DESK STUDY AND GEO-ENVIRONMENTAL REPORT

DODWORTH ROAD BARNSLEY

ON BEHALF OF

HALLROYD HOMES LTD

ARP GEOTECHNICAL LTD

CHARTERED CONSULTING ENGINEERS

DESK STUDY AND GEO-ENVIRONMENTAL REPORT

AT

DODWORTH ROAD

BARNSLEY

ON BEHALF OF

HALLROYD HOMES LTD

DECEMBER 2009

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CONTENTS

		Page
1.0	Executive Summary	3
2.0	Terms of Reference	4
3.0	Site Description	5 - 6
4.0	Environmental Setting	7 - 10
5.0	Preliminary Risk Assessment and Conceptual Model	11 - 16
6.0	Site Investigations	17 - 18
7.0	Summary of Ground Conditions	19 - 23
8.0	Chemical Analysis	24 - 28
9.0	Updated Risk Assessment and Conceptual Model	29 - 32
10.0	Risk Based Assessment of Remedial Options	33 - 35
11.0	Geotechnical Testing	36
12.0	Comment and Conclusion	37 - 42

APPENDICES

Appendix A	Site Location Plan and Site Plan
Appendix B	Ordnance Survey Archive Maps
Appendix C	Mineral Report
Appendix D	Coal Mining Report
Appendix E	Landmark Sitecheck Assess Report
Appendix F	Investigation Plan and Logs
Appendix G	Gas Monitoring Results
Appendix H	Laboratory Test Certificates and Screening Values
Appendix I	Mean and Max Value Statistical Analysis
Appendix J	Proposed Remediation Method Statement

1.0 EXECUTIVE SUMMARY

1.1 The pertinent information obtained during the investigation is tabulated below.

Proposed Development	Residential dwellings with private gardens.
Existing Site Description	Unoccupied land that slopes slightly to the north. Occasional trees around boundaries.
Site History	History of coal mining.
Geology	Undifferentiated strata or sandstone with no drift. Conjectured coal seam crosses the centre of the site. No faults affect the site.
Coal Mining	Site can be considered stable.
Groundwater	Site underlain by Minor Aquifer. No active abstractions within 500m.
Surface Water & Flooding	Nearest watercourse is a stream, 125m to the northeast. No abstractions within 500m. Not at risk of river flooding.
Radon	Basic radon protection measures recommended.
Landfill Gas	Initial gas monitoring and risk assessment has indicated no special precautions required. However, further gas monitoring visits are required, and these will be reported by separate letter.
Ground Conditions	Up to 3.7m of made ground, overlying natural clay over sandstone or mudstone.
Contamination	One lead outlier and chrysotile asbestos fragments.
Remediation Strategy	0.6m capping to soft areas, retention below hard areas or building footprints.
Foundations	Traditional strip/trench foundations are appropriate. Alternatives may be preferable, such as a piled foundation, due to depth of made ground.
Excavations	Slight instability may be encountered in the made ground.
Concrete	ACEC class AC-1. GEN1 designated concrete is satisfactory for unreinforced concrete.

2.0 TERMS OF REFERENCE

2.1 Hallroyd Homes Ltd are considering developing the site at Dodworth Road, Barnsley with residential properties. It was considered appropriate to implement a desk study and ground investigation to provide information to aid viability assessment and design of any subsequent development.

2.2 ARP Geotechnical Ltd was appointed by Hallroyd Homes Ltd to carry out the investigation, which involved a desk study assessment of the geological and coal mining aspects, Ordnance Survey archive maps, radon gas, indicative flood risk, hydrogeology, landfill, and other environmental issues. This was supplemented by an intrusive investigation to assess the subsoil conditions, including installation and monitoring of gas wells, and rotary drilling to determine the risk from possible shallow coal workings.

2.3 The investigation was implemented generally in accordance with BS 5930 : 1999 'Code of practice for site investigations', NHBC Standard Chapter 4.1 'Land quality - managing ground conditions', Environment Agency CLR 11 "Model Procedures for the Management of Land Contamination" and BS10175 : 2001 'Code of practice - investigation of potentially contaminated sites'. This report is limited to the data obtained. It should be noted that there is a possibility of variation in ground conditions between test locations and interpretation of strata is given for guidance only.

2.4 The general observation and assessment of the ground surface, and the identification/classification of vegetation is made in general terms only. It would be prudent for a specialist arboriculturist to undertake a more detailed survey.

2.5 The investigation was carried out between October to December 2009.

2.6 The report has been prepared for the sole use and reliance of the Appointee. The report shall not be relied upon or transferred to any other parties without the written agreement of ARP Geotechnical Ltd. No responsibility will be accepted where this report is used, either in its entirety or in part, by any other party.

3.0 SITE DESCRIPTION

Site Location

3.1 The site, which is centred on Ordnance Survey Grid Reference 433090, 406260, is located off the south side of Dodworth Road, in Barnsley, to the rear of numbers 146 and 154 Dodworth Road. The site is roughly rectangular, except for a narrow strip (an access road) connecting with Dodworth Road, and extends to an area of approximately 0.34Ha.

3.2 A site location plan is presented in Appendix A.

Current Use of Site

3.3 At the time of the investigation, the site was undeveloped land. The Client reported that the site had, until recently, been used as a staff car park, and for the storage of new cars by an adjacent, now demolished, motor trade garage. The site is mainly laid to hardstanding, with some areas of bituminous surfacing on the northern half of the site, and on the narrow strip of land connecting to Dodworth Road. The site slopes gently in a northeasterly direction, with steep batter slopes, approximately 2m to 3m high, down to adjacent residential gardens towards the northern and western boundaries, suggesting fill materials have been used in the past to level the site. The surrounding area slopes more steeply in a northerly direction.

Site Boundaries and Surrounding Land Use

3.4 The site is bounded on all but the northern side, and northern end of the western side, with a concrete panel fence approximately 2m high. To the north, the site is bounded by fencing and hedging associated with the rear gardens of adjacent residential properties. The northern end of the western boundary is formed with the out buildings and boundary fences of adjacent residential properties to the west. The site is located in an essentially residential area, with some evidence of commercial activity nearby.

Site History

3.5 Ordnance Survey archive maps were obtained for the site. Copies of the maps obtained are included in Appendix B, and a summary of the findings is given below.

On-Site Features

Feature	Location	Dates Shown	Comment
Spoil heaps	Whole site	1931 to 1956	Probably coal mine arisings
Old shafts	Northern half	1931 to 1961	Coal mining
Track	Running north-south, just inside eastern boundary	1931 to 1948	
Buildings	Middle, and southern half	1960 to 1982	Site cleared by 1991

Off-Site Features

Feature	Location	Dates Shown	Comment
Clay pit	120m to north, and 160m to northwest	1908 to 1960	Expands rapidly to within 40m of the southern boundary. Disused by 1960, partially filled with refuse until 1975, then clothing factory built within the pit
Disturbed Ground	Across road to north	1931 to 1948	By 1960, area developed, including a garage
Spoil Heap	Adjacent to east	1960	Houses in this location by 1975
Brick Works	140m to north	1906	A refuse destructor, with chimney, by 1931

3.6 In summary, the site was subject to coal mining by shafts, and deposition of spoil, commencing some time between 1907 and 1931. By 1960, the northern half of the site appeared to be a raised plateau, and the southern half of the site contained some unnamed buildings. The whole site was cleared by 1991. The local area has been subjected to opencast extraction of clay, and a large portion of this will have been later infilled, and has largely been built over. There is no indication of any potentially contaminating use of the site, although it is possible that fuel spillages/burnt products may be present on the site from the period of mining. There is the likelihood of deep fill material and a legacy of buried structures, foundations, services, basements and possibly mine entries.

4.0 ENVIRONMENTAL SETTING

Geology

4.1 A copy of a Mineral Report for the site, compiled by South Yorkshire Mining Advisory Services (SYMAS) was supplied by the Client. The report is included in Appendix C. Drawing Number M3360/4A shows the geology superimposed onto a map of the area, and this shows the majority of the site to be underlain by undifferentiated sedimentary strata of the Middle Coal Measures of the Carboniferous Period. These usually comprise mudstone, siltstone, and minor sandstones. The western margin of the site is shown to be underlain by sandstone.

4.2 There are no faults shown to affect the site. However, a coal seam (the Barnsley Seam) is conjectured to outcrop through the middle of the site, trending north northwest, south southeast.

Coal Mining

Coal Authority Report

4.3 The Client provided a copy of a Coal Mining Report from The Coal Authority. A copy of the report is included in Appendix D, and a summary is given below.

4.4 The site is in the zone of influence of past workings in 4No. seams of coal at shallow (usually indicated to be less than 30m) to 310m depth.

4.5 The site is unaffected by any present, or future proposed coal workings, and is unaffected by any past, present, or future proposed opencast coal workings.

4.6 There are 6No. mine entries on, or within 20m of, the site. There are no treatment details for 5No., but entry number 433406-001 was subject to an Emergency Surface Hazard Call-out after a slump of the overlying fill material. The shaft was excavated to a depth

of 2.5m, and plugged with mass concrete in 1998. It may be possible to obtain further details on this construction.

4.7 The approximate locations of the mine entries are shown on page 6 of the Coal Report. It is evident that there are 2No. shafts on the site itself: These are numbered 001 in the northwestern corner, which has been capped, and 002, just inside the middle of the eastern boundary. There are also 2No. adits (shallow inclined entrances), numbered 010 just to the south of shaft 002, and 017 under the narrow entrance road. The remaining 2No. entries are considered to be at sufficient distance such that they are highly unlikely to adversely affect the site.

SYMAS Report

4.8 The SYMAS Report, included in Appendix C, also shows the approximate positions of known mine entries (drawing No. M3360/4A). There are some differences and omissions from the Coal Authority plan, for example adit No. 010 is indicated to be approximately 5m to 10m further south on the SYMAS plan, and adit No. 017 is absent.

4.9 The report indicates that the Barnsley Seam, which outcrops through the centre of the site, was worked beyond the site to the east, and an abandonment plan dated 1844 is shown as drawing number M3360/4B in the report. The workings are not shown to underlie the site, but the 2No. adits indicated on the Coal Authority plan are probable entrances for workings to this seam. The abandonment plan shows the seam is approximately 2.3m thick, and comprises:

Coal – 0.51m thick
'Dirt' – 25mm thick
Coal – 0.41m thick
'Dirt' – 0.1m thick
Coal – 1.29m thick

4.10 The report indicates that the 2No. shafts, which are said to be 10ft diameter (3.05m) were used for deep mining of the Swallow Wood (at 56m depth) and Haigh Moor (at 72m depth) coal seams. The report concludes that the site is not at risk from these seams, or deeper seams.

4.11 In view of the above, there is the possibility of unrecorded shallow workings to the east of the Barnsley Seam outcrop, and it was concluded that this should be assessed by an intrusive investigation using a rotary drilling rig. The investigation was carried out, and is described later in this report. The untreated shaft, and 2No. adits, should be located for future treatment. Details are provided later in this report.

Hydrogeology

4.12 A 'Sitecheck Assess' Report from Landmark was provided by the Client. A copy is included in Appendix E. The report indicates the strata beneath the site are classed as a Minor Aquifer. Minor Aquifers seldom produce large quantities of water for abstraction, but are important both for local supplies and in supplying base flow to rivers.

4.13 The soils overlying the site are automatically classed as High Leaching Potential, due to the urban nature of the area. However, actual Leaching Potential will be dependent on the specific ground conditions found on the site.

4.14 There are no groundwater abstractions within 500m of the site.

Hydrology

4.15 There are no watercourses on or adjacent to the site. The nearest watercourse downslope is a stream approximately 125m to the northeast, and any surface water run-off, which is not intercepted by drainage, is likely to eventually reach the stream.

4.16 The site is not in an area at risk from river flooding. The risks of flooding from other causes such as adverse topography or insufficient surface water drainage, are not

considered here, and a separate specialist Flood Risk and Drainage Report should be commissioned if such risk needs to be quantified.

4.17 There are no surface water abstractions within 500m of the site.

Landfill Sites

4.18 There are several landfills recorded in the Sitecheck report, within 250 m of the site. The SYMAS report, presented in Appendix C, gives further details, and a plan showing the locations is provided in the report (drawing No. M3360/4G). The records generally relate to infilling of the clay pits in the area, with the nearest and most likely to generate gas being to the southwest (90m distant) and west (further afield). The site itself also is registered as a landfill, completed in May 1992 by Polar Motors, and referred to as 'excavation subsoil and topsoil to form grassed embankment...'

Other Environmental Data

4.19 The Sitecheck Report, included in Appendix E, contains information on numerous environmental aspects. A summary of the pertinent findings, not already covered, with additional comments, is given below.

4.19.1 There are no sigificant IPPC, LAIPPC or IPC Authorisations within 250m of the site.

4.19.2 There are no discharge consents relating to, or within 500m of, the site.

4.19.3 The site is within a radon affected area, according to the British Geological Survey (BGS). However, the BGS also state that no radon protective measures are necessary on the site.

4.19.4 There are no contemporary trade directory entries or fuel station entries on or adjacent to the site.

5.0 PRELIMINARY RISK ASSESSMENT AND CONCEPTUAL MODEL

5.1 Part II A of the Environmental Protection Act (EPA) 1990 became effective from 1st April 2000. The Regime was introduced by the Contaminated Land (England) Regulations 2000 (SI 2000, No. 227) along with the associated DEFRA Circular February 2000.

5.2 Section 78A (2) of the Act defines "Contaminated land is any land ..... in such a condition, by reason of substances in, on or under that land that –

(a) significant harm is being caused or there is a significant possibility of such harm being caused; or

(b) significant pollution of controlled waters is being caused, or there is a significant possibility of such pollution being caused;

From S78A (4) 'Harm' : means harm to the health of living organisms or other interference with the ecological systems of which they form part and, in the case of man, includes harm to his property.

Controlled waters are defined as '..the waters in any relevant lake or pond, or of so much of any relevant river or watercourse as is above the freshwater limit, and ground waters, that is to say, any waters contained in underground strata'. From the 1st October 2004, the definition of groundwater in relation to Part IIA was amended, by the Second Water Act Commencement Order SI 2004 No 2528. This makes clear that "ground waters" does not include waters above the saturation zone, i.e. does not include any soil water and pore water present in the unsaturated zone.

5.3 The objectives of the regime are to ensure that risks associated with contaminated land are reduced to an acceptable level, having regard to the costs of doing so. The costs should be proportionate, manageable and economically sustainable.

5.4 In assessing risk, it is necessary to consider the probability, or frequency, of occurrence of the hazard and the magnitude/seriousness of the consequences. Consequently, for land to be classified as contaminated, it must have, or be very likely to have, a detrimental effect on humans or the environment before it can be classified as contaminated land.

5.5 In establishing risk, the concept of the pollutant source/pathway/receptor linkage model, based on current and proposed site use, is to be considered. Therefore for a site to be deemed contaminated under the Regime, all three linkages must be in place i.e. the site must not only contain harmful substances, but the substances must have a pathway by which to leak out and cause significant harm to a receptor.

5.6 In September 2004, the Environment Agency published the Contaminated Land Report (CLR) 11, "Model Procedures for the Management of Land Contamination". The document is intended to provide the technical framework for structured decision making about land contamination, and is intended to assist all those involved in "managing" the land, in particular landowners, developers, financial service providers, planners and regulators. As the document currently provides the framework for best practice, the general principles are, therefore, followed in conducting the assessment below.

Conceptual Site Model

5.7 It is known that the site is proposed for residential development, with private gardens. The majority of the site is likely to be underlain by mudstone and siltstone of the Middle Coal Measures, possibly with the upper few metres weathered to a stony clay. The site is indicated to have 4No. mine entries, and archive maps show possible spoil heaps on the site in the past, as well as some unnamed buildings on the southern half. The northern half may have artificially raised at a later date. The site is underlain by a Minor Aquifer, and the soils are likely to be cohesive and, therefore, of low leaching potential. The nearest surface water is a stream approximately 125m to the northeast, and the site and surrounding area slopes gently to the northeast. There are no groundwater or surface water abstractions within 500m of the site. There is anecdotal evidence that the site has

been used for storage of cars as part of a car sales company. A coal seam outcrops on the site, and there are several landfills within 250m of the site.

5.8 The conceptual model needs to consider sources of contamination, pathways along which contaminants could migrate and the receptors, which may become exposed.

5.8.1 **Sources** - The following potential sources of contamination have been identified, and EA document CLR8 "Potential Contaminants for the Assessment of Land" has been consulted.

5.8.1.1 Possible made ground – metals, inorganics, TPH, PAH, BTEX, Phenol, Asbestos.

5.8.1.2 Possible contamination due to the use of the site for storage of cars – TPH, BTEX.

5.8.1.3 Mine gas, landfill gas, from mine entries, shallow coal, and nearby landfills.

5.8.2 **Pathways** – Utilising the guidance published by the Environment Agency – SCO50021/SR3, 'Updated Technical Background to the CLEA Model', the following pathways have been identified in relation to the current and future site use.

5.8.2.1 Ingestion and dermal contact with soil and dust, both indoor and outdoor. (This pathway is considered viable, as private gardens are proposed).

5.8.2.2 Consumption of homegrown vegetables and any attached soil. (This pathway is considered viable, as private gardens are proposed).

5.8.2.3 Indoor and outdoor inhalation of soil vapour. (This pathway is considered viable).

5.8.2.4 Surface water run-off and floodwater. (This pathway is considered viable. However, as the site is not at risk of river flooding, and the nearest downslope watercourse is 125m to the NE of the site).

5.8.2.5 Migration of contaminated groundwater or leachate off-site. (This pathway is considered low risk, as the site is probably underlain by cohesive deposits. In addition, the solid strata are a minor aquifer and there are no groundwater abstractions within 500m of the site. It is possible that old mine workings could provide a route for groundwater flow).

5.8.3 **Receptors** - Utilising the guidance published by the Environment Agency – SCO50021/SR3, 'Updated Technical Background to the CLEA Model', the following receptors have been identified in relation to the current and future site use.

5.8.3.1 Subsequent occupiers of the site with residential dwellings and private gardens.

5.8.3.2 Adjacent residents and the general public.

5.8.3.3 Construction workers, site personnel and maintenance operatives.

5.8.3.4 Vegetation.

5.8.3.5 Foundations, below ground concrete and mortar, and services.

5.8.3.6 Surface water. (The nearest down slope watercourse is 125m to the NE of the site. There are no surface water abstractions within 500m of the site.

5.8.3.7 Groundwater. (The strata beneath the site are classed as a Minor Aquifer. There are no groundwater abstractions within 500m of the site).

5.9 The following matrix gives a summary of the potential source-pathway-receptor relationships. Any pathways in italics are deemed not to be viable.

Potential Source – Pathway – Receptor Matrix

Contamination Sources	Pathways	Receptors
Made ground and use of site for car storage – metals, inorganics, TPH, PAH, phenol, BTEX, asbestos Landfills and coal – methane and carbon dioxide	• Ingestion and dermal contact with soil and dust • Fruit and vegetable intake (with soil) • Vapour inhalation outdoor • Vapour inhalation indoor	**Humans:-** • Future occupants • Construction workers • Maintenance workers • Adjacent residents and general public
	• Migration in surface water • Migration in groundwater	**Controlled waters:-** • Groundwater (Minor Aquifer, no abstractions within 500m) • Surface water (nearest downslope is 125m to NE, and there are no abstractions)
	• Root uptake	**Vegetation:-** • Landscape areas • Private gardens
	• Direct contact	**Construction materials:-** • Bricks and blocks • Concrete and buried mortar • Structural steelwork • Foundations • Buried services

5.10 The above matrix indicates there are several potential source – pathway – receptor linkages applicable to the proposed development.

5.11 The assessment was used to inform the design of the subsequent ground investigation. To fully characterise the site, in accordance with BS10175 : 2001 'Code of practice - investigation of potentially contaminated sites', and to address the above concerns, it was decided that, in addition to geotechnical information required, the site investigation should include:

5.11.1 Trial pit excavations on a grid basis, preferably 25m spacing.

5.11.2 Samples of the made ground issued for testing for a broad suite of determinands, including metals, inorganics, asbestos, phenols, speciated PAH, speciated BTEX and TPH.

5.11.3 Ground gas monitoring, due to the presence of several landfills, a coal seam, mine entries, and possible shallow coal workings.

5.11.4 Upon receipt of contamination test results, any elevated TPH would be speciated to allow further risk assessment, and leachability testing undertaken on all elevated determinands, to give indication of mobility.

6.0 SITE INVESTIGATION

6.1 The purpose of the investigation undertaken in October and November 2009 was to produce an assessment of the site in accordance with BS10175 : 2001 'Code of practice - investigation of potentially contaminated sites', and to provide geotechnical information to aid design of the development.

6.2 The site was gridded on a maximum 25m spacing and trial pits were excavated and sampled on the grid, to satisfy the requirements of the British Standard. 6No. trial pits were excavated, to depths of between 2.5m and 4.3m (TP1 to TP6) on the 30th October 2009. The trial pits were organised, supervised and logged by an Engineer from ARP Geotechnical Ltd.

6.3 3No. rotary boreholes were drilled, by Tyneside Exploration Drilling, on the 8th December 2009 and 10th December 2009, to depths of between 20m and 22m (BH1 – BH3) to check for the presence of any coal seams and associated coal workings. The boreholes were organised and supervised by an Engineer from ARP Geotechnical Ltd, and logged by the foreman driller.

6.4 3No. gas monitoring wells were installed in dedicated boreholes (GW1 to GW3), and subsequently monitored by ARP Geotechnical Ltd. The wells were installed to depths of between 2m and 3m depth, with the bottom 1m - 2m comprising slotted pipe with gravel surround, and the upper 1m comprising plain pipe with bentonite seal and lockable flush cover.

6.5 2No. trenches were excavated to depths of between 1.6m and 3m, in order to locate the mine shafts and adits on site. The trenches were undertaken during both visits and were organised, supervised and logged by an Engineer from ARP Geotechnical Ltd.

6.6 An investigation plan and logs are included in Appendix F, together with the location plan.

6.7 Chemical analysis of 5No. soil samples for metals, inorganics, speciated PAH, TPH, phenols, BTEX and asbestos was undertaken by the UKAS accredited DETS Laboratory in Consett. Elevated determinands were tested further for leachability to determine the potential mobility of the contaminants. The test certificates are included in Appendix H.

6.8 Analysis for Atterberg Limits, moisture content, pH and water soluble sulphate was undertaken by the UKAS accredited Professional Soils Laboratory (PSL) in Doncaster. The test certificates are included in Appendix H.

7.0 SUMMARY OF GROUND CONDITIONS

Strata and Groundwater

Trial Pits

7.1 The trial pits in the north of the site (TP4, TP5 and TP6) revealed a surface covering of limestone subbase to a maximum depth of 0.15m, overlain by 50mm of bituminous material in TP5 only, and grass in TP4 only. In the south of the site (TP1, TP2 and TP3), the pits revealed exposed made ground at the surface, locally over grown with grass near the boundaries.

7.2 Beneath the surface cover, made ground was present, to total depths of between 1.8m (TP2) and 3.7m (TP6).

7.3 The made ground was found to comprise six differing materials:

7.3.1 **Limestone subbase** on the northern half (TP4, TP5, TP6) from the surface to depths of between 0.05m (TP6) and 0.15m (TP5).

7.3.2. **Demolition rubble** on the southern half (TP1, TP2, TP3), from the surface to depths of between 0.5m (TP3) and 0.6m (TP1), comprising sand and gravel, locally with occasional cobbles, all of ash, brick, sandstone, and occasional concrete. Trace plastic sheeting and glass.

7.3.3 **Colliery spoil** in all the pits except TP2. In TP3, TP4, TP5 and TP6, the spoil was present immediately beneath the above materials, to depths of between 0.65m (TP5) and 2.7m (TP3). In TP1 only, the material was overlain by 0.25m of red shale, and was encountered to a depth of 2.55m.

7.3.4 **Red Shale** (Burnt), in TP1, TP4 and TP5 only. The material was present immediately beneath the colliery spoil in TP4 and TP5, to a maximum depth of 3.15m, and above the colliery spoil in TP1.

7.3.5 Dark grey/black **gravelly clay** in TP2 only, from 0.55m to 1.8m, with the gravel comprising **tabular mudstone** and trace glass, asbestos sheeting, metal, and clinker.

