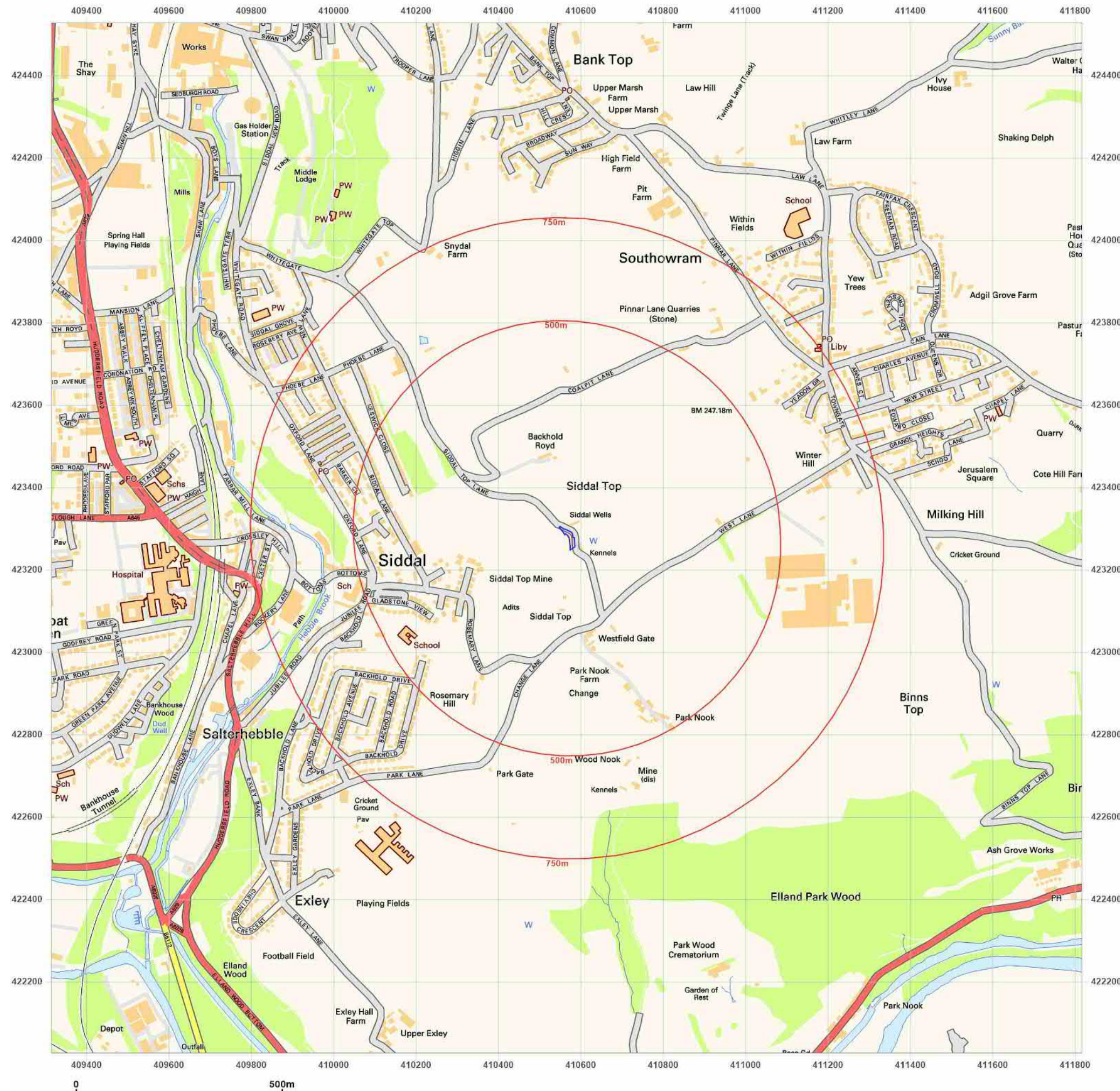


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Site Details:

