



GEOENVIRONMENTAL DESK STUDY REPORT

Land off Whaley Road
Barugh Green
Barnsley

Reference

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AJA Architects. Proposed VMU & External Works, Whaley Road, Barnsley. Proposed Site Plan. Drawing No. 7628-010 D, dated 30.07.26.

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CONFIDENTIALITY STATEMENT

This report is addressed to and may be relied upon by the following:

Wordsworth Property Partnership.
Unit 1
Wordsworth Business Park
Whaley Road
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BARNSLEY
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This report has been prepared for the sole use and reliance of the above-named party. This report shall not be relied upon or transferred to any other parties without the express written authorisation of JPG (Leeds) Limited. No responsibility will be accepted where this report is used, either in its entirety or in part, by any other party.

DOCUMENT HISTORY

Version	Date	Revision Details	Status	Author(s)	Approved
P01	29.05.2026	NA	Final	RJM	EJS
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EXECUTIVE SUMMARY

Site Address	Land off Whaley Road, Barugh Green
Current Site Use	The landowner (Wordsworth Property Partnership) occupies the land in the north, east and south of the site. Two tenants occupy the land in the centre and west of the site. Land use typically comprises storage, car parking and service yards with a number of temporary buildings and storage units. The land occupied by the tenant in the western part of the site can be accessed from the southwest; the remainder of the site can be accessed from the south.
Proposed Development	It is proposed to develop the site for its continued commercial use with a new Vehicle Maintenance Unit (VMU).
Site History	A review has been undertaken based on the historical plans and aerial imagery. The earliest available plans show the site to be undeveloped, comprising open fields. The 1929 plan shows a coke and by-products works encroaching onto the site. By 1948 the whole site is shown to be occupied by the tip for the coke and by-products works and a railway line. The 1973 plan shows the site as a disused tip. The coke works and railway line are no longer shown. On the 1982 plan, the site is no longer shown as a tip. A small rectangular building associated with a 'depot' to the north is shown to encroach onto the northern part of the site. A pylon is located in the south of the site with electricity cables oriented east to west. Aerial imagery from 1999 indicated that the site was being used for storage. This appeared to have been cleared by 2008 and replaced with stockpiles of aggregate and a small cluster of buildings in the central northern part of the site. By 2016, the cluster of buildings is shown to have expanded and areas used for parking have increased. Land use has remained the same to the present day with varying temporary structures, car parks and storage areas.
Site Setting	Geology – Most of the site, with the exception of small areas in the east, is shown to be underlain by made ground. The 1:10,000 mapping indicates that the made ground comprises 'Industrial Refuse and Quarry Debris on Colliery Waste'. No superficial deposits are shown on the site. The underlying bedrock comprises Pennine Middle Coal Measures strata of mudstone, siltstone and sandstone. A sandstone unit encroaches onto the eastern part of the site. An unnamed inferred coal seam, oriented approximately southwest to northeast passes through the approximate centre of the site. The Dunsil seam, with a similar orientation, is inferred to outcrop immediately west of the site. There are four recorded faults within 500m of the site. The closest of which located approximately 123m north west of the site. Mining - A CON29M Coal Mining Report and a Consultants Coal Mining Report have been obtained from the Mining Remediation Authority (MRA). The on-line MRA interactive map shows parts of the site, immediately east of the inferred coal outcrops, to be high risk development areas. The CON29M Coal Mining Report states the following: • The property is in a surface area that could be affected by underground mining in 5 seams of coal at 130m to 360m depth and last worked in 1985. • Any movement in the ground due to coal mining activity associated with these workings should have stopped by now. • The property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered. • There are no recorded coal mine entries known to the Coal Authority within, or within 20 metres, of the boundary of the property. • The property is not within the boundary of an opencast site from which coal has been removed by opencast methods. • The Consultants Coal Mining Report states the following: • The Dunsil and an unnamed coal seam are recorded to outcrop on the site; both are stated to be 'workable'. • The shallowest past underground coal mining directly beneath the property has been recorded in the Flockton Thick at 149m. • There are no probable unrecorded shallow workings beneath the site. Hydrogeology - The underlying bedrock is classified as a Secondary A Aquifer. The site is not designated as a groundwater source protection zone. Hydrology – There is a drain crossing the site, described as a manmade water course. Information on the gov.uk website and provided in the GS report indicates that the site lies within flood zone 1. There are records of three flood events occurring on the site dating from 2000. Environmental Permits and Registers - There are no records of sites determined as Contaminated Land under Part 2A of the Environmental Protection Act (EPA) 1990 within 500m of the site. Landfills and Waste - There are no recorded active or recently closed landfill sites within 500m of the site. However, there are eight records of historical landfill sites within 500m of the site. Two of which were located onsite and related to inert waste.



	Radon Risks - No radon protective measures are required for new property based on the current site layout. Unexploded Ordnance - The site is presented as a low UXO risk on online mapping supplied by Zetica UXO.
Environmental Risk Assessment	Based upon the conceptual site model, the site is considered to be low to moderate risk with respect to potential contamination. This designation will be largely dependent on the nature of any made ground and hazardous ground gases present or adjacent to the site.
Preliminary Engineering Assessment	Foundations - The proposed unit is located in the west of the site. Due to the anticipated absence of made ground in this part of the site, a shallow foundation solution, e.g. pads, founding in the natural ground would be suitable for the site. This will need to be confirmed as part of a ground investigation. Mining - An unnamed inferred coal seam, oriented approximately south west to north east passes through the approximate centre of the site. The Dunsil seam, with a similar orientation, is inferred to outcrop immediately west of the site. The on-line MRA interactive map shows parts of the site, immediately east of the inferred coal outcrops, to be high risk development areas. The CON29M Coal Mining Report states that the property is in an area where the Coal Authority believes there is coal at or close to the surface which may have been worked at some time in the past; and that the potential presence of coal workings at or close to the surface should be considered. The Consultants Coal Mining Report states that the Dunsil and the unnamed coal seam are both stated to be 'workable'. However, it also states that there are no probable unrecorded shallow workings beneath the site. Based on the information reviewed to date, the land to the east of the Dunsil seam is shown to comprise natural ground. However, the land to the east of the unnamed seam comprises made ground associated with the former tip. The unnamed seam may, therefore, have been extracted at shallow depth as part of the works associated with the former tip. On this basis, the presence of unrecorded shallow workings associated with both the Dunsil seam, and the unnamed seam cannot be discounted. This will need to be confirmed as part of a ground investigation. If any shallow coal workings within influencing depth of the surface are proven beneath the site, then these will require stabilising, e.g. drilling and grouting, prior to development. Earthworks - Any earthworks should be carried out in accordance with the National Highways Manual of Contract Documents for Highway Works, Geotechnics Construction, CC 601 Earthworks (formerly Series 600), Version E/1.0.0. Groundwater - The presence of groundwater will need to be assessed as part of any ground investigation. Obstructions - The presence of significant obstructions in the made ground is considered likely in the and will need to be assessed as part of any ground investigation. Roads, Pavements and Hardstanding Surfaces - It is recommended that, at this stage, a conservative bearing value for the subgrade is assumed until the nature of the subgrade can be physically assessed. Potentially Combustible Ground - Due to the presence of coal bearing strata at or close to the ground surface, there is the potential for shallow soils to contain coal. In order to assess their potential combustibility, samples of the shallow soils should be obtained and submitted to the laboratory for caloric value testing. Chemical Attack on Buried Ground - Samples of made and natural ground should be obtained and submitted to the laboratory for testing in order to assess the sulphate content and acidity and hence, the concrete class required for buried concrete to the latest standard.
Further Work Required	We would recommend that a geoenvironmental ground investigation is carried out to inform the development. A Coal Mining Risk Assessment should also be carried out.
This sheet is intended as a summary only of the assessment of the site in relation to ground condition. It does not provide a definitive engineering analysis.	



1.0 INTRODUCTION

1.1 Instruction

JPG (Leeds) Limited (JPG) has been instructed by Wordsworth Property Partnership to provide a Geoenvironmental Desk Study Report for a proposed commercial development on land off Whaley Road, Barugh Green, Barnsley.

1.2 Objectives

The main objective of the geoenvironmental desk study is to identify potential geotechnical and environmental issues that may represent constraints to the proposed development of the site.

1.3 Scope of Works

The scope of works for the desk study includes the following:

- Site walkover.
- Review of previous reports, if available.
- Review of contemporary and historical Ordnance Survey publications.
- Consultations with regulatory authorities, where appropriate.
- Review of geological publications (including hydrology, hydrogeology and soil survey publications where appropriate).
- Review of the radon status of the site.
- An environmental database search.
- Outline environmental risk assessment.
- Preliminary recommendations with respect to foundations, ground floor and pavement design.
- Recommendations for further work where appropriate; and
- Presentation of the findings in a tabular non-technical summary.

1.4 Location

The site is located off Whaley Road in Barugh Green, approximately 4km to the northwest of Barnsley town centre. The approximate centre of the site is located at NGR 432136, 408281.

A site location plan is provided as Figure 1 in Appendix A.



1.5 Development Proposals

A site plan for the proposed development has been provided. This is referenced below and a copy is provided in Appendix A.

- AJA Architects. Proposed VMU & External Works, Whaley Road, Barnsley. Proposed Site Plan. Drawing No. 7628-010 D, dated 30.07.26.

This shows the proposed Vehicle Maintenance Unit building in the west of the site, with extensive areas of hardstanding, comprising mostly vehicle parking across the remainder of the site.

1.6 Site Description and Topography

A site walkover was carried out by a JPG Engineer on 5 May 2026.

The site is irregular in shape and covers an area of approximately 2.22 hectares.

The landowner (Wordsworth Property Partnership) occupies the land in the north, east and south of the site. Two tenants occupy the land in the centre and west of the site.

Land use typically comprises storage, car parking and service yards with a number of temporary buildings and storage units.

The land occupied by the tenant in the western part of the site can be accessed from the southwest; the remainder of the site can be accessed from the south.

The site is traversed by several roads and tracks providing access across the site.

An electricity pylon is located in the south of the site in the centre of a car park used by Wordsworth Construction. The pylon has a gabion retaining wall at its base which will required to be maintained as part of any future development. Overhead electricity cables extend east to west, spanning the southern part of the site.

The land to the north, south and west comprises industrial land use. A railway track is located immediately to the northeast of the site with agricultural land beyond.

An aerial photograph of the site is provided as Figure 2 in Appendix A.

A selection of photographs of the site is provided in Appendix B.

1.7 Limitations

The general limitations to the nature of the investigation are provided in Appendix E.



2.0 SITE HISTORY

2.1 Ordnance Survey Mapping and Aerial Imagery

Historical maps and aerial imagery of the site were obtained from Groundsure (GS) and viewed online on Google Earth.

These were reviewed to establish the previous uses of the site and identify any potentially contaminative historical uses or potential geotechnical constraints to the proposed development.

A summary of the relevant map and imagery information is provided in Table 2.1 and copies of the Ordnance Survey (OS) maps are provided in Appendix C.

Table 2.1 – Summary of Relevant Historical Map and Aerial Imagery Information

Date(s) & Scale	Description
1854-1855 1:10,560	The site is shown to comprise open fields. The site is bound on all sides by open fields. The Lancashire and Yorkshire Railway, oriented approximately northwest to southeast, is shown adjacent to the northeast boundary of the site. Clay Cliff Quarry (sandstone) is located approximately 220m to the west of the site. A road oriented northwest to southeast is shown approximately 200m to the southeast of the site.
1890-1891 1:10,560 1892-1893 1:2,500	No changes are shown on the site. Beyond the site, the quarry to the west of the site is no longer shown.
1904 1:10,560 1906 1:2,500	No changes are shown on the site. A golf course is shown immediately beyond the site to the southeast.
1929-1930 1:10,560	A small part of the Coke & By-Products Works described below, is shown to encroach on the western part of the site. Significant development is shown beyond the site. A Chemical Works is shown to the south. Barugh Coke & By-Product Works is shown to the southwest between the site and the road to the southeast, which is now named Claycliffe Road. The works comprises numerous buildings and railway tracks. These extend to the northwest of the site. A Coalite Works is shown beyond the railway to the northeast.
1948 1:10,560	The site is now shown to form part of Barugh Coke & By-Products Works. A railway line, oriented approximately north to south is shown to pass through the western part of the site. A spoil heap is shown immediately east of the railway line in the centre of the site. Beyond the site, the spoil and railway tracks are shown to extend beyond the site to the north west.
1956 1:10,560	An overhead electricity cable, oriented approximately north to south, is shown to cross the eastern part of the site to the east of the spoil heap. No significant changes are shown beyond the site.
1960-1962 1:2,500	More detail is shown on this plan. The railway in the west of the site is no longer shown. A cutting is shown encroaching onto the western part of the site (from the north). The spoil heap in the centre of the site is now shown to extend to the northeast. Beyond the site, an area of water is shown to the northwest, with further ponds beyond. The Coalite Works to the north is now shown as a works.
1966 1:10,560	The overhead electricity cable is no longer shown to cross the site. Beyond the site to the southwest, Barugh Coke & By-Product Works is no longer shown. Most of the building have been demolished, but the railway tracks remain. Spoil heaps are shown to the northwest and south of the site.
1973 1:10,000	No changes are shown on the site, it is shown as a tip (disused). Beyond the site to the southwest the railway tracks are no longer shown. Several new works and depot buildings are shown at this location.
1982 1:10,000	The site is no longer shown to be a tip. A small rectangular building is shown to straddle the northern boundary of the site. A pylon is shown in the south of the site, the overhead cable is oriented approximately east to west. Beyond the site a depot is shown to the north, with additional buildings shown to the west and northwest. The works beyond the railway track to the northeast are no longer shown.



Date(s) & Scale	Description
1987-1989, 1986-1991, 1990-1993 and 1991-1993 1:2,500	No significant changes are shown on the site. No significant changes are shown beyond the site.
1993 1:10,000	No significant changes are shown on the site. Beyond the site, the tip is no longer shown to the south. Disused workings are shown at this location. Additional buildings are shown to the west and south of the site.
1999 (Google Earth Pro)	Most of the site is shown to be used for the storage of materials. It is unclear from the image what these materials comprise.
2001 1:10,000	No significant changes are shown on the site. It is shown to form part of South Yorkshire (Redbrook) Industrial Estate. Beyond the site to the south, a new access road has been constructed at the location of the former tip.
2003 1:1,250	No changes are shown on or beyond the site.
2008 (Google Earth Pro)	Most of the materials are shown to have been removed off-site. The site appears to be used for the storage of aggregates, which are stockpiled across the site. A small cluster of buildings are shown in the central northern part of the site, adjacent to the site boundary.
2010 1:10,000	No changes are shown on the site. A road is shown immediately beyond the site to the southeast. A new building is shown at the end of this road to the east and numerous new buildings are shown approximately 150m beyond the site to the southeast.
2015 1:10,000	No changes are shown on the site. No significant changes are shown beyond the site.
2016 (Google Earth Pro)	The small cluster of buildings in the north of the site has grown in size and trucks are parked at this location. There is also a reduction in the amount of aggregate stockpiled on the site. Beyond the site, immediately to the southwest, two new units are shown (Hargreaves Industrial Services and Wordsworth Excavations).
2018-2025 (Google Earth Pro)	Between these dates the site appears to have been used for the storage of numerous items including containers, aggregates, cars, trucks and vans. A building is also shown in the western part of the site.
2025 1:10,000	Two small buildings are shown in the west of the site. Beyond the site, additional buildings have been constructed to the south.
2019-2025 (Google Earth Pro)	Between these dates the site appears to have been used for the storage.



2.2 Summary of Site History

The earliest available plans show the site to be undeveloped, comprising open fields. The 1929 plan shows a coke and by-products works encroaching onto the site. By 1948 the whole site is shown to be occupied by the tip for the coke and by-products works and a railway line.

The 1973 plan shows the site as a disused tip. The coke works and railway line are no longer shown.

On the 1982 plan, the site is no longer shown as a tip. A small rectangular building associated with a 'depot' to the north is shown to encroach onto the northern part of the site. A pylon is located in the south of the site with electricity cables oriented east to west.

Aerial imagery from 1999 indicated that the site was being used for storage. This appeared to have been cleared by 2008 and replaced with stockpiles of aggregate and a small cluster of buildings in the central northern part of the site.

By 2016, the cluster of buildings is shown to have expanded and areas used for parking have increased. Land use has remained the same to the present day with varying temporary structures, car parks and storage areas.



3.0 SITE SETTING

3.1 Geology

The Groundsure (GS) Report and the following geological publications have been consulted:

- British Geological Survey (BGS), Sheet 87. Barnsley, 1:50,000, Solid and Drift Edition, dated 2008.
- British Geological Survey (BGS), Sheet SE30NW. Barnsley, 1:10,000, Solid and Drift Edition, dated 2005.
- BGS Onshore GeoIndex (<http://mapapps2.bgs.ac.uk/geoindex/home.html>).
- BGS, Lexicon of Named Rock Units.

Most of the site, with the exception of small areas in the east, is shown to be underlain by made ground. The 1:10,000 mapping indicates that the made ground comprises 'Industrial Refuse and Quarry Debris on Colliery Waste'.

No superficial deposits are shown on the site.

The underlying bedrock comprises Pennine Middle Coal Measures strata of mudstone, siltstone and sandstone. A sandstone unit encroaches onto the eastern part of the site.

An unnamed inferred coal seam, oriented approximately southwest to northeast passes through the approximate centre of the site. The Dunsil seam, with a similar orientation, is inferred to outcrop immediately west of the site.

There are four recorded faults within 500m of the site. The closest of which located approximately 123m northwest of the site.

3.2 Historical Boreholes

Historical borehole records have been obtained from the BGS Onshore Geoindex. There are 36 BGS borehole records located within 100m of the site, of which only three are available (two of these have the same logs in their online records, thus only two are summarised below), the remainder are confidential. Enquiries have been made through the BGS to obtain these confidential records.

A summary of available boreholes records is provided below, and copies/extracts of the borehole logs are included in Appendix D.

Table 3.2 – Summary of Historical Boreholes

Borehole Location	Borehole Name	Depth (m bgl)
48m North East	Coalite Works No.1	96.44
55m North East	Coalite Works No.1	51.2



Coal was encountered in both boreholes at depths of between 33m and 35m bgl. A second seam was also encountered at depths of between 45m and 47m bgl. These are likely to be associated with the outcropping coal seams on and immediately west of the site which dip to the east. No coal workings were encountered in either borehole.

3.3 Coal Mining

A CON29M Coal Mining Report and a Consultants Coal Mining Report have been obtained from the Mining Remediation Authority (MRA). Copies of these reports are provided in Appendix E and pertinent information is summarised below.

The on-line MRA interactive map shows parts of the site, immediately east of the inferred coal outcrops, to be high risk development areas.

The CON29M Coal Mining Report states the following:

- The property is in a surface area that could be affected by underground mining in 5 seams of coal at 130m to 360m depth and last worked in 1985.
- Any movement in the ground due to coal mining activity associated with these workings should have stopped by now.
- The property is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered.
- There are no recorded coal mine entries known to the Coal Authority within, or within 20 metres, of the boundary of the property.
- The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.
- The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

The Consultants Coal Mining Report states the following:

- The Dunsil and an unnamed coal seam are recorded to outcrop on the site; both are stated to be 'workable'.
- Past underground coal mining directly beneath the property has been recorded in the Flockton Thick at 149m, Top Fenton at 185m, Dodworth at 281m and 289m and Whinmoor at 337m.
- There are no probable unrecorded shallow workings beneath the site.
- There is one mine entry recorded approximately 100m to the northeast of the site. This is an adit, reference 432408-020. There are no details of any treatment.



3.4 Quarrying/Mineral Extraction

The GS report provides information from the British Pits (BritPits) database, which is a database maintained by the BGS of currently active and closed surface and underground mineral workings.

There are two recorded historical BritPits located within 500m of the site.

Clay Cliff Quarry was located approximately 243m to the west of the site. This was a surface mineral working from which sandstone was extracted.

Whalley Road OCCS (opencast colliery site) was located approximately 398m to the south of the site. This was also a surface mineral working from which coal was extracted.

There are 74 records of surface ground workings within 250m of the site, eight of which are recorded on site. These relate to unspecified disused tips, refuse heaps, ponds and unspecified pits.

3.5 Hydrogeology

The underlying bedrock is classified as a Secondary A Aquifer. These are described as *'Permeable layers capable of supporting water supplies at a local rather than strategic level, and in some cases forming an important source of base flow to rivers'*.

The site is not within a designated groundwater source protection zone; there are no source protection zones within 500m of the site.

The GS report indicates that the risk of groundwater flooding is negligible. The risk of groundwater flooding occurring at the site should be assessed based on site specific information.

There are no recorded active groundwater abstraction licences within 1km of the site.

3.6 Hydrology

There is a drain located on the site, described in the GS report as a man-made watercourse both underground and at ground level for the *'removal of excess water from an area'*.

There are no recorded active licenced surface water abstractions within 1km of the site.

There is one recorded active licenced discharge consent to controlled surface water within 500m of the site. This is located approximately 428m south of the site at Redbrook Road Combined Sewer Overflow. This is for the discharge of sewer storm overflow to Redbrook.



There are no recorded (red list) pollutant releases to surface waters within 500m of the site.

There are no records of pollutant releases (special category effluent) to the public sewer within 500m of the site.

Information on the gov.uk website and provided in the GS report indicates that the site lies within Flood Zone 1, i.e. <1 in 1,000 (0.1%) chance of flooding each year.

There are records of three flood events occurring within 250m of the site dating from 2000, the closest of which occurred approximately 192m to the west of the site in 2007.

The Groundsure report indicates that the highest risk of surface water flooding occurring on the site is 1 in 100-years with a depth between 0.3m and 1.0m. The risk of surface water flooding occurring at the site should be assessed based on site specific information.

3.7 Pollution Incidents

There are two recorded Environment Agency Pollution Incidents within 500m of the site. Both of these recorded minor or no impact to water, land or air.

3.8 Environmental Permits and Registers

There are no records of active or historical Control of Major Accidents Hazard (COMAH) sites or Notification of Installations of Handling Hazardous Substances (NIHHS) sites within 500m of the site.

There are no historical Integrated Pollution Control (IPC) records of substance releases to air, land or water within 500m of the site.

There are no active recorded Part A(1) licensed industrial activities within 500m of the site.

There are no active recorded Part A(2) licensed pollutant releases within 500m of the site.

There are five active recorded Part B licensed pollutant releases within 500m of the site.

There is one active Radioactive Substance Authorisation within 500m of the site. This is located approximately 207m south of the site at Static Solutions Limited for the disposal of radioactive waste.

There are no records of sites determined as Contaminated Land under Part 2A of the Environmental Protection Act (EPA) 1990 within 500m of the site.



3.9 Landfills and Waste

The Groundsure report includes information on recorded active, recently closed and historical landfill sites supplied by the EA, Local Authority and the BGS.

There are no recorded active or recently closed landfill sites within 500m of the site.

However, there are eight records of historical landfill sites within 500m of the site.

Table 3.9 - Summary of Recorded Historical Landfill Sites within 250m of the site

Distance and Direction from the Site	Site Address & Licence Holder Address	Operator	Waste Type	Site Reference	License Issue and Surrender
On Site	Whaley Road, Claycliffe Industrial Estate, Barugh, Barnsley AMCO Industries Holdings Limited, PO Box 1, Whaley Road, Barugh, Barnsley	AMCO Limited	Inert, Commercial	4400/B502, 20B502(81), WD20 B502.	Issue 24/03/1986 Surrender 22/07/1992
On Site	Tipping of Builders Waste opposite Whaley Road, Barugh, Barnsley AMCO Industries Holdings Limited, AMCO Compound, Whaley Road, Barugh, Barnsley	Longden Homes	Inert, Commercial	WD24 B378, 4400/B375, 20B375(84), WD20 B375	Issue 14/04/1983 Surrender 02/07/1984
128m SE	Land to East of Whaley Road, Barugh Green, Barnsley Autogel Limited / Mydrinlts, 31 Bence Lane, Darton	Mydrin Limited	Inert, Commercial	WD20 B1050	Issue 15/03/1994 Surrender -
141m S	South Yorkshire Industrial Estate, Redbrook, Barnsley Northern Properties Limited, Western House, Place Du Commerce, St Peter Port, Guernsey	Northern Properties Limited	Inert, Commercial	4400/B392, 20B392(87), WD20 B392	Issue 02/09/1983 Surrender 29/01/1990
188m NW	Land off Whaley Road, Claycliffe Industrial Estate, Barugh Green, Barnsley. Mr. C. Langfield, 3 The Balk, Staincross, Barnsley	Mr. C. Langfield	Inert	WD20 B488, 4400/B488, 20B488(97)	Issue 21/10/1985 Surrender 01/11/1994

There are a further four historical landfill sites within 500m of the site.

There are two recorded historical waste sites within 500m of the site. Both of these were located on the site. One of these refers to 'ground workings and refuse heap', which is shown on the 1962 historical mapping. The second refers to the conversion of the site to a B2 waste recycling centre.