7.3.6 Grey, occasionally black and brown mottled, **gravelly clay** in TP6 only, from 2.15m to 3.7m, with the gravel comprising mainly **sandstone and coal**.

7.4 Beneath the mage ground, natural strata were confirmed generally comprising firm/firm to stiff grey/brown, locally yellowy/grey, silty, slightly sandy, slightly gravelly clay, with the gravel comprising tabular mudstone or sandstone. The stratum was interpreted as weathered mudstone or sandstone. The exception was TP1, in the southwetsern corner of the site, where grey/yellow thinly bedded fine grained sandstone was present immediately beneath the made ground (from 2.35m), arising as tabular cobbles.

7.5 Bedrock was encountered beneath the clay found in all the remaining trial pits across the site, except TP3, and comprised either sandstone, as described above, or reddy orange/brown thinly laminated mudstone. The bedrock was encountered from depths of between 2.7m in the southeastern corner (TP2) or 4.2m in the northwestern corner (TP6).

Boreholes

7.6 The 6No. rotary boreholes (3No. to 20m-22m to check for the presence any coal seams or associated coal workings, and 3No. to a depth of 2m-3m for use as gas wells) revealed made ground to depths of between 1.6m (BH1 and GW1) and 3m (GW3). Below the made ground, silty grey clay was recorded to depths of between 3.1m (BH1) and 4.4m (BH2), overlying grey/dark grey mudstone. The mudstone continued to the bases of the holes at 20m (BH1) and 22m (BH2 and BH3), except for a 0.6m to 2.3m thickness of brown sandstone, encountered at between 6.6m (BH1) and 7.8m (BH2). No coal seams,

voids, broken ground or soft pushes were recorded in any of the boreholes and they were backfilled with grout on completion.

Mine Shafts and Adits

7.7 2No. trenches were excavated at the positions shown on the Investigation Plan presented in Appendix F, annotated Trench 1 and Trench2, to investigate the presence of mine adits.

7.8 Beneath any surface cover, both trenches revealed demolition rubble, as per the trial pits, to depths of 1.1m and 1.5m, overlying natural clay.

7.9 Both trenches revealed an abrupt step in the natural strata, of approximately 0.9m, increasing the depth of made ground, in the northern ends of the trenches, to a maximum of 3m, and indicating the likely locations, and approximate depth to the floors, of the adits. Adjacent to the steps in the natural strata, made ground, comprising colliery spoil, was present. The adits were found to be in the locations as indicated on in the Coal Mining Report presented in Appendix D. There was no indication of any roof to the adits within the site, and they are present merely as areas of deeper made ground, with a solid base of natural strata.

7.10 Further exploratory excavations were carried out in the vicinity of the mine shafts. Both were located, and are shown on the plan presented in Appendix F. Both were approximately 3.5m in diameter, with the shaft in the northwestern corner capped with concrete from almost ground level to a depth of approximately 2.5m. The second shaft, found approximately mid way along the eastern boundary, was uncapped, but was evidently backfilled and brick lined.

Summary

7.11 Made ground was encountered across the whole site, comprising generally sand, gravel and cobbles of brick, sandstone, limestone and ash (demolition rubble and limestone sub base), to depths of between 0.05m and 0.6m. Further made ground was encountered

beneath, across the whole site, generally comprising colliery spoil, red shale or grey/black sandy gravelly clay, to depths of between 1.80m and 3.70m. The made ground was found to be shallowest generally towards the south of the site, and the deepest areas were encountered in the northwestern corner. Beneath the made ground, natural strata were proven, generally comprising sandy slightly gravelly clay of at least firm consistency. The gravel content comprised mudstone, siltstone, and sandstone, overlying sandstone or mudstone bedrock. The rotary borehole investigation revealed no coal seams, voids or broken ground. 2No. north to south trending trenches, both excavated close to the eastern boundary, revealed 2No. mine adits, represented only by abrupt steps in the natural strata, and deepened made ground, to 2.7m maximum. There was no indication of any roof to the adits, within the site.

Gas Assessment

7.12 Gas monitoring and assessment was carried out in accordance with BS 8485 : 2007 'Code of practice for the characterization and remediation from ground gas in affected developments'.

7.13 The monitoring, carried out on 1No. occasion so far, showed no methane (CH_4) to be present, a maximum carbon dioxide (CO_2) concentration of 0.3%, and zero flow rate. However, a further 5No. visits, over a 3 month period, are still to be carried out, and the full results will be reported by separate letter. The results of the monitoring sotar are presented in Appendix G.

7.14 The British Standard utilises the concept of hazardous gas flow rates (Q_{hg}), in litres per hour, which are obtained by multiplying the borehole flow rate by the concentration in the air stream of the particular gas being considered. Table 1 in Section 6.3 of the Standard allows the selection of a 'Characteristic Gas Situation' based on the hazardous gas flow rates, using a numbering system of 1 to 6, where 1 equates to a very low hazard potential and 6 equates to a very high hazard potential.

7.15 A table showing the Characteristic Gas Situations is identified below.

Characteristic Gas Situation	Hazard Potential	Site Characteristic Hazardous Gas Flow Rate, Q_{hgs} (l/hr)	Additional Factors
1	Very Low	<0.07	Typically <1% CH_4 and <5% CO_2, otherwise consider an increased Characteristic Gas Regime
2	Low	>0.07, <0.7	Typical Measured Flow Rate <70l/hr, otherwise consider an increased Characteristic Gas Regime
3	Moderate	>0.7, <3.5	
4	Moderate to high	>3.5, <15	
5	High	>15, <70	
6	Very High	>70	

7.16 Therefore, the gas regime identified on the site, where zero CH_4 and 0.3% CO_2 were detected, along with zero borehole flow rate, results in a maximum Q_{hg} of 0.0003/hr. This equates to a Characteristic Gas Situation of 1.

7.17 A Characteristic Gas Situation of 1 requires no special precautions.

8.0 CHEMICAL ANALYSIS

8.1 Screening Values

Soils

8.1.1 Where possible, a Soil Guideline Value (SGV), derived from the DEFRA "CLEA" Contaminated Land Exposure Model, has been used for the Screening Value. The SGVs provide intervention values for assessing the degree of contamination. There are currently 12No. commonly detected determinands for which an official SGV presently exists, namely:- arsenic, cadmium, mercury, nickel, selenium, phenol, benzene, toluene, ethylbenzene, o-xylene, m-xylene, p-xylene. In addition, there are 2No determinands for which SGVs have previously been published, but which have now been withdrawn:- chromium, and lead. There is also an SGV for the sum of dioxins, furans and dioxin-like PCBs, which would not be included within our testing suite unless a specific need was identified by the desk study. The withdrawn SGVs are used as screening values in this report, but are considered conservative, as the more recently published SGVs are generally significantly higher than the old values. There is also an old draft SGV for naphthalene.

8.1.2 In the absence of an SGV, values have been used from the document published by Land Quality Management / Chartered Institute of Environmental Health: 'Generic Assessment Criteria for Human Health Risk Assessment', 2007. Values in the document have been produced using the old CLEA methodology, and are also considered conservative.

Leachability

8.1.3 The UK Drinking Water Standards have been used as the Generic Screening Value for these results. These values are considered to be extremely conservative,

but have been used as a general comparison against the readings obtained from the samples.

Tables of Screening Values

8.1.4 Tables showing the screening values utilised, and the sources of the values, are included in Appendix H.

8.2 Soils Analysis

8.2.1 5No. soil samples were issued to the UKAS accredited Derwentside Environmental Testing Services in Consett for the suite of testing. The testing comprised:

8.2.2 2No. samples of the near surface demolition rubble and gravelly clay fill from TP1 and TP2, for a full suite of determinands.

8.2.3 2No. samples of colliery spoil and red shale fill from TP3 and TP4, for a full suite of determinands, plus total sulphur, total sulphate and Total Potential Sulphate (TPS).

8.2.4 1No. sample of the deeper gravelly clay from TP6, for a full suite of determinands and calorific value.

Made Ground

8.2.2 Determinands within the Made Ground, for which at least one value was above the screening value, were subjected to statistical analysis using the Mean Value Test and Maximum Value Test. The results table is included in Appendix I. A results summary table for determinands found to be above screening values is given on the following page.

SUMMARY OF CHEMICAL TEST RESULTS FOR MADE GROUND

Determinand	Screening Value (mg/kg)	No of samples	Range (mg/kg)	No. above Screening Value	Outliers	95th percentile (mg/kg)	Locations and Concentrations (mg/kg) of Exceedences
Arsenic (1)	32	5	4-38	1	None	27.9	TP2 0.55-1.55
Lead (1)	450	5	15-480	1	TP2 0.55-1.55	308.5	TP2 0.55-1.55
Total EPH (2)*	500	5	10-840	2	None	690.4	TP1 0-0.25 TP2 0.55-1.55

(1) SGV2009 (2) Agreed with local Authority * Not problematic once divided into A/A fractions

8.2.3 It can be seen from the table that concentrations of arsenic are not problematic, as the 95th percentile is below the screening value, with no outliers. The 95th percentile for lead is below the screening value, but the maximum value of 480mg/kg is a statistical outlier and will need further consideration in the risk assessment. However, following removal of the outlier there are no further exceedences.

8.2.4 The 95th percentile concentration of EPH, of 690.4mg/kg with no outliers, is above the screening value. However, aliphatic/aromatic (A/A) testing on the maximum 840mg/kg concentration, recorded in TP2 at 0.55m to 1.55, has revealed no exceedences of the individual carbon banded screening values and the made ground is, therefore, considered to be uncontaminated with regard to EPH.

8.3 Asbestos

8.3.1 2No. samples of the near surface made ground from TP1 at 0-0.25m and TP2 at 0.55m-1.55m were found to contain fragments of chrysotile asbestos, rendering the material unsuitable for use at or near the surface of a residential development.

8.4 Combustibility

8.4.1 The ICRCL Guidance Notes 61/84 Second Edition July 1986: 'Notes on the fire hazards of contaminated land' was consulted with regard to the calorific value

(CV) testing under taken on the sample of gravelly clay made ground containing coal fragments, from TP6 at 2.15m to 3m. The document indicates that materials with a CV >10MJ/kg are almost certainly combustible, with materials with a CV <2MJ/kg unlikely to burn. A CV of 2.4MJ/kg was recorded in the sample from TP6, which, although exceeding the lower threshold of <2MJ/kg, is still considered low and to possess little risk of combustion, particularly as the material will be buried and the exposure to oxygen will be reduced to low risk.

8.5 Heave

8.5.1 1No. sample of the colliery spoil and 1No. sample of the red shale, from TP3 at 0.5m to 2.00m and TP4 at 0.75m to 1.6m respectively, were tested for potential heave. DETS Laboratory were consulted and indicated that the analysis showed the soluble sulphate, total sulphur and TPS were all very low indicating little heave potential.

8.6 Leachability Analysis

8.6.1 The laboratory test certificates for leachability analysis are presented in Appendix H. The analysis, which has been carried out, shows that the determinands have negligible leachability. Therefore, if the contamination was to be retained on site below a cover material, the contamination would be effectively immobile with respect to water/groundwater transport.

8.7 Summary

8.7.1 Taking into account the above analysis, it can be concluded that the made ground was found to be essentially uncontaminated, except for a lead outlier in TP2 at 0.55m-1.55m and the presence of chrysotile asbestos fragments in TP1 at 0-0.25 and TP2 at 0.55m-1.55m. The lead outlier was found to have negligible leachability.

8.7.2 The grey colliery spoil and red shale were found to have little potential to heave.

8.7.3 The made ground from TP6 at 2.15m-3.0m was found to have low calorific value and, therefore, low combustibility.

9.0 UPDATED RISK ASSESSMENT AND CONCEPTUAL MODEL

9.1 The conceptual model can be updated to take account of the findings of the site investigation and laboratory tests. The points are given below:-

9.1.1 The site is proposed for a residential development, which will include private gardens. The historical maps show possible spoil heaps on the site, as well as some unnamed buildings on the southern half.

9.1.2 The site is underlain by up to 3.7m thickness of made ground, overlying weathered mudstone across the majority of the site, and weathered sandstone on the western margin.

9.1.3 The site overlies a Minor Aquifer and there are no surface water or groundwater abstraction points within 500m of the site.

9.1.4 The made ground was found to be essentially uncontaminated except for one elevated lead outlier, of 480mg/kg, in the sample from TP2 at 0.55m-1.55m, and chrysotile asbestos fragments in the two near surface samples. The lead outlier was found to have negligible leachability.

9.2 The conceptual model needs to consider sources of contamination, pathways along which contaminants could migrate and the receptors, which may become exposed.

9.2.1 **Sources** - The following sources of contamination have been identified.

9.2.1.1 Made ground materials with lead at concentrations above screening values, and asbestos fragments.

9.2.1.2 Possible landfill gas. Initial monitoring has, however, indicated that no precautions will be required. Monitoring is ongoing and A separate letter will report the full results on completion.

9.2.2 **Pathways** - The following pathways have been identified in relation to the future site use. Comment is given regarding the viability of each pathway.

9.2.2.1 Ingestion and dermal contact with soil and dust, both indoor and outdoor. (This pathway is considered viable, as private gardens are proposed).

9.2.2.2 Consumption of homegrown vegetables and any attached soil. (This pathway is considered viable, as private gardens are proposed).

9.2.2.3 Indoor and outdoor inhalation of soil vapour. (This pathway is not applicable to the sources identified, and is not considered viable).

9.2.2.4 Surface water run-off and floodwater. (This pathway is not considered significant, as the site is not at risk of river flooding, and the made ground was shown to have negligible leachability. There is a slight possibility of transport of contamination off site as sediment at times of high rainfall, but it would be unlikely to reach a watercourse).

9.2.2.5 Migration of contaminated groundwater or leachate off-site. (This pathway is not considered viable, as any contaminants within the made ground have negligible leachability, and cohesive deposits underlie the majority of the site. In addition, the solid strata are a minor aquifer and there are no groundwater abstractions within 500m of the site).

9.2.3 **Receptors** - The potential of the contamination present on the site to affect the identified receptors is discussed below.

9.2.3.1 Groundwater. There are no viable pathways to this receptor.

9.2.3.2 Surface water. There are no significant pathways to this receptor.

9.2.3.3 Construction workers, site personnel and maintenance operatives. There are viable pathways to this receptor.

9.2.3.4 Adjacent residents and the general public. There are viable pathways to this receptor.

9.2.3.5 Subsequent occupiers of the site with residential dwellings and gardens. There are viable pathways to this receptor.

9.2.3.6 Vegetation. There are viable pathways to this receptor.

9.2.3.7 Foundations, below ground concrete and mortar, and services. There are viable pathways to this receptor.

9.3 The matrix below gives a summary of the potential source-pathway-receptor relationships.

Potential Source – Pathway – Receptor Matrix

Contamination Sources	Pathways	Receptors
Made ground – lead and chrysotile asbestos Possible landfill gas – methane and carbon dioxide. Initial readings *suggest no precautions necessary*. However, monitoring is ongoing and the full results will be reported on completion	• Ingestion and dermal contact with soil and dust • Fruit and vegetable intake (with soil) • *Vapour inhalation outdoor – not applicable* *Vapour inhalation indoor – not applicable*	**Humans:-** • Future occupants • Construction workers • Maintenance workers • Adjacent residents and general public
	• *Migration in surface water* • *Migration in groundwater*	**Controlled waters:-** • *Groundwater (Minor Aquifer, no abstractions within 500m, negligible leachability)* • *Surface water (nearest downslope is 125m to NE, and there are no abstractions) – negligible leachability*
	• Root uptake	**Vegetation:-** • Landscape areas • Private gardens
	• Direct contact	**Construction materials:-** • Bricks and blocks • Concrete and buried mortar • Structural steelwork • Foundations • Buried services

9.4 It can be seen from the above matrix that several pathways to receptors are still operative, and this may affect users of the finished development. Some form of remedial action is, therefore, considered necessary to allow residential development without excess risk.

10.0 RISK BASED ASSESSMENT OF REMEDIAL OPTIONS

10.1 The conceptual model has identified risks from the made ground materials from contamination by lead at a maximum concentration of 480mg/kg and white (chrysotile) asbestos. There is also the issue of landfill gases to be addressed. The following assessment identifies areas of concern and provides mitigation measures to reduce risks to an acceptable level.

Landfill Gas

10.2 Carbon dioxide up to 0.3% has been detected on the site. However, as discussed in Section 7.0, monitoring is ongoing and a separate letter will report the results, with any necessary amendments to the Risk Assessment, in due course. So far, the results indicate no special precautions will be required.

Ingestion, Dermal Contact, and Dust Inhalation Pathways from the Made Ground

10.3 Retention of the made ground below building footprints or hardstanding will block these pathways. Where soft landscaped areas or private gardens are proposed, the provision of a cover blanket of a minimum 600mm thickness will reduce the risk to future users of the site to acceptable levels from these pathways. This assumes a worst case double dig scenario (i.e. 2 x spade depths). However, to prevent inadvertent future exposure due to other forms of excavation such as tree planting or construction of ponds, provision of a hard break layer of 100mm minimum thickness is also recommended below the 600mm cover blanket.

10.4 It is also necessary to consider the effects of the contamination present on the site in relation to the risks to adjacent residents, construction workers and the general public during construction. This is assessed in the following matrix.

Source	Pathway	Potential risk	Risk after employing suitable Health and Safety plan.
Contaminated fill	Inhalation	Moderate	Damping down of the site during dry periods and timely placement of contaminated fill below barriers should reduce the risk to LOW.
Contaminated fill	Ingestion	Moderate	Provision of washing facilities and a clean mess room from which work boots and overalls are excluded should reduce the risk to LOW. Site fencing will exclude access to members of the public and contaminated material will be contained within the site boundary, and placed below barriers as soon as possible.
Contaminated fill	Contact	Moderate	Education of workers to use adequate hygiene and PPE should reduce the risk to LOW.
Contaminated fill	Surface water	Moderate	Preventing surface water run off by minimising open exposure times of contaminated material and using bunds or cut off trenches as necessary will reduce the risk to LOW.

10.5 In addition, future maintenance workers, for example repairing drains, could be exposed to the contaminated material. However, widening the service trenches and backfilling with uncontaminated material would minimise the risk of such an occurrence.

10.6 There is also a risk of asbestos fibres becoming airborne from the surface of the material if placed below ventilated underfloor voids. The use of oversite concrete or cover layer would minise such risks.

Summary

10.7 Provided that the following measures are adopted, then the risks to the identified receptors are deemed acceptable for the proposed residential use.

10.7.1 Retain any made ground beneath hardstanding or building footprints, or beneath a 600mm cover blanket, with an additional 100mm hard break layer below, in garden or soft landscaped areas.

10.7.2 Excavate oversized trenches for services, and backfill with uncontaminated material.

10.7.3 Provide oversite concrete or clean cover, where the material is retained below building footprints with a ventilated underfloor void.

10.8 A proposed Remediation Method Statement is included in Appendix J.

11.0 GEOTECHNICAL TESTING

11.1 Selected samples of the natural strata were delivered to the UKAS accredited Professional Soils Laboratory (PSL) in Doncaster for testing with regard to plasticity index and moisture content. Samples of the natural strata and made ground were dispatched the UKAS accredited DETS Laboratory for testing with regard to sulphate and pH. Laboratory test certificates are presented in Appendix H and a summary of the results, with some additional information, is given below.

Trial Hole	Depth (m)	Stratum	MC	LL	PL	PI	<425µm	I'p	SO_4	pH
TP1	2.35-2.5	SST							20	8.5
TP3	2.7-3.5	CLAY	23	41	24	17	96	16	55	8.0
TP4	3.15-4.0	CLAY	17	35	18	17	84	14	10	8.3
TP5	3.4-3.5	MST							76	8.1
TP1	0-0.25	MG							150	11.1
TP2	0.55-1.55	MG							310	8.9
TP3	0.5-2.0	MG							25	8.9
TP4	0.75-1.6	MG							19	9.1
TP6	2.15-3.0	MG							240	8.1

SST = Sandstone MST = Mudstone MG = Made Ground MC = Moisture Content % LL = Liquid Limit % PL = Plastic Limit % PI = Plasticity Index I'p= Modified Plasticity Index (PI x % < 425µm sieve/100) SO_4 = Sulphate content in mg/l on a 2:1 water : soil extract pH = Acidity

11.2 The chemical analyses show both the natural strata and made ground to have low sulphate content and alkaline pH. In accordance with the BRE Special Digest 1 'Concrete in aggressive ground', the Aggressive Chemical Environment for Concrete (ACEC) class is AC-1. Therefore, the use of GEN 1 designated concrete will be satisfactory for unreinforced foundations, in accordance with BS 8500-1:2006.

11.3 The plasticity test data shows the cohesive subsoil to be of intermediate plasticity, in accordance with BS 5930 (1999) 'Code of Practice for Site Investigations'. When the percentage retained on the 425 micron BS sieve is considered, the Modified Plasticity Index, in accordance with NHBC Standard Chapter 4.2 "Building Near Trees", is a maximum of 16. In accordance with the Standard, this equates to Low Volume Change Potential.

12.0 COMMENT AND CONCLUSION

Site History and Geology

12.1 At the time of the investigation, the site was undeveloped land covered by hardstanding.

12.2 Ordnance Survey archive maps show that the site was subject to coal mining by shafts, and deposition of spoil, commencing some time between 1907 and 1931. By 1960, the northern half of the site appeared to be a raised plateau, and the southern half of the site contained some unnamed buildings. The whole site was cleared by 1991, later used for vehicle storage. The local area has been subjected to opencast extraction of clay, and a large portion of this will have been later infilled, and has largely been built over.

12.3 The geological map shows the majority of the site to be underlain by undifferentiated sedimentary strata of the Middle Coal Measures of the Carboniferous Period. These usually comprise mudstone, siltstone, and minor sandstones. The western margin of the site is shown to be underlain by sandstone. There are no faults shown to affect the site. However, a coal seam (the Barnsley Seam) is conjectured to outcrop through the middle of the site, trending north northwest, south southeast.

Coal Mining

12.4 The coal mining report indicated the possibility of unrecorded shallow workings beneath the site. However, the subsequent borehole investigation revealed no voids, workings or broken ground within natural strata, and the site can be considered stable with regard to coal mining.

12.5 However, the report indicated the presence of 2No. shafts and 2No. adits on the site. All were located during the site investigation, and the shafts are shown on the plan presented in Appendix F. Both shafts were approximately 3.5m in diameter, with the one in the northwestern corner capped with concrete from almost ground level to a depth of approximately 2.5m. The second shaft, found approximately mid way along the eastern

boundary, was uncapped, but was evidently backfilled and brick lined. This shaft will need to be capped as part of the development works. It will also be necessary to avoid construction of any properties over the shafts, in line with Coal Authority guidance. It may be advisable to adopt a stand-off distance of at least 5m from the shafts for any properties.

12.6 The adits were found to be only very shallow features at the margins of the site, with both represented only by areas of deeper made ground. The roofs of the adits must pass below rock head level outside the site boundaries.

Environmental Setting

12.7 The 1:100,000 scale Environment Agency Groundwater Vulnerability Map, obtained as part of the Landmark Envirocheck Report, shows the strata beneath the site are classed as a Minor Aquifer. There are no groundwater abstractions within 500m of the site.

12.8 There are no watercourses on or adjacent to the site. The nearest surface watercourse is 125m to the northeast. However, there are no surface water abstractions within 500m of the site.

12.9 The site is within a Radon Affected Area, according to the BGS. However, the BGS also states that no radon protective measures are necessary on the site. In such circumstances, to avoid future conveyancing difficulties, it may be prudent to provide basic radon protection. This is usually achieved by incorporating an appropriate barrier within a solid floor system, lapping through the cavity wall.

12.10 There are several landfills within 250m of the site, the nearest being 90m to the southwest. In addition, the site itself is a registered landfill. Gas monitoring to date has identified maximum carbon dioxide and methane concentrations of 0.3% and 0.0% respectively. Initial risk assessment indicates that no special precautions will be required. However, this situation can only be confirmed on the completion of a further 5No. gas monitoring visits. The results will be issued by separate letter on completion.

12.11 The site is not at risk from river flooding. The risks of flooding from other causes such as adverse topography or insufficient surface water drainage, are not considered here, and a separate specialist Flood Risk and Drainage Report should be commissioned if such risk needs to be quantified.