410576, 423278

Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



2010

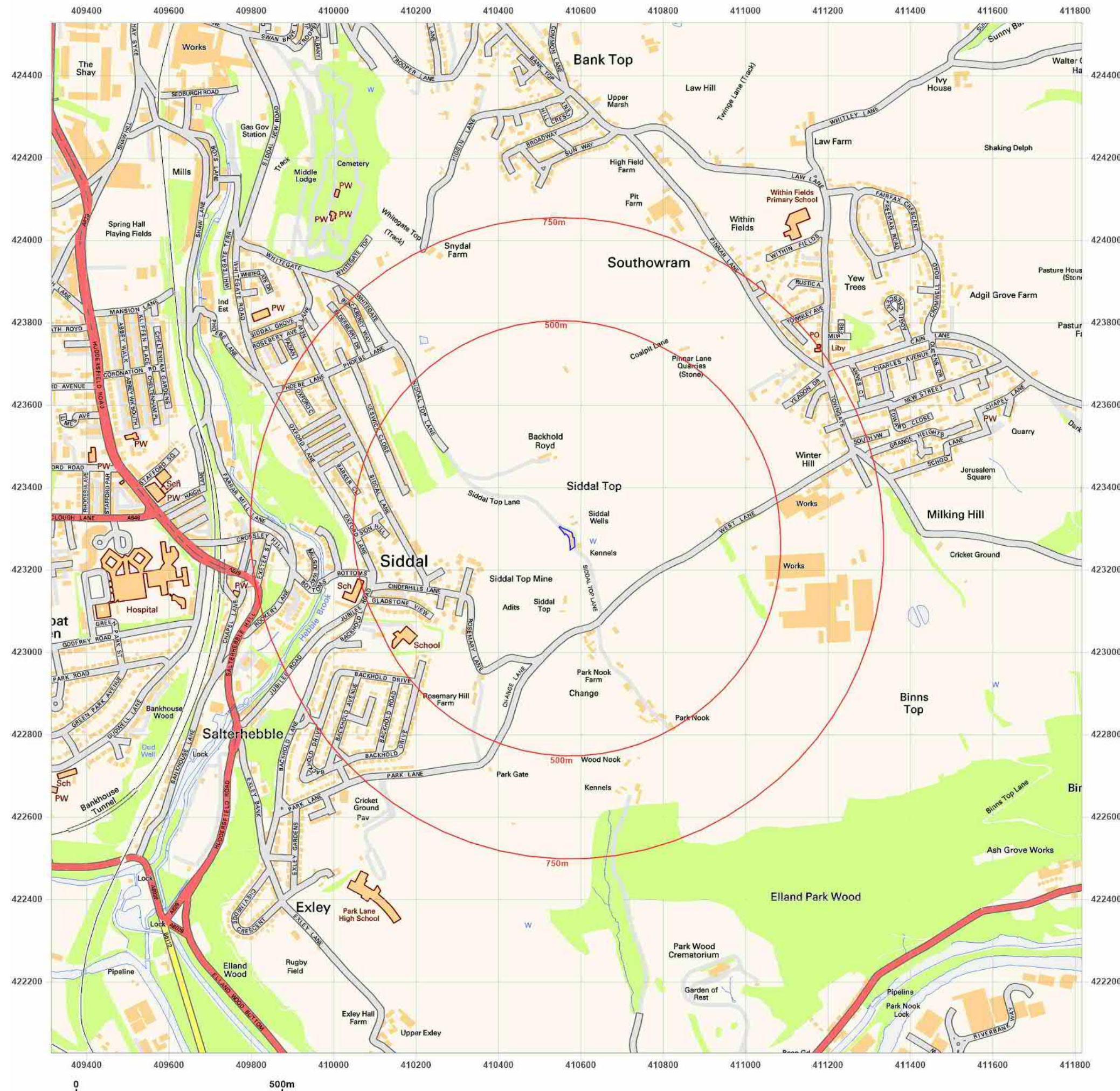


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Production date: 21 April 2022

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Site Details:

410576, 423278

Client Ref: 1531
Report Ref: GS-8687419
Grid Ref: 410566, 423277

Map Name: National Grid

Map date: 2022

Scale: 1:10,000

Printed at: 1:10,000



2022

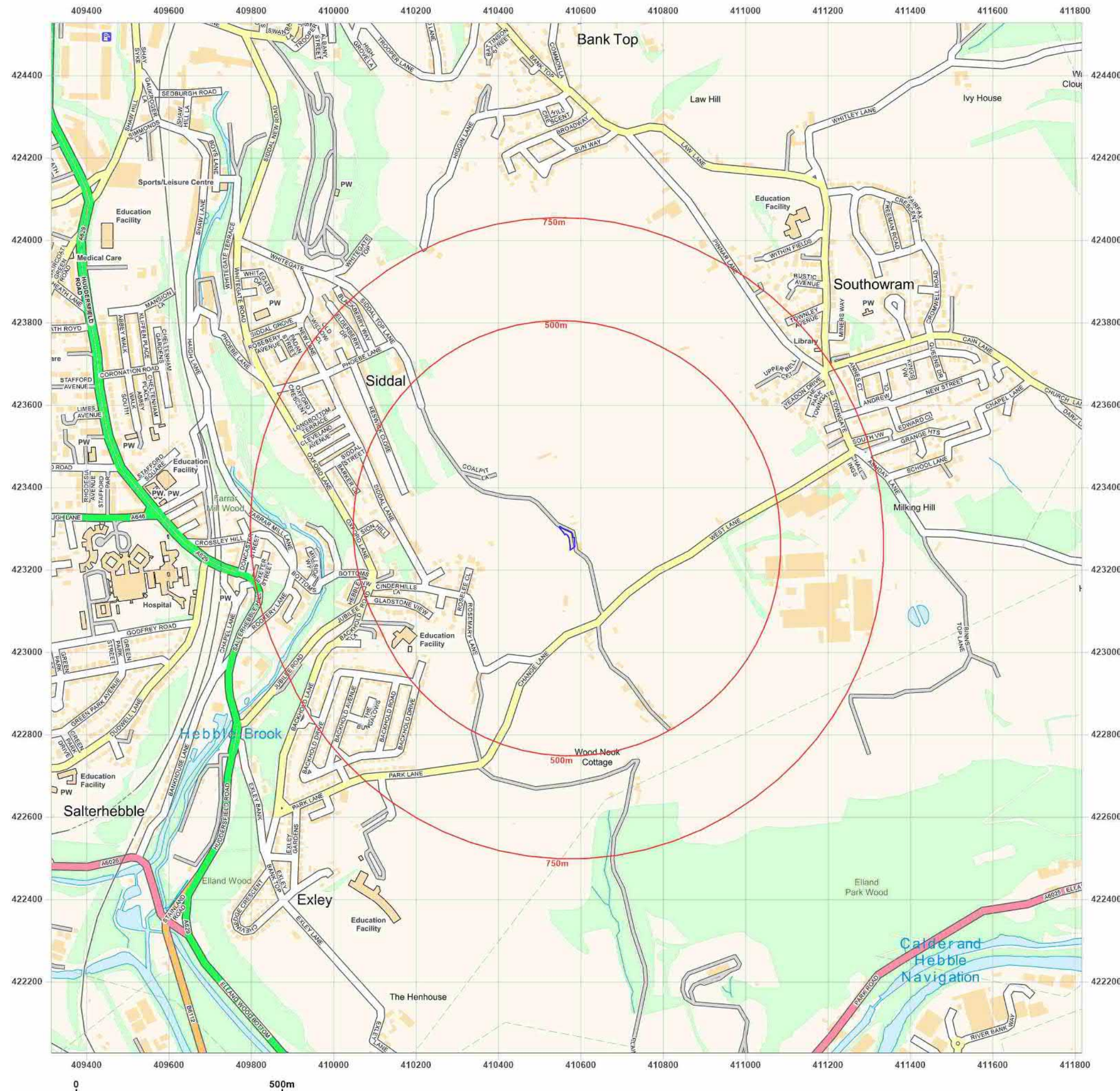


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Production date: 21 April 2022

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Appendix C **CONSULTANTS COAL MINING REPORT**