There is one recorded active licenced waste site within 500m of the site. This is located on the site. It is an inert and excavation waste transfer station with treatment, which is operated by Wordsworth Crushing Limited. The licence was issued on the 22 May 2012.

There is one recorded closed licenced waste site within 500m of the site. This is located on the site. The type of site is not provided. This was also operated by Wordsworth Crushing Limited. The licence was surrendered on the 8 April 2025.

There are numerous recorded waste exemptions within 500m of the site. These include the storage and treatment of waste, sorting and de-naturing of controlled drugs for disposal and use of waste in construction.

3.10 Radon Risks

The east of the site is in a radon affected area as defined by Public Health England with between 3% and 5% of properties above the action level. In accordance with the Building Research Establishment (BRE) publication BR211, basic radon protective measures are required for new properties constructed on the site.

The remainder of the site is not in a radon affected area with between 1% and 3% of properties above the action level. Radon protective measures will not be required in this part of the site.

3.11 Unexploded Ordnance

The site is presented as a low UXO risk on online mapping supplied by Zetica UXO.

3.12 Additional Information

There are no records of historical petrol stations within 500m of the site.

There is a record of a historical garage located approximately 16m to the south of the site.

3.13 Previous Reports

The reports referenced below have been provided for review. A brief summary of pertinent information relevant to the proposed development is provided.

- ByrneLooby. Phase 1 Geo-Environmental Report. Whaley Road, Barugh Green, Barnsley. Report No. 14-K0030-000-ST-R001, dated 6 August 2021.
- ByrneLooby. Phase 2 Site Investigation Report. Whaley Road, Barugh Green, Barnsley. Report No. K0030-BLP-ENV-R-003, Dated 18 March 2022.

The Phase 1 Report, which covered the eastern part of the site only, includes a review of historical coal mining and the environmental setting of the site.



Considerations are presented for potential geotechnical and environmental risks on the site. These are summarised below.

The conceptual site model identified a moderate risk associated with the potential migration of potentially contaminated groundwater from both on and off site sources.

- A high risk was identified in relation to the potential for ground gas migration and accumulation from both on and off site sources.
- A potential risk to the development from historical coal mining was identified. The report recommended that a coal mining risk assessment should be carried out.

The report recommended that a ground investigation be carried out to determine depths and nature of the made ground, obtain and submit samples for geotechnical and environmental laboratory analysis and hazardous ground gas monitoring.

The ground investigation was carried out across a larger site area than that covered by the Desk Study Report (but does not cover the full extent of the current site boundary).

Site work was undertaken on the 8 and 9 of November 2021 and comprised five window sample boreholes and five trial pits. Soakaway tests were carried out in two of these pits.

Hazardous ground gas and groundwater monitoring wells were installed in three of the window sample boreholes. These were monitored on six occasions. A photo ionisation detector was used during the monitoring to identify any hydrocarbon vapours present (none were detected).

Four types of made ground were identified on-site, as described below. Maximum depths below ground level are provided.

- Material from imported crushing stockpile, comprising brown sandy gravelly clay with wood, clinker and timber (>2.7m, base not proven).
- Compacted running surface, comprising brown silty sandy gravel of concrete, brick and limestone. Maximum depth 1.0m.
- Coke works tip waste, comprising soft black sand, gravel and silt with brick, concrete, limestone, tile, mudstone, coal, ash, clinker and a tree trunk (>5.45m, base not proven).
- Reworked natural ground, comprising firm brown mottled grey, slightly sandy, slightly gravelly clay. Maximum depth 2.0m.

Made ground was found to be underlain by drift deposits, to depths of between 2.0m and 6.1m. This was in turn underlain by weak weathered mudstone.



Hydrocarbon odours were identified in the made ground. However, based on commercial thresholds, it was determined that no significant contamination was present on the site and therefore there is a negligible risk to receptors.

Soakaways were not considered to be appropriate for the site following testing.



4.0 ENVIRONMENTAL RISK ASSESSMENT

4.1 Introduction

The statutory definition of contaminated land is given in the Environmental Protection Act, Part 2A, Section 78, 1990, which was introduced by the Environment Act, Section 57, Department of Environment, 1995 and is defined as:

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 there is a significant possibility of such harm being caused (where harm is defined as harm to health of living organisms or other interference with the ecological systems of which they form a part and, in the case of man, includes harm to his property); and/or
- Significant pollution of controlled waters is being caused, or there is a significant possibility of such pollution being caused (by the land).

The presence of contaminated materials on a site is generally only of concern if an actual or potentially unacceptable risk exists. The potential for harm to occur requires three conditions to be satisfied:

- Sources – The presence of substances (potential contaminants/pollutants), in or under the ground, that may cause harm or pollution.
- Receptors - The presence of a receptor which may be harmed, e.g. the water environment or humans, buildings, fauna and flora; and
- Pathway - The existence of a linkage between the Source and the Receptor.

In summary, the presence of measurable concentrations of contaminants within the ground and subsurface environment does not automatically imply that a contamination problem exists, since contamination must be defined in terms of pollutant linkages and an unacceptable risk of harm to available receptors.

The nature and importance of both pathways and receptors, which are relevant to a particular site, will vary according to the sensitivity of the intended end use of the site and the site's characteristics and environmental setting.

Legislation and guidance on the assessment of contaminated sites acknowledges the need for a tiered risk-based approach. This is set out in the Environment Agency's manual Land Contamination: Risk Management (LCRM), published in October 2020 and last updated on 20 July 2023.



The LCRM outlines the following stages of risk assessment:

Tier 1: Preliminary risk assessment (PRA)	As part of this assessment, the overall site objectives are defined. Current and historical information about the site and the potential contaminants expected to be present are assessed and an outline conceptual model (CM) is developed. The risks are assessed qualitatively, and the findings reported in the PRA (or desk study). The report recommends what further works would be required in order to assess whether the site is suitable for its proposed use.
Tier 2: Generic quantitative risk assessment (GQRA)	The GQRA uses Generic Assessment Criteria, and a standard set of generic assumptions based on specific end uses in order to assess the risks to receptors. It includes the collection of more detailed information including laboratory analysis of soil and water samples in order to inform and assess the risks.
Tier 3: Detailed quantitative risk assessment (DQRA)	If pollutant linkages are confirmed as part of the GQRA, these are known as relevant pollutant linkages (RPLs) and further detailed assessment is required. At this tier, detailed site-specific information is collected to estimate the risk or to develop site-specific assessment criteria (SSAC). This may include collecting information about the receptor.

This Desk Study Report represents a Tier 1 Preliminary Risk Assessment.

4.2 Potential Sources

The following potentially contaminative sources may be present on or adjacent to the site:

- Made ground on the site associated with the historical coke works, railway sidings, spoil heaps, cuttings, disused tips, crushing works and current land use.
- Potential leaks and/or spills from above ground fuel storage tanks and vehicles associated with current uses.
- Made ground immediately beyond the site associated historical activities, including the former coke & by-product works, railway sidings and opencast coal workings/infilled ground.

Potential contaminants which could be present on the site are listed below:

- Metals, metalloids and their compounds.
- Inorganic compounds, e.g. arsenic.
- Asbestos fibres/asbestos containing materials.
- Organic compounds including speciated polycyclic aromatic hydrocarbons (PAH) and speciated petroleum hydrocarbons (TPHCWG).



- Volatile and semi-volatile organic compounds (VOC/SVOC).
- Hazardous ground gases/soil vapours.

4.3 Potential Pathways

Based on the available information and the proposed development of the site for a commercial end use, the following potential exposure pathways will require consideration, both during the development works and on completion of construction:

- Ingestion and/or dermal contact with contaminated soil and groundwater.
- Inhalation of hazardous ground gases/soil vapours/asbestos fibres.
- Leaching/migration of potential contaminants from soil into groundwater and surface water via surface infiltration, drainage and/or groundwater flow; and
- Permeation of water supply pipes and other services by organic and aggressive contaminants; and

4.4 Potential Receptors

The potential receptors considered are:

- Development workers and future maintenance workers involved in excavations, e.g. foundations or where services are being installed or repaired following development.
- Adjacent site users, i.e. members of the public.
- Future end users of the site, i.e. employees
- Controlled waters, i.e. underlying Secondary A aquifer and surface water drain crossing the site.
- Buildings and infrastructure; and
- Landscaped areas.

4.5 Pollutant Linkage Assessment

A potential pollutant linkage assessment has been completed and is summarised in the Conceptual Site Model (CSM), which is provided in Section 4.6. This is based on the proposed development of the site for a commercial end use.

Based on the proposed end use and history of the site, the following potential pollutant linkages may be present:

- Development and maintenance workers and future site end users could come into contact with soils and groundwater containing elevated concentrations of potential contaminants and hazardous ground gases/soil vapours.



- Controlled surface waters could become contaminated due to leaching and migration of potential contaminants from the made ground.
- The underlying Secondary A aquifer and nearby surface waters could become contaminated due to the leaching and migration of potential contaminants from the made ground.
- Buildings and services could be affected by potential contaminants in the made ground.

These are based on current site conditions and do not consider exposure pathways following any remediation of the site as part of the proposed development.



4.6 Conceptual Site Model & Risk Rating

The conceptual model is summarised in Table 4.6 below.

Table 4.6 Preliminary Conceptual Model

Source	Pathway	Receptor	Risk Rating	Comments
On-site Sources Made ground on the site associated with the historical coke works, railway sidings, spoil heaps, cuttings, disused tips, crushing works and current land use.	Ingestion. Dermal contact. Inhalation	Development workers. Future maintenance workers. Adjacent Site Users Members of the public. Future Site Users	Low to Moderate	Ground investigation to confirm the thicknesses and nature of the made ground and establish the concentrations of potential contamination, including hazardous ground gases present. Appropriate health and safety procedures to be in place during the construction phase of the development.
Potential leaks and/or spills from above ground fuel storage tanks and vehicles associated with current uses. Off-site Sources Made ground immediately beyond the site associated historical activities, including the former coke & by-product works, railway sidings and opencast coal workings/infilled ground.	Leaching/ migration of potential contaminants from soil into groundwater and surface water via surface infiltration, drainage and/or groundwater flow.	Controlled Waters Surface Water Drain crossing the site. Groundwater Secondary A Aquifer.	Low	Ground investigation to obtain samples to submit for leachability testing and samples of groundwater, of present. Establish the concentrations of potential contamination present. There is one recorded active licence discharge consents to surface water within 500m of the site. There are no active groundwater or surface water abstractions licences within 1km of the site. Site is not located within a Groundwater Source Protection Zone.
Aggressive Contaminants in Soil/Water	Direct contact.	Construction Materials Concrete and Services, e.g. water supply pipes.	Low to Moderate	Samples of made and natural ground should be obtained and submitted to the laboratory for testing in order to assess the sulphate content and acidity.
Areas of Phytotoxic Contamination.	Root uptake.	Vegetation. Landscaping and gardens.	Low	Ground investigation and sampling to establish levels of any phytotoxic contamination present.



4.7 Risk Classification

Based upon the conceptual site model, the site is considered to be low to moderate risk with respect to potential contamination. This designation will be largely dependent on the nature of any made ground and hazardous ground gases present on or adjacent to the site.

In order to assess further and classify the risks to human health, groundwater, surface water and buildings/services, a Phase 2 Geoenvironmental Ground Investigation, to include a Tier 2 Generic Quantitative Risk Assessment, will be required. The Phase 2 Geoenvironmental Ground Investigation will include chemical analysis of soils, leachate and groundwater as well as hazardous ground gas monitoring.



5.0 PRELIMINARY ENGINEERING ASSESSMENT

5.1 Development Proposals

A site layout plan for the proposed development has been provided. This is referenced below and a copy is provided in Appendix A.

- AJA Architects. Proposed VMU & External Works, Whaley Road, Barnsley. Proposed Site Plan. Drawing No. 7628-010 D, dated 30.07.26.

This shows the proposed Vehicle Maintenance Unit building in the west of the site, with extensive areas of hardstanding, comprising mostly vehicle parking across the remainder of the site.

5.2 Mining

An unnamed inferred coal seam, oriented approximately southwest to northeast passes through the approximate centre of the site. The Dunsil seam, with a similar orientation, is inferred to outcrop immediately west of the site.

The on-line MRA interactive map shows parts of the site, immediately east of the inferred coal outcrops, to be high risk development areas.

The CON29M Coal Mining Report states that the property is in an area where the Coal Authority believes there is coal at or close to the surface which may have been worked at some time in the past; and that the potential presence of coal workings at or close to the surface should be considered.

The Consultants Coal Mining Report states that the Dunsil and the unnamed coal seam are both stated to be 'workable'. However, it also states that there are no probable unrecorded shallow workings beneath the site.

Based on the information reviewed to date, the land to the east of the Dunsil seam is shown to comprise natural ground. However, the land to the east of the unnamed seam comprises made ground associated with the former tip. The unnamed seam may, therefore, have been extracted at shallow depth as part of the works associated with the former tip.

On this basis, the presence of unrecorded shallow workings associated with both the Dunsil seam, and the unnamed seam cannot be discounted. This will need to be confirmed as part of a ground investigation.

If any shallow coal workings within influencing depth of the surface are proven beneath the site, then these will require stabilising, e.g. drilling and grouting, prior to development.

There are no recorded mine entries on the site.



5.3 Foundations

Ground conditions in the west of the site are anticipated to comprise natural ground at shallow depth comprising weathered Pennine Middle Coal Measures bedrock of mudstone, siltstone and sandstone with coal seams. In the central and eastern parts of the site, the natural ground will be overlain by made ground of variable depth.

The proposed unit is located in the west of the site. Due to the anticipated absence of made ground in this part of the site, a shallow foundation solution, e.g. pads, founding in the natural ground would be suitable for the site. This will need to be confirmed as part of a ground investigation.

5.4 Earthworks

Any earthworks should be carried out in accordance with the National Highways Manual of Contract Documents for Highway Works, Geotechnics Construction, CC 601 Earthworks (formerly Series 600), Version E/1.0.0.

5.5 Groundwater

The presence of groundwater will need to be assessed as part of any ground investigation.

5.6 Obstructions

The presence of obstructions is considered likely in the made ground and will need to be assessed as part of any ground investigation.

5.7 Roads, Pavements and Hardstanding Surfaces

It is recommended that, at this stage, a conservative bearing value for the subgrade is assumed until the nature of the subgrade can be physically assessed.

Any earthworks should be designed to achieve a suitable CBR value for the proposed development.

5.8 Potentially Combustible Soils

Due to the presence of coal bearing strata at or close to the ground surface, there is the potential for shallow soils to contain coal. In order to assess their potential combustibility, samples of the shallow soils should be obtained and submitted to the laboratory for caloric value testing.

5.9 Chemical Attack on Buried Ground

Samples of made and natural ground should be obtained and submitted to the laboratory for testing in order to assess the sulphate content and acidity and hence, the concrete class required for buried concrete to the latest standard.



6.0 FURTHER INVESTIGATIONS

It is recommended that a ground investigation is carried out in order to further assess the potential environmental and geotechnical constraints to the proposed development. A proposed scope of works is provided below.

- Trial pits in order to assess the nature of the shallow subsurface and confirm the depth and distribution of the made ground. These will be target historical features, e.g. pond, railway sidings, and will also provide general site coverage. Trial pits will also enable samples to be obtained to submit for geotechnical testing in order to assess the suitability of the material for re-use in earthworks.
- Cable percussive and window sample boreholes with in-situ tests in order to assess the ground conditions at the site and confirm the composition, extent, depth, and nature of any made ground and underlying natural ground. The boreholes will enable the installation of hazardous ground gas and groundwater monitoring wells.
- Rotary open hole boreholes to investigate for the presence of shallow coal workings in the Dunsil seam and the unnamed seam which are inferred to outcrop on the site.
- Chemical analysis of soil, leachate and water samples in order to determine the concentrations of potential contamination on the site and classify selected materials for disposal off-site (not including WAC testing).
- Geotechnical testing to classify materials and inform foundation design and chemical testing to assess the Aggressive Chemical Environment for Concrete Classification.
- Monitoring of gas and groundwater wells for hazardous ground gases, methane, carbon dioxide, oxygen and flow rate to the requirement of the Local Authority.

On completion of the above, a Phase 2 Geoenvironmental Ground Investigation Report, to include a Tier 2 Generic Quantitative Risk Assessment, and engineering recommendations will be prepared.



Appendix A Figures & Drawings

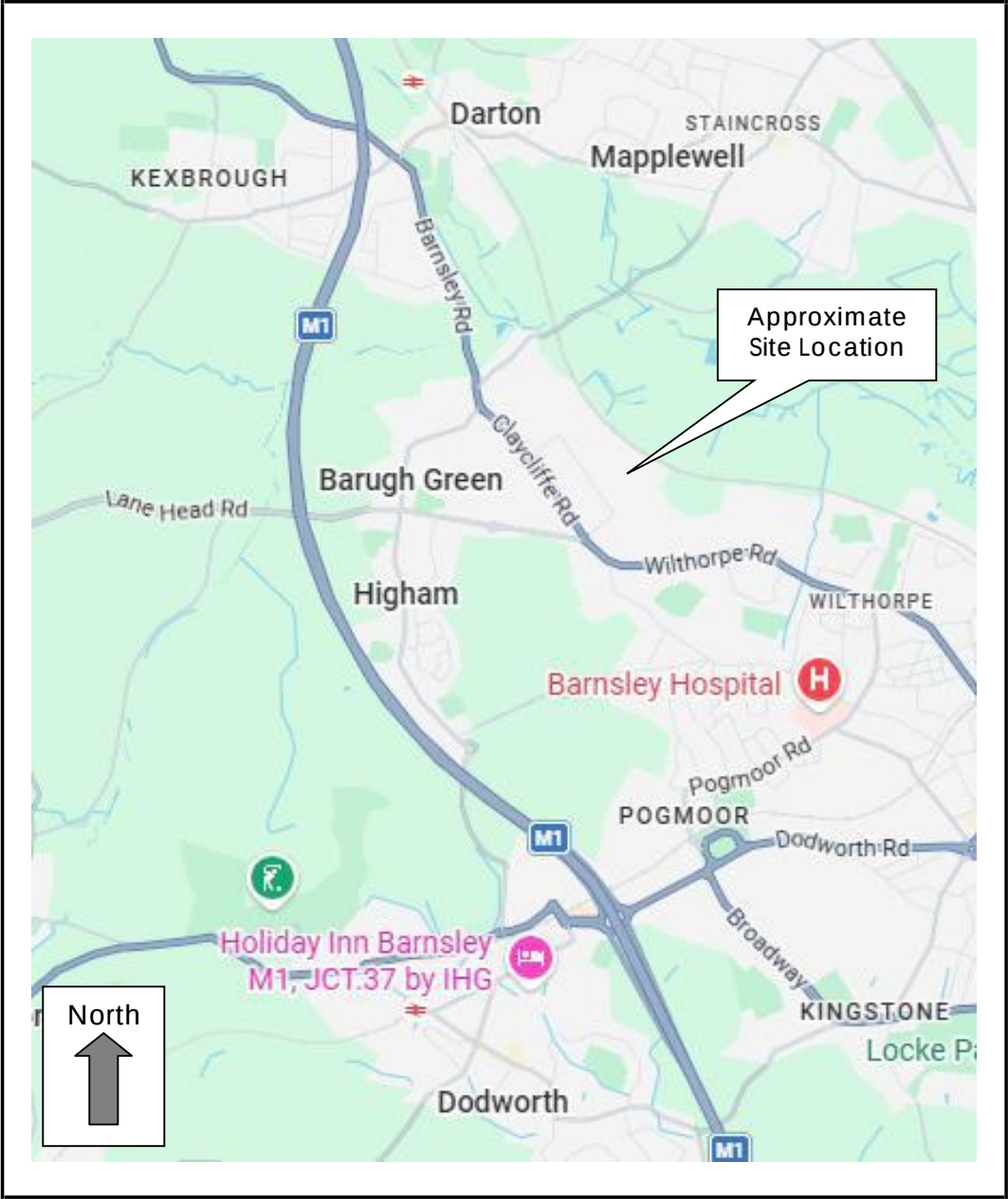


Figure 1 – Site Location Plan	
Site	Land off Whaley Road, Barugh Green, Barnsley
Client	Wordsworth Property Partnership
Job Number	6709
Scale	NTS

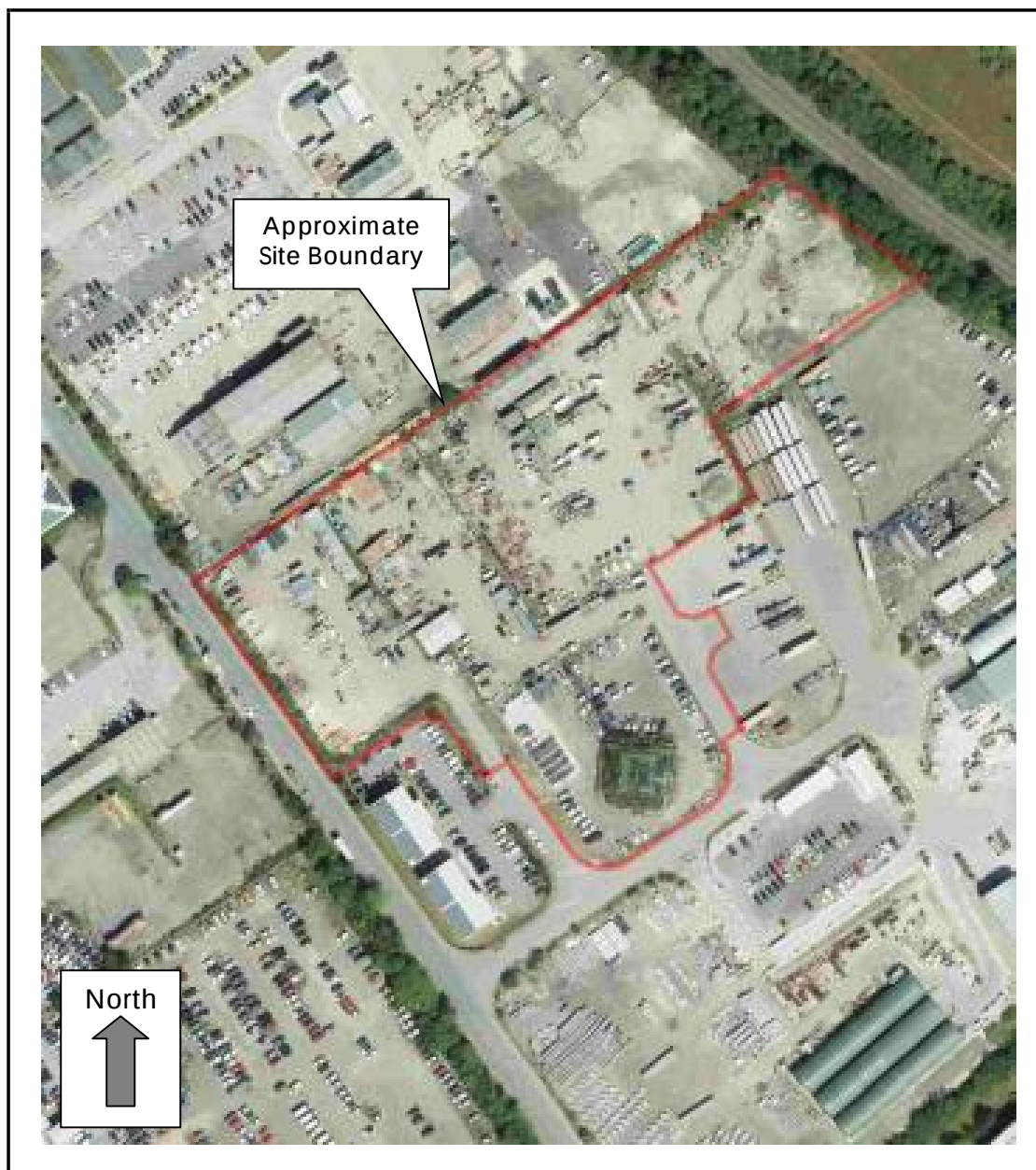


Figure 2 – Aerial Photograph	
Site	Land off Whaley Road, Barugh Green, Barnsley
Client	Wordsworth Property Partnership
Job Number	6709
Scale	NTS



notes

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N

0m

25m

50m

Scale 1:500

Schedule of Areas (GIA)		
VMU	13,100 sq.ft.	1,217 sq.m.
Single Storey Offices	2,030 sq.ft.	189 sq.m.
(Area includes blockwork perimeter)		
Total	15,130 sq.ft.	1,406 sq.m.
Car Parking (inc. 2No. EV Spaces)	20 spaces	
Ancilliary Parking (Indicative only)	114 spaces	
Vehicle Parking (16x4m spaces)		
Total	55 spaces	
Planning Boundary	5.48 acres	2.22 ha.