Ground Conditions Encountered

12.12 Made ground was encountered across the whole site, comprising generally sand, gravel and cobbles of brick, sandstone, limestone and ash, to depths of between 0.05m and 0.6m. Further made ground was encountered beneath across the whole site, generally comprising colliery spoil, red shale or grey/black sandy gravelly clay, to depths of between 1.80m and 3.70m. The made ground was found to be shallowest generally towards the south of the site, and the deepest areas were encountered in the northwestern corner. Beneath the made ground, the natural strata generally comprised sandy slightly gravelly clay of at least firm consistency. The gravel content comprised mudstone, siltstone, and sandstone, overlying sandstone or mudstone bedrock. The rotary borehole investigation revealed no coal seams, voids or broken ground.

Contamination Assessment

12.13 The contamination testing revealed the site to be essentially uncontaminated, except for an elevated lead outlier within the near surface made ground, with a maximum concentration of 480mg/kg. The near surface made ground was also found to contain chrysotile asbestos in 2No samples.

12.14 The contamination risk assessment confirmed that, provided the following remedial measures are implemented, the materials present on the site are compatible with the proposed residential usage.

12.15 The made ground should be retained on site beneath hardstanding and building footprints. Where garden or soft landscaped areas are proposed, a 700mm thick cover blanket,

including a 100mm hard break layer at the base, should be provided. In addition, service trenches should be oversized and backfilled with uncontaminated material, and oversite concrete or a cover layer should be provided where the material is retained below building footprints, if an underfloor ventilated void is present.

12.16 A proposed Remediation Strategy is included in Appendix J.

Foundations

12.17 The natural clays and bedrock, encountered on the site, are considered suitable to receive foundation loads using traditional strip/trench fill foundations. An allowable bearing pressure of 100kN/m^2 is considered appropriate for the clays, for a total settlement of 25mm. For the bedrock, which was only encountered at a suitable founding depth in the southwestern corner, a bearing pressure in excess of 300kN/m^2 is considered appropriate, for a maximum settlement of 25mm.

12.18 As the natural strata were found to be overlain by between 1.8m and 3.7m of contaminated made ground, volumes of contaminated arisings may be significant, and consideration could be given to foundation options to reduce this, such as piles or pad and stem foundations. It should be noted that piles should be at least 3m long, resulting in a requirement for pre-drilling bedrock in areas where the natural bedrock is shallower. The advice of a piling contractor should be obtained.

12.19 In the event that ground levels were to be lowered significantly on the site, the effects of plasticity may need to be taken into account. The clays were shown to be of Low Volume Change Potential. Therefore, in accordance with NHBC Standard Chapter 4.2 "Building Near trees", in the absence of trees, a minimum foundation depth of 0.75m below existing or proposed ground level is applicable whichever is the lower. The foundations may need to be deepened to allow for the effects of any trees. In the southwestern corner only, the founding strata are non-plastic, and, therefore, the minimum foundation depths given in NHBC Standard Chapter 4.2 "Building Near Trees" do not apply. However, if site levels

are to remain similar to existing levels, the thickness of made ground will be the controlling factor for foundation depth.

12.20 The whole plan area of the foundation should be placed on similar material. If bedrock is encountered on part of a foundation excavation, the rest of the plot should be deepened to ensure founding on similar material. The foundation should also be taken below the depth of any existing foundations or obstructions, onto natural ground.

12.21 substantial amounts of red shale and colliery spoil were encountered in many of the trial pits, and red shale is known to have the potential to heave. Whilst, laboratory testing has indicated that the potential to heave is minimal, it would be advisable to remove any red shawl below any foundation or ground bearing floor slab.

Excavations

12.22 Excavations are likely to be slightly unstable within the made ground, requiring battering back or support. The natural strata should remain stable.

12.23 Groundwater seepages are not anticipated for typical excavation depths. However, if encountered in deeper excavations, it should be controllable by intermittent pumping from an artificial sump area.

12.24 Excavations should generally be readily achieved using conventional hydraulic plant. A breaker is likely to be required for excavations through buried foundations and structures.

Chemical Precautions

12.25 The Aggressive Chemical Environment for Concrete (ACEC) class is AC-1 for the site. Therefore, the use of GEN 1 designated concrete will be satisfactory for unreinforced foundations, in accordance with BS 8500-1:2006.

Carriageway Construction

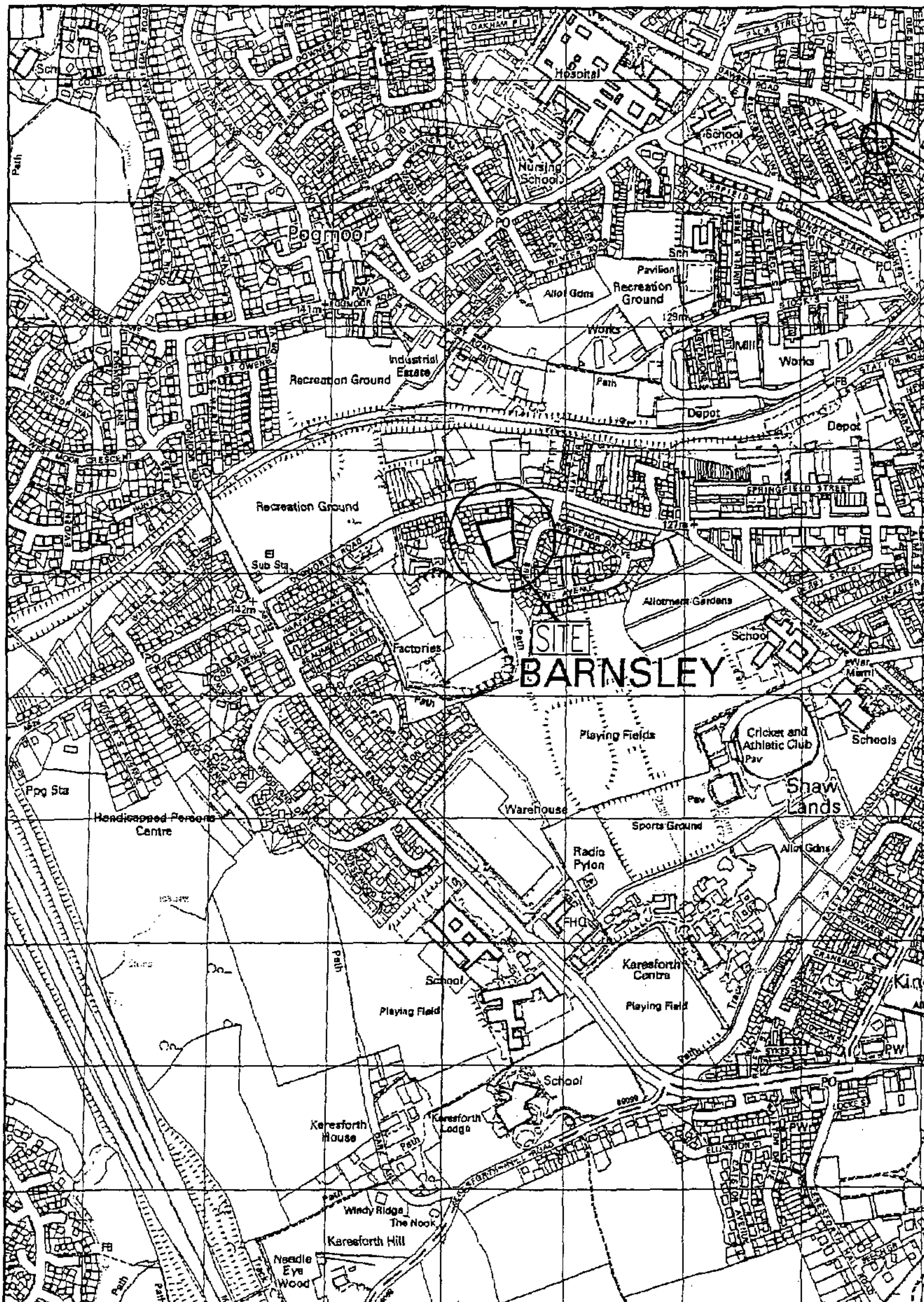
12.26 Due to the depth of existing made ground on the site, a formation for any adoptable road pavement on natural strata is likely to be impractical. It may be possible to reach agreement with the Local Regulatory Authority to remove a nominal thickness of made ground, for example 1m, proof roll, and place engineered material to a controlled specification, possibly with the use of a geo-textile at formation level.

Soakaways

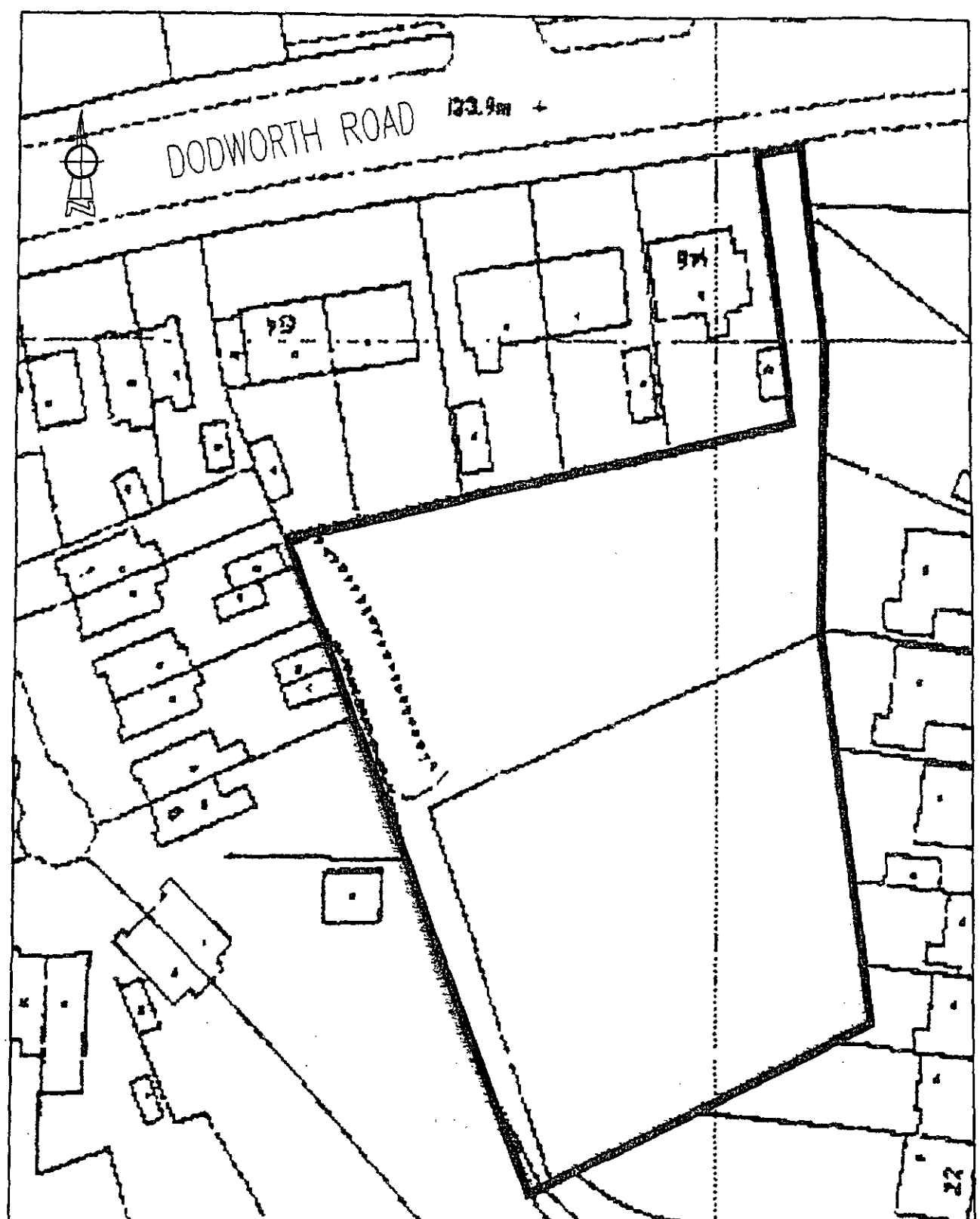
12.27 The disposal of surface water using soakaways is not considered feasible on the site.

APPENDIX A

SITE LOCATION PLAN AND SITE PLAN



Title SITE LOCATION PLAN	ARP GEOTECHNICAL CHARTERED CONSULTING ENGINEERS Northwest House • 5/6 Northwest Business Park Servia Hill • Leeds LS6 2QH Telephone : 0113 245 8498 • Fax : 0113 244 3864 E-Mail : leeds@arpgeotechnical.co.uk	Scale NTS	Drawn MW
		Date NOV 09	Chk. JRP
Project/ Client DODWORTH ROAD, BARNSLEY HALLROYD HOMES LTD.		Drg. No. HLD/03/SI.01	Rev.

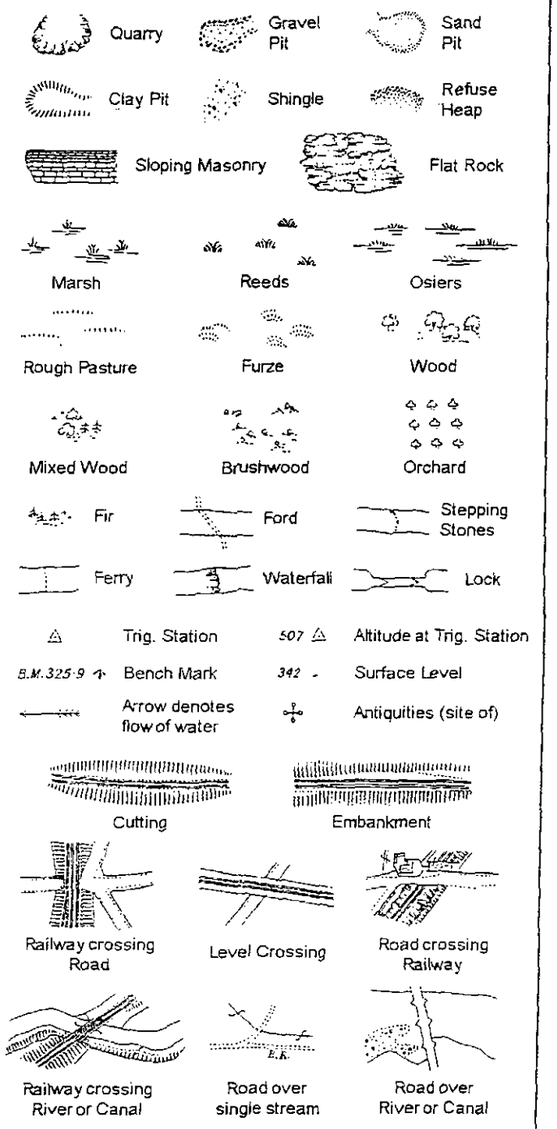


Title: SITE PLAN		Scale: NTS	Drawn: MW
		Date: NOV 09	Chk.: JRP
Project/ Client: DODWORTH ROAD, BARNSLEY HALLROYD HOMES LTD.		Drg. No.: HLD/03/SI.02	Rev.

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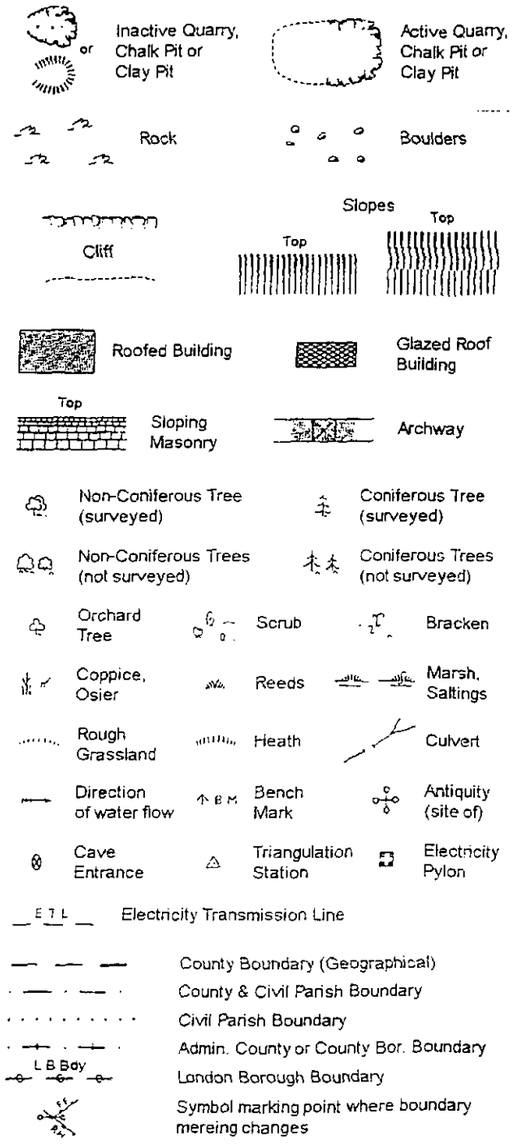
Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



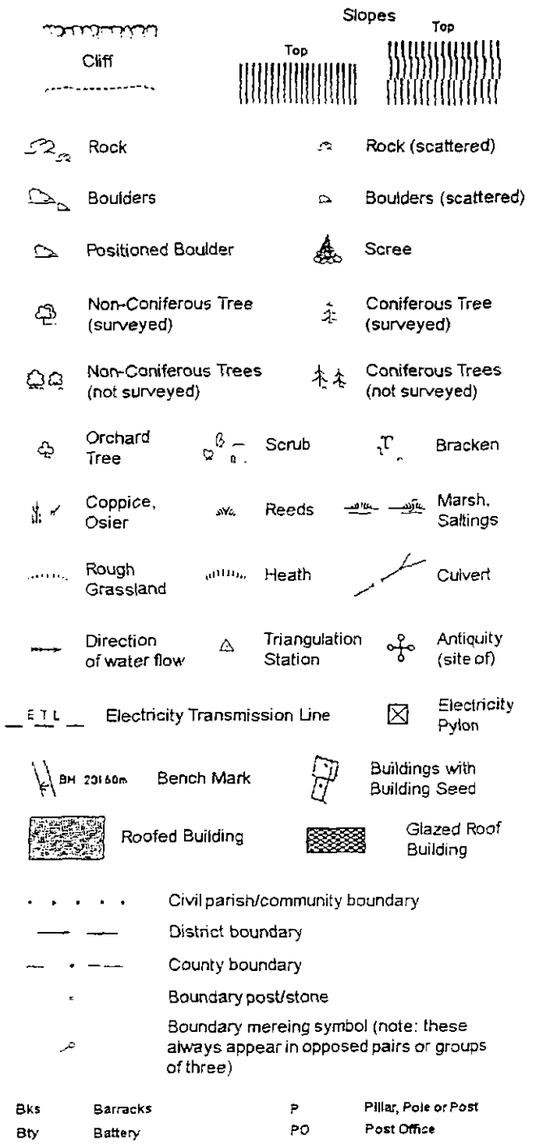
B.P. B.S	Boundary Post or Stone	P.C.B	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	Sl	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

Large-Scale National Grid Data 1:2,500 and 1:1,250



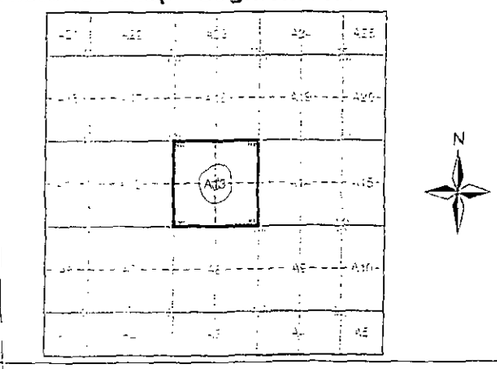
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Yorkshire	1:2,500	1893	2
Yorkshire	1:2,500	1906	3
Yorkshire	1:2,500	1931	4
Ordnance Survey Plan	1:1,250	1960	5
Ordnance Survey Plan	1:2,500	1961	6
Ordnance Survey Plan	1:1,250	1969 - 1977	7
Ordnance Survey Plan	1:2,500	1971	8
Supply of Unpublished Survey Information	1:1,250	1974 - 1975	9
Additional SIMs	1:1,250	1977 - 1991	10
Ordnance Survey Plan	1:1,250	1988 - 1989	11
Additional SIMs	1:1,250	1991	12
Large-Scale National Grid Data	1:1,250	1993	13

Historical Map - Segment A13



Order Details

Order Number: 29160876_1_1
Customer Ref: HLD/03
National Grid Reference: 433090, 406270
Slice: A
Site Area (Ha): 0.35
Search Buffer (m): 100

Site Details

Land off Dodworth Road, BARNSLEY, South Yorkshire, S70 6PB

Landmark Information Group
Tel. 0844 844 9952
Fax. 0844 844 9951
Web: www.envirocheck.co.uk

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

Gravel Pit
Sand Pit
Other Pits
Quarry
Shingle
Orchard
Osiers
Reeds
Marsh
Mixed Wood
Deciduous
Brushwood
Fir
Furze
Rough Pasture
Arrow denotes flow of water
Trigonometrical Station
Site of Antiquities
Bench Mark
Pump, Guide Post, Signal Post
Well, Spring, Boundary Post
·285 Surface Level
Sketched Contour
Instrumental Contour
Main Roads
Fenced
Un-Fenced
Minor Roads
Fenced
Un-Fenced
Sunken Road
Raised Road
Road over Railway
Railway over River
Railway over Road
Level Crossing
Road over River or Canal
Road over Stream
Road over Stream
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)
R.D. Bdy. Rural District Boundary
Civil Parish Boundary

Ordnance Survey Plan 1:10,000

Chalk Pit, Clay Pit or Quarry
Gravel Pit
Sand Pit
Disused Pit or Quarry
Refuse or Slag Heap
Lake, Loch or Pond
Dunes
Boulders
Coniferous Trees
Non-Coniferous Trees
Orchard
Scrub
Coppice
Bracken
Heath
Rough Grassland
Marsh
Reeds
Saltings
Building
Direction of Flow of Water
Shingle
Sand
Glasshouse
Pylon
Electricity Transmission Line
Sloping Masonry
Pylon
Pole
Cutting
Embankment
Standard Gauge Multiple Track
Standard Gauge Single Track
Road Under
Road Over
Level Crossing
Foot Bridge
Siding, Tramway or Mineral Line
Narrow Gauge
Geographical County
Administrative County, County Borough or County of City
Municipal Borough, Urban or Rural District, Burgh or District Council
Borough, Burgh or County Constituency
Shown only when not coincident with other boundaries
Civil Parish
Shown alternately when coincidence of boundaries occurs

BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH	Club House	PC	Public Convenience
F E Sta	Fire Engine Station	PH	Public House
FB	Foot Bridge	SB	Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MP	Mile Post	TCP	Telephone Call Post
MS	Mile Stone	W	Well

1:10,000 Raster Mapping

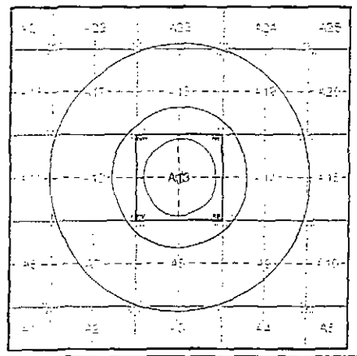
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or community boundary
District, Unitary, Metropolitan, London Borough boundary
Constituency boundary
Area of wooded vegetation
Non-coniferous trees
Non-coniferous trees (scattered)
Coniferous trees
Coniferous trees (scattered)
Positioned tree
Orchard
Coppice or Osiers
Rough Grassland
Heath
Scrub
Marsh, Salt Marsh or Reeds
Water feature
Flow arrows
MHW(S) Mean high water (springs)
MLW(S) Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with poles)
BM 123.45 m Bench mark (where shown)
Triangulation station
Point feature (e.g. Guide Post or Mile Stone)
Pylon, flare stack or lighting tower
Site of (antiquity)
Glasshouse
General Building
Important Building