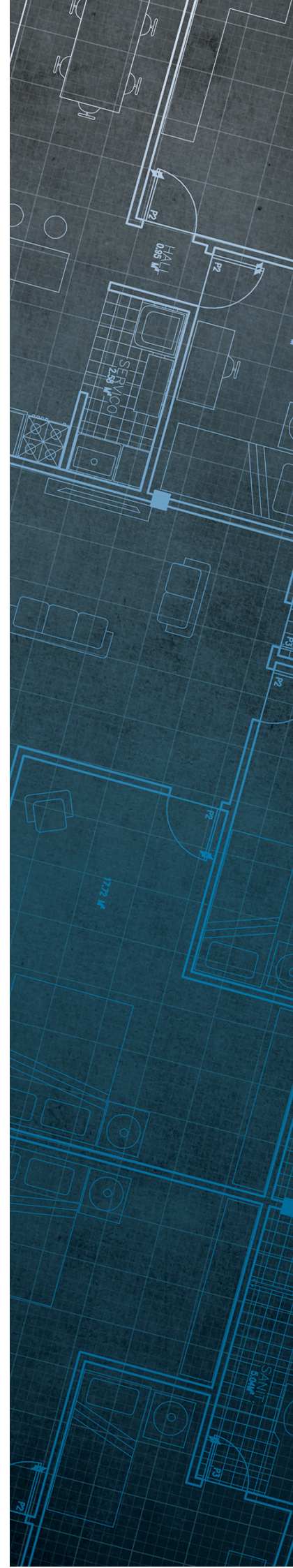


The Coal
Authority

Consultants Coal Mining Report

410576, 423278
West Yorkshire

Date of enquiry:	21 April 2022
Date enquiry received:	21 April 2022
Issue date:	21 April 2022
Our reference:	51003023951001
Your reference:	GS-8687419



Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

GROUNDSURE LIMITED

Enquiry address

410576, 423278
West Yorkshire

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

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Mansfield
Nottinghamshire
NG18 4RG

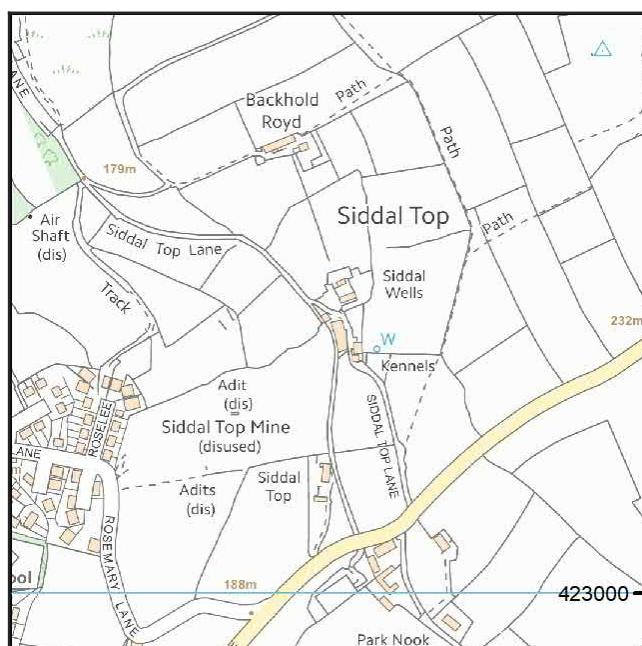
www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	36 YARDS BAND	Coal	62SV	32	Beneath Property	3.0	East	304	1911
unnamed	36 YARDS BAND	Coal	62SW	32	North-West	3.0	East	304	1906

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Adit	410423-003	410469 423282		Coal	
Shaft	410423-004	410481 423232		Coal	
Shaft	410423-017	410597 423294	was capped in 1978 (4m x 4m concrete). It was inspected by the Coal Authority in 2012 and found to be 0.2m bgl	Coal	
Shaft	410423-028	410537 423170		Coal	

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

OM12352	NE896	740
15205	FGB34	FGB330
PO0	OM15205	15206

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
36 YARDS BAND	Coal	Yes	44.6	South-West	157

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

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

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

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

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

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

Withdrawal of support notices

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

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

Payments to owners of former copyhold land

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

Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission.

Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices

Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land

Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

The map highlights any specific surface or subsurface features within or near to the boundary of the site.





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