D	30.07.26	Minor update	Zi
C	30.07.26	Minor update	Zi
B	27.07.26	Landscaping updated	Zi
A	30.06.26	Red line updated	Zi
no.	date	revision	by

aja architects

aja architects

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Herald Avenue

Coventry Business Park

COVENTRY CV5 6UB

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W: www.aja-architects.com

AJA Architects is the trading style of AJA Architects Consulting Limited (a limited company no. 1069279) and AJA Architects LLP (a limited liability partnership registered in England No. OC36721).

client

Wordsworth Property Ltd

project

Proposed VMU & External Works
Whaley Road
Barnsley

drawing

Proposed Site Plan

scale	1:500 @ A1	drawn	Zi
checked	spp	date	26-06-2026
no			

7628-010 D



Appendix B Site Photographs



Photograph 1: Southwest Access to West Tenant.



Photograph 2: Western Tenant Compound.



Photograph 3: Western Tenant Compound.



Photograph 4: Southern Car Parking and Pylon Retaining Feature.



Photograph 5: Southern Car Parking.



Photograph 6: Entrance to Central Tenant Compound.



Photograph 7: Central Tenant Compound.



Photograph 8: Entrance to East Compound (Wordsworth).



Photograph 9: Wordsworth Compound Area.



Photograph 10: Wordsworth Compound Looking Northeast, Crushing Area.



Appendix C Historical Maps

Site details: Whaley Road
 Client ref: CMAPS-JPG-1276153-6775-050526
 Report ref: CMAPS-JPG-1276153-6775-050526HIS
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 Production date: 5 May 2026

Map name: County Series
 Map date: 1854-1855
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 Printed at: 1:10,560



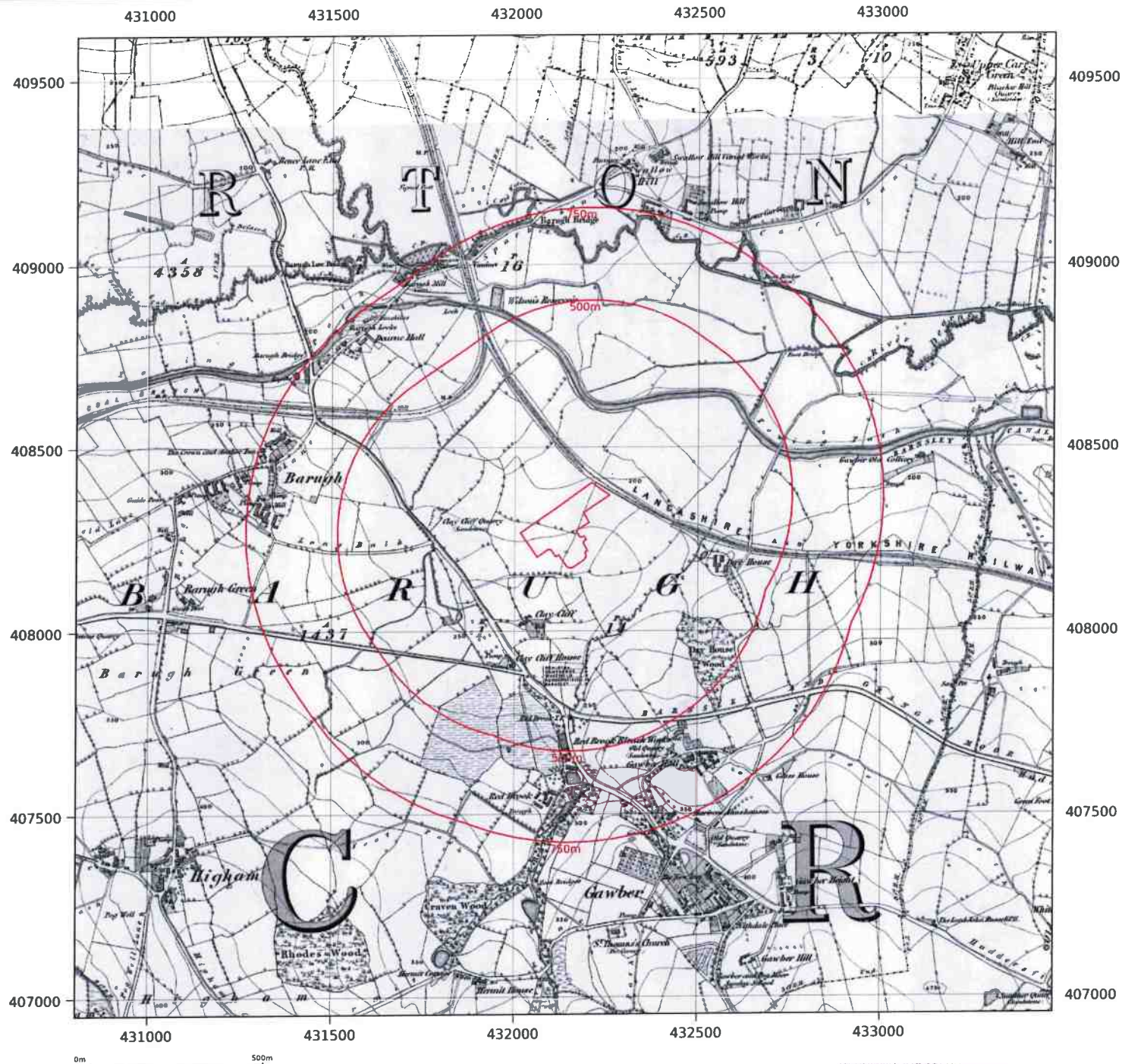
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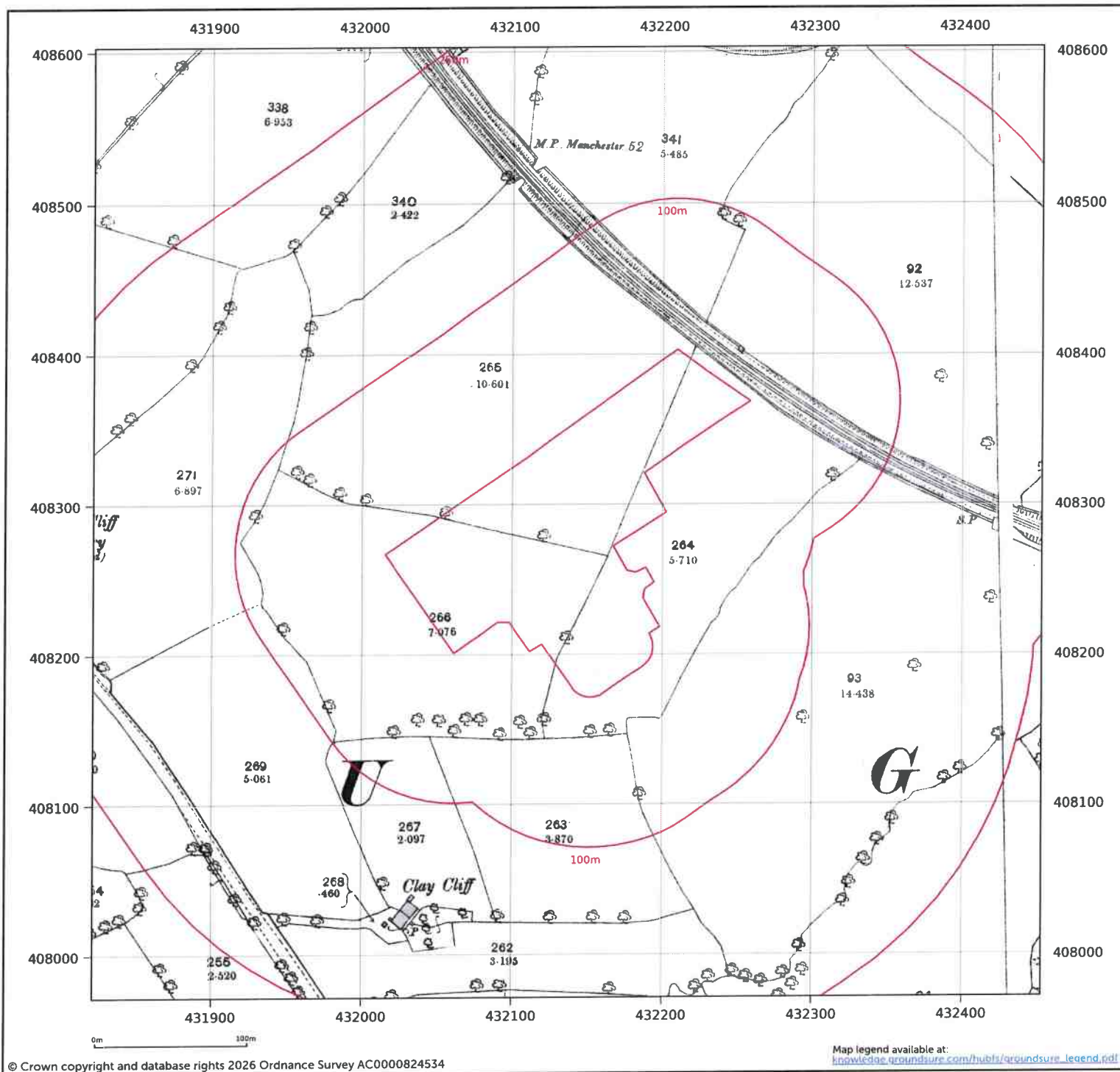
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 Surveyed: 1851
 Edition: 1855

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Site details:	Whaley Road
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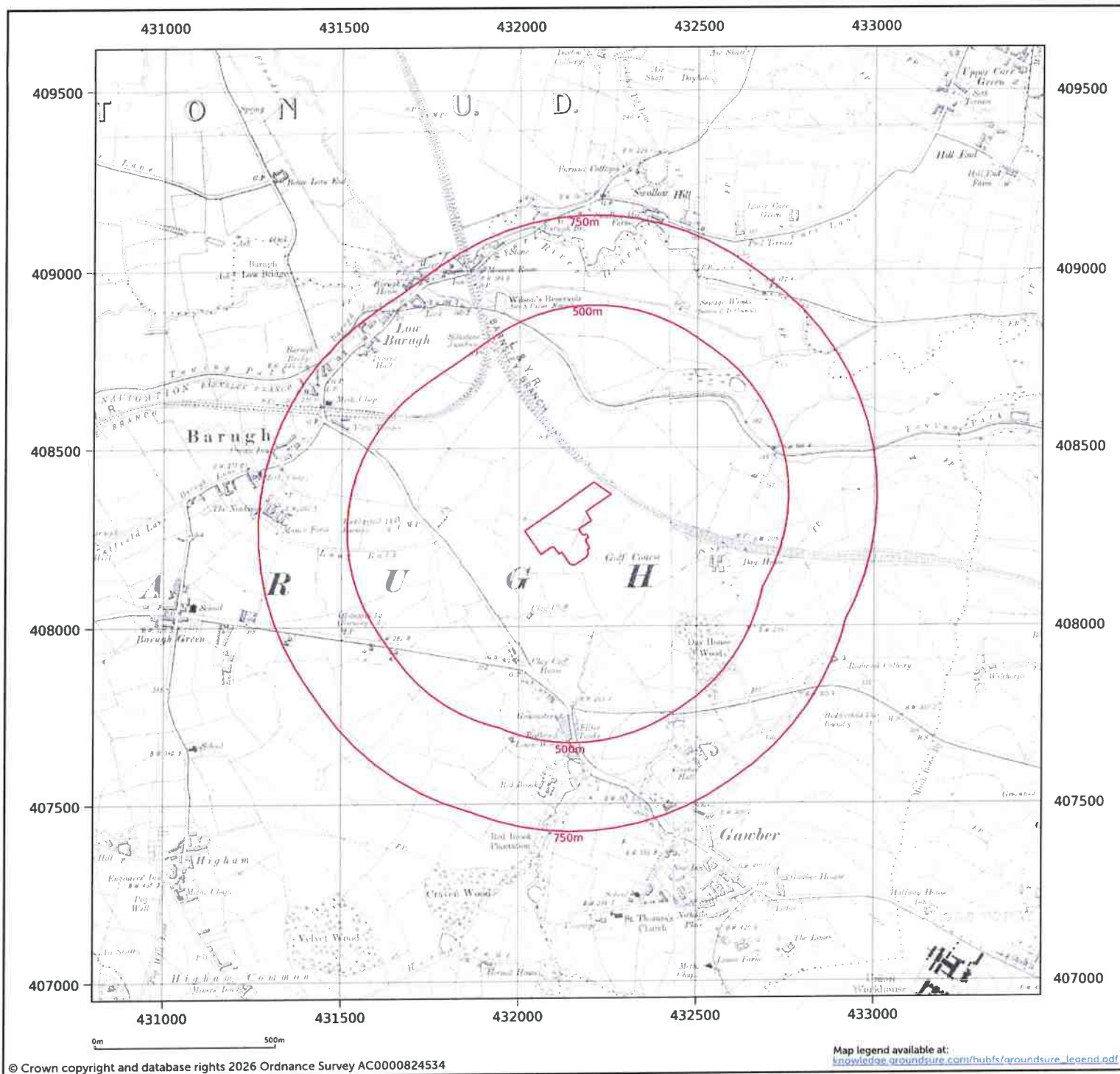


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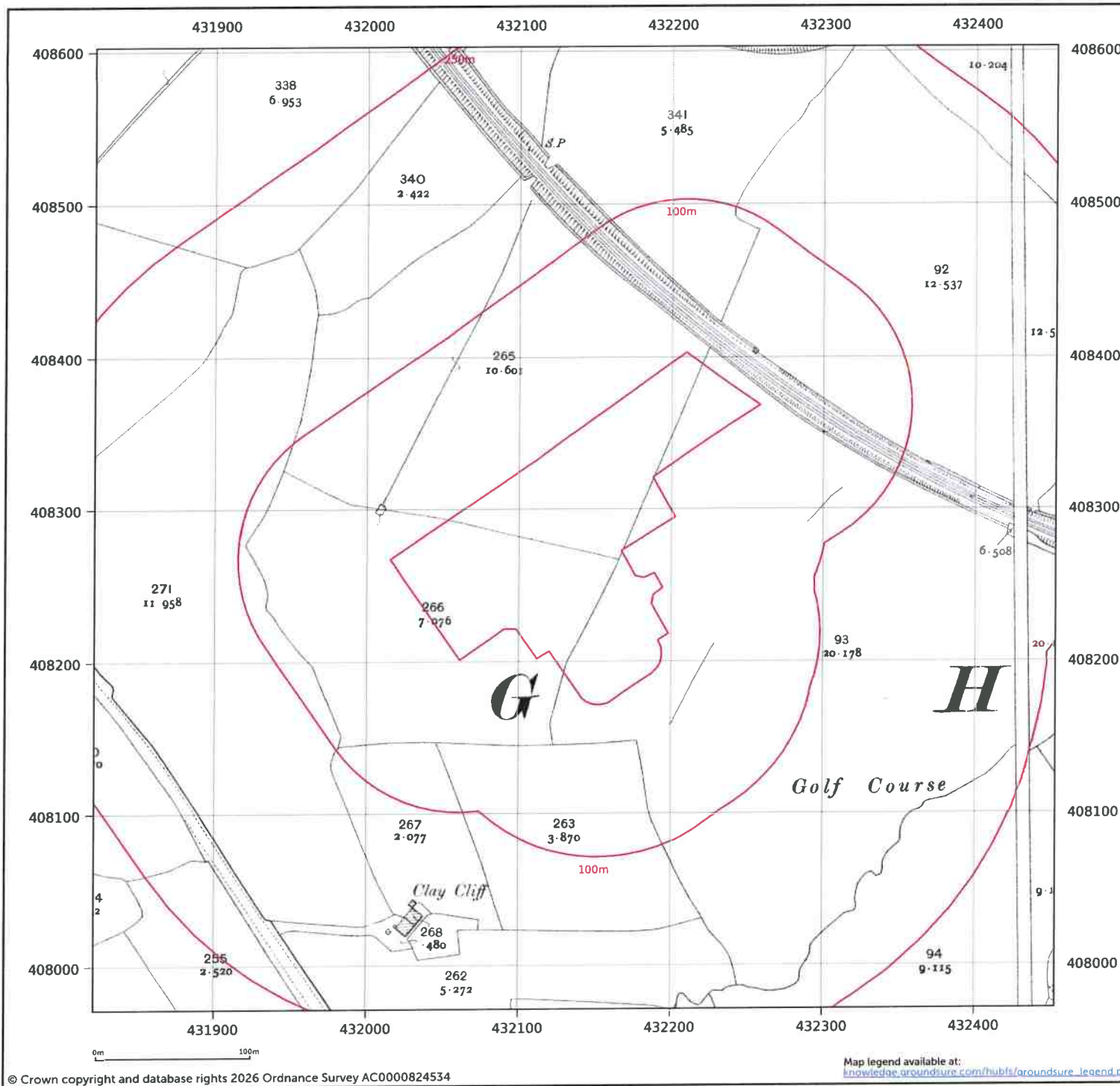
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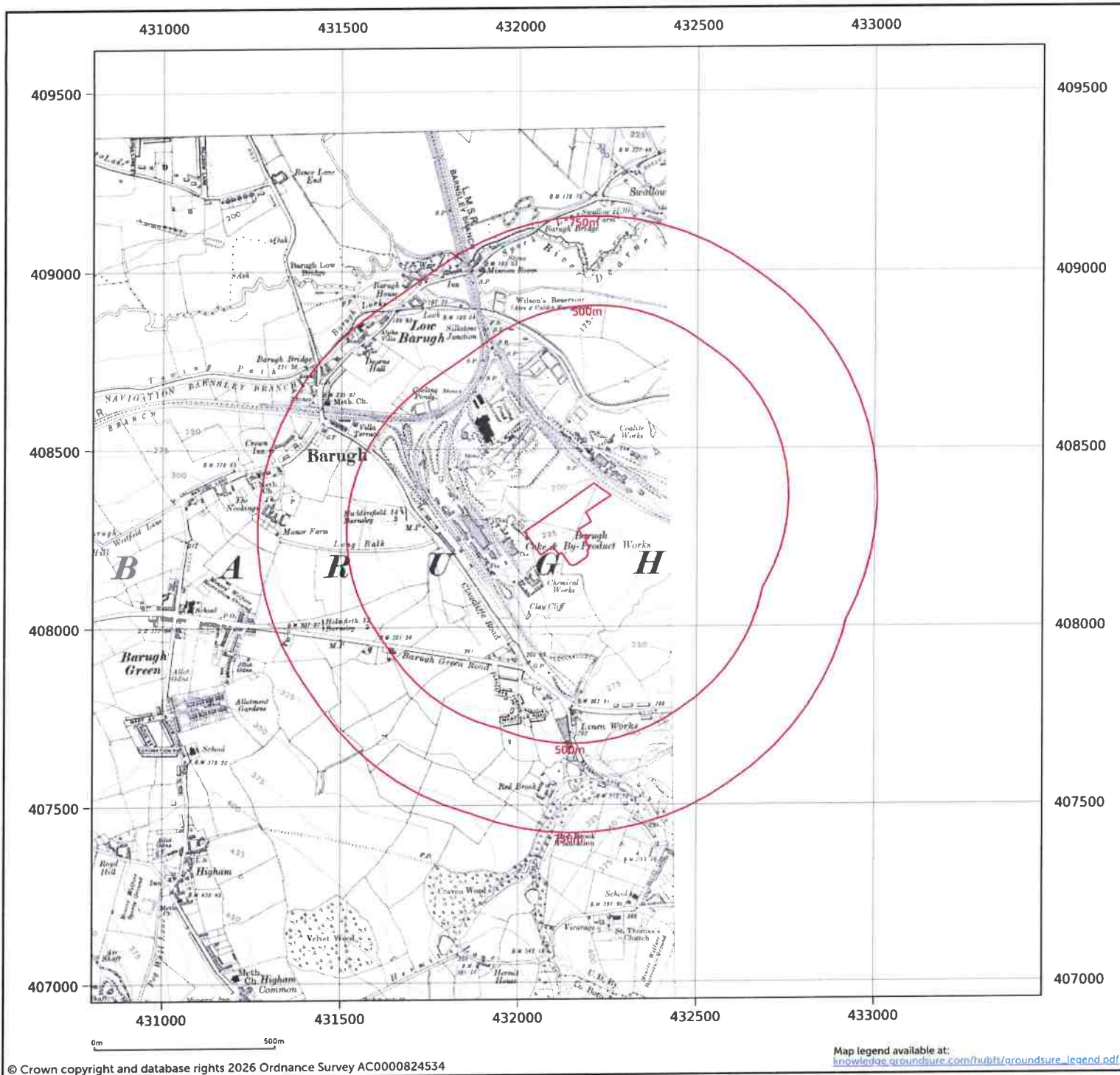
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Surveyed: 1851
Revised: 1929

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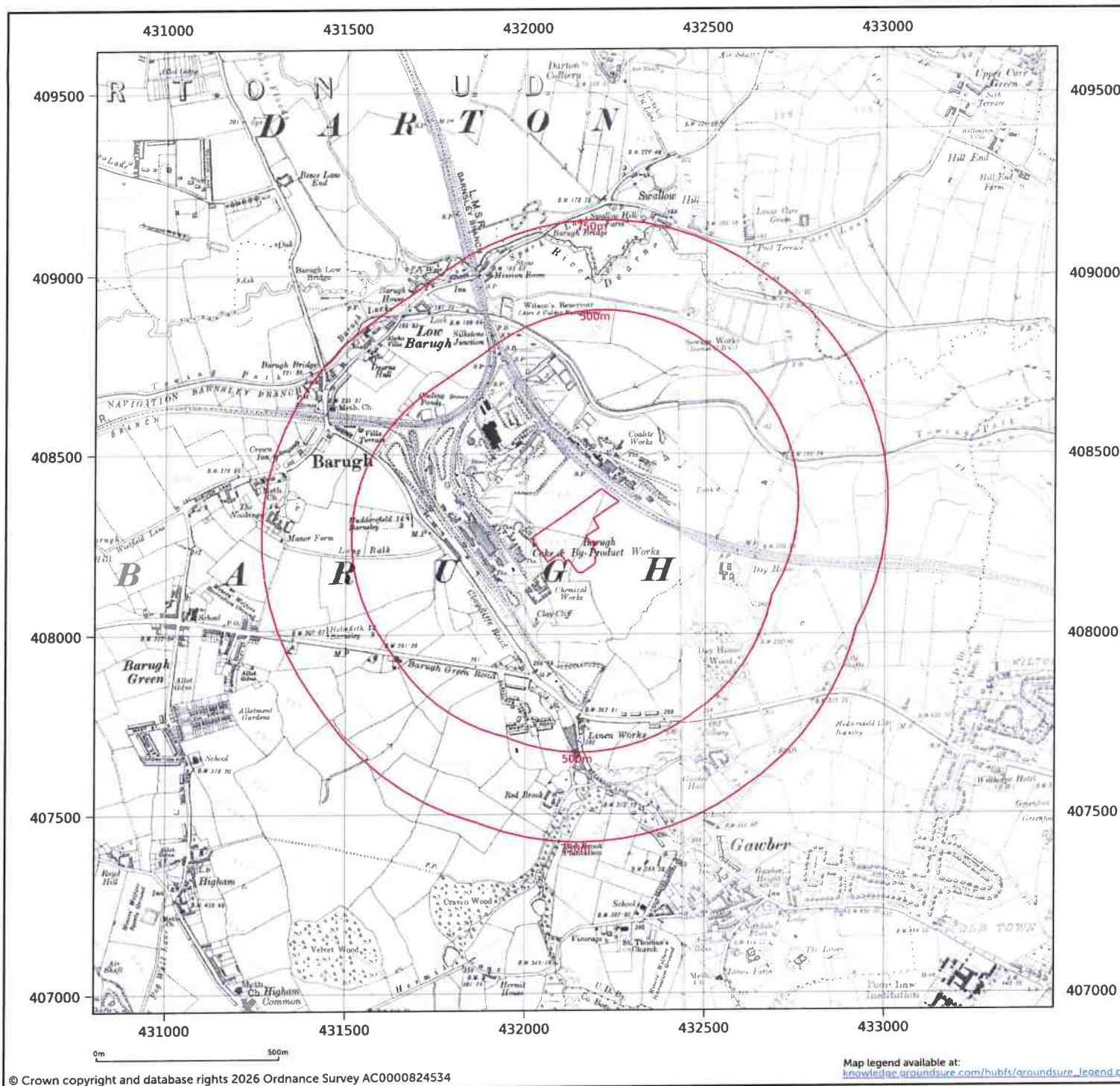
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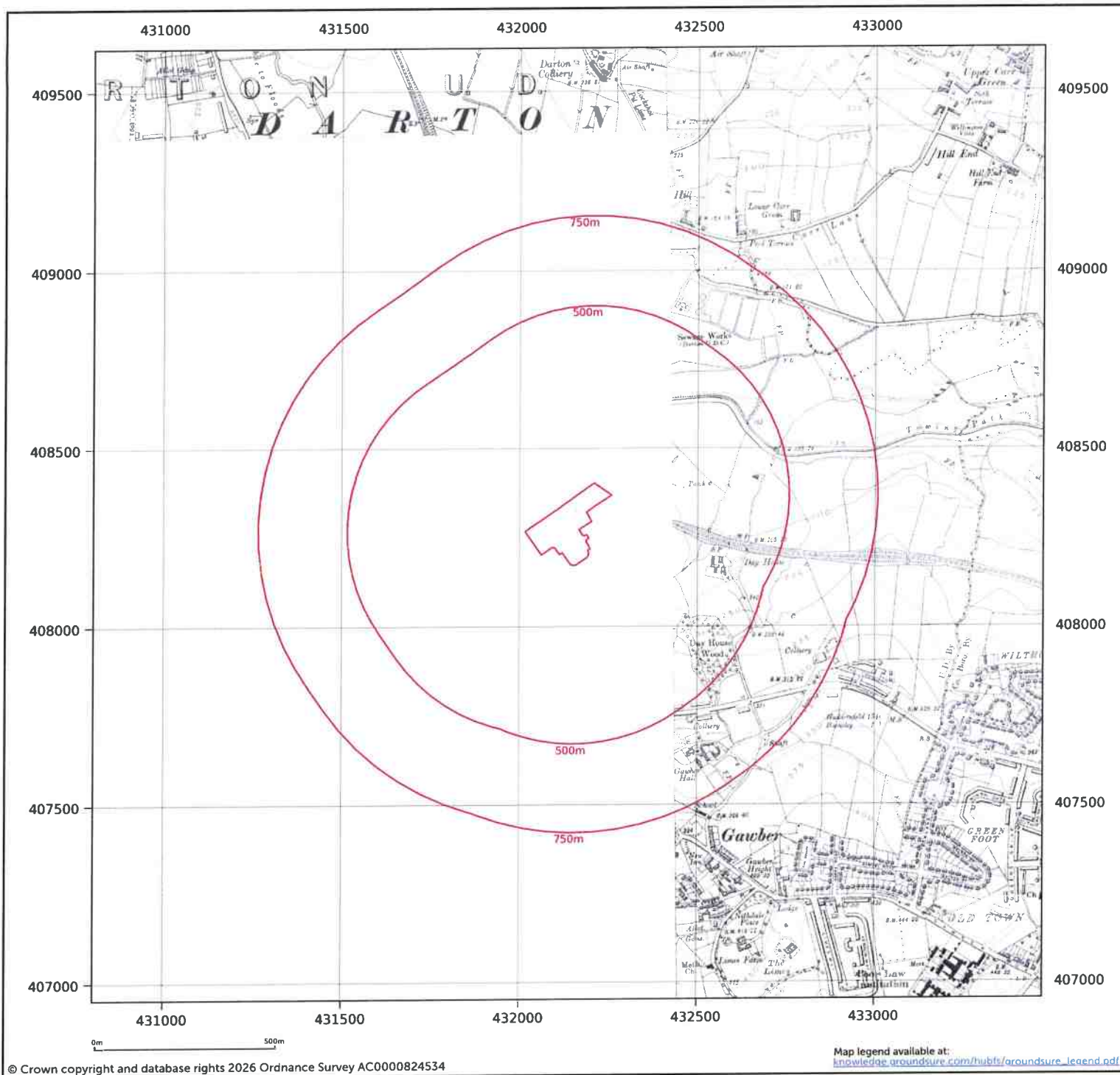