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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Yorkshire	1:10,560	1855	2
Yorkshire	1:10,560	1894	3
Yorkshire	1:10,560	1907	4
Yorkshire	1:10,560	1932 - 1933	5
Yorkshire	1:10,560	1938	6
Yorkshire	1:10,560	1938 - 1948	7
Yorkshire	1:10,560	1948	8
Ordnance Survey Plan	1:10,000	1956	9
Ordnance Survey Plan	1:10,000	1965 - 1966	10
Ordnance Survey Plan	1:10,000	1973 - 1978	11
Ordnance Survey Plan	1:10,000	1983	12
Ordnance Survey Plan	1:10,000	1993	13
10K Raster Mapping	1:10,000	2000	14
10K Raster Mapping	1:10,000	2006	15
10K Raster Mapping	1:10,000	2009	16

Historical Map - Slice A



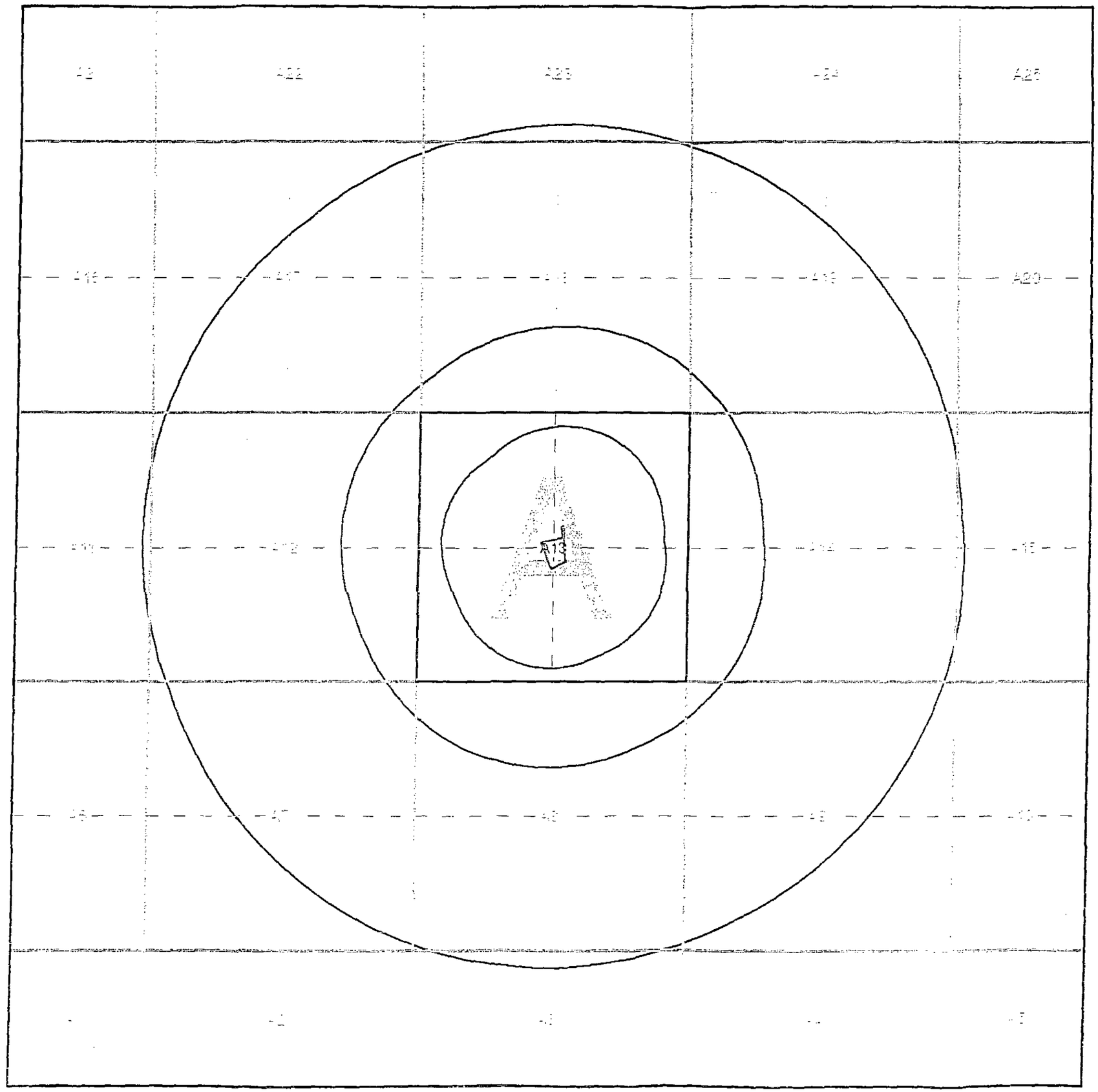
Order Details

Order Number: 29160876_1_1
Customer Ref: HLD/03
National Grid Reference: 433090, 406270
Slice: A
Site Area (Ha): 0.35
Search Buffer (m): 1000

Site Details

Land off Dodworth Road, BARNSLEY, South Yorkshire, S70 6PB

Landmark Information Group
Tel. 0844 844 9952
Fax 0844 844 9951
Web www.envirocheck.co.uk



ARP GEOTECHNICAL LTD
CHARTERED CONSULTING ENGINEERS

Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice
Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment
A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant
A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:

Ordnance Survey® Licensed Partner

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Environment Agency

NATURAL ENGLAND

Envirocheck reports are compiled from 136 different sources of data.

Client Details
Mr J Race, ARP Geotechnical Ltd, Northwest House, 5-6 Northwest Busines Park, Servia Hill, Leeds, LS6 2QH

Order Details

Order Number:	29160876_1_1
Customer Ref:	HLD/03
National Grid Reference:	433090, 406260
Site Area (Ha):	0.35
Search Buffer (m):	1000

Site Details
Land off Dodworth Road, BARNSLEY, South Yorkshire, S70 6PB

LANDMARK TERMS AND CONDITIONS

Definitions

"Authorised Reseller" means an agent or reseller of Landmark whom Landmark has duly appointed to resell its Reports and Services.

"Content" means any data, computing and information services and software, and other content and documentation or support materials and updates included in and/or supplied by or through the Websites, in Reports or Services or in any other way by Landmark and shall include Landmark developed and Third Party Content.

"First Purchaser" means the first person, or legal entity to purchase the Property Site following provision of a Report.

"First Purchaser's Lender" means the funding provider for the First Purchaser

"Information Pack" means a pack compiled by or on behalf of the owner or prospective buyer of the Property Site, designed to aid the marketing or purchase of the Property Site and containing information provided by or on behalf of the owner or prospective buyer of the Property Site.

"Intellectual Property Rights" means copyright, patent, design right (registered or unregistered), service or trade mark (registered or unregistered), database right or other data right, moral right or know how or any other intellectual property right.

"Order" means the request for Services from Landmark by You.

"Property Site" means a land site on which Landmark provides a Service.

References to **"We"**, **"Us"** and **"Our"** are references to Landmark Information Group Limited ("Landmark"), whose registered office is 7 Abbey Court, Eagle Way, Exeter, EX2 7HY. Where You are not ordering the Services directly from Landmark, but from an Authorised Reseller, references to "Landmark" or "We", "Us" and "Our" shall be construed so as to mean either Landmark and/or the Authorised Resellers as the context shall indicate.

References to **"You/Your/Yourself"** refer to the contracting party who accesses the Website or places an Order with Landmark.

"Report" includes any information that Landmark supplies to You including all reports, services, datasets, software or information contained in them.

"Services" means the provision of any service by Landmark pursuant to these Terms, including without limitation, any Report.

"Landmark Fees" means any charges levied by Landmark for Services provided to You

"Suppliers" means any organisation who provides data or information of any form to Landmark.

"Terms" means these Terms & Conditions.

"Third Party Content" means the services, software, information and other content or functionality provided by third parties and linked to or contained in the Services.

"Websites" means websites hosted by Landmark and includes the Content and any report, service, document, data-set, software or information contained therein, derived there from or thereby

1. Terms & Conditions

a These Terms govern the relationship between You and Landmark whether You are an unregistered visitor to the Website or are purchasing Services. Where these Terms are not expressly accepted by You they will be deemed to have been accepted by You, and You agree to be bound by these Terms when You place any Order, or pay for any Services provided

b If the person communicating with Landmark is an Authorised Reseller, they must ensure that You agree to these Terms.

c The headings in these Terms are for convenience only and shall not affect the meaning or interpretation of any part of these Terms.

d Landmark may modify these Terms, and may discontinue or revise any or all other aspects of the Services at our sole discretion, with immediate effect and without prior notice, including without limitation changing the Services available at any given time. Any amendment or variation to these Terms shall be posted on our Websites. Continued use of the Services by You shall be deemed an acceptance by You to be bound by any such amendments to the Terms.

e These Terms, together with the prices and delivery details set out on our Websites, Landmark's Privacy Policy and Your Order comprise the whole agreement relating to the supply of Services to You by Landmark. No prior stipulation, agreement, promotional material or statement whether written or oral made by any sales or other person or representative on our behalf should be understood as a variation of these Terms. Save for fraud or misrepresentation, Landmark shall have no liability for any such representation being untrue or misleading.

f. These Terms shall prevail at all times to the exclusion of all other terms and conditions including any terms and conditions which You may purport to apply even if such other provisions are submitted in a later document or purport to exclude or override these Terms and neither the course of conduct between parties nor trade practice shall act to modify these Terms

2. Services

a Landmark will use reasonable care and skill in providing the Services to You, however, the Services are provided on the express basis that the information and data supplied in the Services are derived from third party sources and Landmark does not warrant the accuracy or completeness of such information or data. Such information is derived solely from those sources specifically cited in the Services and Landmark does not claim that these sources represent an exhaustive or comprehensive list of all sources that might be consulted.

3. Intellectual Property

a You acknowledge that all Intellectual Property Rights in the Services are and shall remain owned by either Landmark or our Suppliers and nothing in these Terms purports to transfer, assign or grant any rights to You in respect of the Intellectual Property Rights.

b. Subject always to these Terms You may, without further charge, make the Services available to:

i. the owner of the Property at the date of the Report,

ii. any person who purchases the whole of the Property Site,

iii. any person who provides funding secured on the whole of the Property Site,

iv. any person for whom You act in a professional or commercial capacity,

v. any person who acts for You in a professional or commercial capacity; and

vi. prospective buyers of the Property Site as part of an Information Pack but for the avoidance of doubt, Landmark shall have no liability to such prospective buyer unless the prospective buyer subsequently purchases the Property Site, and the prospective (or actual) buyer shall not be entitled to make the Service available to any other third party.

Accordingly Landmark shall have the same duties and obligations to those persons in respect of the Services as it has to You.

c. Each of those persons referred to in clause 3.b. shall have the benefit and the burden of Your rights and obligations under these Terms. The limitations of Landmark's liability as set out in clause 6 shall apply to all users of the Service in question in aggregate and Landmark shall not be liable to any other person.

d. All parties given access to the Services agree that they will treat as strictly private and confidential the Services and all information which they obtain from the Services and shall restrict any disclosure to employees or professional advisors to enable the relevant party to conduct its internal business. The requirement in this clause to treat the Services as confidential shall include a requirement to maintain adequate security measures to safeguard the Services from unauthorised access, use or copying.

e. Each recipient of the Services agrees (and agrees it will cause its employees, agents or contractors who may from time to time have access to the Services to agree) it will not, except as permitted herein or by separate agreement with Landmark:-

i. effect or attempt to effect any modification, merger or change to the Service, nor permit any other person to do so; or

ii. copy, use, market, re-sell, distribute, merge, alter, add to or carry on any redistribution, reproduction, translation, publication, reduction to any electronic medium or machine readable form or commercially exploit or in any other way deal with or utilise or (except as expressly permitted by applicable law) reverse engineer, decompile or disassemble the Services, Content or Website; or

iii remove, alter or in any way change any trademark or proprietary marking in any element of the Services and You shall acknowledge the ownership of the Content, where such Content is incorporated or used into Your own documents, reports, systems or services whether or not these are supplied to any third party.

iv create any product which is derived directly or indirectly from the data contained in the Services

f. The mapping contained in any Services is protected by Crown Copyright and must not be used for any purpose outside the context of the Services or as specifically provided by these Terms.

g. You are permitted to make five copies of any Report, but are not authorised to re-sell the Report, any part thereof or any copy thereof unless you are an Authorised Reseller. Further copies may not be made in whole or in part without the prior written permission of Landmark who shall be entitled to make a charge for each additional copy.

4. Charges

a. VAT at the prevailing rate shall be payable in addition to the Landmark Fees. You shall pay any other applicable indirect taxes related to Your use of the Services.

b An individual or a monthly invoice showing all Orders created by You will be generated subject to these Terms. You will pay the Landmark Fees at the rates set out in Landmark's or its Authorised Reseller's invoice. The Landmark Fees are payable in full within 30 days without deduction, counterclaim or set off. You acknowledge that time is of the essence with respect to the payment of such invoices. Landmark reserve the right to amend the Landmark Fees from time to time and the Services will be charged at the Landmark Fee applicable at the date on which the Service is ordered.

c We may charge interest on late payment at a rate equal to 3% per annum above the base lending rate of National Westminster Bank plc.

d. Landmark or its Authorised Reseller shall not be obliged to invoice any party other than You for the provision of Services, but where Landmark or its Authorised Reseller does so invoice any third party at Your request, and such invoice is not accepted or remains unpaid, Landmark or its Authorised Reseller shall have the option at any time to cancel such invoice and invoice You direct for such Services. Where Your order comprises a number of Services or severable elements within any one or more Services, any failure by Landmark or its Authorised Reseller to provide an element or elements of the Services shall not prejudice Landmark's or its Authorised Reseller's ability to require payment in respect of the Services delivered to You.

5. Termination

a. Landmark may suspend or terminate Your rights under these Terms without any liability to You with immediate effect if at any time:-

i. You fail to make any payment due in accordance with clause 4,

ii. You repeatedly breach or commit or cause to be committed any material breach of these Terms; or

iii. You commit a breach and You fail to remedy the breach within 7 days of receipt of a written notice to do so; additionally, without prejudice to the foregoing, Landmark may remedy the breach and recover the costs thereof from You.

b. If Your rights are terminated under this clause and You have made an advance payment We will refund You a reasonable proportion of the balance as determined by Us in relation to the value of Services previously purchased.

c Landmark reserves the right to refuse to supply any or all Services to You without notice or reason.

6. Liability

a We provide warranties and accept liability only to the extent stated in this clause 6 and clause 7

b. Nothing in these Terms excludes either party's liability for death or personal injury caused by that party's negligence or wilful default, and the remainder of this clause 6 is subject to this provision and Your statutory rights.

c. As most of the information contained in the Services is provided to Landmark by others, Landmark cannot control its accuracy or completeness, nor is it within the scope of Landmark's Services to check the information on the ground. Accordingly, Landmark will only be liable to You for any loss or damage caused by its negligence or wilful default and subject to clause 6.o below neither Landmark nor any person providing information contained in any Services shall in any circumstances be liable for any inaccuracies, faults or omissions in the Services, nor shall Landmark have any liability if the Services are used otherwise than in accordance with these Terms.

d Save as precluded by law, Landmark shall not be liable for any indirect or consequential loss, damage or expenses (including loss of profits, loss of contracts, business or goodwill) howsoever arising out of any problem, event, action or default by Landmark.

e. In any event, and notwithstanding anything contained in these Terms, Landmark's liability in contract, tort (including negligence or breach of statutory duty) or otherwise howsoever arising by reason or in connection with this Contract (except in relation to death or personal injury) shall be limited to an aggregate amount not exceeding £1 million if the complaint is in relation to a Report on residential property and an aggregate amount not exceeding £10 million in respect of any other Report or Service purchased from Landmark

f Landmark will not be liable for any defect, failure or omission relating to Services that is not notified to Landmark within six months of the date of the issue becoming apparent and in any event, within twelve years of the date of the Service.

g You acknowledge that:-

i Subject to clause 6.o below You shall have no claim or recourse against any Third Party Content supplier nor any of our other Suppliers. You will not in any way hold us responsible for any selection or retention of, or the acts of omissions of Third Party Content suppliers or other Suppliers (including those with whom We have contracted to operate various aspects or parts of the Service) in connection with the Services (for the avoidance of doubt Landmark is not a Third Party Content supplier). Landmark does not promise that the supply of the Services will be uninterrupted or error free or provide any particular facilities or functions, or that the Content will always be complete, accurate, precise, free from defects of any other kind, computer viruses, software locks or other similar code although Landmark will use reasonable efforts to correct any inaccuracies within a reasonable period of them becoming known to us,

ii Landmark's only obligation is to exercise reasonable skill and care in providing environmental property risk information to persons acting in a professional or commercial capacity who are skilled in the use of property and environmental information and You hereby acknowledge that You are such a person;

iii no physical inspection of the Property Site reported on is carried out as part of any Services offered by Landmark and Landmark do not warrant that all land uses or features whether past or current will be identified in the Services. The Services do not include any information relating to the actual state or condition of any Property Site nor should they be used or taken to indicate or exclude actual fitness or unfitness of a Property Site for any particular purpose nor should it be relied upon for determining saleability or value or used as a substitute for any physical investigation or inspection. Landmark recommends that You inspect and take other advice in relation to the Property Site and not rely exclusively on the Services

iv Subject to clause 6.o below, Landmark shall not be responsible for error or corruption in the Services resulting from inaccuracy or omission in primary or secondary information and data, inaccurate processing of information and data by third parties, computer malfunction or corruption of data whilst in the course of conversion, geo-coding, processing by computer or electronic means, or in the course of transmission by telephone or other communication link, or printing

v. Landmark will not be held liable in any way if a Report on residential property is used for commercial property or more than the one residential property for which it was ordered.

vi. the Services have not been prepared to meet Your or anyone else's individual requirements; that You assume the entire risk as to the suitability of the Services and waive any claim of detrimental reliance upon the same; and You confirm You are solely responsible for the selection or omission of any specific part of the Content;

vii. Landmark offer no warranty for the performance of any linked internet service not operated by Landmark,

viii. You will on using the Services make a reasonable inspection of any results to satisfy Yourself that there are no defects or failures. In the event that there is a material defect You will notify us in writing of such defect within seven days of its discovery,

ix Any support or assistance provided to You in connection with these Terms is at Your risk;

h All liability for any insurance products purchased by You rests solely with the insurer. Landmark does not endorse any particular product or insurer and no information contained within the Services should be deemed to imply otherwise. You acknowledge that if You Order any such insurance Landmark will deem such as Your consent to forward a copy of the Report to the insurers. Where such policy is purchased, all liability remains with the insurers and You are entirely responsible for ensuring that the insurance policy offered is suitable for Your needs and should seek independent advice. Landmark does not guarantee that an insurance policy will be available on a Property Site. All decisions with regard to the offer of insurance policies for any premises will be made solely at the discretion of the insurers and Landmark accepts no liability in this regard. The provision of a Report does not constitute any indication by Landmark that insurance will be available on the property.

i. Professional opinions contained in Reports are provided to Landmark by third parties, and such third parties are solely liable for the opinion provided. For the avoidance of doubt, those parties providing assessments or professional opinions on Landmark products include RPS Plc & Wilbourn Associates Limited, and any issues with regard to the provision of such opinion should be taken up with the relevant third party.

If Landmark provides You with any additional service obtained from a third party, including but not limited to any interpretation or conclusion, risk assessment or environmental report or search carried out in relation to a Report on Your Property Site, subject to clause 6.o below Landmark will not be liable in any way for any information contained therein or any issues arising out of the provision of those additional services to You. Landmark will be deemed to have acted as an agent in these circumstances and the supply of these additional services will be governed by the terms and conditions of those Third Parties

j. In any event no person may rely on a Service more than 12 months after its original date

k If You wish to vary any limitation of liability as set out in these Terms, You must request such variation prior to ordering the Service. Landmark shall use its reasonable endeavours to agree such variation but shall not be obliged to do so.

l Time shall not be of the essence with respect to the provision of the Services.

m Ordnance Survey have undertaken a positional accuracy improvement programme which may result in discrepancies between the positioning of features used in datasets in the Services and the updated Ordnance Survey mapping. Subject to clause 6.o below, Landmark and its Suppliers exclude all and any liability incurred as a result of the implementation of such positional accuracy improvement programme.

n. Where Landmark provides its own risk assessment in connection with any Report, Landmark shall carry out such assessment with all reasonable skill and care but shall have no liability for any such risk assessment conclusion which is provided for information only, save where Landmark conducted the same negligently, in which case the provisions of clause 6 shall apply. Notwithstanding the provision of any such risk assessment conclusion you should carefully examine the remainder of the Report and should not take or refrain from taking any action based solely on the basis of the risk assessment. For the avoidance of doubt, the provisions of this clause 6n apply solely to risk assessments conducted by Landmark, and the provision of any other risk assessment by a third party shall be governed by such third party's terms in accordance with the provisions of clause 6i above.

o Landmark obtains much of the information contained in its Report from third parties. Landmark will not accept any liability to You for any negligent or incorrect entry, or error or corruption in the Third Party Content supplied to Landmark, but Landmark's Suppliers may be liable for such negligent or incorrect entries, or errors or corruptions, subject to the terms and conditions on which they supply the Third Party Content to Landmark.

7. Contribution

a **Save where expressly provided**, this clause 7 shall apply solely to Envirosearch Residential Reports (regardless of the result of such Report). Nothing in this clause 7 shall operate to override or vary the provisions of clause 6.

b. Landmark are prepared to offer, at their sole discretion, and without any admission or inference of liability a contribution towards the costs of any remediation works required under a Notice (as defined below) on the terms of this clause 7 ("the Contribution")

c. In the event that a Remediation Notice is served on the First Purchaser or First Purchaser's Lender of a Property Site under Part II(A) of the Environmental Protection Act 1990 ("the Notice") Landmark will contribute to the cost of such works as either the First Purchaser or First Purchaser's Lender (but not both) are required to carry out under the Notice subject to the provisions of this clause 7 and on the following terms:

i the Contribution shall only apply to contamination or a pollution incident present or having occurred prior to the date of the Report;

ii. the Contribution shall only apply where the Property Site is a single residential dwelling house or a single residential flat within a block of flats. For the avoidance of doubt, this obligation does not apply to any commercial property, nor to any Property Site being developed or redeveloped whether for residential purposes or otherwise;

iii. the Contribution is strictly limited to the cost of works at the Property Site and at no other site.

iv. the Contribution will not be paid in respect of any of the following:

Radioactive contamination of whatsoever nature, directly or indirectly caused by or contributed to or arising from ionising radiations or contamination by radioactivity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel or the radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof.

Asbestos arising out of or related in any way to asbestos or asbestos-containing materials on or in structures or services serving the structures

Naturally occurring materials arising from the presence or required removal of naturally occurring materials except in circumstances where such materials are present in concentrations which are in excess of their natural concentration

Intentional non-compliance arising from the intentional disregard of or knowing wilful or deliberate non-compliance by any owner or occupier of the Property Site with any statute, regulation, administrative complaint, notice of violation or notice letter of any Regulatory Authority.

Any condition which is known or ought reasonably to have been known to the First Purchaser or the First Purchaser's Lender prior to the purchase of the Report.

Any condition which is caused by acts of War or an Act of Terrorism.

Any property belonging to or in the custody or control of the First Purchaser which does not form a fixed part of the Property Site or the structure

Any fines liquidated damages punitive or exemplary damages

Any bodily injury including without limitation, death, illness or disease, mental injury, anguish or nervous shock

Any financial loss in respect of any loss of any rental, profit, revenue, savings or business or any consequential indirect or economic loss damage or expense including the cost of rent of temporary premises or business interruption.

Any losses incurred following a material change in use of, alteration or development of the Property Site.

d. The maximum sum that shall be contributed by Landmark in respect of any Contribution shall be limited to £50,000 in the event that more than one Report is purchased on the Property Site the Contribution will only be payable under the first Report purchased by or on behalf of any First Purchaser or First Purchaser's Lender and no Contribution will be made in respect of subsequent Reports purchased by or on behalf of such First Purchaser, First Purchaser's Lender or any person connected to them

e. Landmark shall only pay a Contribution where the Notice is served within 36 months of the date of the Report.

f Any rights to a Contribution under this Clause 7 are not assignable in the event of a sale of the Property Site and Landmark will not make any Contribution after the date of completion of such sale.

g In the event the First Purchaser or First Purchaser's Lender wishes to claim any Contribution, it shall notify Lanomark in writing within 3 months of the date of the Notice. The First Purchaser or First Purchaser's Lender (as applicable) shall comply with all reasonable requirements of Landmark with regard to the commission and conduct of the remediation works to be carried out under the Notice, and in the event the First Purchaser or First Purchaser's Lender (as applicable) does not do so, including without limitation, obtaining Lanomark's prior written consent to any estimates for such works or complying with any other reasonable request by Landmark, Landmark shall not be required to pay any Contribution. Notwithstanding the payment of the Contribution by Landmark the First Purchaser or First Purchaser's Lender as applicable shall take all reasonable steps to mitigate any costs incurred in connection with the conduct of works required under the terms of any Notice.

h In the event that the First Purchaser or First Purchaser's Lender receives any communication from a statutory authority to the effect that there is an intent to serve a notice received under Part II(A) of the Environmental Protection Act 1990 they will advise Landmark within a maximum period of two months from receipt of such communication. This clause 7h and the service of any notice under it shall not affect the provisions of clauses 7 e and g, and any such communications, even if advised to Landmark will not operate as notice under clause 7e.

i. Landmark reserve the right at any time prior to a claim for Contribution being made in accordance with clause 7 g) above, to withdraw the offer of payment of Contributions without further notice.

8. Events Beyond Our Control

a. You acknowledge that Landmark shall not be liable for any delay, interruption or failure in the provision of the Services which are caused or contributed to by any circumstance which is outside our reasonable control including but not limited to, lack of power, telecommunications failure or overload, computer malfunction, inaccurate processing of data, or delays in receiving, loading or checking data, corruption of data whilst in the course of conversion, geo-coding, processing by computer in the course of electronic communication, or printing.

9. Severability

a If any provision of these Terms are found by either a court or other competent authority to be void, invalid, illegal or unenforceable, that provision shall be deemed to be deleted from these Terms and never to have formed part of these Terms and the remaining provisions shall continue in full force and effect

10. Governing Law

a. These terms shall be governed by and construed in accordance with English law and each party agrees irrevocably submit to the exclusive jurisdiction of the English courts if any dispute arises out of or in connection with this agreement (a "Dispute") the parties undertake that, prior to the commencement of Court proceedings, they will seek to have the Dispute resolved amicably by use of an alternative dispute resolution procedure acceptable to both parties with the assistance of the Centre for Dispute Resolution (CEDR) if required, by written notice initiating that procedure. If the Dispute has not been resolved to the satisfaction of either party within 60 days of initiation of the procedure or if either party fails or refuses to participate in or withdraws from participating in the procedure then either party may refer the Dispute to the Court

11. General; Complaints

a. Landmark may assign its rights and obligations under these Terms without prior notice or any limitation.

b. Landmark may authorise or allow our contractors and other third parties to provide to Landmark and/or to You services necessary or related to the Services and to perform Landmark's obligations and exercise Landmark's rights under these Terms, which may include collecting payment on Landmark's behalf.

c. No waiver on Landmark's part to exercise, and no delay in exercising, any right, power or provision hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any right, power or provision hereunder preclude the exercise of that or any other right, power or provision.

d. Unless otherwise stated in these Terms, all notices from You to Landmark must be in writing and sent to the Landmark registered office (or in the case of an Authorised Reseller, to its registered office address) and subject to paragraph e below all notices from Landmark to You will be displayed on our Websites from time to time.

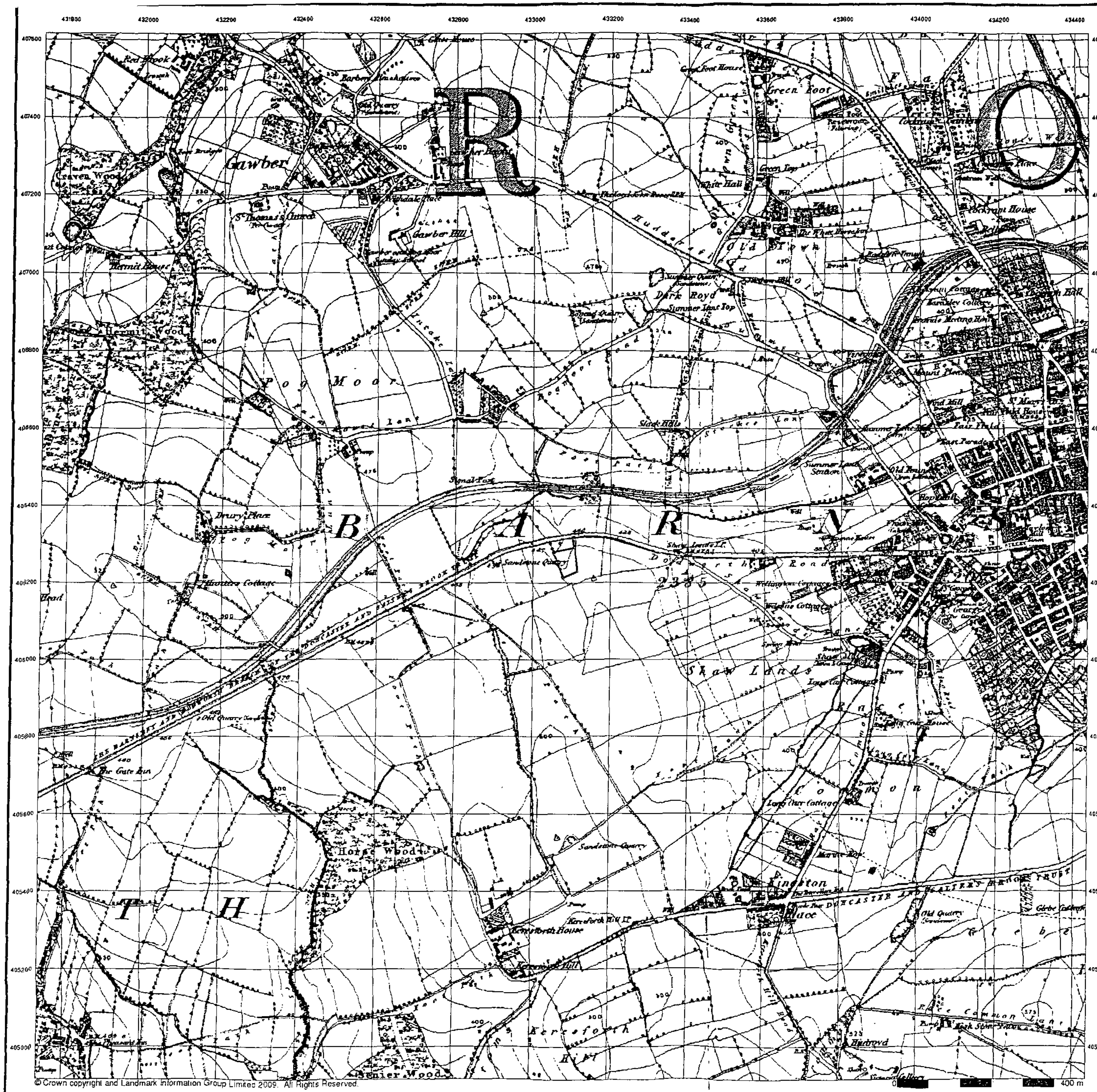
e Any complaints in relation to the Services should, in the first instance, be in writing addressed to the Customer Service Support Manager at the Landmark registered office Landmark or its agents will respond to any such complaints in writing as soon as practicably possible.

f A person who is not a party to any contract made pursuant to these Terms shall have no right under the Contract (Right of Third Parties) Act 1999 to enforce any terms of such contract and Landmark shall not be liable to any such third party in respect of any Services supplied.

g Landmark's Privacy Policy as displayed on the Website governs the use made of any information You supply to Landmark.

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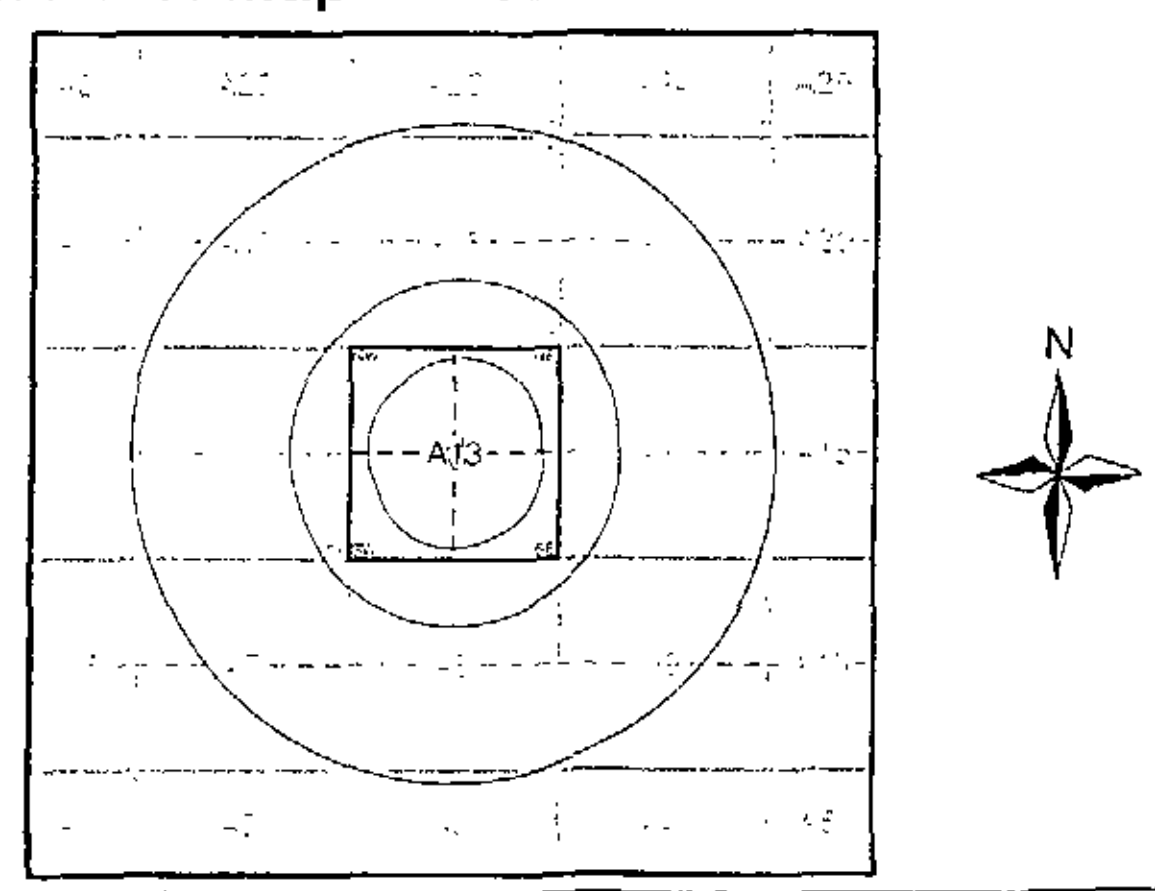
Yorkshire
Published 1855
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

27400
1855
1:10,560

Historical Map - Slice A



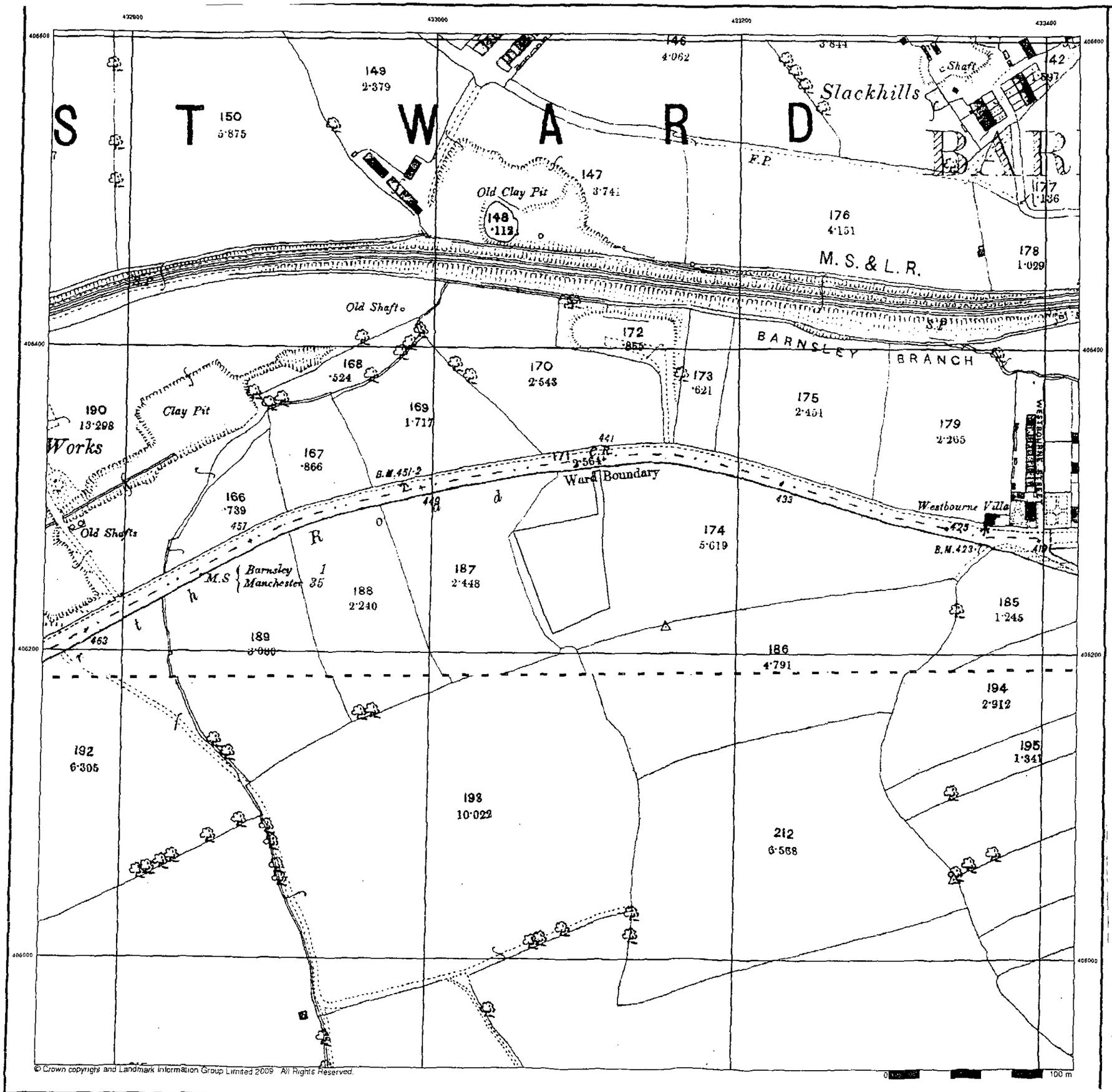
Order Details

Order Number: 29160876_1_1
Customer Ref: HLD/03
National Grid Reference: 433090, 406270
Slice: A
Site Area (Ha): 0.35
Search Buffer (m): 1000

Site Details

Land off Dodworth Road, BARNSLEY, South Yorkshire, S70 6PB

Landmark Information Group
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Web: www.envirocheck.co.uk



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Yorkshire
Published 1893
Source map scale - 1:2,500

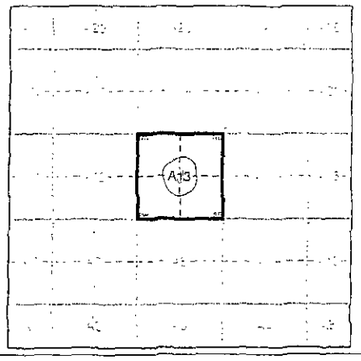
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

274_07
1893
1:2,500

274_11
1893
1:2,500

Historical Map - Segment A13



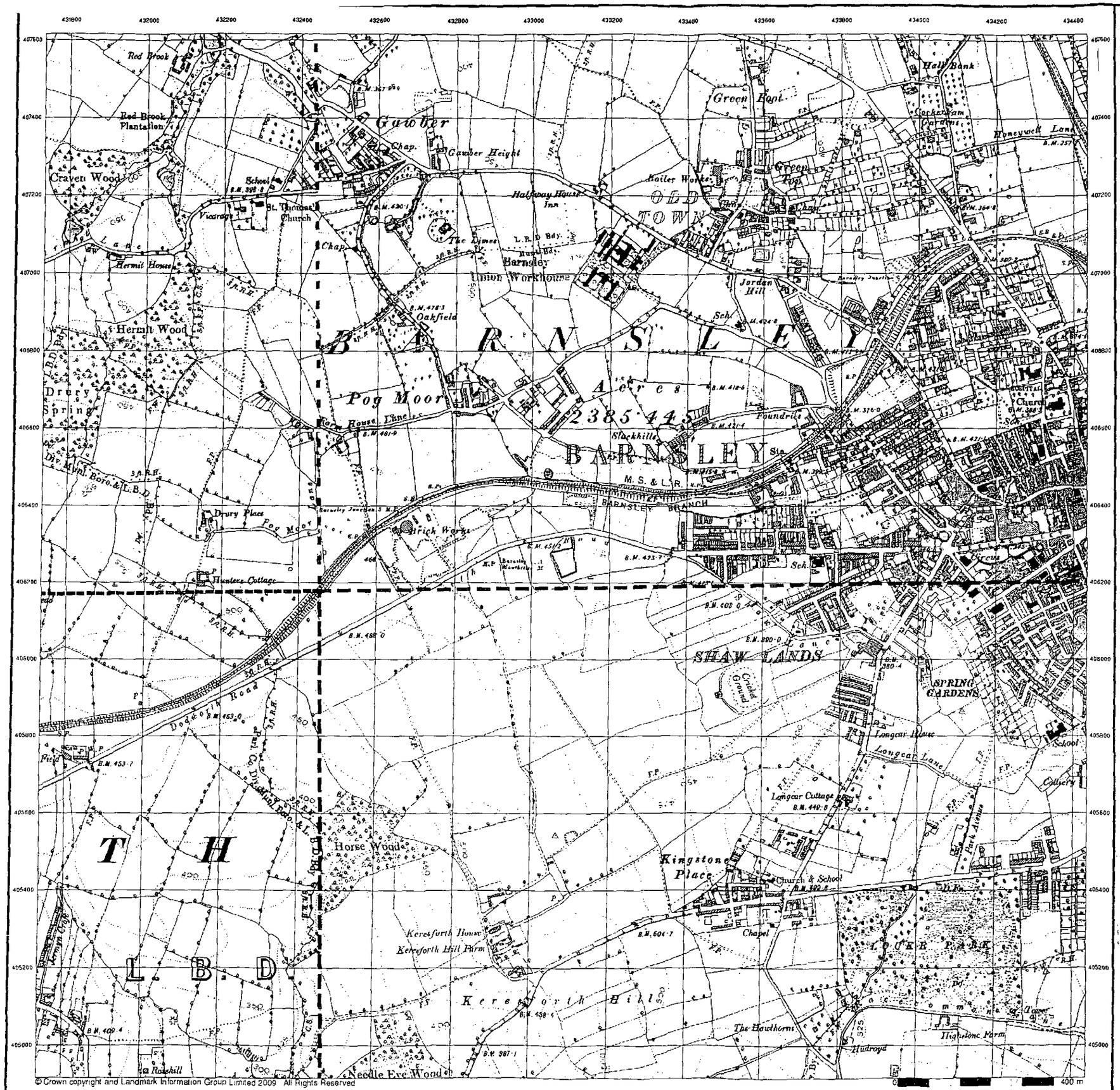
Order Details

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National Grid Reference:	433090, 406270
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Search Buffer (m):	100

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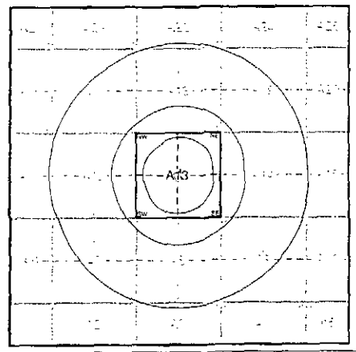
Yorkshire
Published 1894
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

274NW 1894 1:10,560	274NE 1894 1:10,560
274SW 1894 1:10,560	274SE 1894 1:10,560

Historical Map - Slice A



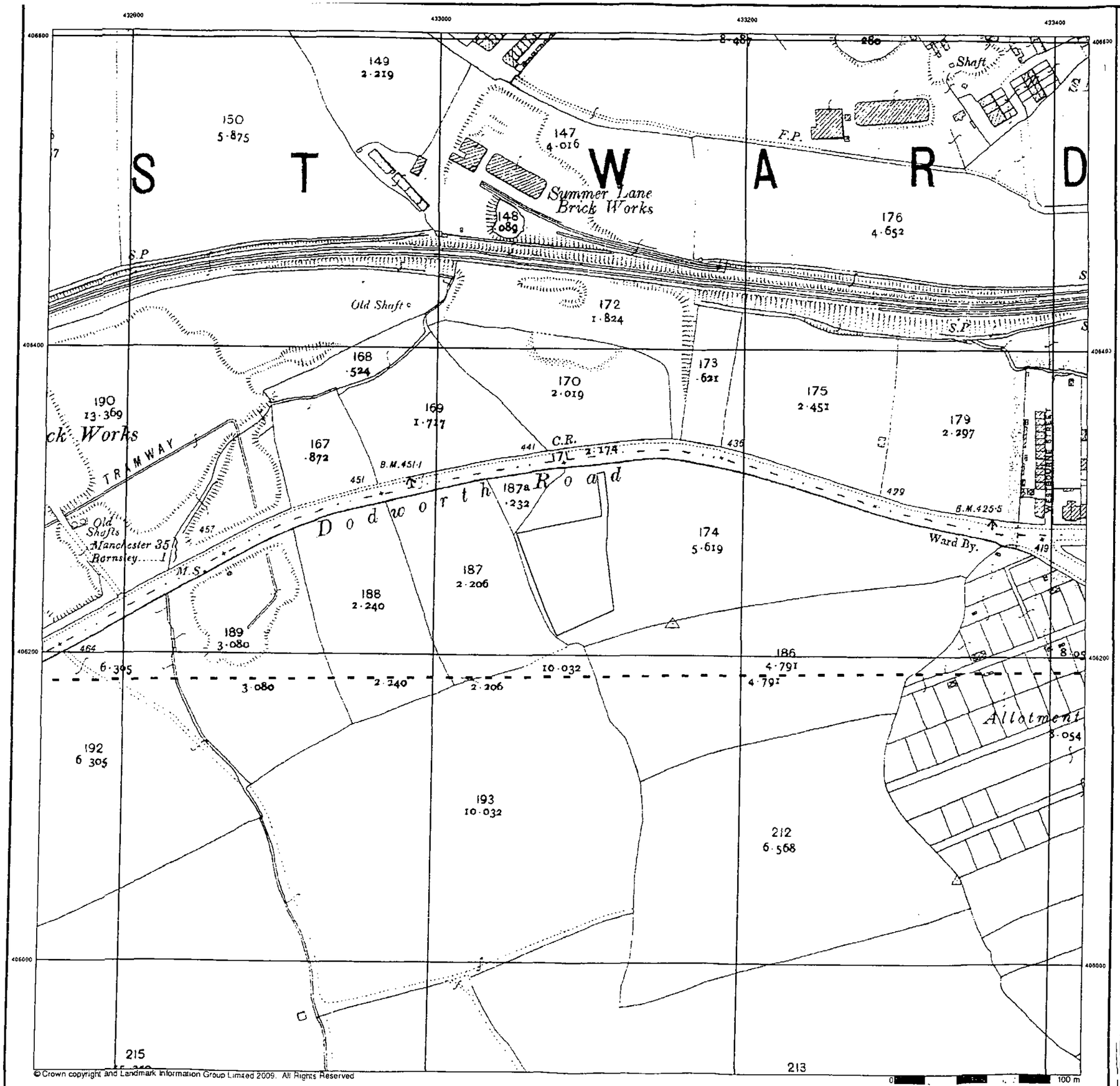
Order Details

Order Number:	29160876_1_1
Customer Ref:	HLD/03
National Grid Reference:	433090, 406270
Slice:	A
Site Area (Ha):	0.35
Search Buffer (m):	1000

Site Details

Land off Dodworth Road, BARNSLEY, South Yorkshire, S70 6PB

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Yorkshire
Published 1906
Source map scale - 1:2,500