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Site details: Whaley Road
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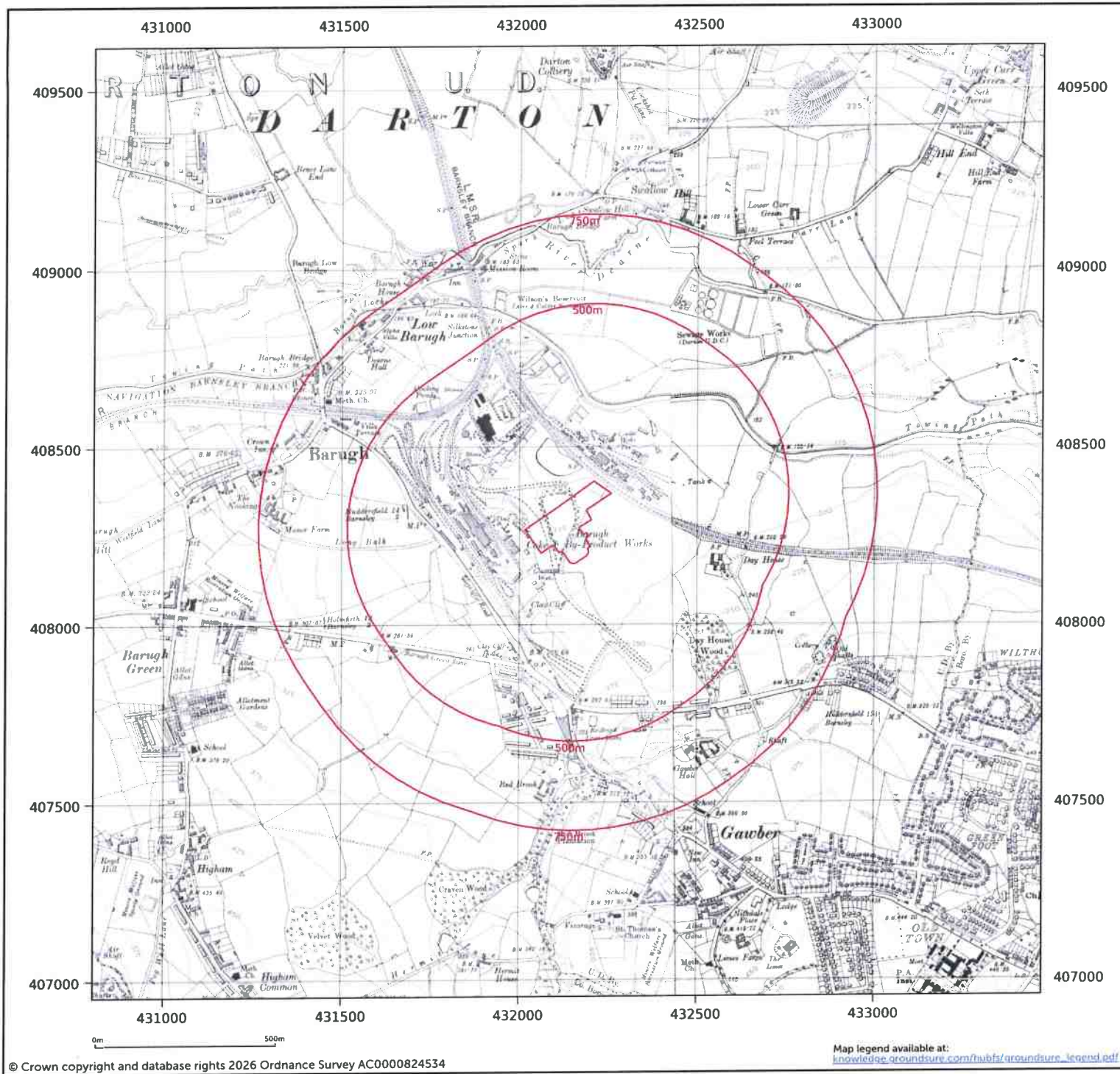
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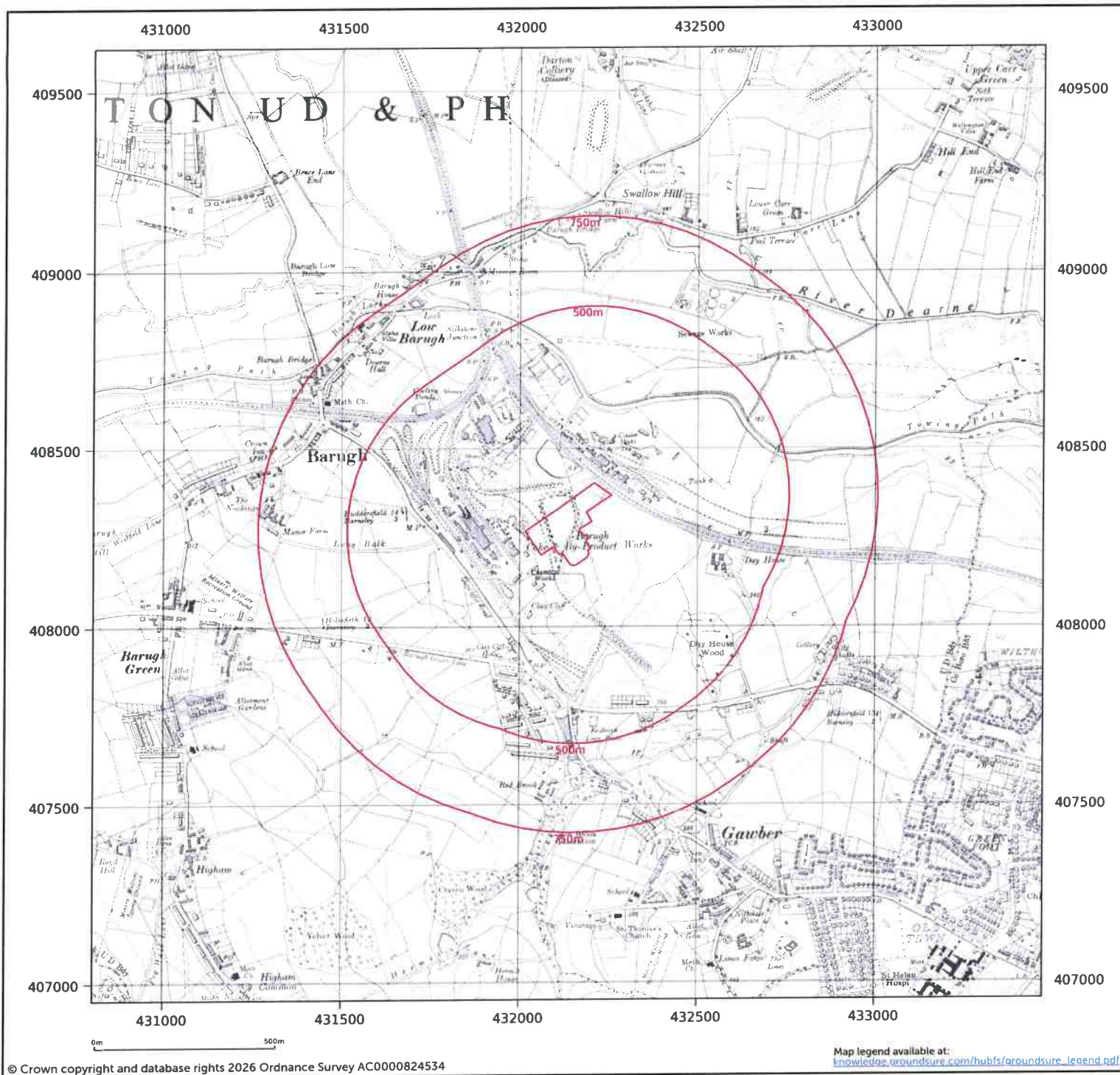
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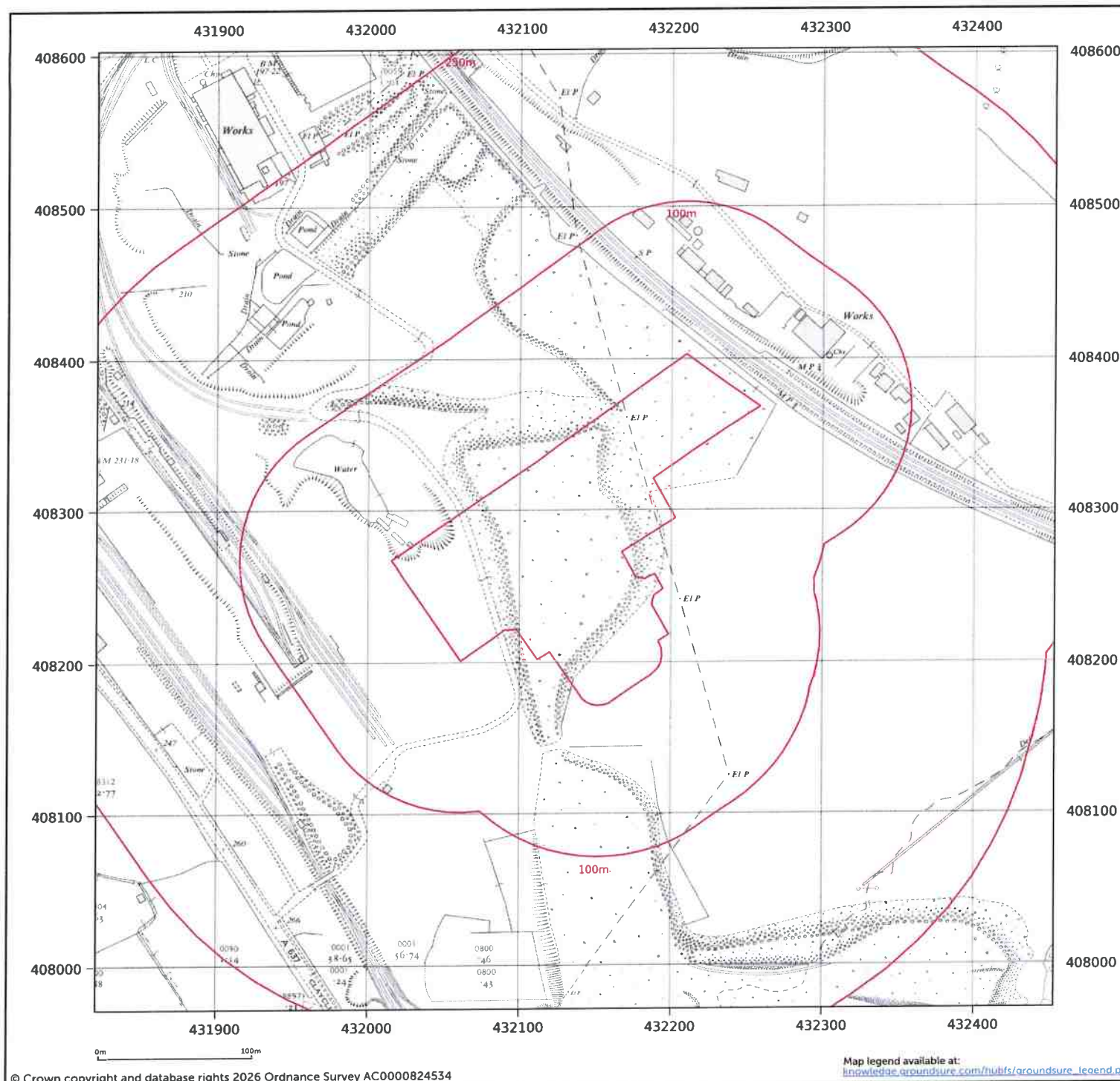
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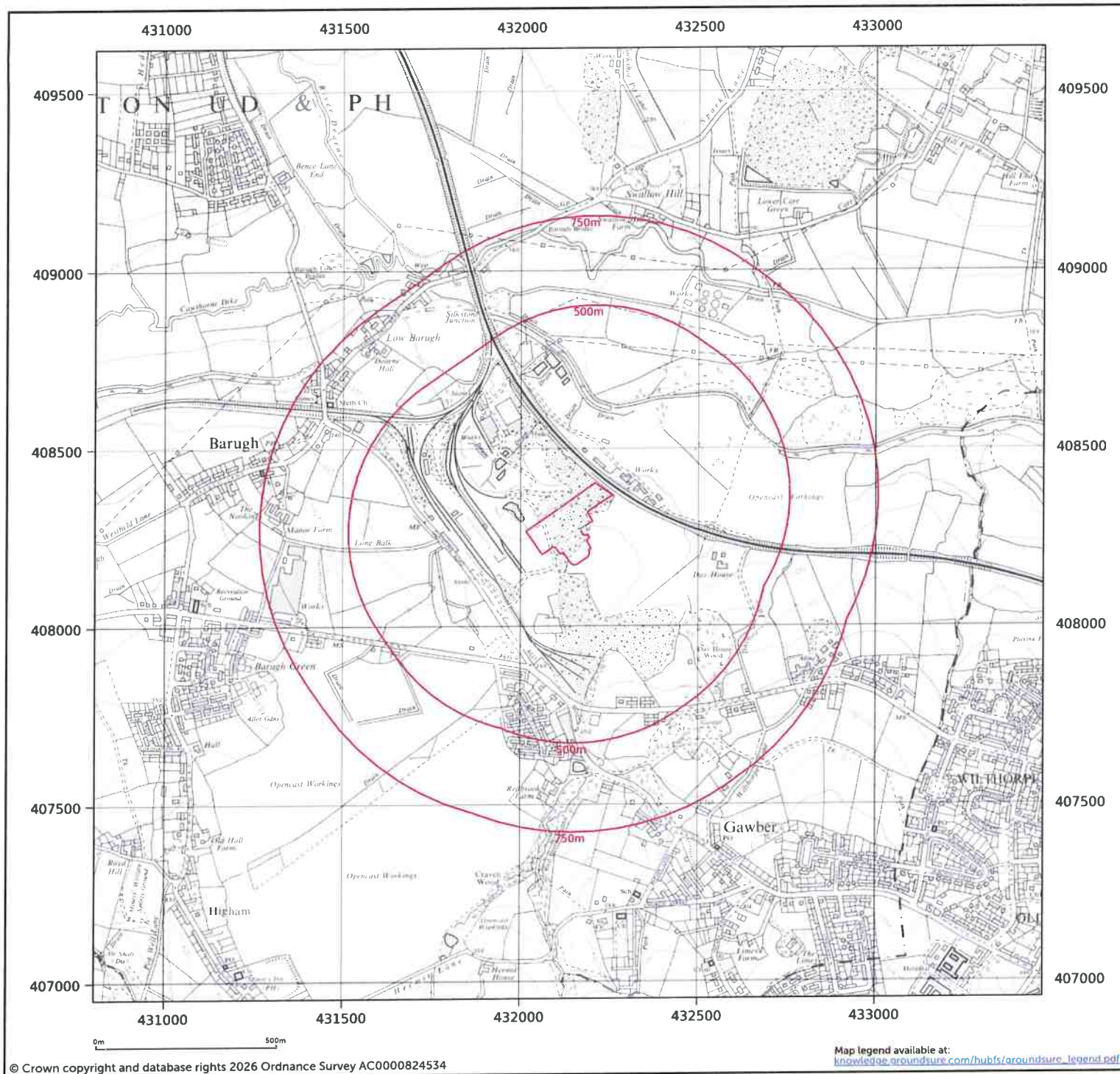
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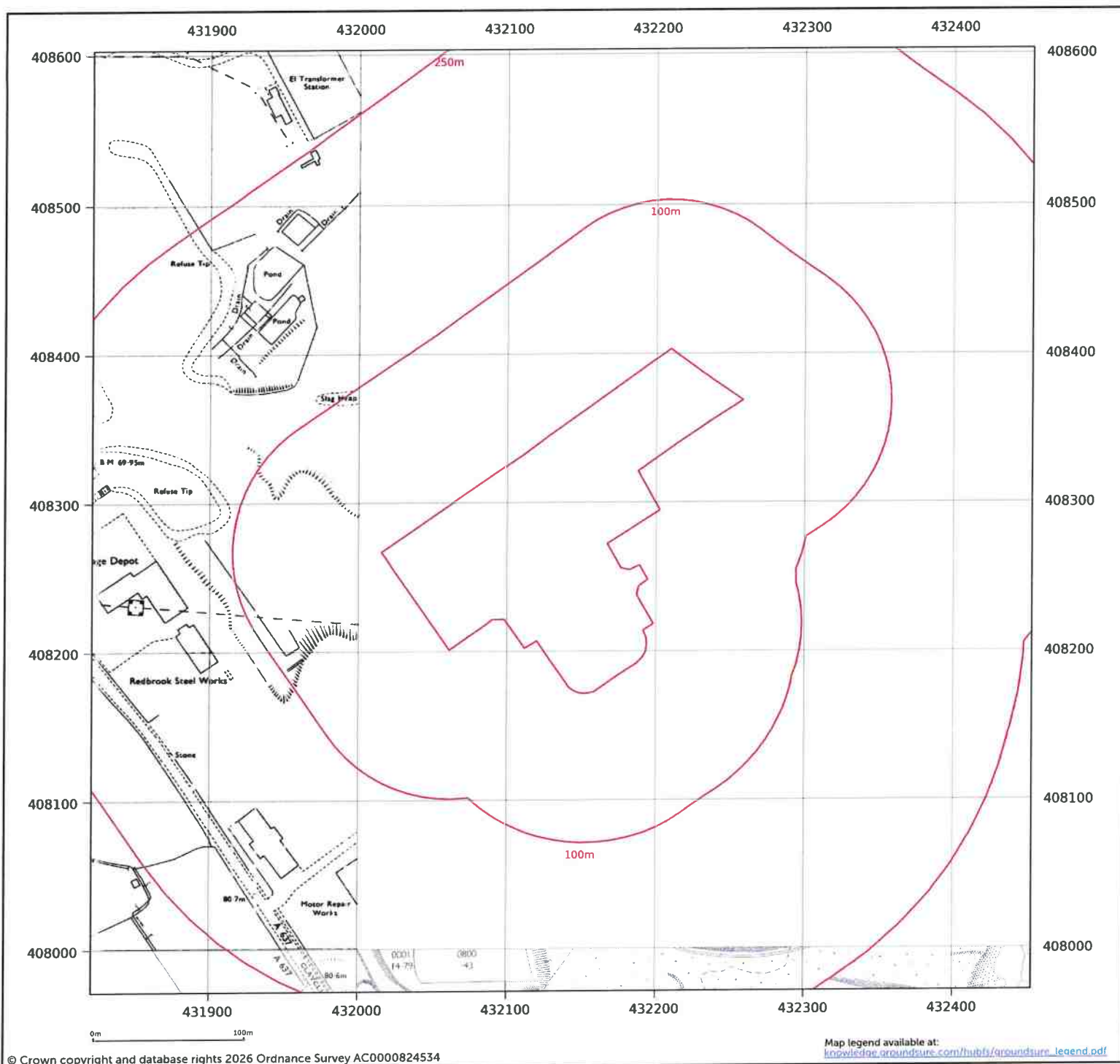
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Report ref:	CMAPS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

Map name:	Provisional
Map date:	1966
Scale:	1:10,560
Printed at:	1:10,560



Date: 1966
 Surveyed: 1966
 Revised: 1966

Contact us with any questions at:
info@groundsurre.com
 01273 257 755



Site details:	Whaley Road
Client ref:	CMAFS-JPG-1276153-6775-050526
Report ref:	CMAFS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

Map name:	National Grid
Map date:	1969-1971
Scale:	1:2,500
Printed at:	1:2,500

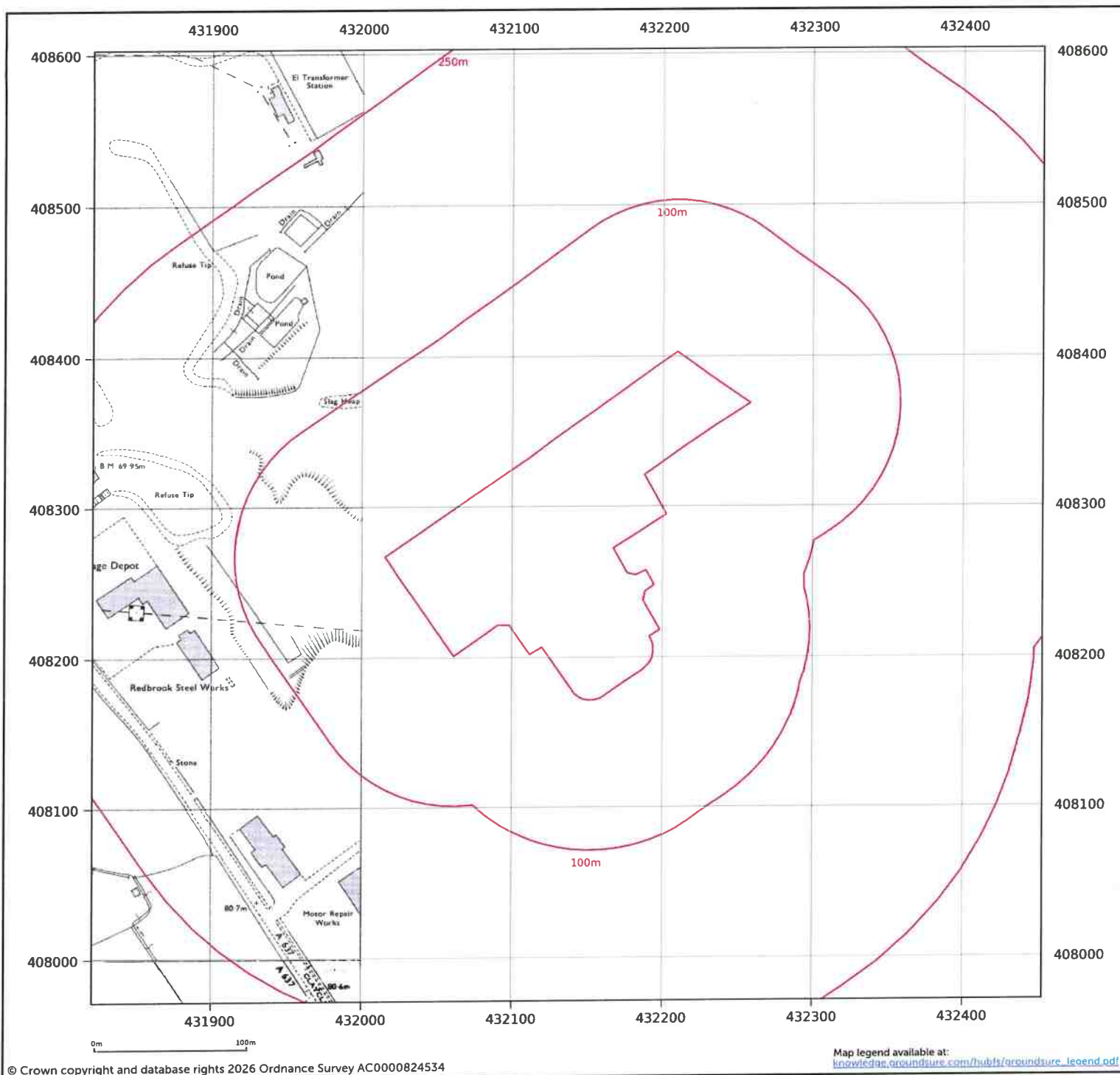


Date: 1971	Date: 1969
Surveyed: 1969	Surveyed: 1959
Revised: 1969	Revised: 1959
Copyright: 1970	Copyright: 1969
Levelled: 1963	Levelled: 1963