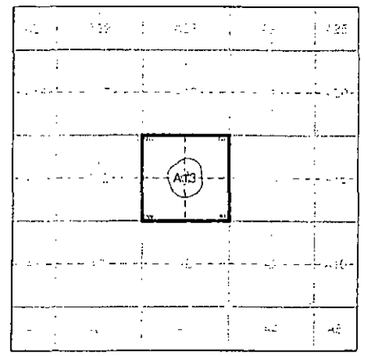
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

274_07
1906
1:2,500

274_11
1906
1:2,500

Historical Map - Segment A13



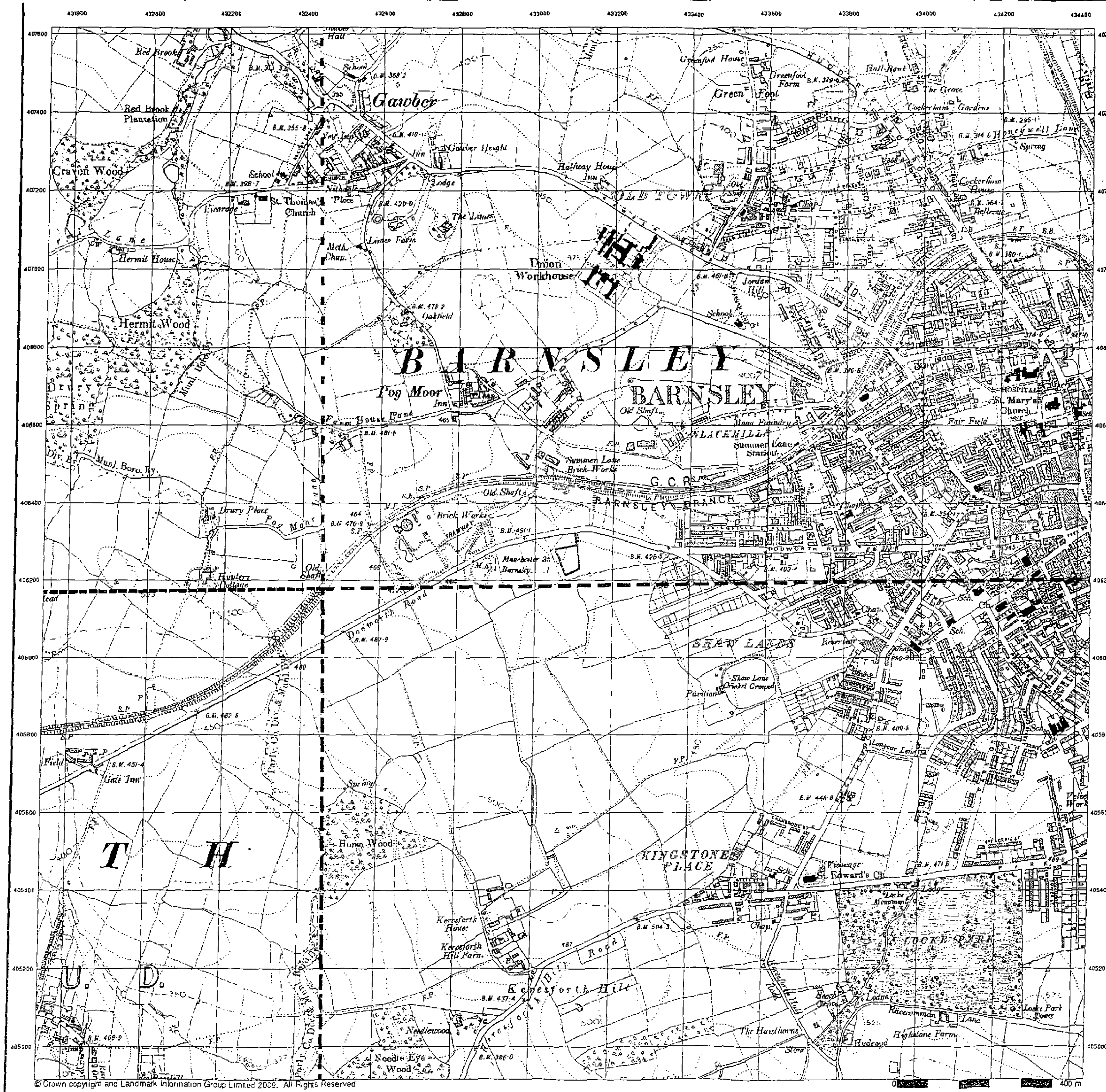
Order Details

Order Number:	29160876_1_1
Customer Ref:	HLD/03
National Grid Reference:	433090, 406270
Slice:	A
Site Area (Ha):	0.35
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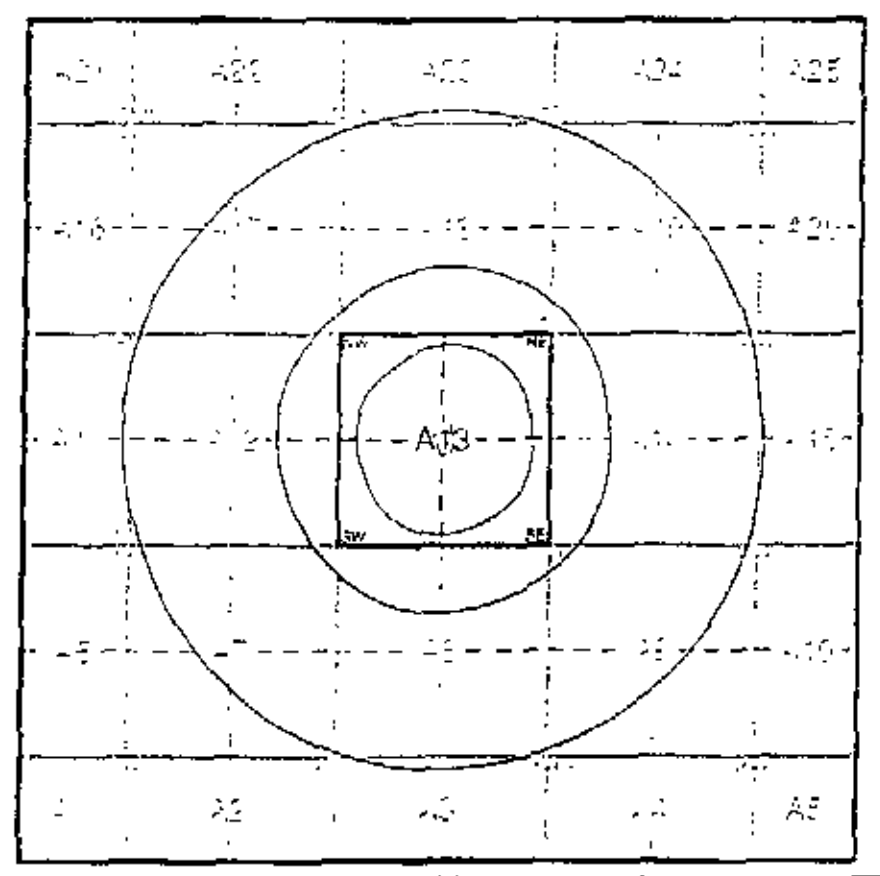
Yorkshire
Published 1907
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

274NW 1907 1:10,560	274NE 1907 1:10,560
274SW 1907 1:10,560	274SE 1907 1:10,560

Historical Map - Slice A



N

Order Details

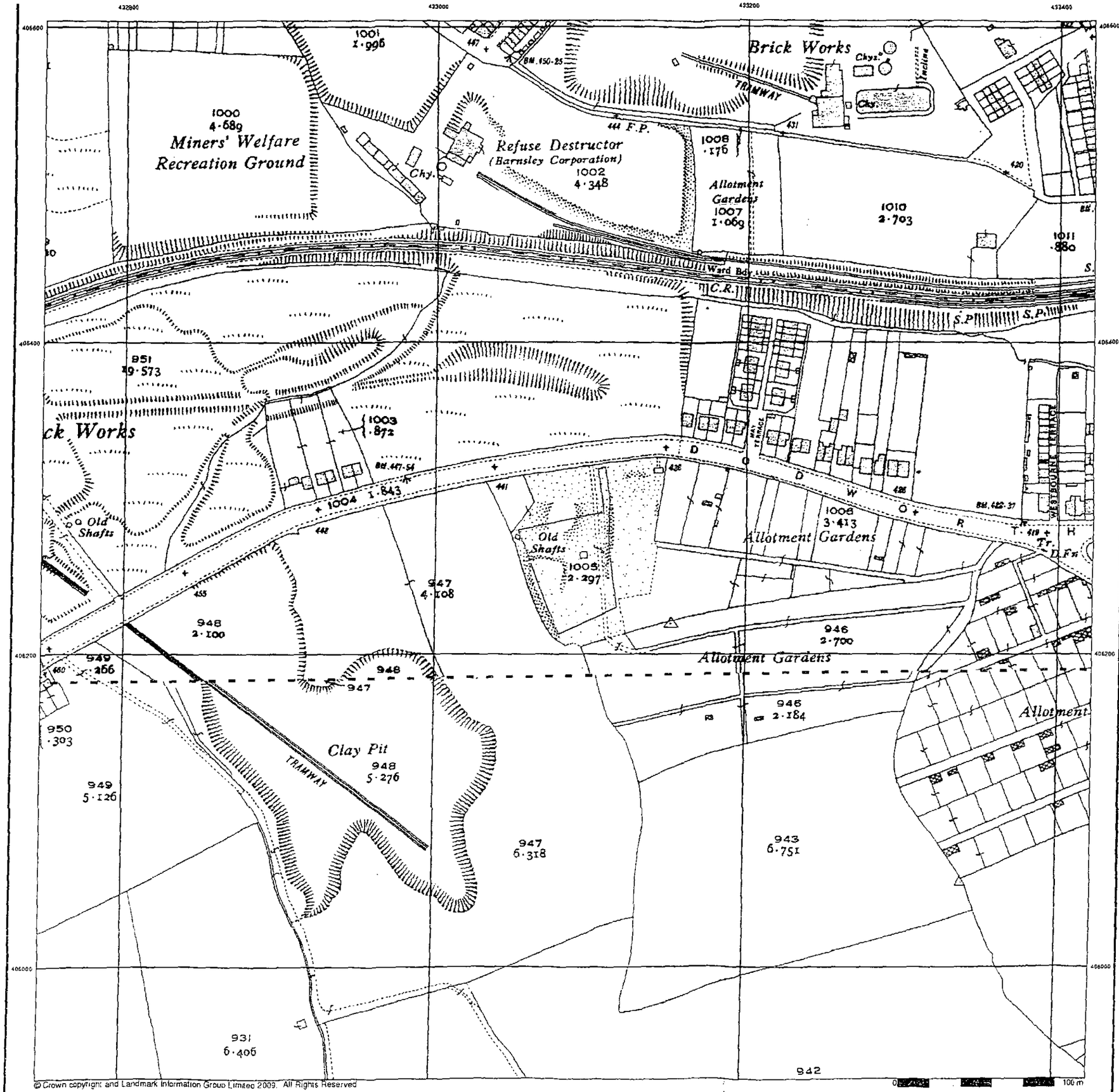
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Customer Ref: HLD/03
National Grid Reference: 433090, 406270
Slice: A
Site Area (Ha): 0.35
Search Buffer (m): 1000

Site Details

Land off Dodworth Road, BARNSLEY, South Yorkshire, S70 6PB

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Yorkshire
Published 1931
Source map scale - 1:2,500

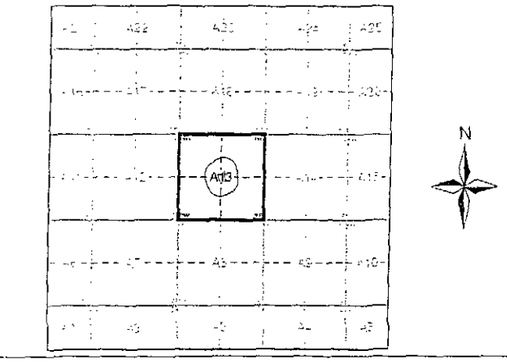
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

274_07
1931
1:2,500

274_11
1931
1:2,500

Historical Map - Segment A13



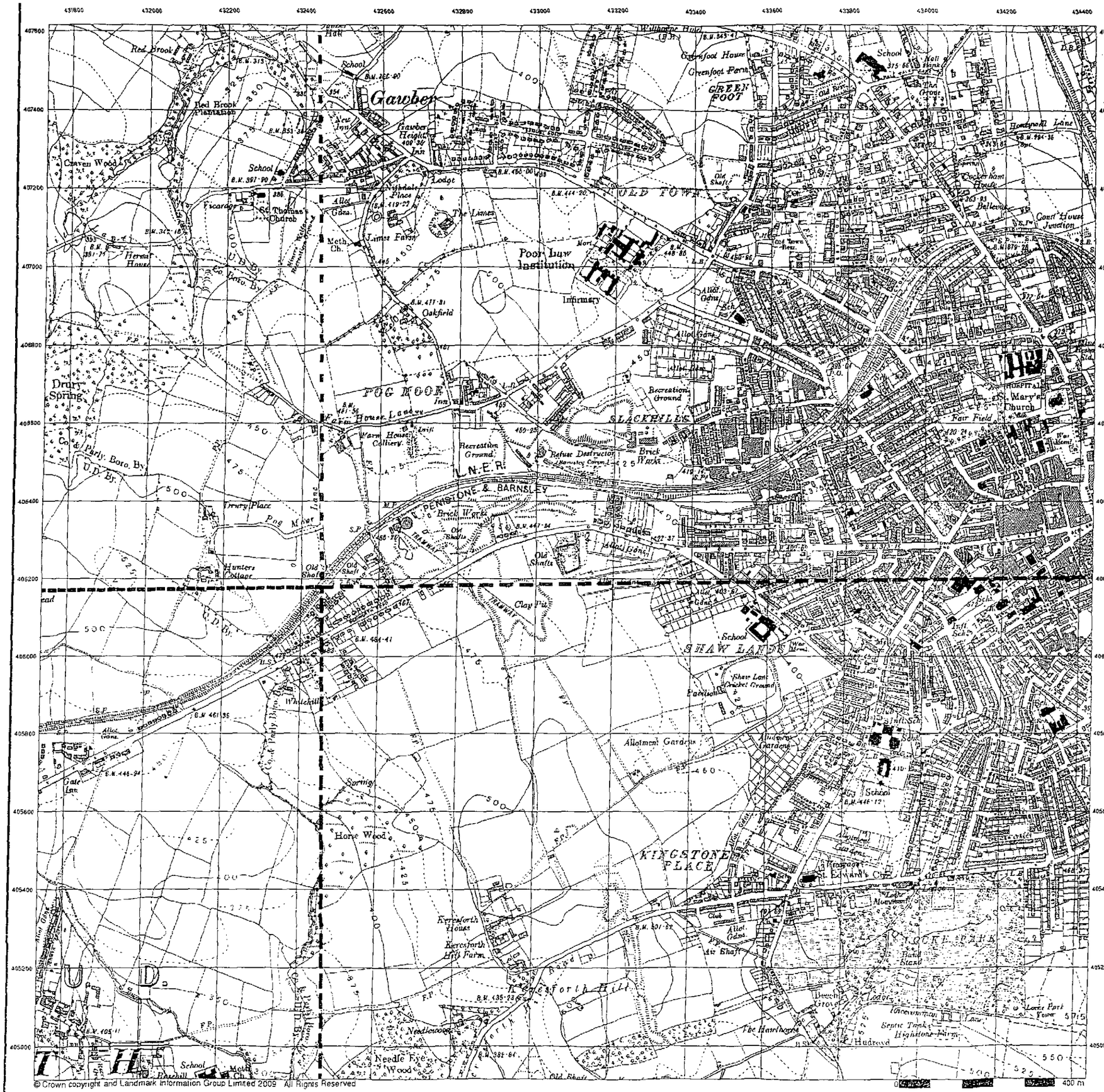
Order Details

Order Number:	29160876_1_1
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National Grid Reference:	433090, 406270
Slice:	A
Site Area (Ha):	0.35
Search Buffer (m):	100

Site Details

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Yorkshire

Published 1932 - 1933

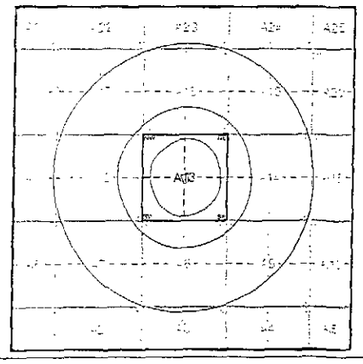
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

274NW 1933 1:10,560	274NE 1932 1:10,560
274SW 1933 1:10,560	274SE 1932 1:10,560

Historical Map - Slice A



Order Details

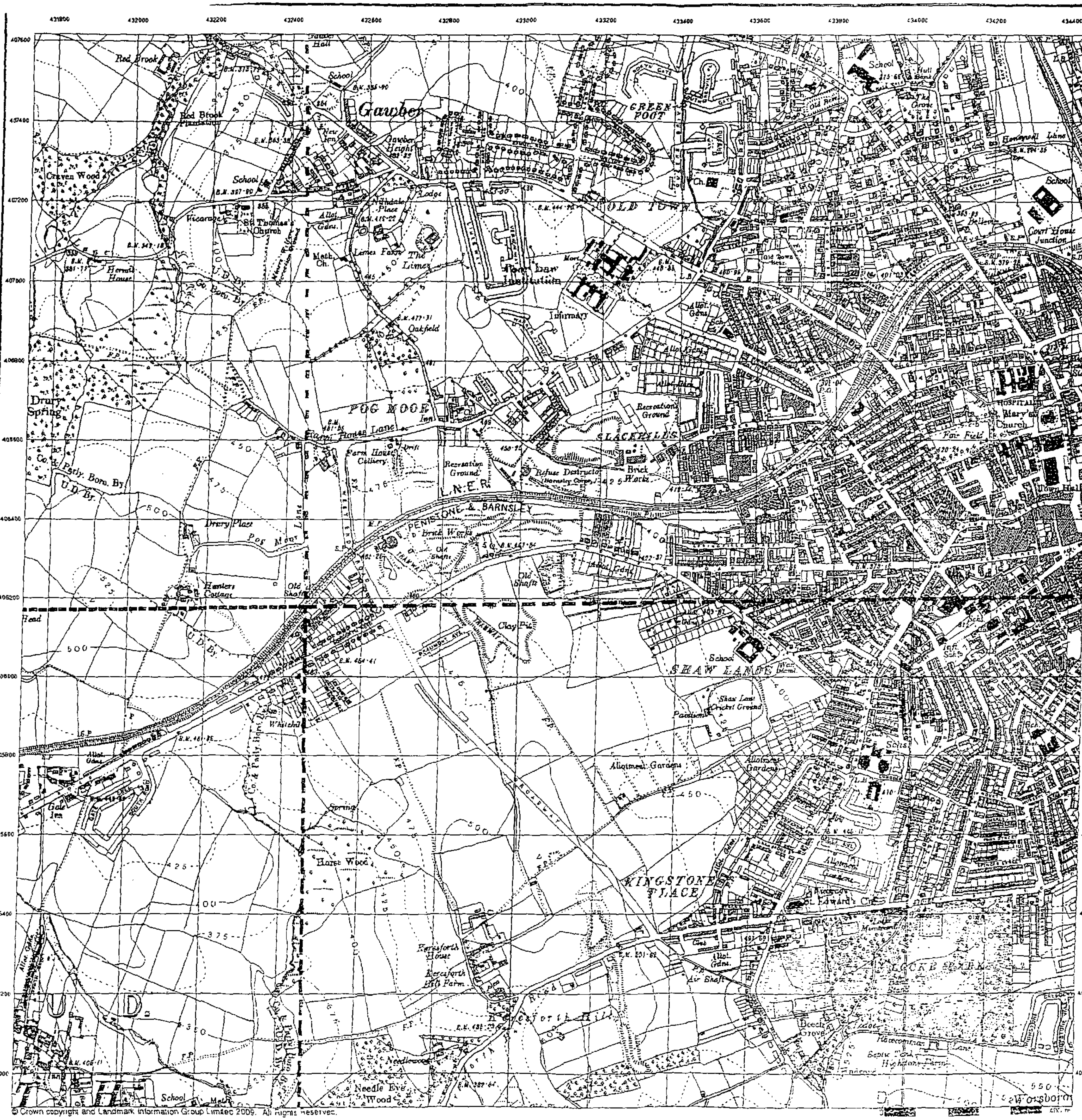
Order Number:	29160876_1_1
Customer Ref:	HLD/03
National Grid Reference:	433090, 406270
Slice:	A
Site Area (Ha):	0.35
Search Buffer (m):	1000

Site Details

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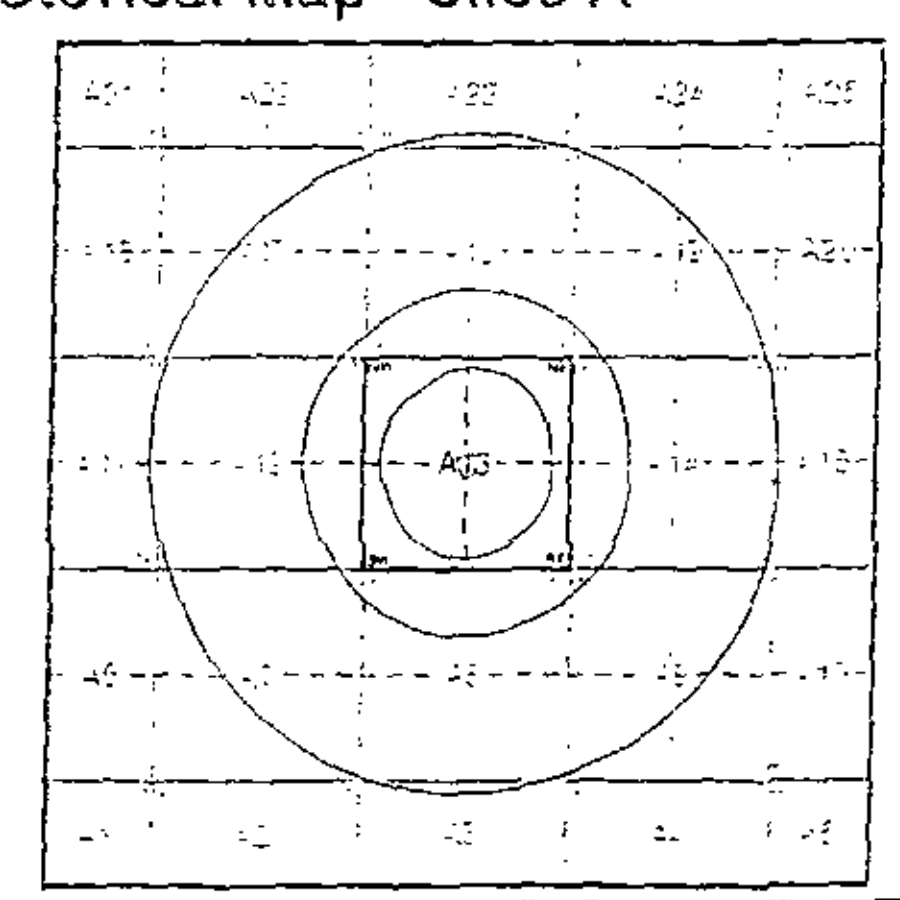
Yorkshire
Published 1938
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

274NW 1938 1:10,560	274NE 1938 1:10,560
274SW 1938 1:10,560	274SE 1938 1:10,560

Historical Map - Slice A



Order Details

Order Number: 29160876_1_1
Customer Ref: HLD/03
National Grid Reference: 433090, 406270
Slice: A
Site Area (Ha): 0.35
Search Buffer (m): 1000

Site Details

Land off Dodworth Road, BARNSLEY, South Yorkshire, S70 6PB

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Yorkshire

Published 1938 - 1948

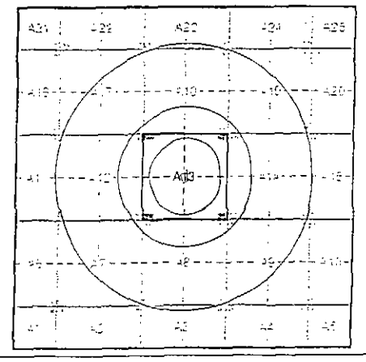
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

274NW 1938 1:10,560	274NE 1948 1:10,560
274SW 1938 1:10,560	274SE 1948 1:10,560

Historical Map - Slice A



Order Details

Order Number:	29160876_1_1
Customer Ref:	HLD/03
National Grid Reference:	433090, 406270
Slice:	A
Site Area (Ha):	0.35
Search Buffer (m):	1000

Site Details

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Ordnance Survey Plan
Published 1956
Source map scale - 1:10,000

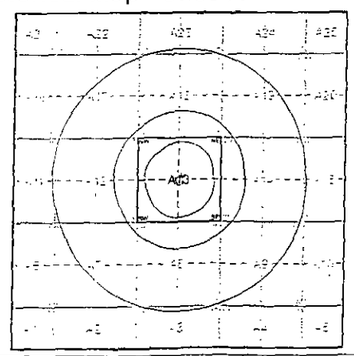
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SE30NW
1956
1:10,560

SE30SW
1956
1:10,560

Historical Map - Slice A



Order Details

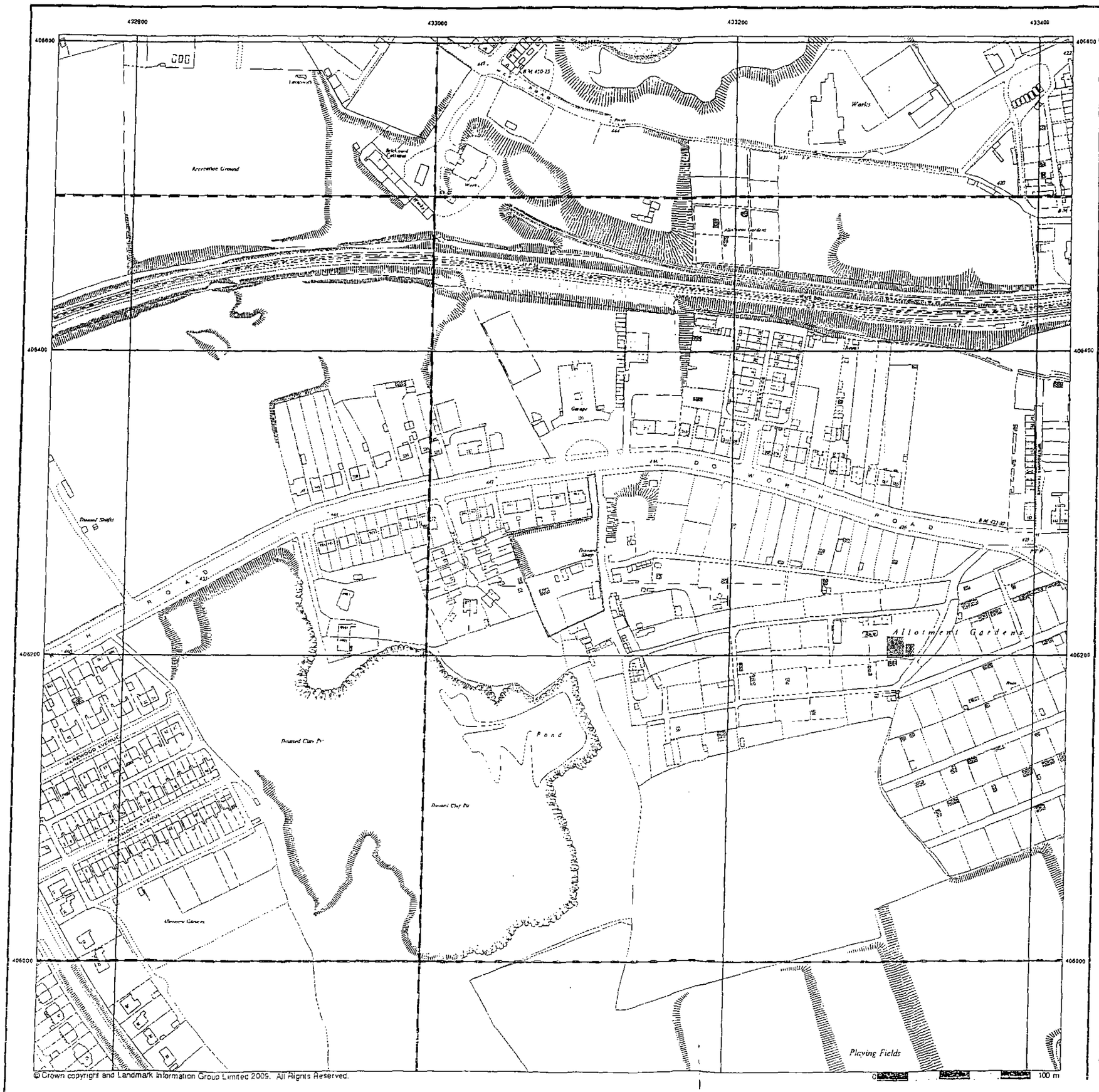
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Search Buffer (m):	1000

Site Details

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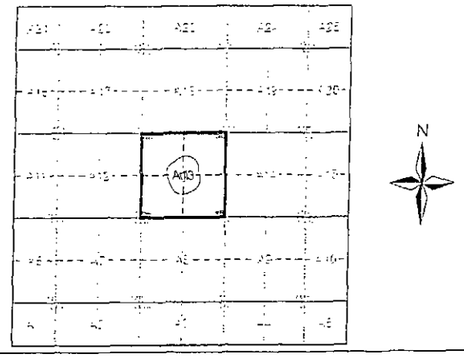
Ordnance Survey Plan
Published 1960
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SE3206NE 1960 1:1,250	SE3306NW 1960 1:1,250
SE3206SE 1960 1:1,250	SE3306SW 1960 1:1,250
SE3205NE 1960 1:1,250	SE3305NW 1960 1:1,250

Historical Map - Segment A13



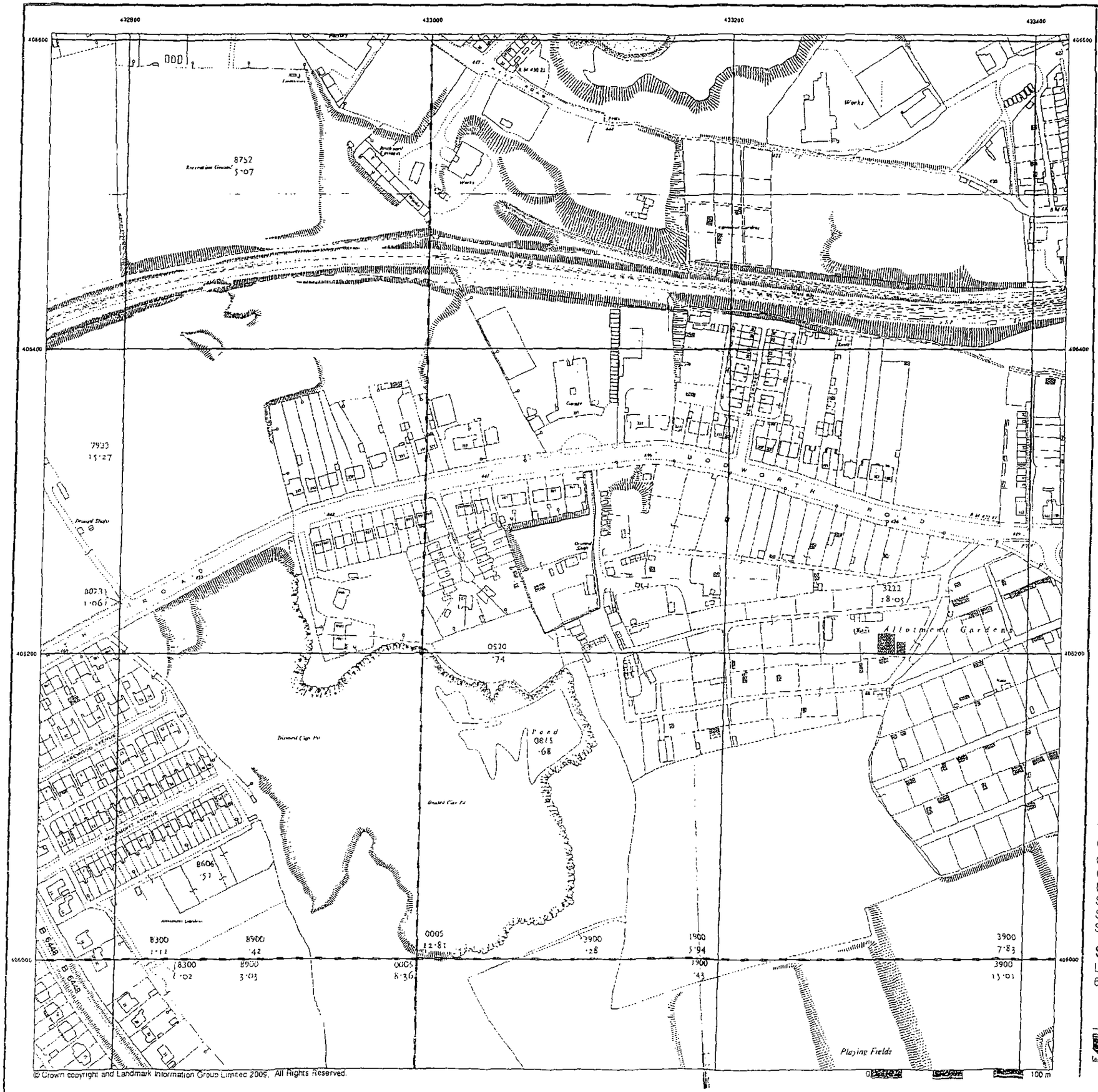
Order Details

Order Number:	29160876_1_1
Customer Ref:	HLD/03
National Grid Reference:	433090, 406270
Slice:	A
Site Area (Ha):	0.35
Search Buffer (m):	100

Site Details

Land off Dodworth Road, BARNSLEY, South Yorkshire, S70 6PB

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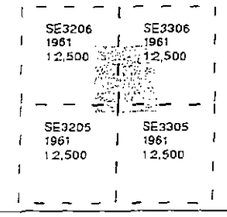
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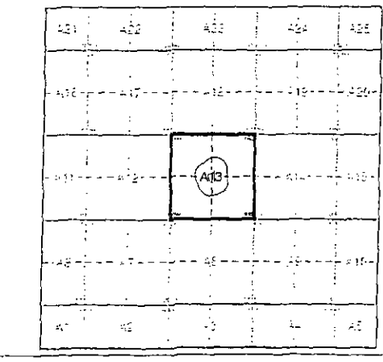
Ordnance Survey Plan
Published 1961
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	29160876_1_1
Customer Ref:	HLD/03
National Grid Reference:	433090, 406270
Slice:	A
Site Area (Ha):	0.35
Search Buffer (m):	100

Site Details

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Ordnance Survey Plan
Published 1965 - 1966
Source map scale - 1:10,000

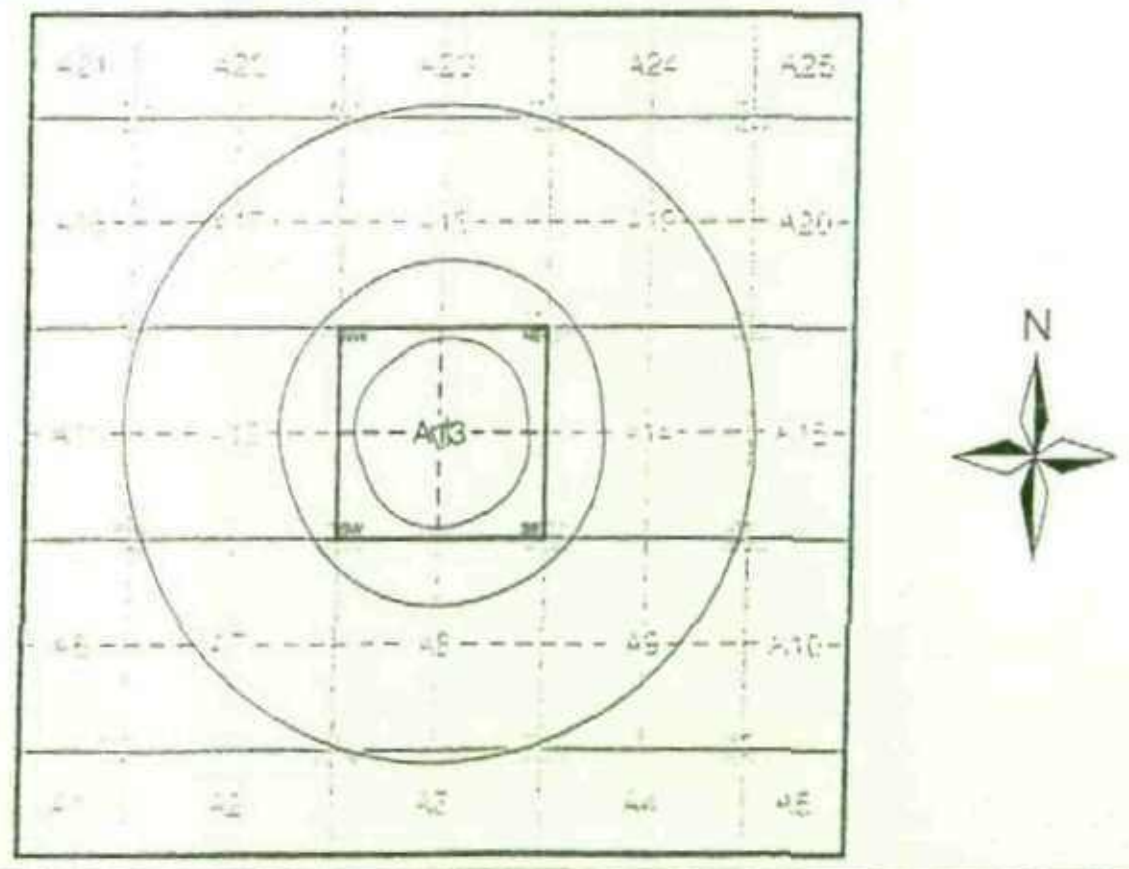
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SE30NW
1966
1:10,560

SE30SW
1965
1:10,560

Historical Map - Slice A



Order Details

Order Number: 29160876_1_1
Customer Ref: HLD/03
National Grid Reference: 433090, 406270
Slice: A
Site Area (Ha): 0.35
Search Buffer (m): 1000

Site Details

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Ordnance Survey Plan
Published 1973 - 1978
Source map scale - 1:10,000

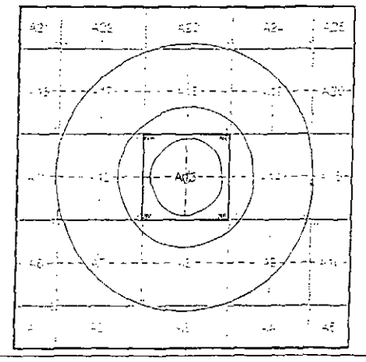
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SE30NW
1973
1:10,000

SE30SW
1978
1:10,000

Historical Map - Slice A



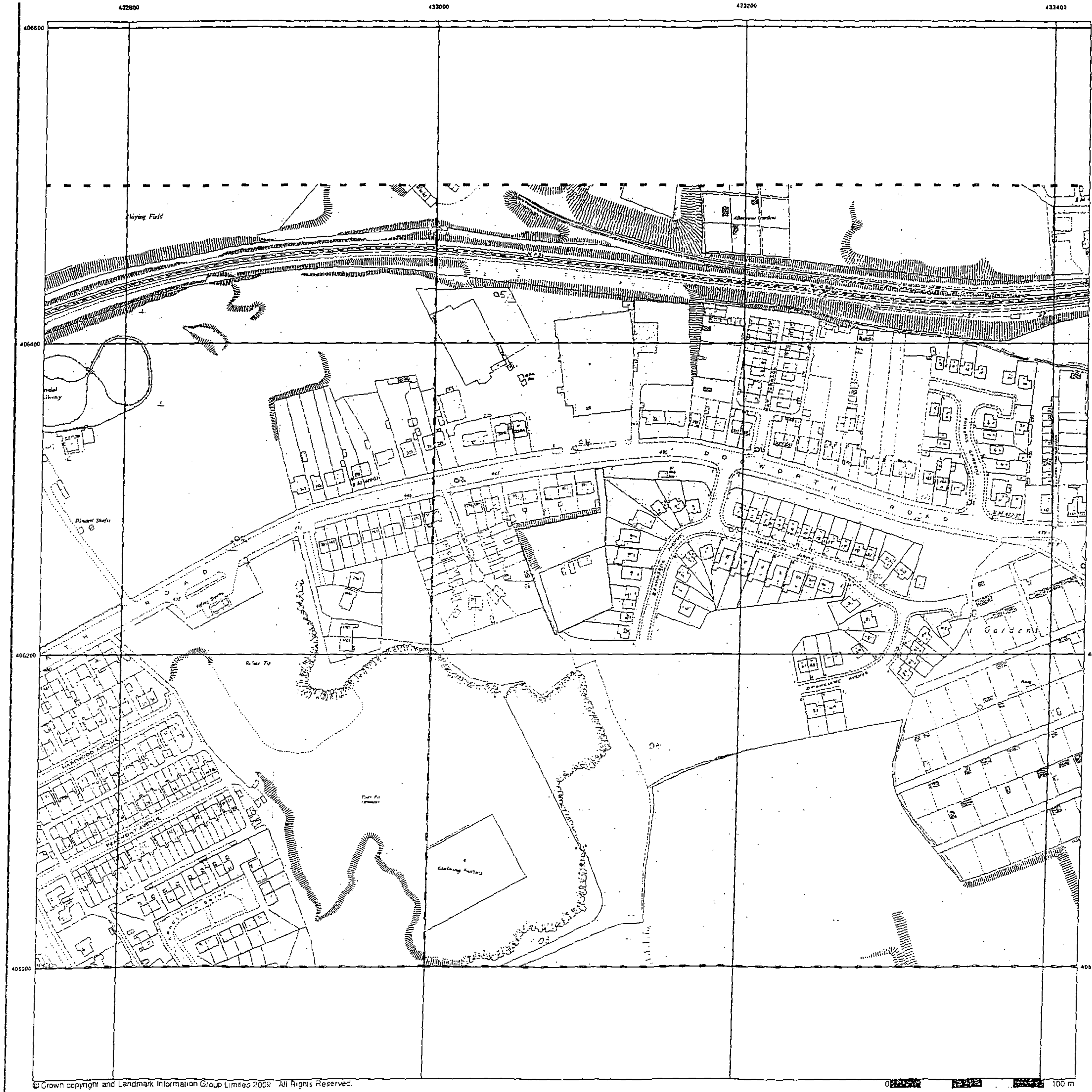
Order Details

Order Number:	29160876_1_1
Customer Ref:	HLD/03
National Grid Reference:	433090, 406270
Slice:	A
Site Area (Ha):	0.35
Search Buffer (m):	1000

Site Details

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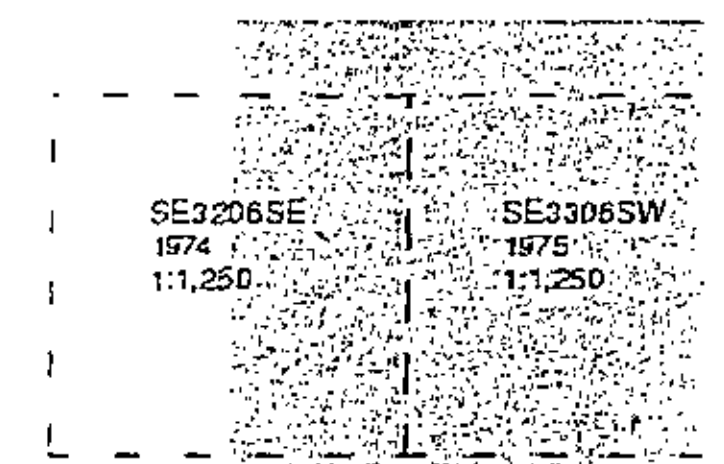
Supply of Unpublished Survey Information

Published 1974 - 1975

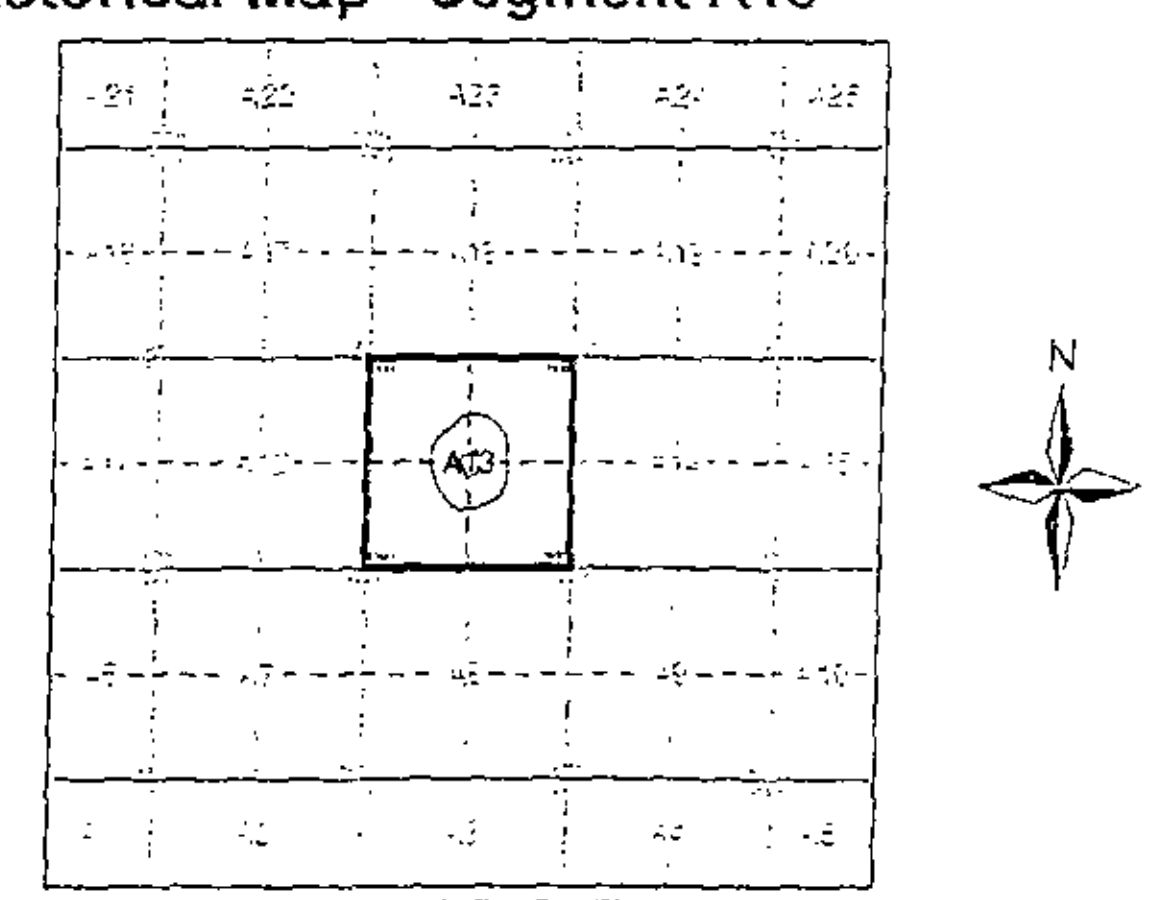
Source map scale - 1:1,250

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a 'work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