Contact us with any questions at:

info@groundsurre.com

01273 257 755



In partnership with



Site details:	Whaley Road
Client ref:	CMAPS-JPG-1276153-6775-050526
Report ref:	CMAPS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

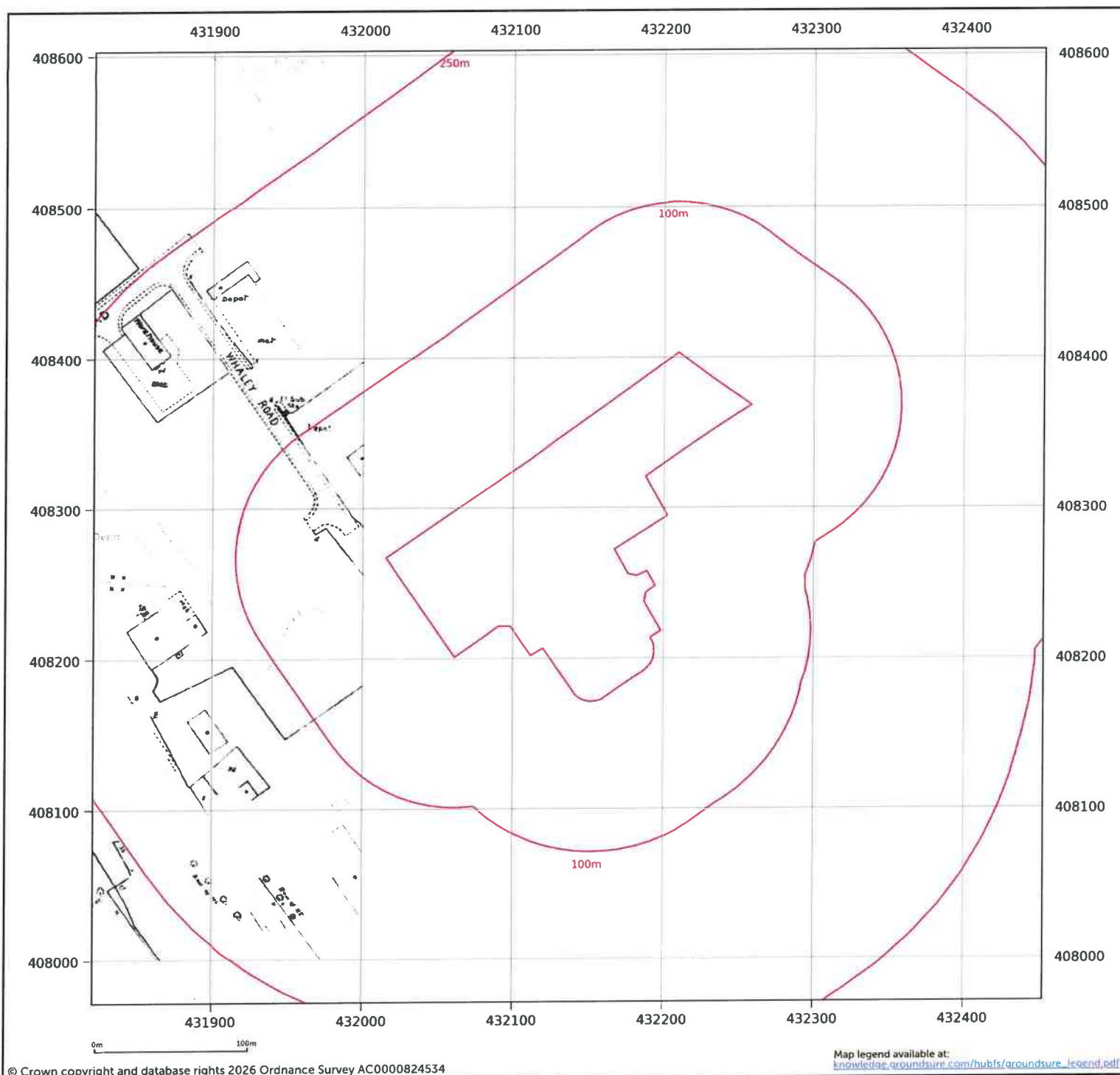
Map name:	National Grid
Map date:	1970-1971
Scale:	1:2,500
Printed at:	1:2,500



Date: 1971
Surveyed: 1970
Revised: 1970
Copyright: 1971
Levelled: 1963
Date: 1970

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info@groundsurre.com
 01273 257 755



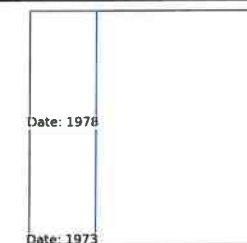


In partnership with



Site details:	Whaley Road
Client ref:	CMAPS-JPG-1276153-6775-050526
Report ref:	CMAPS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

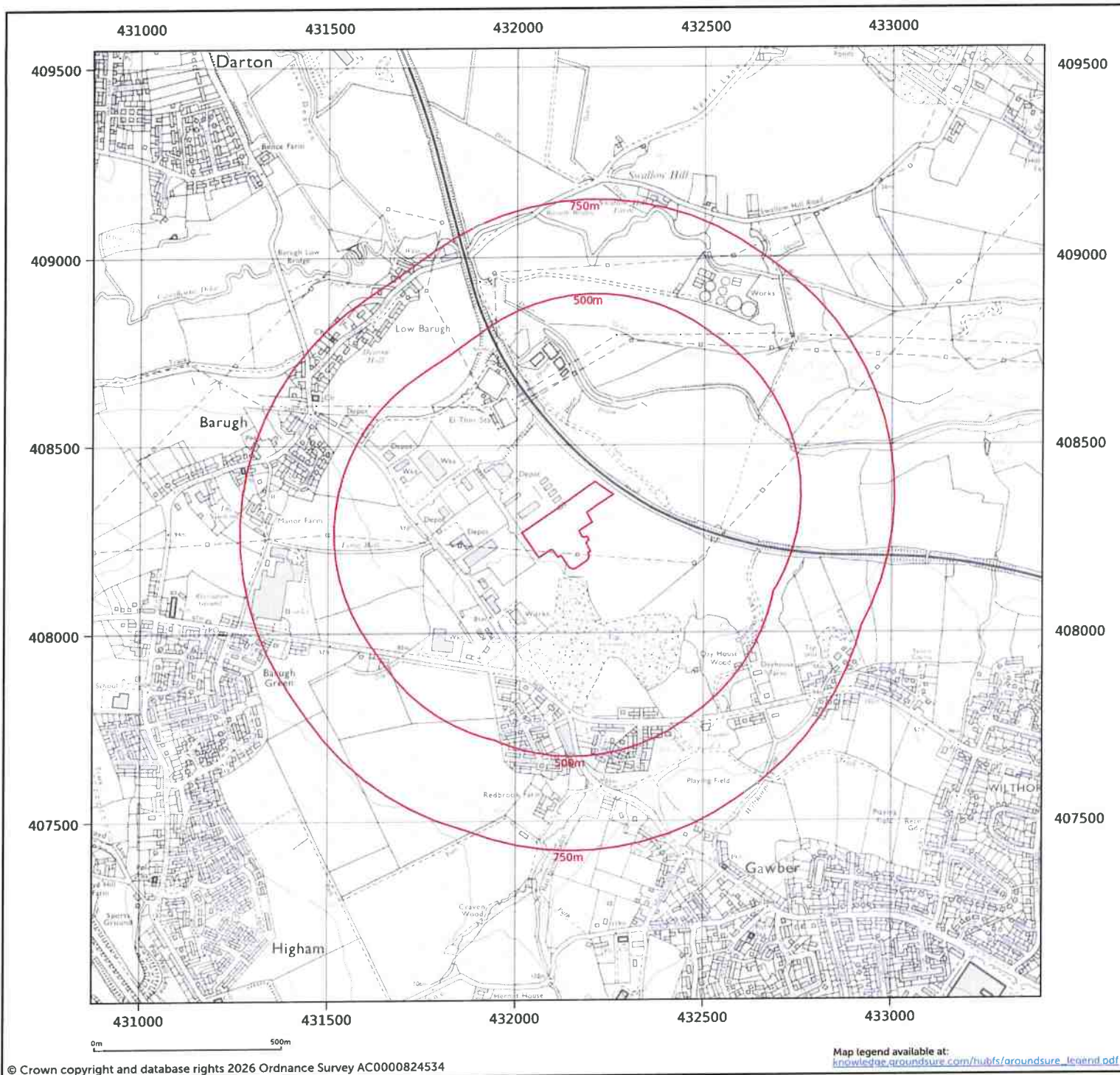
Map name:	National Grid
Map date:	1973-1978
Scale:	1:2,500
Printed at:	1:2,500



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info@groundsurre.com

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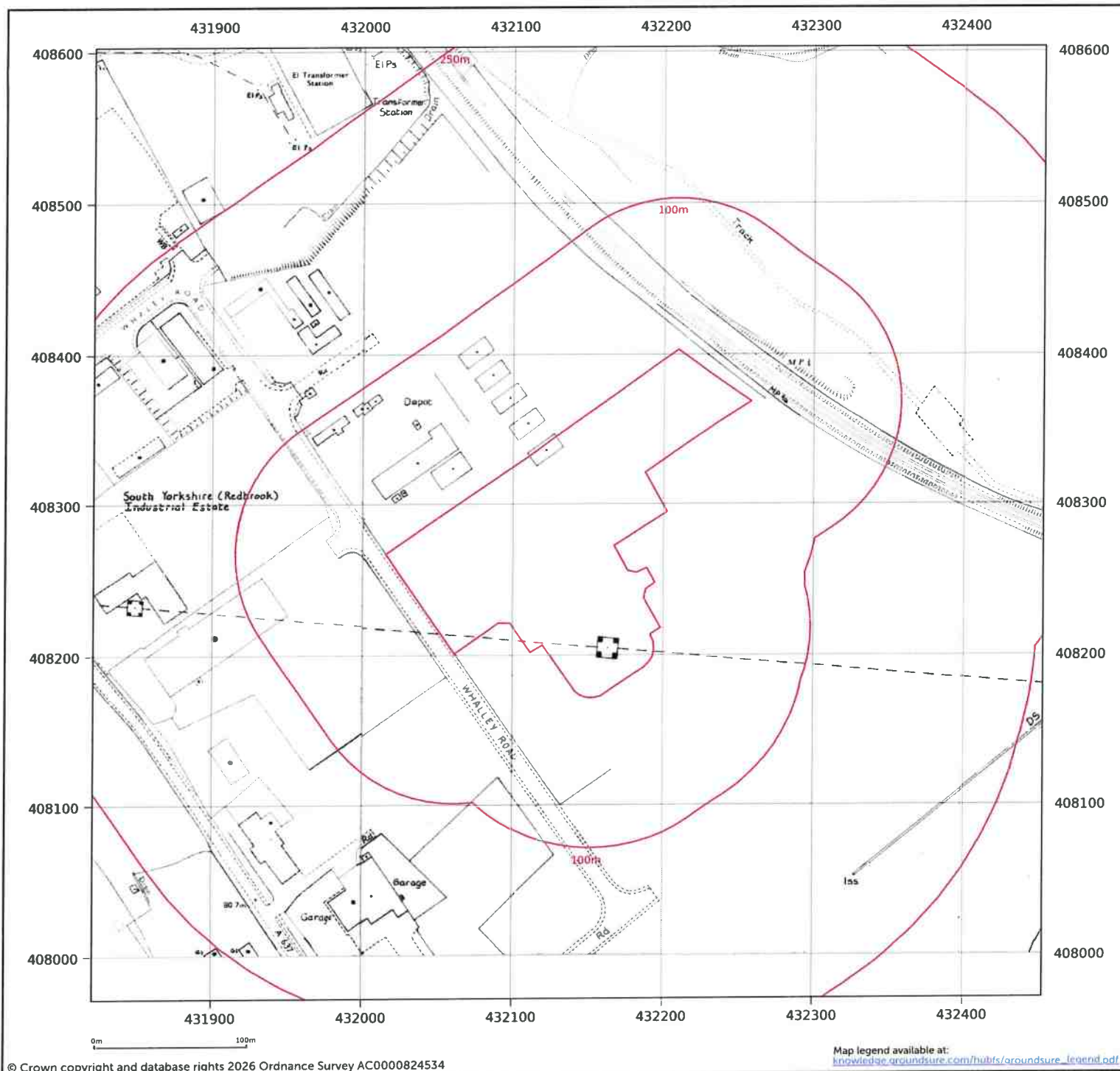
Site details:	Whaley Road
Client ref:	CMAPS-JPG-1276153-6775-050526
Report ref:	CMAPS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

Map name:	National Grid
Map date:	1982
Scale:	1:10,000
Printed at:	1:10,000



Date: 1982
Surveyed: 1982
Revised: 1982

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info@groundsure.com
01273 257 755



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Site details:	Whalley Road
Client ref:	CMAPS-JPG-1276153-6775-050526
Report ref:	CMAPS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

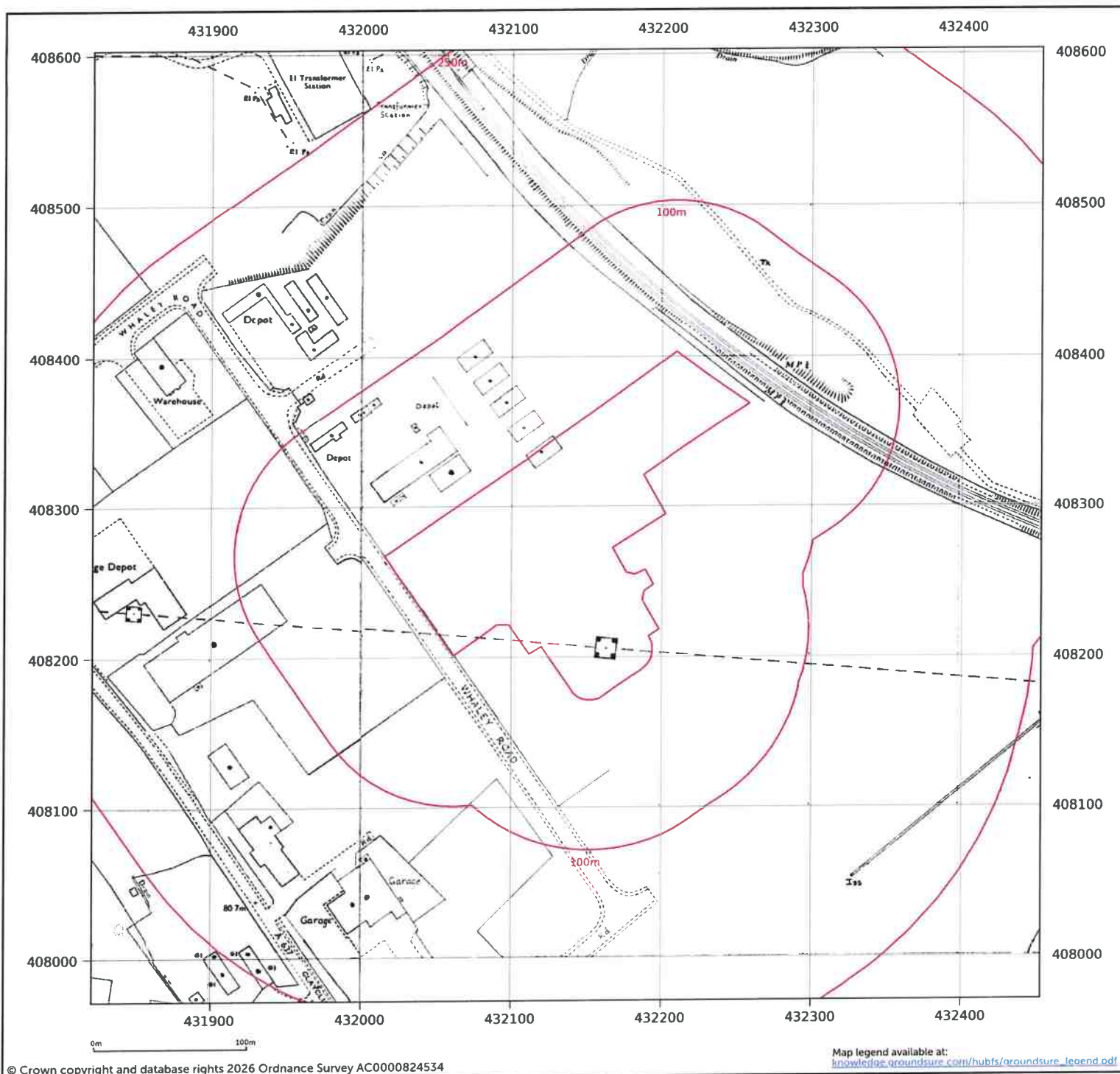
Map name:	National Grid
Map date:	1987-1989
Scale:	1:2,500
Printed at:	1:2,500



Date: 1989 Surveyed: 1963 Revised: 1989 Copyright: 1989 Levelled: 1963	Date: 1987 Surveyed: 1963 Revised: 1987 Copyright: 1987 Levelled: 1963
--	--

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info@groundsure.com
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In partnership with



Site details: Whaley Road
 Client ref: CMAPS-JPG-1276153-6775-050526
 Report ref: CMAPS-JPG-1276153-6775-050526HIS
 Grid ref: 432136.58, 408281.14
 Production date: 5 May 2026

Map name: National Grid
 Map date: 1986-1991
 Scale: 1:2,500
 Printed at: 1:2,500

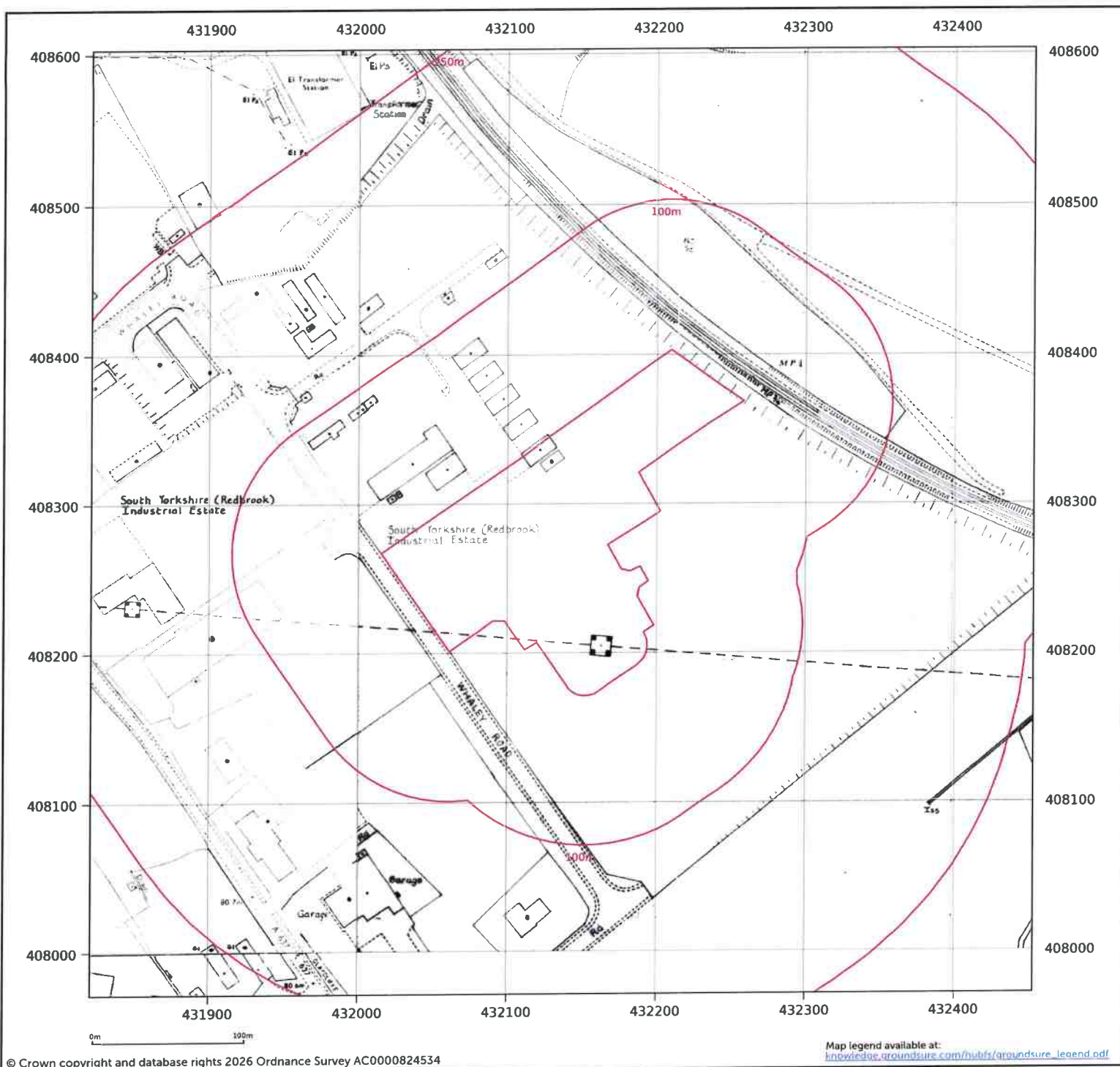


Date: 1987
 Surveyed: 1963
 Revised: 1987
 Copyright: 1987
 Levelled: 1963

Date: 1986
 Surveyed: 1963
 Revised: 1986
 Copyright: 1986
 Levelled: 1963

Date: 1991
 Surveyed: 1991
 Revised: 1991
 Copyright: 1991

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 01273 257 755



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Site details:	Whalley Road
Client ref:	CMAPS-JPG-1276153-6775-050526
Report ref:	CMAPS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

Map name:	National Grid
Map date:	1990-1993
Scale:	1:2,500
Printed at:	1:2,500



Date: 1990 Surveyed: 1963 Revised: 1990 Copyright: 1990 Levelled: 1963	Date: 1991 Surveyed: 1963 Revised: 1991 Copyright: 1991 Levelled: 1963
Date: 1993 Copyright: 1993	

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info@groundsurre.com
 01273 257 755



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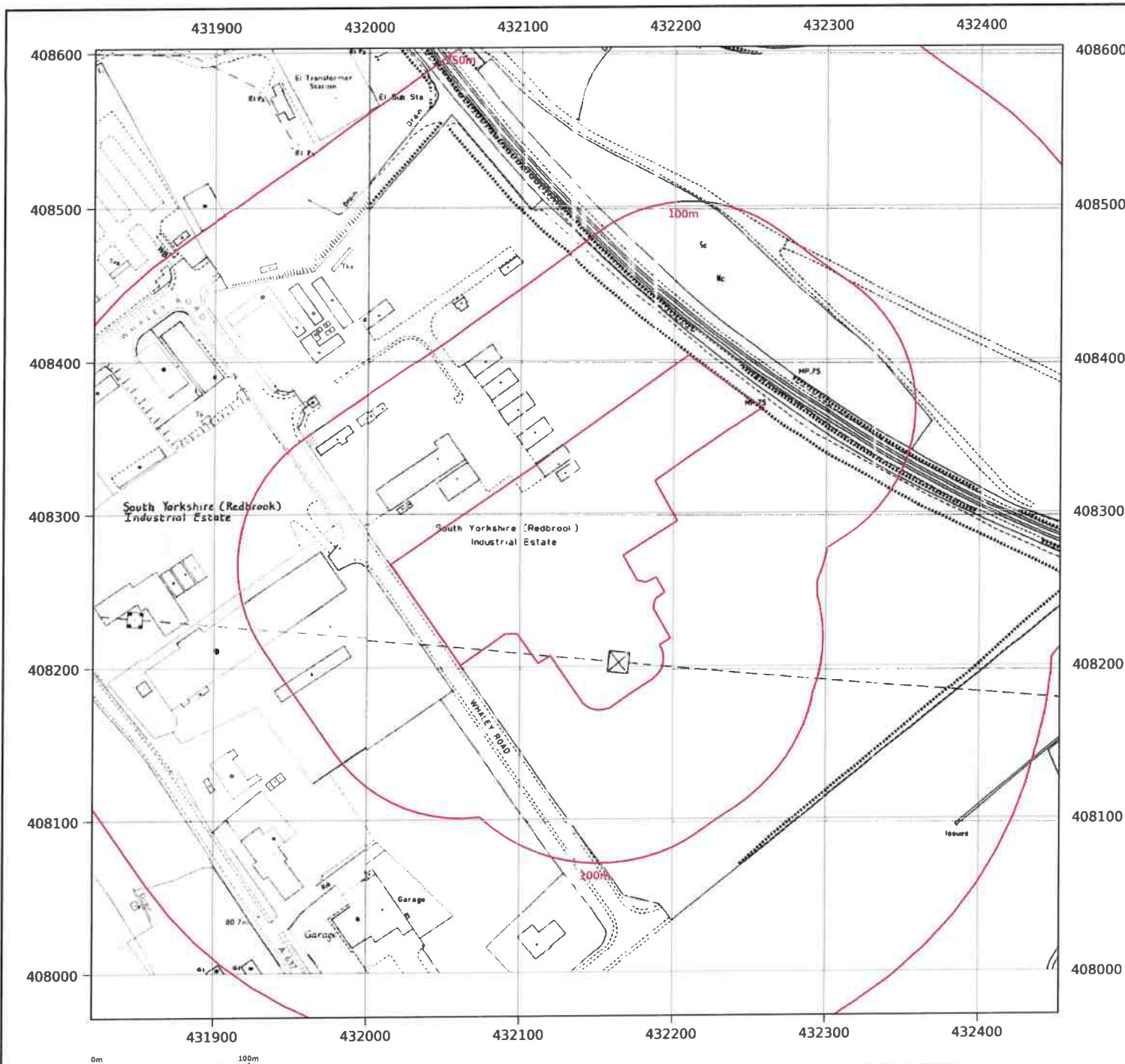
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Client ref:	CMAPS-JPG-1276153-6775-050526
Report ref:	CMAPS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

Map name:	National Grid
Map date:	1991-1993
Scale:	1:2,500
Printed at:	1:2,500



Date: 1991 Surveyed: 1963 Revised: 1991 Copyright: 1991 Levelled: 1963	Date: 1993 Copyright: 1993
--	-------------------------------

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Site details:	Whaley Road
Client ref:	CMAPS-JPG-1276153-6775-050526
Report ref:	CMAPS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

Map name:	National Grid
Map date:	1993
Scale:	1:10,000
Printed at:	1:10,000

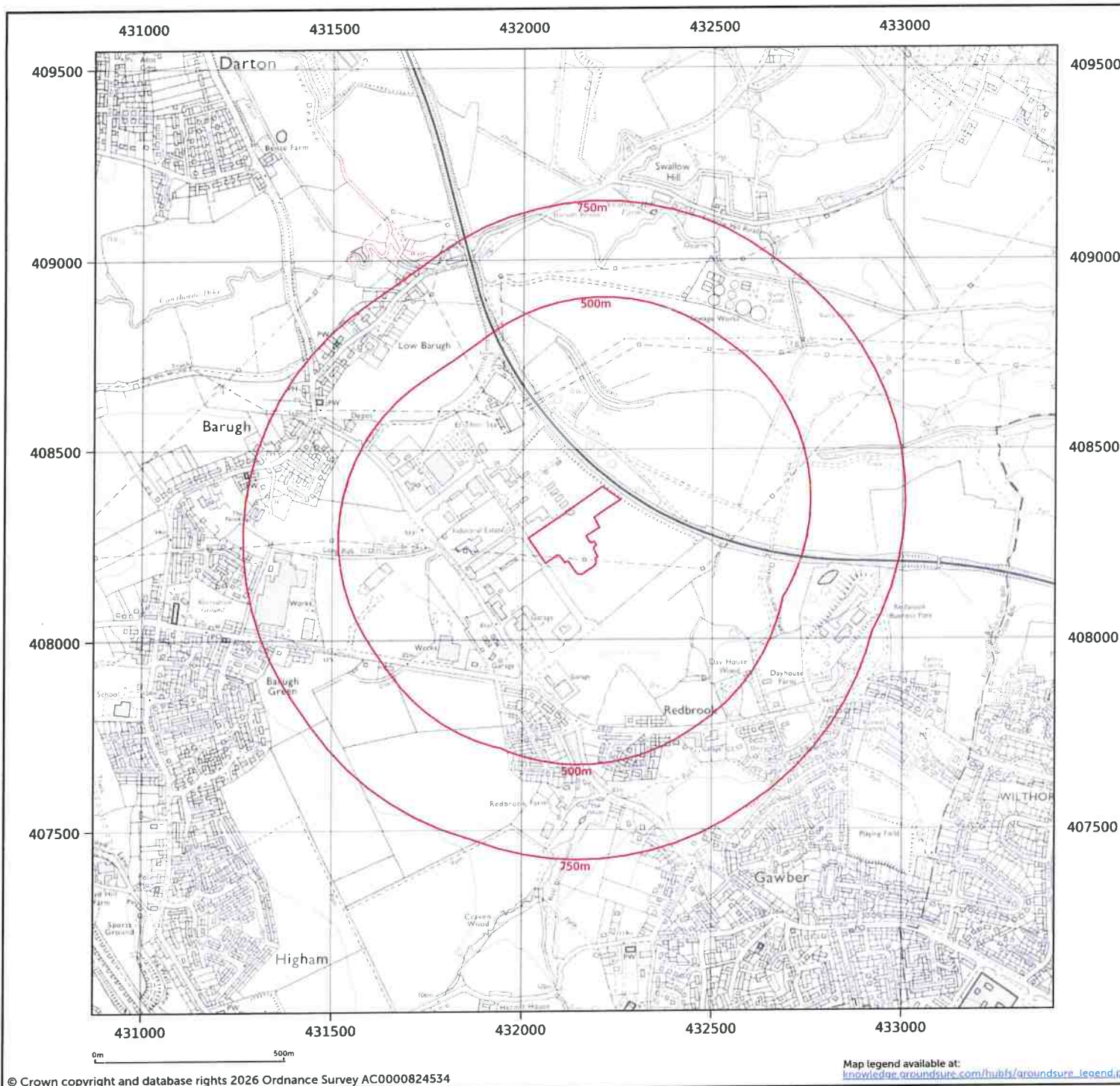


Date: 1993
Surveyed: 1992
Revised: 1993

Contact us with any questions at:

info@groundsure.com

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In partnership with



Site details:	Whaley Road
Client ref:	CMAFS-JPG-1276153-6775-050526
Report ref:	CMAFS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

Map name:	National Grid
Map date:	1993
Scale:	1:2,500
Printed at:	1:2,500



Date: 1993
Copyright: 1993

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info@groundsure.com
01273 257 755





In partnership with



Site details:	Whaley Road
Client ref:	CMAFS-JPG-1276153-6775-050526
Report ref:	CMAFS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

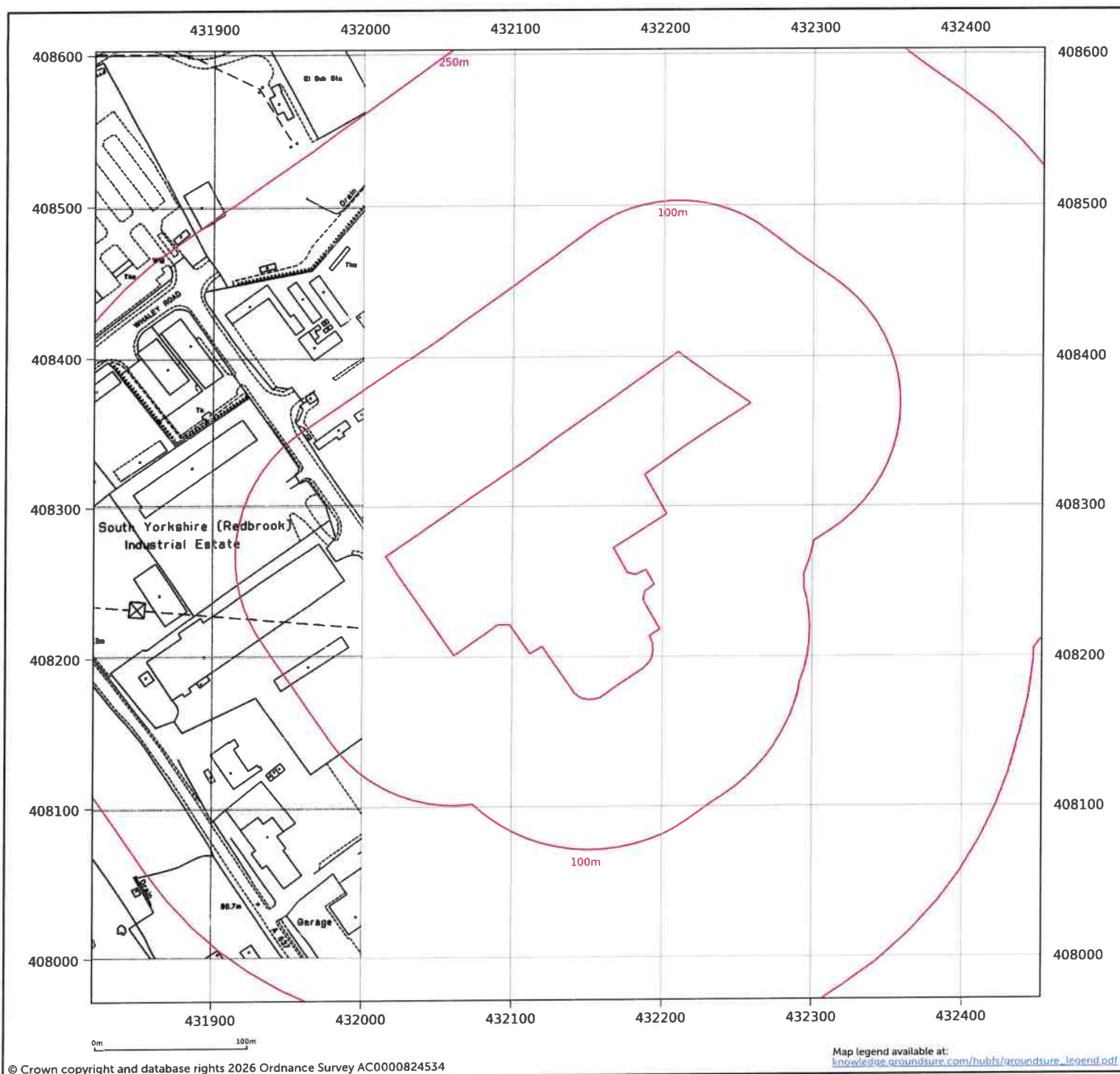
Map name:	National Grid
Map date:	1993
Scale:	1:2,500
Printed at:	1:2,500



Date: 1993
Copyright: 1993

Contact us with any questions at:
info@groundsurre.com
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In partnership with



Site details:	Whaley Road
Client ref:	CMAPS-JPG-1276153-6775-050526
Report ref:	CMAPS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

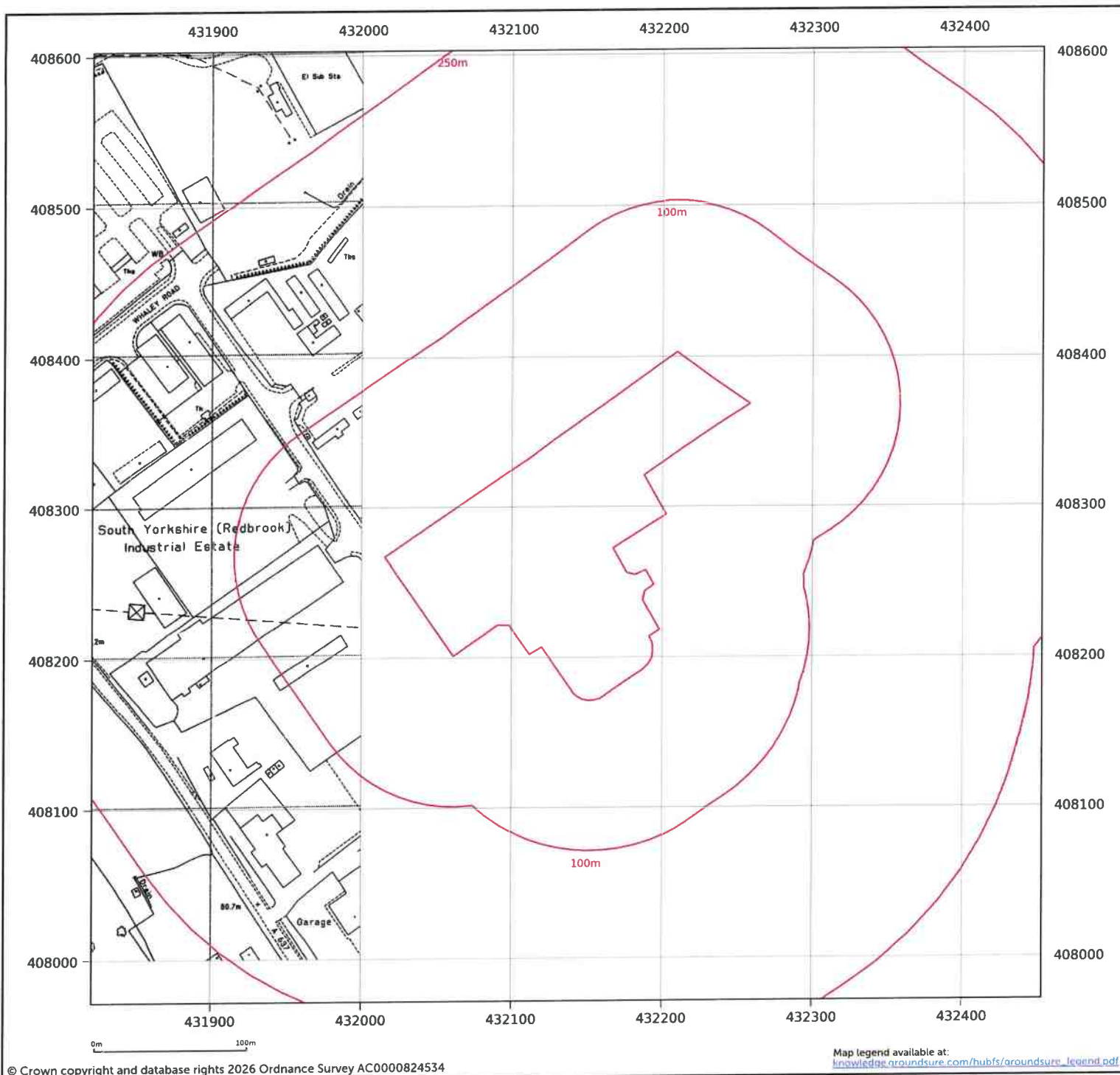
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Map date:	1993
Scale:	1:2,500
Printed at:	1:2,500



Date: 1993
Surveyed: 1993
Revised: 1993
Copyright: 1993

Contact us with any questions at:
info@groundsurre.com
01273 257 755





In partnership with



Site details:	Whaley Road
Client ref:	CMAPS-JPG-1276153-6775-050526
Report ref:	CMAPS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

Map name:	National Grid
Map date:	1993
Scale:	1:2,500
Printed at:	1:2,500



Date: 1993
Surveyed: 1993
Revised: 1993
Copyright: 1993

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Site details:	Whaley Road
Client ref:	CMAPS-JPG-1276153-6775-050526
Report ref:	CMAPS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

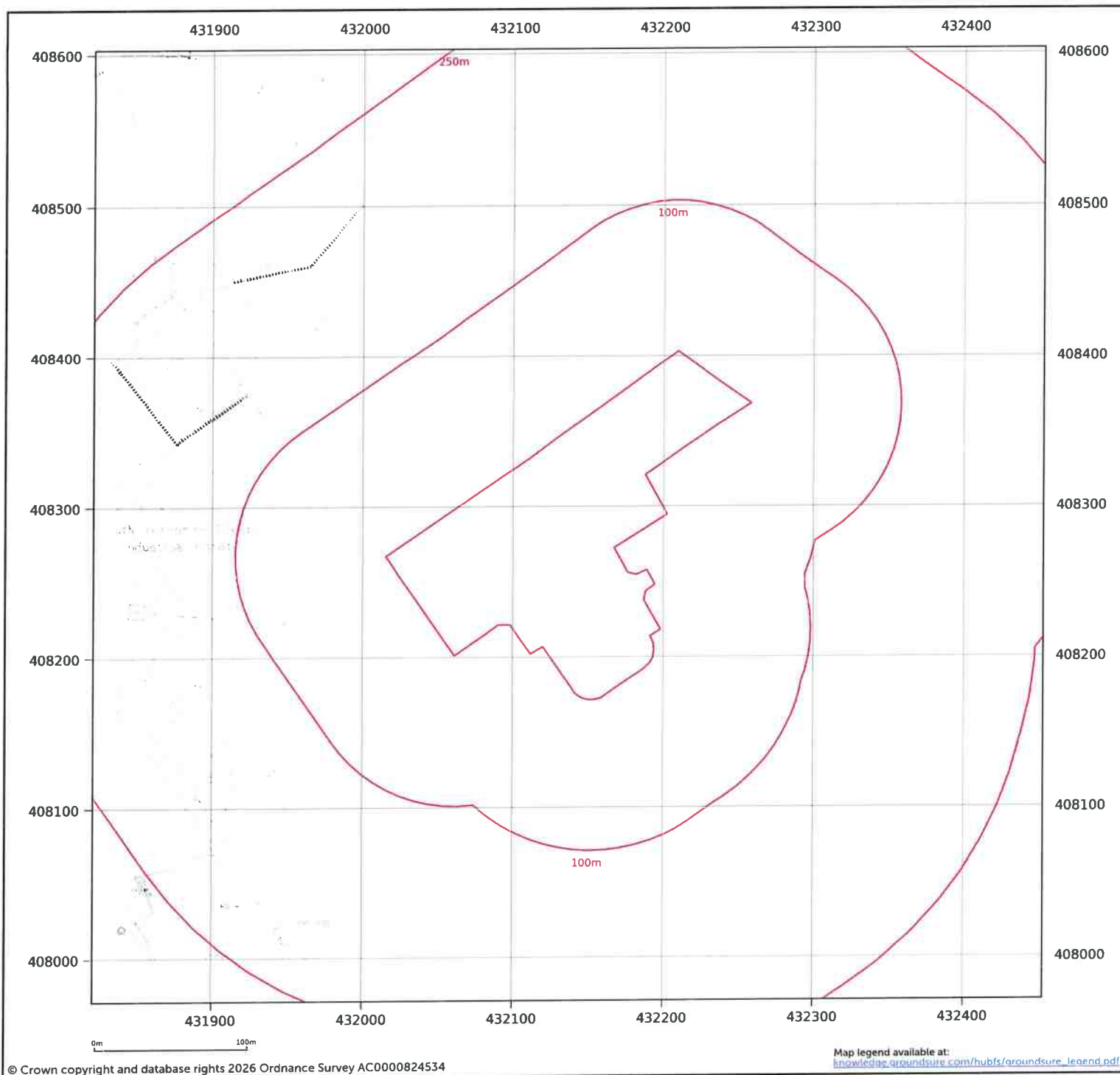
Map name:	National Grid
Map date:	1993
Scale:	1:2,500
Printed at:	1:2,500



Date: 1993
Copyright: 1993

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info@groundsurre.com
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Site details:	Whaley Road
Client ref:	CMAPS-JPG-1276153-6775-050526
Report ref:	CMAPS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

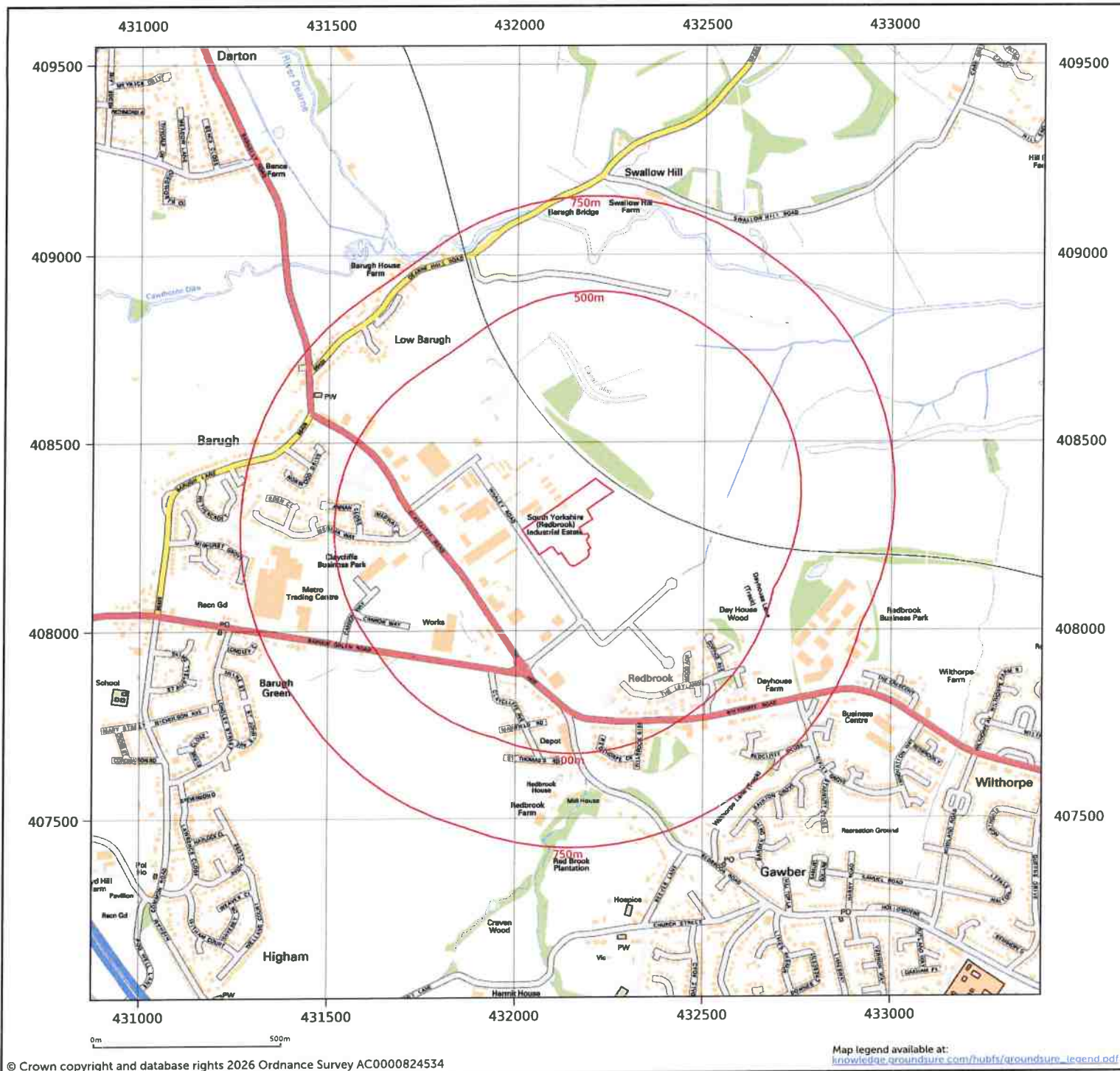
Map name:	National Grid
Map date:	1995
Scale:	1:2,500
Printed at:	1:2,500



Date: 1995
Surveyed: 1995
Copyright: 1995

Contact us with any questions at:
info@groundsurre.com
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Site details:	Whaley Road
Client ref:	CMAPS-JPG-1276153-6775-050526
Report ref:	CMAPS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

Map name:	National Grid
Map date:	2001
Scale:	1:10,000
Printed at:	1:10,000



Date: 2001

Contact us with any questions at:
info@groundsure.com
 01273 257 755



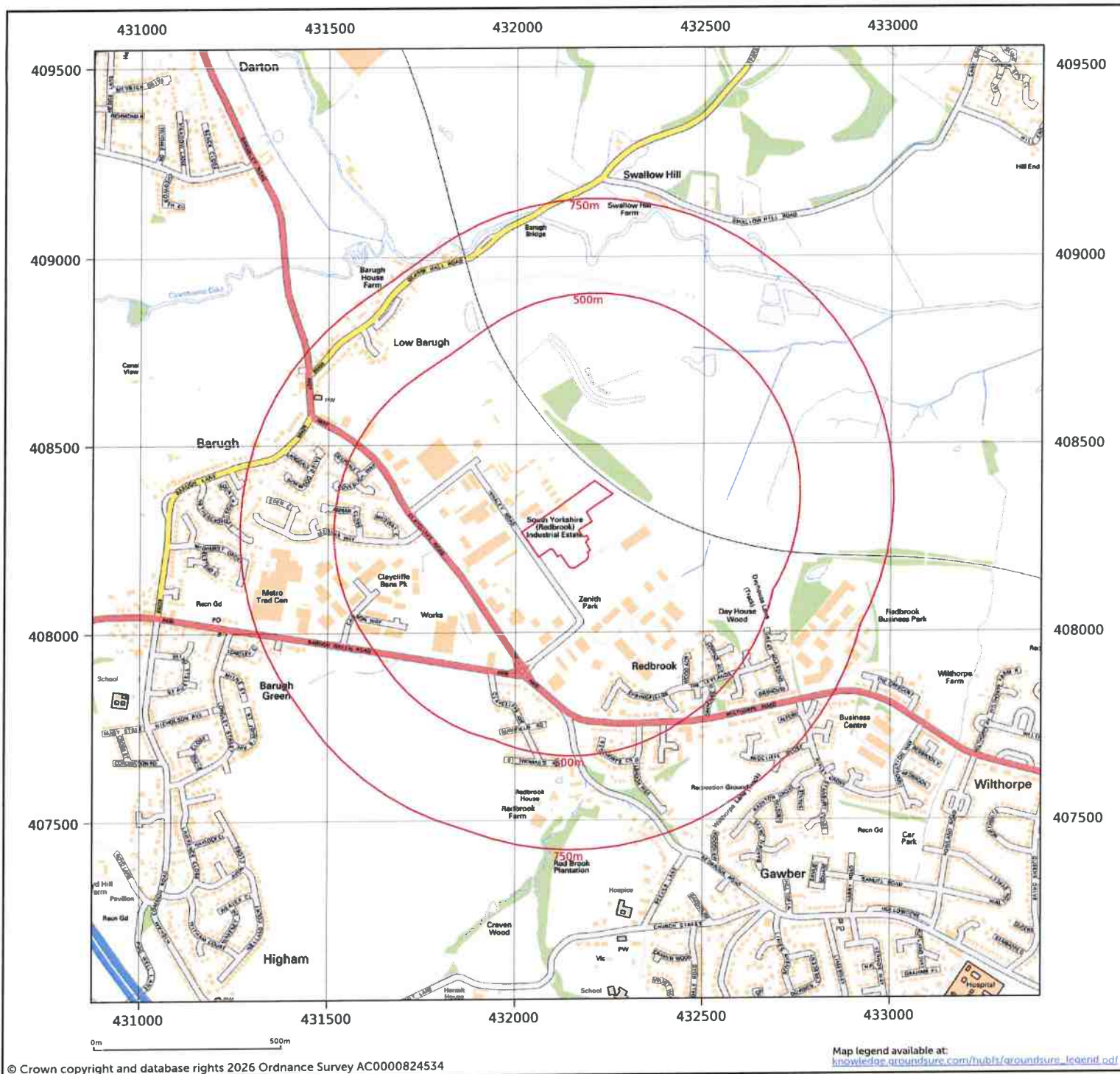
Site details:	Whaley Road
Client ref:	CMAPS-JPG-1276153-6775-050526
Report ref:	CMAPS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

Map name:	LandLine
Map date:	2003
Scale:	1:1,250
Printed at:	1:1,250



Date: 2003

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info@groundsure.com
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In partnership with



Site details:	Whaley Road
Client ref:	CMAPS-JPG-1276153-6775-050526
Report ref:	CMAPS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

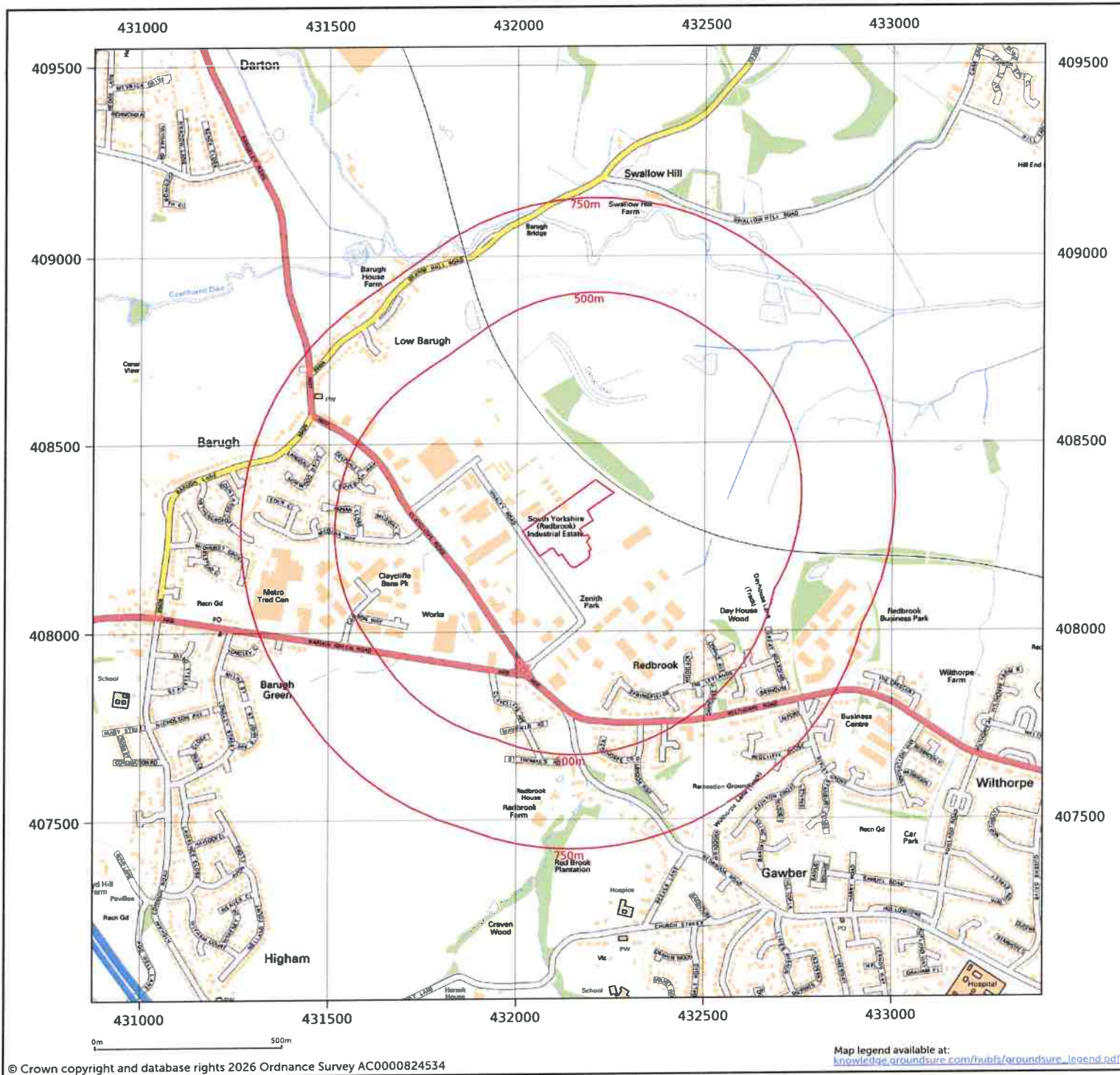
Map name:	National Grid
Map date:	2010
Scale:	1:10,000
Printed at:	1:10,000



Date: 2010

Contact us with any questions at:
info@groundsure.com
01273 257 755





In partnership with



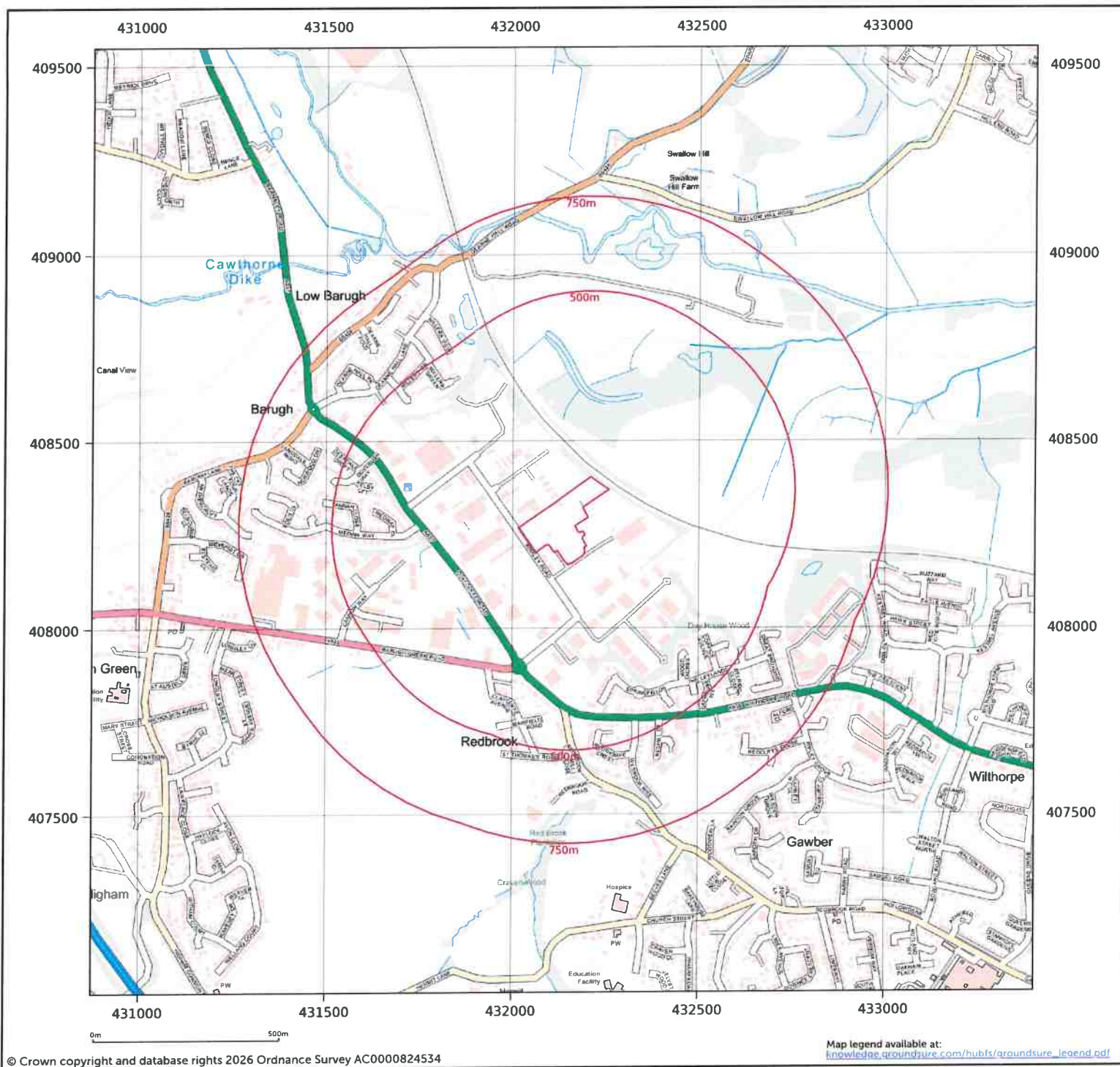
Site details:	Whaley Road
Client ref:	CMAPS-JPG-1276153-6775-050526
Report ref:	CMAPS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

Map name:	National Grid
Map date:	2015
Scale:	1:10,000
Printed at:	1:10,000



Date: 2015

Contact us with any questions at:
info@groundsure.com
01273 257 755



Map Insight

In partnership with



Site details:	Whaley Road
Client ref:	CMAPS-JPG-1276153-6775-050526
Report ref:	CMAPS-JPG-1276153-6775-050526HIS
Grid ref:	432136.58, 408281.14
Production date:	5 May 2026

Map name:	National Grid
Map date:	2025
Scale:	1:10,000
Printed at:	1:10,000



Date: 2025

Contact us with any questions at:
info@groundsurre.com
01273 257 755





Appendix D BGS Borehole Records



RECORD OF WELL (SHAFT OR BORE) SE 30/NW 8A

At Messrs. Low Temperature Carbonization Ltd, Coalite Works (No 1 Pit)

Town or Village Barnby, near Barnsley County Yorkshire Six-inch quarter sheet 274 NW

Exact site [3226 0845]

Level of ground surface above sea-level (O.D.) _____ ft. If well starts below ground surface, state how far _____ ft.

Shaft not ft., diameter stated ft. Bore _____ ft. Diameter of bore: _____ ins. at bottom _____ ins.

Details of permanent lining tubes (internal diameters preferred) 4 3/4" from surface, 5 1/8" from 15 1/2" tubes from 8 1/2" tubes from 16" tubes

Water struck at depths of (feet) _____

Rest-level of water below top of well 1 1/2 feet. Suction at _____ feet. Yield on _____ hours' test _____ days' test

_____ gallons per _____ (with pump of capacity _____ g.p.h.); depressing water level to _____ feet below top. Time of recovery _____ hrs. Amount normally pumped daily _____ g.p.h. for _____ hours.

Quality (attach copy of analysis if available) _____

Sunk by Messrs Isler for Low Temp. Carbonization Ltd. Date of well 1927

Information from Messrs. A.C. Potter.

(For Survey use only). GEOLOGICAL CLASSIFICATION.	NATURE OF STRATA (and any additional remarks).	THICKNESS		DEPTH	
		Feet.	Inches.	Feet.	Inches.
MADE GROUND CHALK (ASBESTOS) W. WHITE LIME STONE SHALLOOY V. DUB. (SEAM?)	Made ground & soil	4	1.22	4	-1.22
	Light mottled clay	12	3.66	16	-4.88
	Light grey clay & claystone			61	-18.59
	Black stone	2	0.61	63	-19.2
	Grey granite	4	1.22	67	-20.42
	Grey rock	31	9.45	98	-29.87
	Black shale rock	2	0.61	100	-30.48
	Grey shale	15	4.57	115	-35.05
	Coal	2	0.61	117	-35.66
	Grey shale & coal	4	1.22	121	-36.88
	Coal	28	8.53	149	-45.42
	Grey slag rock	1	0.3	150	-45.72
	Slag Rock	8	2.44	158	-48.16
	Grey Granite	2	0.61	160	-48.77
Grey Sandstone	8	2.44	168	-51.21	

H.J. 14.6.27

Water overflowed at surface 1,340 gph. when bore was 45.4 ft deep and at 1000 gph. when completed at 168 ft. deep.

Air lift test in April 1927 gave 10,500 gph. rest level 45 ft. below surface. This gradually fell off to about 6,000 gph. Recent test below 1929 gave 3000 to 4000 gph.

No communication with second bore.

See attached letter

For Survey use only

GEOLOGICAL SURVEY AND MUSEUM,
SOUTH KENSINGTON,
LONDON, S.W.7.

Date received _____ G.S.M. Office File No. _____ Site marked on 1" map (use symbol) _____

(*11815) Wt. 29051/0.868 10,000 9/39
A.& B.W.Ltd. Gp. 686



87
16

TELEPHONE:
BARNLEY 3631/2

"COALITE" CARBONISATION PROCESS

TELEGRAMS:
"COALITE, DARTON."

LOW TEMPERATURE CARBONISATION LIMITED.

COL. W.A. BRISTOW, M.I.E.E., F.R.A.S. (CHAIRMAN AND
MANAGING DIRECTOR)
LT-COM. COLIN BUIST, M.V.O., R.N.
SIR ARTHUR GREY HAZLERIGG, BT
CHARLES HENRY PARKER, J.P., F.C.S.
R.P. WILSON, C.B.E., M.INST.C.E., M.I.E.E.,

HEAD OFFICE:
28, GROSVENOR PLACE,
LONDON, S.W.1.
TELEPHONE: SLOANE 9874.
TELEGRAMS: "SMOKELESS, LONDON."



COALITE WORKS,
GAWBER,
NEAR BARNLEY,
YORKS.

21st January, 1941.

Rec'd + Ack'd by
Cand

23.1.41.

The Director,
Geological Survey and Museum,
Exhibition Road,
South Kensington,
LONDON, S.W.7.

Your Ref: 87/16
Our Ref: JPP/FW.

Dear Sirs,

We received from you an enquiry dated December 18th regarding the Wells at these Works. The map tracing which accompanied your letter is returned herewith and on it we have marked in red ink the positions of Nos. 1 and 2 Wells. We also enclose a copy of our Drawing No. 1375 to a larger scale which shews the locations more clearly.

The information that we are able to give is not very complete as it is some years since the Wells were sunk and some of our records have been destroyed.

No.1.Well. This was originally sunk by Messrs. Isler & Co.Ltd. in 1927 to a depth of 168 feet. When the drilling was completed the water overflowed at the surface at the rate of 1,000 gallons per hour. The Well was fitted with an air lift installation and gave approximately 10,000 gallons per hour by this means. The output fell off considerably and by 1930 the supply failed completely. In 1934 the Well was deepened by Messrs. Isler to 208 feet but this did not materially increase the supply, and the Well has not been used since that time. The present standing water level is 4 ft 6 ins. from the surface.

1.37m

P.T.O.

5.
130
- 2 -

No. 2. Well. This was originally sunk in 1930 by Messrs. A. C. Potter to a depth of 306 feet, and yielded about 10,000 gallons per hour when fitted with an air lift. By August 1937 the output of water from this Well had fallen to 4,000 gallons per hour, the standing level being 135 feet and the pumping level 159 feet from the ground surface. The Well has not been used since 1939 when the Plant was shut down. The present standing water level is 14 feet from the surface.

Both Wells apparently pass through coal seams and the water is turbid in appearance and smells strongly of sulphur. The water was used for cooling purposes only and we have no record of its analysis.

We have no accurate information as to the height of the surface above Ordnance Datum, but when the snow clears we will endeavour to obtain this and send it to you.

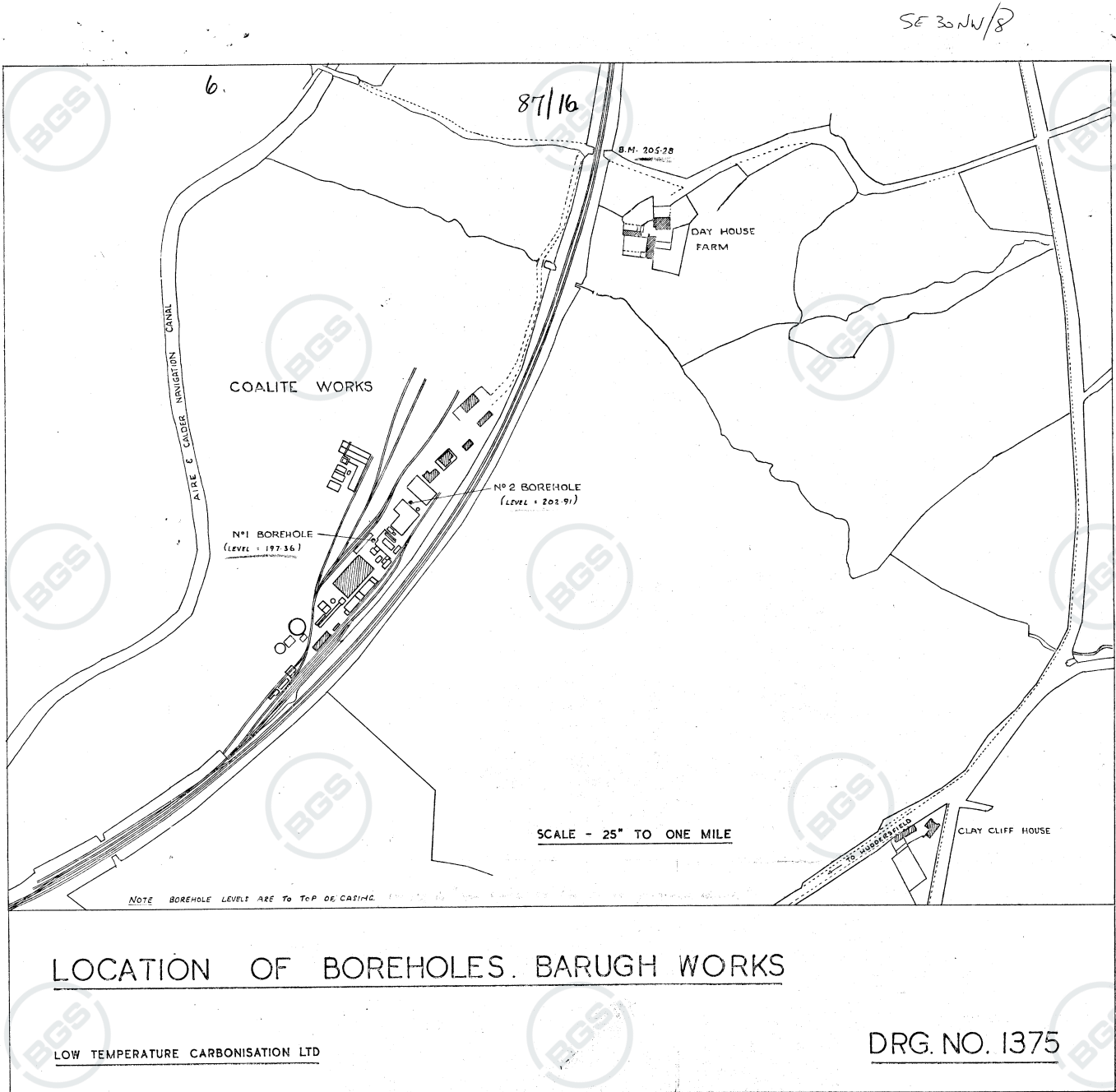
Yours faithfully,

LOW TEMPERATURE CARBONISATION LIMITED.



General Manager

Enclosures



YORKSHIRE WATER AUTHORITY - Survey of Existing Boreholes			Licence No.
I.G.S. Ref. No	<u>SE.30.NW/80ab</u>	N.G.R. <u>SE.223.084</u>	
OWNERS NAME ..	<u>has Temperature Carbonization Ltd.</u>		App No
ADDRESS ..	<u>has Temperature carbonizations Ltd., coalite works, Barugh, Nr. Bramley.</u>		Authorised Abstraction
			g.p.h. g.p.d. m.g.a.
DEPTH	THICK	DETAILS	
4'	4'	Mud. ground	Dia.
16'	12'	Mottled clay	Depth <u>16' x 12'</u>
61'	2'	Clay & claystone	Lining <u>16' x 12'</u>
63'	4'	Black stone	Well sinker <u>15/4"</u>
67'	3 1/2'	Grey granite	Date .1927,
98'	2'	Grey rock	R.W.L. 168.
100'	15'	Black shale	R.W.L.
115'	2'	Grey shale	
117'	4'	Coal	
121'	28'	Shale - coal	
149'	1'	Slag rock	
150'	8'	Coal	
152'	3'	Silag rock	
160'	2'	Grey granite	
168'	8'	" " s. st.	



INSPECTION REPORT	WATER QUALITY	DATE OF INSPECTION:-
Present Owner:-	Date	Other Comments:-
Access (Yes or No)	pH	
$\frac{1}{2}$ " Probe	Total hard	
3" Instruments	Temp.hard	
Landrover	Alk.	
Access Agreed	Ca	
	Mg	
	Na	
	K	
		Sketch Plan of Location
Water Level at time of insp. metres below	HCO ₃	
Date	SO ₄	
Datum above O.D.	Cl	
R.W.L. above O.D.	NO ₃	
Date	Fe	

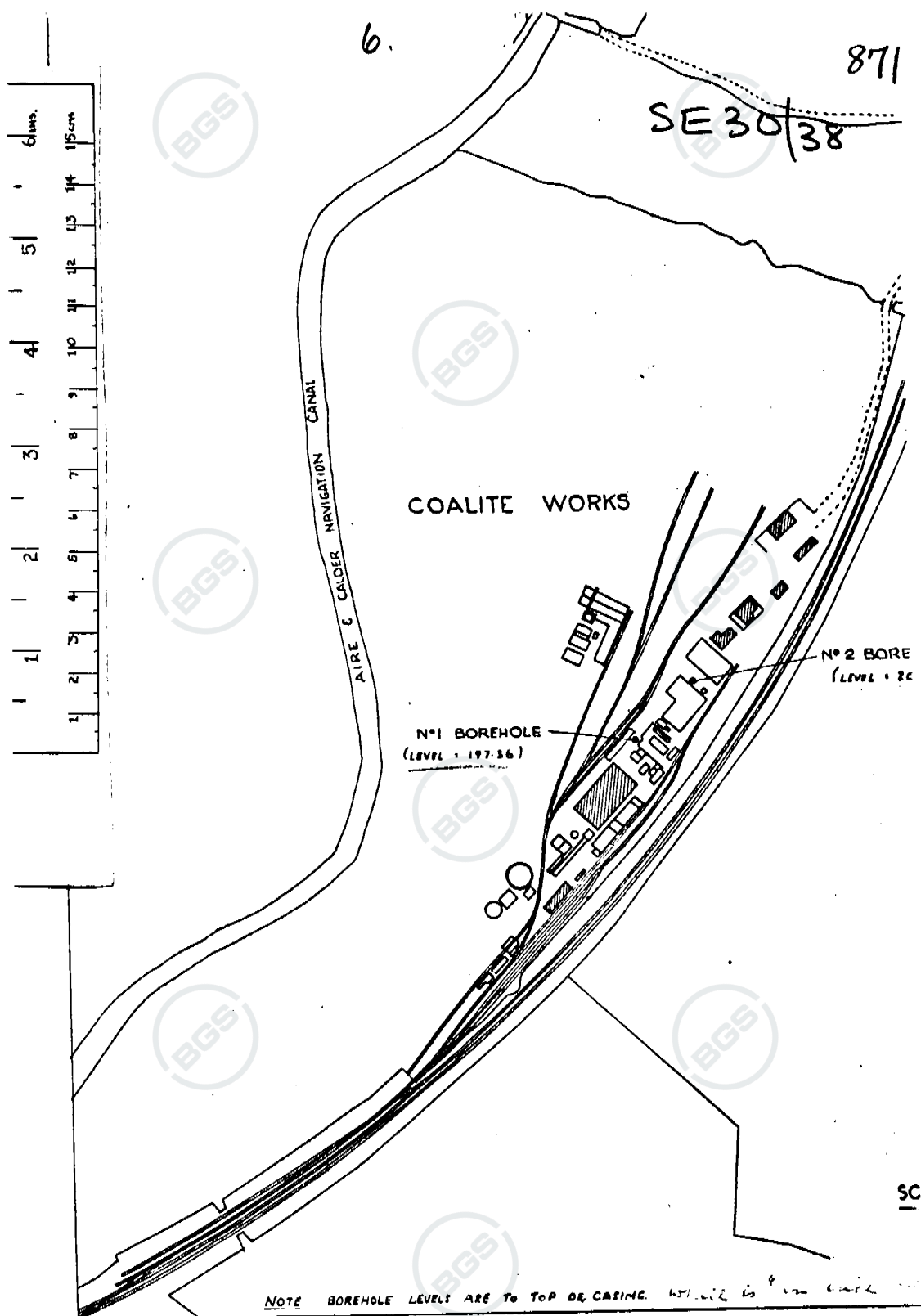


SE3226 0845 A+B 87/16
RECORD OF WELL (SHAFT OR BORE)

At Messrs. Low Temperature Carbonization Ltd, Coalite Works (No 1 Bore)
Town or Village Barnough, near Barnsley County Yorkshire Six-inch quarter sheet 274 NW
Exact site SE 30 NW 8 (3226 0845) (A rough sketch-map or a tracing from a map is very desirable)
in parish of _____
Level of ground surface above sea-level (O.D.) _____ ft. If well starts below ground surface, state how far _____ ft.
Shaft not ft., diameter stated ft. Bore _____ ft. Diameter of bore: at top _____ ins.; at bottom _____ ins.
Details of permanent lining tubes (internal diameters preferred) 4 3/4 ft. 12" tubes from 1'6" below surface, 18 ft. of 15 in. tubes from 4 ft below surface.
Water struck at depths of (feet) _____
Rest-level of water below top of well 1 1/2 feet. Suction at _____ feet. Yield on _____ hours' test
_____ gallons per _____ (with pump of capacity _____ g.p.h.); depressing water level to _____ feet
below top. Time of recovery _____ hrs. Amount normally pumped daily _____ g.p.h. for _____ hours.
Quality (attach copy of analysis if available) _____
Sunk by Messrs Isler for Low Temp. Carbonization Ltd. Date of well 1927
Information from Messrs. A.C. Potter.
(For Survey use only.) SE 30 NW 8 NATURE OF STRATA
GEOLOGICAL CLASSIFICATION. (and any additional remarks).

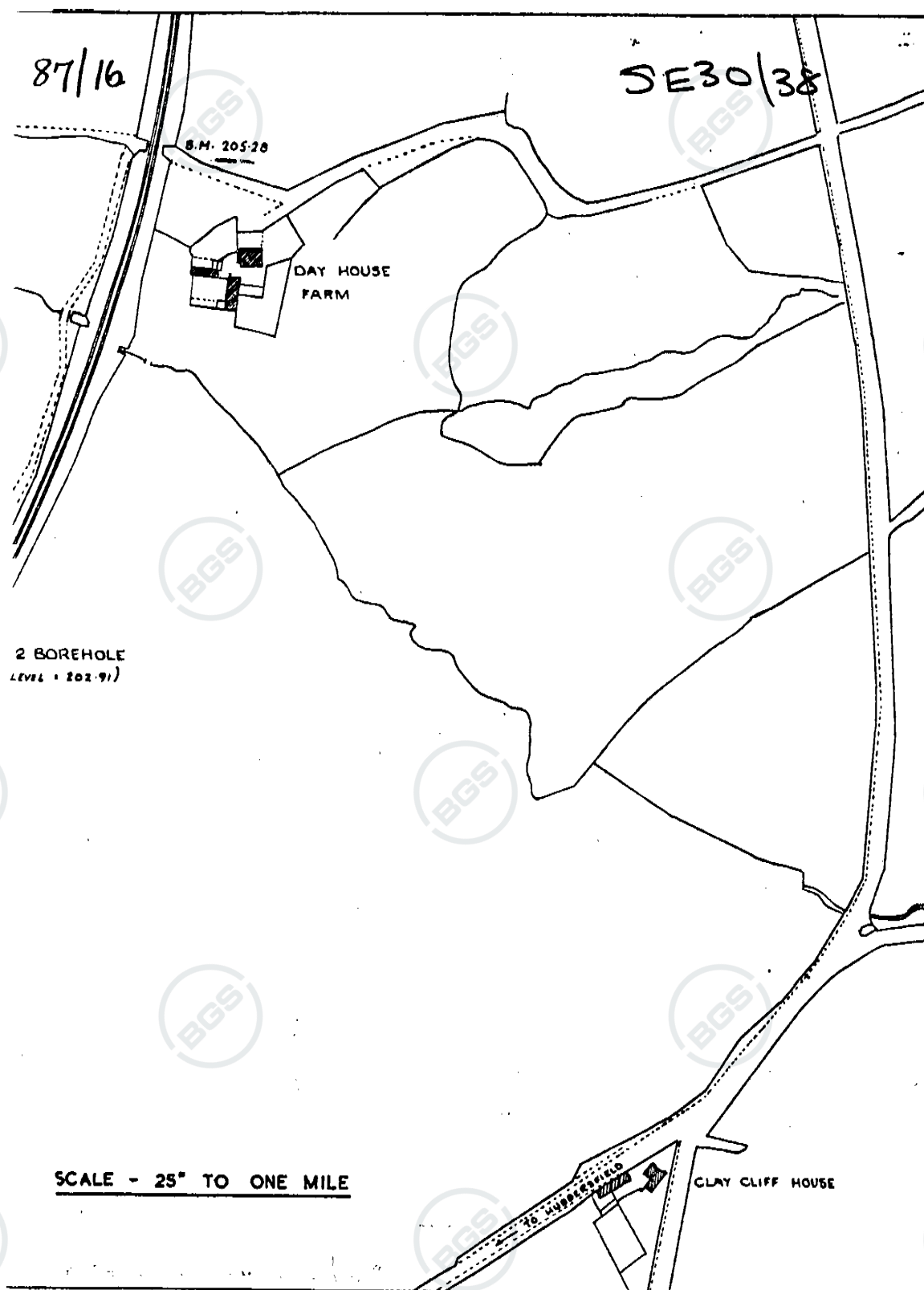
	THICKNESS		DEPTH	
	Feet.	Inches	Feet.	Inches.
Made ground & soil	4	-	4	-
Light mottled clay	12	-	16	-
Light grey clay & claystone			61	-
Black stone	2	-	63	-
Grey granite	4	-	67	-
Grey rock	31	-	98	-
Black shale rock	2	-	100	-
Grey shale	15	-	115	-
Coal	2	-	117	-
Grey shale & coal	4	-	121	-
Coal	28	-	149	-
Slag Rock	8	-	158	-
Grey Granite	2	-	160	-
Grey Sandstone	8	-	168	-

pm H. Johnson
19.6.27
Water overflowed at surface 1,360 gph. when bore was 14.9 feet deep and at 1000 gph. when completed at 16.8 ft. deep.
Airlift test in April 1927 gave 10,500 gph rest level 45 ft. below surface. This gradually fell off to about 6,000 gph. Recent test October 1929 gave 3000 to 4000 gph.
No communication with second bore.
Deepened to 208 ft in 1934.
(See attached letter)



LOCATION OF BOREHOLES. B

LOW TEMPERATURE CARBONISATION LTD



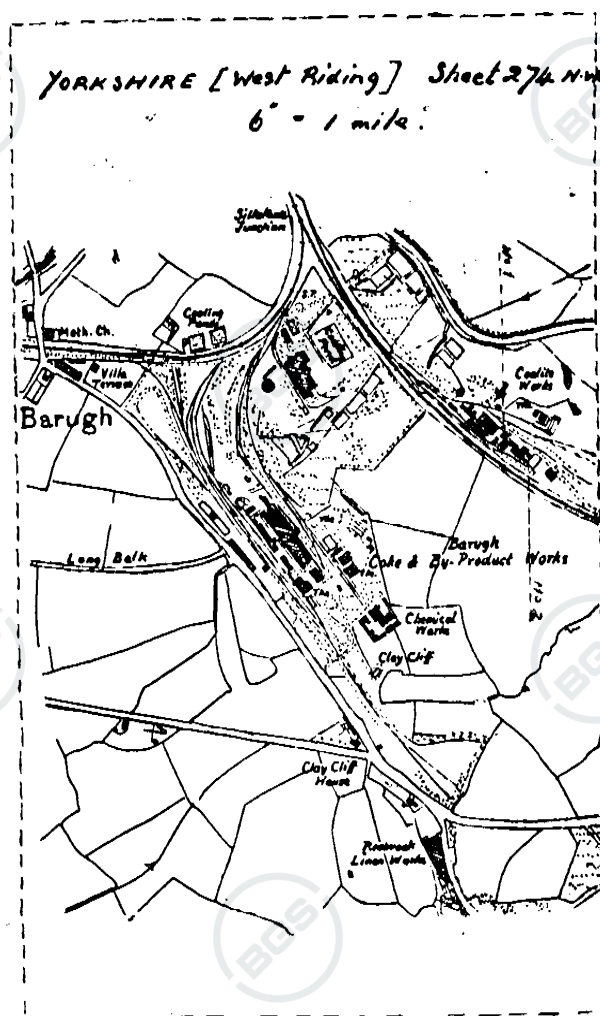
BARUGH WORKS

DRG. NO. 1375

3

SE30/38

87/16





SE30/38
87/16
16.5



TELEPHONE
BARNSELY 3631/2

"COALITE" CARBONISATION PROCESS

TELEGRAMS:
"COALITE, DARTON."

LOW TEMPERATURE CARBONISATION LIMITED.

GOV. W.A. BRISTOW, M.I.E.E., F.R.A.S. (CHAIRMAN AND
MANAGING DIRECTOR)
LT.-COL. COLIN BUIST, M.V.O., R.N.
SIR ARTHUR GREY HASLERIGG, BT
CHARLES HENRY PARKER, J.P., F.C.S.
R.P. WILSON, C.B.E., M.I.N.T.C.E., M.I.E.E.,

HEAD OFFICE:
28, GROSVENOR PLACE,
LONDON, S.W.1.
TELEPHONE: SLOANE 9274
TELEGRAMS: "SMOKELESS, LONDON"



COALITE WORKS,
GAWBER,
NEAR BARNSELY,
YORKS.

21st January, 1941.

The Director,
Geological Survey and Museum,
Exhibition Road,
South Kensington,
LONDON, S.W.7.

Rec'd + Ack'd by
23.1.41.
Your Ref: 87/16
Our Ref: JPP/FW.

Dear Sirs,

We received from you an enquiry dated December 18th regarding the Wells at these Works. The map tracing which accompanied your letter is returned herewith and on it we have marked in red ink the positions of Nos. 1 and 2 Wells. We also enclose a copy of our Drawing No. 1375 to a larger scale which shews the locations more clearly.

The information that we are able to give is not very complete as it is some years since the Wells were sunk and some of our records have been destroyed.

No.1.Well. This was originally sunk by Messrs. Isler & Co.Ltd. in 1927 to a depth of 168 feet. When the drilling was completed the water overflowed at the surface at the rate of 1,000 gallons per hour. The Well was fitted with an air lift installation and gave approximately 10,000 gallons per hour by this means. The output fell off considerably and by 1930 the supply failed completely. In 1934 the Well was deepened by Messrs. Isler to 208 feet but this did not materially increase the supply, and the Well has not been used since that time. The present standing water level is 4 ft 6 ins. from the surface.

P.T.O.

5.

SE30138


- 2 -

No. 2. Well. This was originally sunk in 1930 by Messrs. A. C. Potter to a depth of 306 feet, and yielded about 10,000 gallons per hour when fitted with an air lift. By August 1937 the output of water from this Well had fallen to 4,000 gallons per hour, the standing level being 135 feet and the pumping level 159 feet from the ground surface. The Well has not been used since 1939 when the Plant was shut down. The present standing water level is 14 feet from the surface.

Both Wells apparently pass through coal seams and the water is turbid in appearance and smells strongly of sulphur. The water was used for cooling purposes only and we have no record of its analysis.

We have no accurate information as to the height of the surface above Ordnance Datum, but when the snow clears we will endeavour to obtain this and send it to you.

Yours faithfully,

LOW TEMPERATURE CARBONISATION LIMITED.

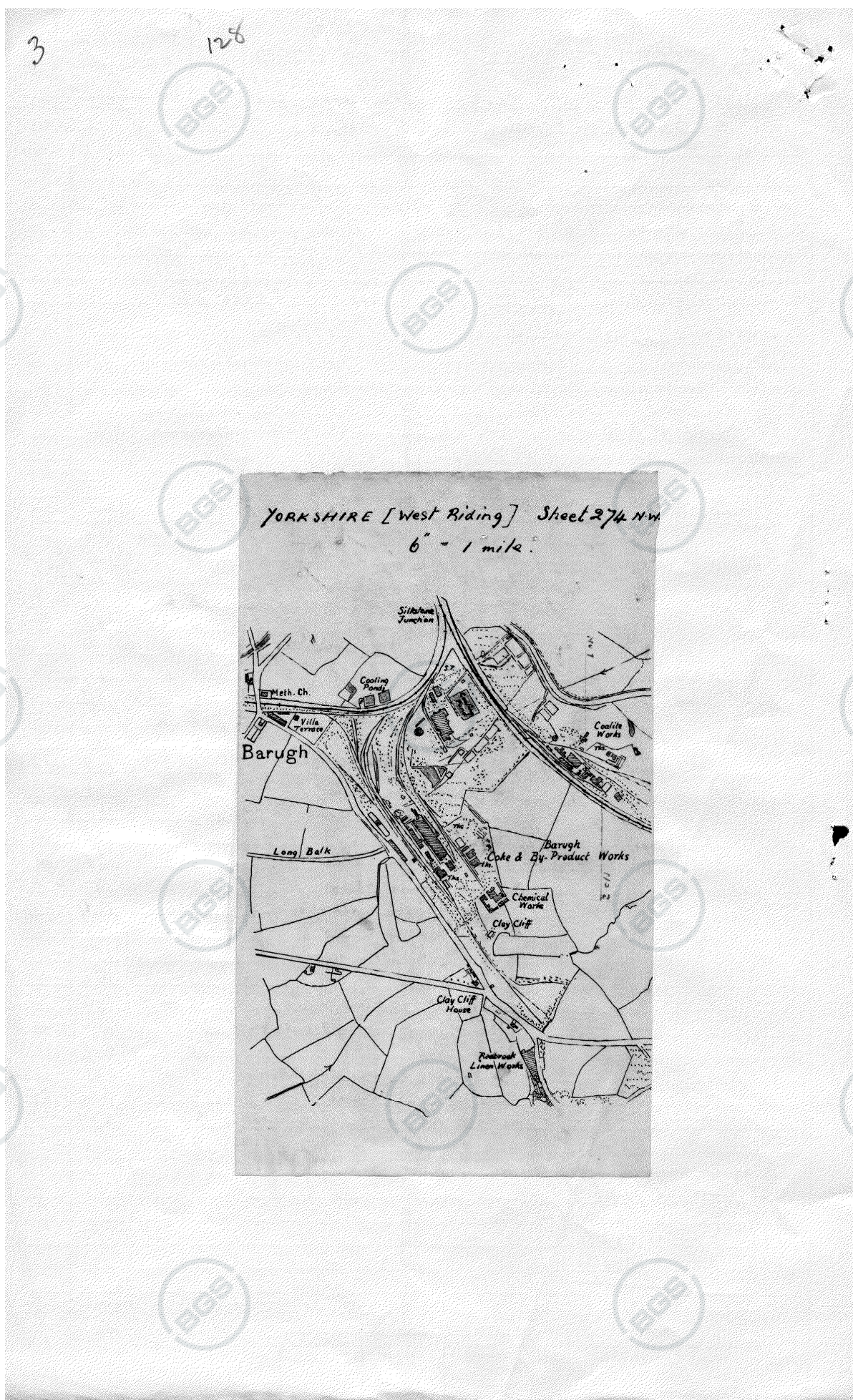


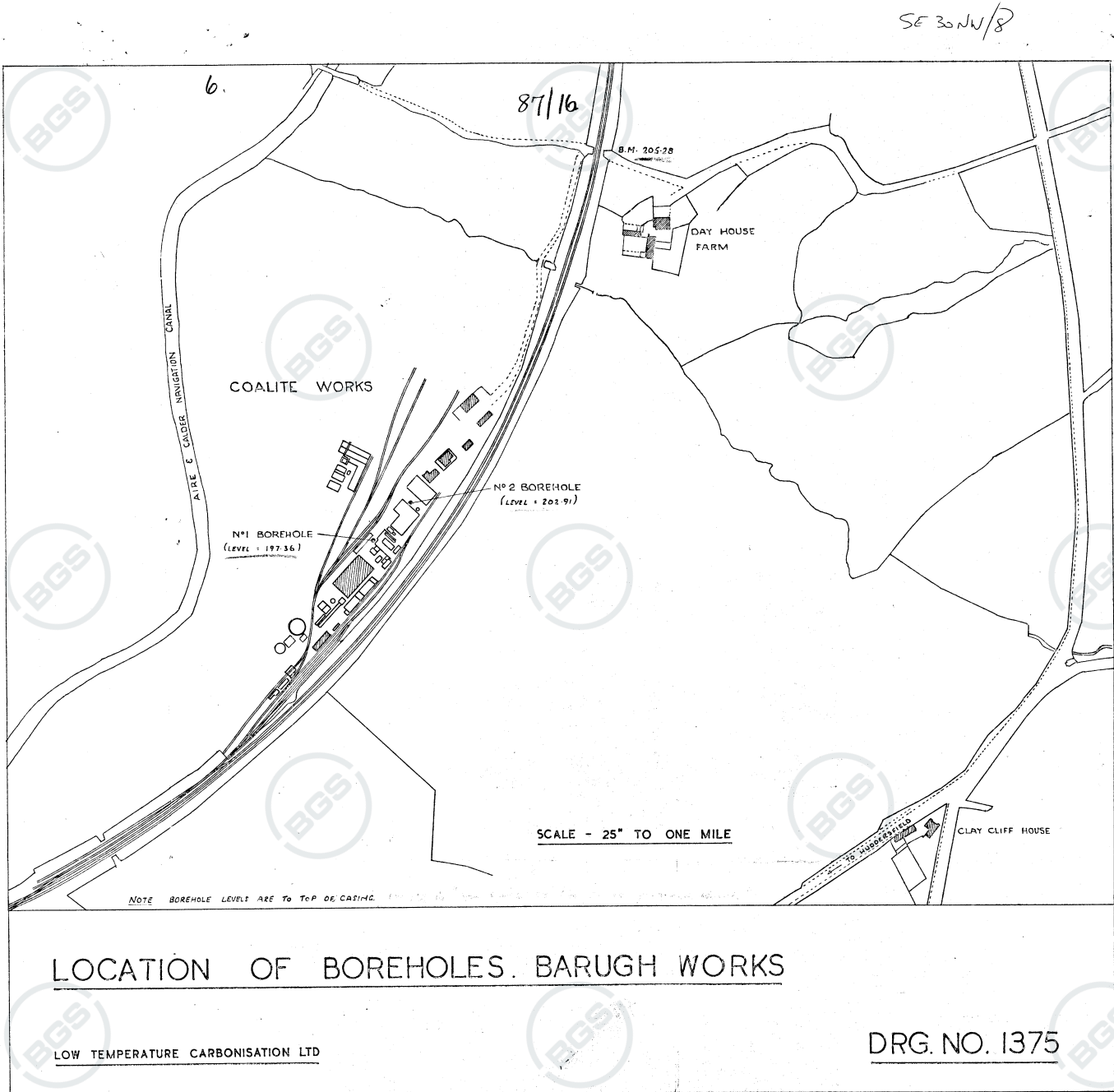
General Manager

Enclosures



2
SE 30 NW 8 B 127
RECORD OF WELL (SHAFT OR BORE)
At Messrs. Low Temperature Carbonization Works Ltd. Coalite Works.
Town or Village. Batugh, nr. Barnsley County Yorkshire Six-inch quarter sheet 274 NW
Exact site [3232 0840]
in parish of
Level of ground surface above sea-level (O.D.) ft. If well starts below ground surface, state how many ft.
Shaft 5 ft., square 8 ft. Bore 300 ft. Diameter of bore: at top 22 ins.; at bottom 13 1/2 ins.
Details of permanent lining tubes (internal diameters preferred). In Oct 1929 air-lift test:-
Sole's copy: 75 ft. 1 1/2 tubes from surface Suction at 208 yield 2,600 gph
113 ft. 1 1/2 " 62 ft. down " " 250 " 4,500 gph
Perforations (see below) " " 300 " 5,300 gph.
Water struck at depths of (feet) " " 300 " 5,300 gph.
Rest-level of water below top of well 70 feet. Suction at feet. Yield on hours' test days
gallons per (with pump of capacity g.p.h.); depressing water level to 90 feet
below top. Time of recovery hrs. Amount normally pumped daily g.p.h. for hours.
Quality (attach copy of analysis if available)
Sunk by Messrs A.C. Potter & Co for Mr. Low Temperature Carbonization Date of well late
Information from Messrs. A.C. Potter.
(For Survey use only).
GEOLOGICAL CLASSIFICATION. NATURE OF STRATA (and any additional remarks). THICKNESS DEPTH
Feet. Inches. Feet. Inches.
Drift? Clay 5 6 1.68 5 6 1.68
Shale 9 2.74 14 6 4.42
Blue mud 15 0.45 29 6 8.99
Mottled clay 4 6 1.37 34 10.36
Blue & mottled shale 39 6 12.04 73 6 22.4
Hard blue shale 5 6 1.68 79 24.08
Grey rock 1 6 0.46 80 6 24.54
Hard blue shale 18 6 5.64 99 30.18
Soft shale 2 6 0.76 101 6 30.94
Shale & coal 7 2.13 108 6 33.07
Black & blue shale 14 6 4.21 123 37.49
123 126 Grey sst. & blue shale 3 0.91 126 38.40
Blue shale 6 1.83 132 40.23
Blue sandy shale 3 0.91 135 41.13
Blue & black shale 2 6 0.76 137 41.91
137 and 145 Grey sst. blue shale & clay 11 6 3.51 149 45.42
Blue & black shale 4 6 1.37 153 46.79
Black shale & coal 1 6 0.46 155 47.24
Blue shale 9 2.74 164 49.99
165 175 (bottom of tubes) Grey sst. & blue shale 5 1.52 169 51.51
Grey & hard grey sandstone 37 3.51 206 62.79
Blue shale 10 3.05 216 65.84
Blue shale & grey sandstone 5 1.52 221 67.36
Blue & black shale 73 23.25 294 89.61
Grey sst. black & blue shale & coal 3 0.91 297 90.53
Blue shale 3 0.91 300 91.46
47. 14.677
5 ft square sump to 8 ft. 2.44
2 1/2 Bore to 19 ft. 5.79
17 1/2 " 64 ft 6 in. 11.46
15 1/2 " 182 ft. 55.47
13 1/2 " 300 ft. 91.44







Appendix E Notes on Limitations



General

JPG (Leeds) Ltd have prepared this report solely for the use 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 JPG (Leeds) Ltd; a charge may be levied against such approval.

JPG (Leeds) Ltd accepts no responsibility or liability for:

- a) The consequences of this document being used for any purpose or project other than for which it was commissioned, and
- b) This document to any third party with whom an agreement has not been executed.

Phase I Desk Study Reports

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 and meetings and discussions with relevant authorities and other interested parties. 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, JPG (Leeds) Ltd 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.

Phase II Geo-Environmental Investigations

The investigation of the site has been carried out to provide sufficient information concerning the type and degree of contamination, geotechnical characteristics and ground and groundwater conditions to allow a reasonable assessment of the environmental risks together with engineering and development implications.

The objectives of the investigation have been limited to establishing the risks associated with potential human receptors, building materials, the environment (including adjacent land) and controlled waters (surface water and groundwater).

The number of sampling points and the methods of sampling and testing do not preclude the existence of localised "hotspots" of contamination where concentrations may be significantly higher than those actually encountered.

The risk assessment and opinions provided, inter alia, take into consideration currently available guidance values relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.

The scope of the investigation was selected on the basis of the specific development proposed by the Client and may be inappropriate to another form of development or scheme.

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