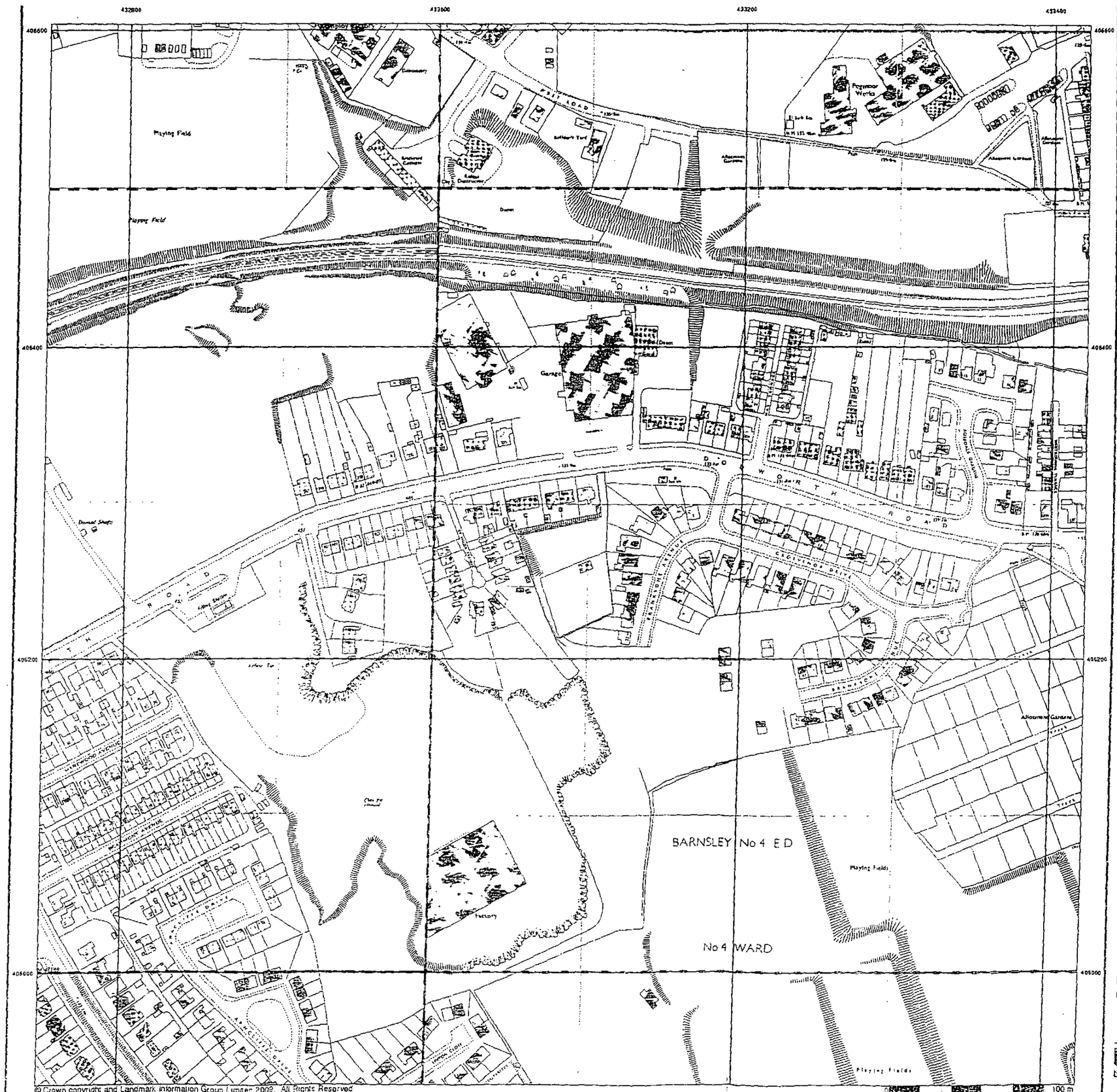
Order Number: 29160876_1_1
Customer Ref: HLD/03
National Grid Reference: 433090, 406270
Slice: A
Site Area (Ha): 0.35
Search Buffer (m): 100

Site Details

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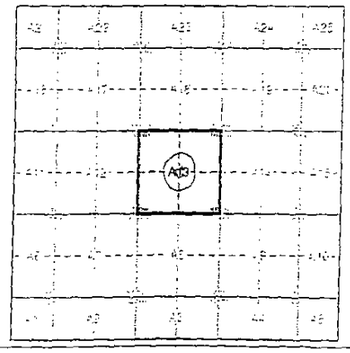
Ordnance Survey Plan
Published 1969 - 1977
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SE3206NE	SE3306NW
1972	1971
1:1,250	1:1,250
SE3206SE	SE3306SW
1969	1977
1:1,250	1:1,250
SE3205NE	SE3305NW
1970	1974
1:1,250	1:1,250

Historical Map - Segment A13



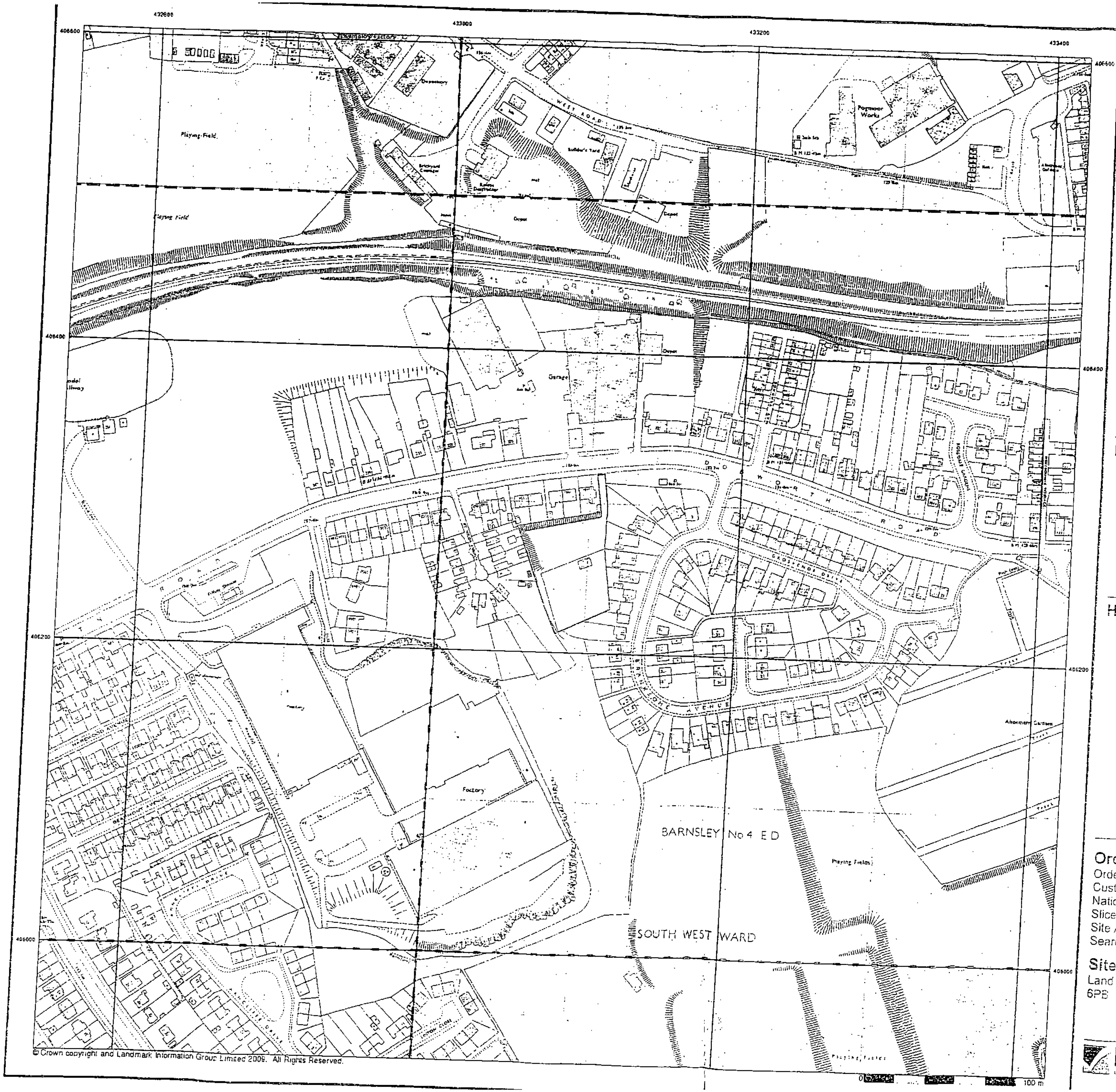
Order Details

Order Number:	29160876_1_1
Customer Ref:	HLD/03
National Grid Reference:	433090, 406270
Slice:	A
Site Area (Ha):	0.35
Search Buffer (m):	100

Site Details

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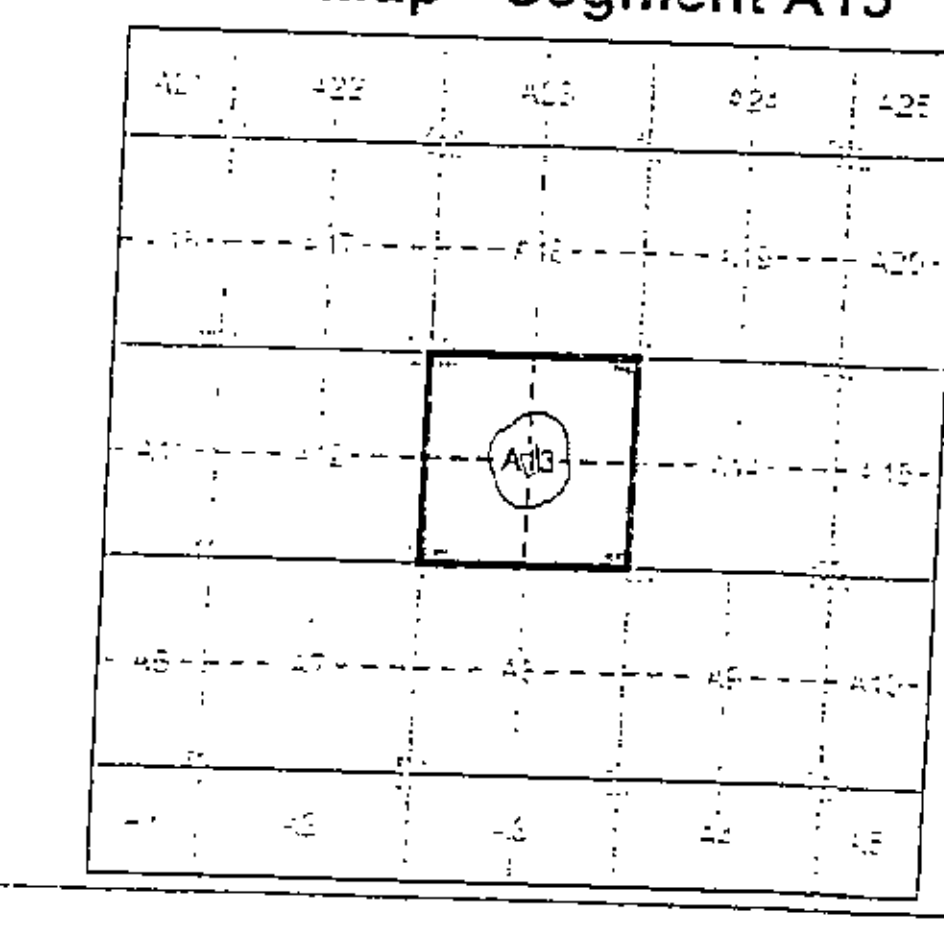
Additional SIMs
Published 1977 - 1991
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SE3206NE 1979 1:1,250	SE3306NW 1977 1:1,250
SE3206SE 1978 1:1,250	SE3306SW 1982 1:1,250
SE3205NE 1991 1:1,250	SE3305NW 1983 1:1,250

Historical Map - Segment A13



Order Details

Order Number: 29160876_1_1
Customer Ref: HLD/03
National Grid Reference: 433090, 406270
Slice: A
Site Area (Ha): 0.35
Search Buffer (m): 100

Site Details

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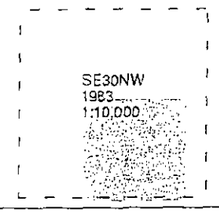
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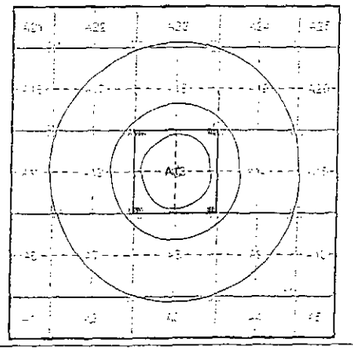
Ordnance Survey Plan
Published 1983
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	29160876_1_1
Customer Ref:	HLD/03
National Grid Reference:	433090, 406270
Slice:	A
Site Area (Ha):	0.35
Search Buffer (m):	1000

Site Details

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Ordnance Survey Plan
Published 1988 - 1989
Source map scale - 1:1,250

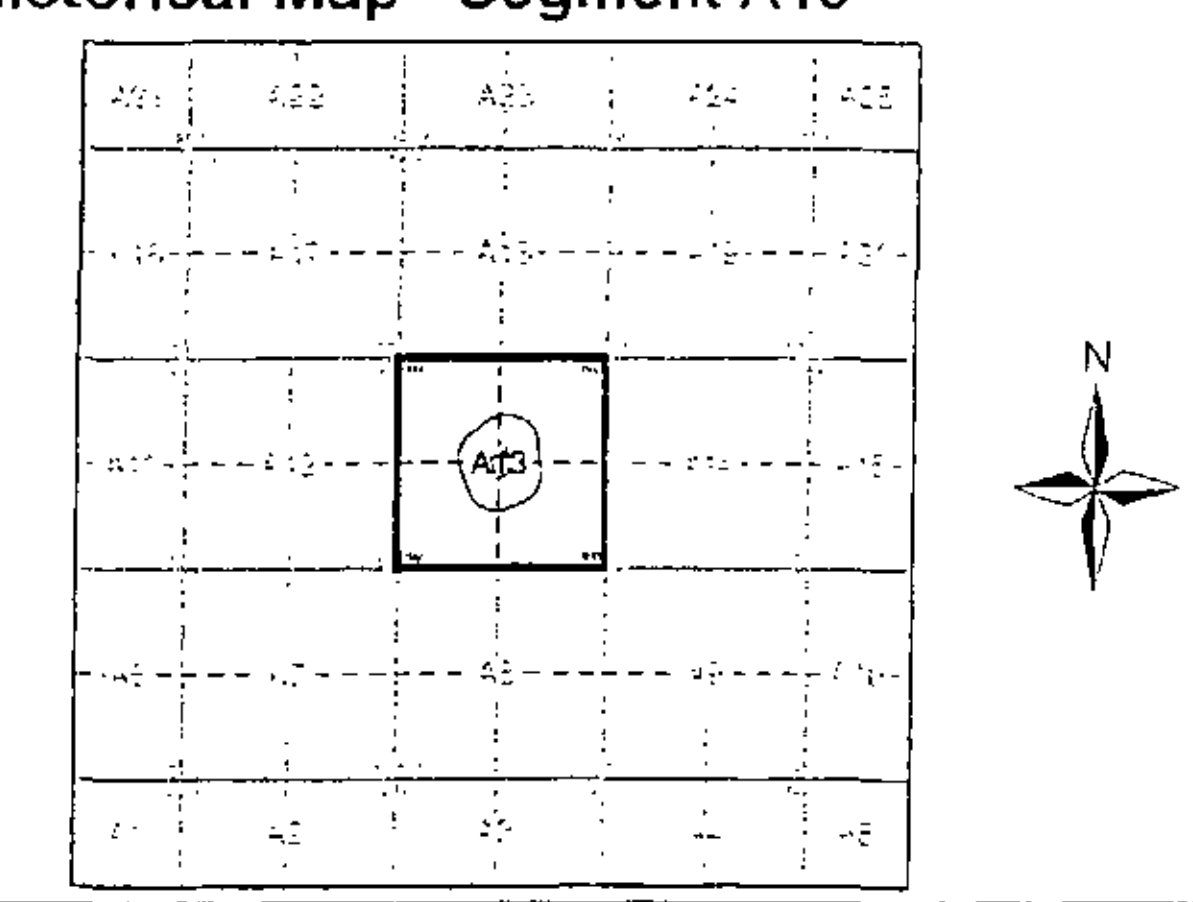
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini *Projection, with independent surveys of a single county or group of counties,* giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SE3206NE
1989
1:1,250

SE3206SE
1988
1:1,250

Historical Map - Segment A13



Order Details

Order Number: 29160876_1_1
Customer Ref: HLD/03
National Grid Reference: 433090, 406270
Slice: A
Site Area (Ha): 0.35
Search Buffer (m): 100

Site Details

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Additional SIMs
Published 1991
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

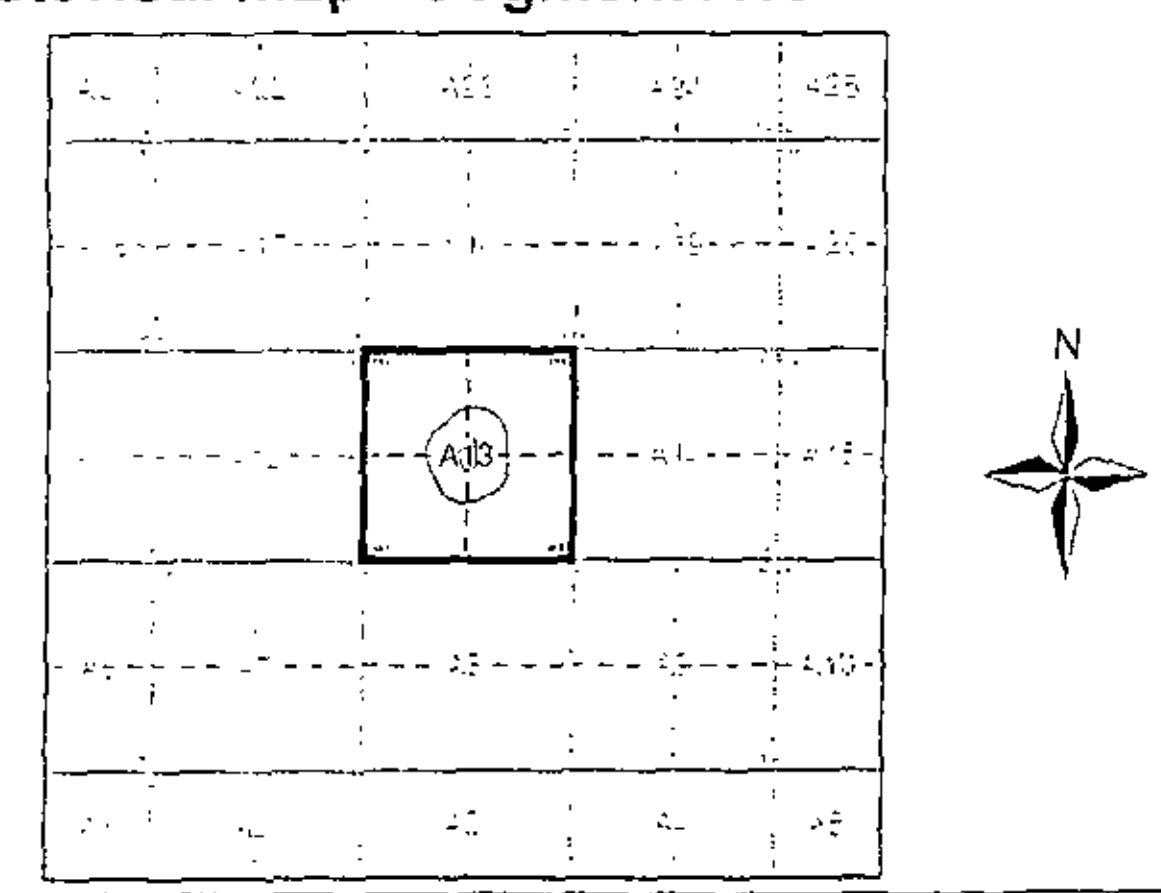
SE3306NW 1991 1:1,250

SE3206SE 1991 1:1,250

SE3306SW 1991 1:1,250

SE3305NW 1991 1:1,250

Historical Map - Segment A13



Order Details

Order Number: 29160876_1_1
Customer Ref: HLD/03
National Grid Reference: 433090, 406270
Slice: A
Site Area (Ha): 0.35
Search Buffer (m): 100

Site Details

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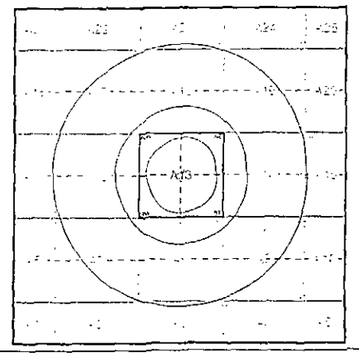
Ordnance Survey Plan
Published 1993
Source map scale - 1:10,000

The historcal maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SE30NW
1993
1:10,000

Historical Map - Slice A



Order Details

Order Number:	29160876_1_1
Customer Ref:	HLD/03
National Grid Reference:	433090, 406270
Slice:	A
Site Area (Ha):	0.35
Search Buffer (m):	1000

Site Details

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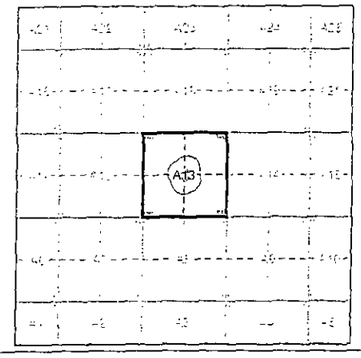
Large-Scale National Grid Data
Published 1993
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SE3206NE	SE3306NW
1993	1993
1:1,250	1:1,250
SE3206SE	SE3306SW
1993	1993
1:1,250	1:1,250
SE3205NE	SE3305NW
1993	1993
1:1,250	1:1,250

Historical Map - Segment A13



Order Details

Order Number:	29160876_1_1
Customer Ref:	HLD/03
National Grid Reference:	433090, 406270
Slice:	A
Site Area (Ha):	0.35
Search Buffer (m):	100

Site Details

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10k Raster Mapping
Published 2000
Source map scale - 1:10,000

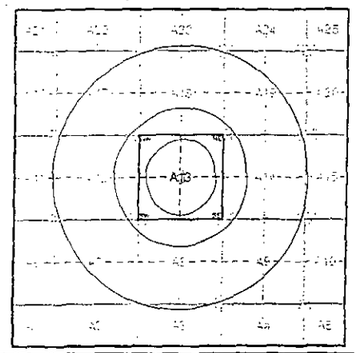
The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SE30NW
2000
1:10,000

SE30SW
2000
1:10,000

Historical Map - Slice A



Order Details

Order Number:	29160876_1_1
Customer Ref:	HLD/03
National Grid Reference:	433090, 406270
Slice:	A
Site Area (Ha):	0.35
Search Buffer (m):	1000

Site Details

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10k Raster Mapping
Published 2006
Source map scale - 1:10,000

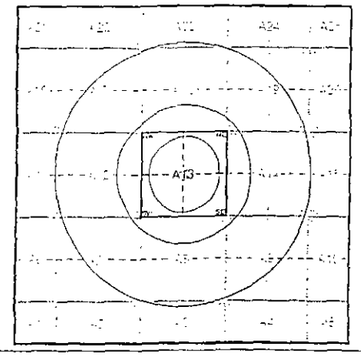
The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SE30NW
2006
1:10,000

SE30SW
2006
1:10,000

Historical Map - Slice A



Order Details

Order Number:	29160876_1_1
Customer Ref:	HLD/03
National Grid Reference:	433090, 406270
Slice:	A
Site Area (Ha):	0.35
Search Buffer (m):	1000

Site Details

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10k Raster Mapping
Published 2009
Source map scale - 1:10,000

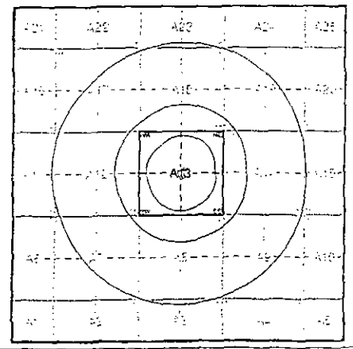
The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SE30NW
2009
1:10,000

SE30SW
2009
1:10,000

Historical Map - Slice A



Order Details

Order Number:	29160876_1_1
Customer Ref:	HLD/03
National Grid Reference:	433090, 406270
Slice:	A
Site Area (Ha):	0.35
Search Buffer (m):	1000

Site Details

Land off Dodworth Road, BARNSLEY, South Yorkshire, S70 6PB

Landmark Information Group
Tel 0844 844 9952
Fax 0844 844 9951
Web www.envirocheck.co.uk

APPENDIX C

MINERAL REPORT

SYMAS

Principal Mining Engineer
Barnsley Metropolitan Borough Council
PO Box 604
Barnsley S70 9FE

Date: 23rd September, 2009

Enquiries to: Mr. P. James
Dial Direct: 01226 772689
My Ref: PJ/M3360/4
Your Ref:

Building Design Services,
15 Hunters Avenue,
Barnsley.
S70 6PL

FOR THE ATTENTION OF MR. S. LANG

Dear Sir,

LAND AT DODWORTH ROAD, BARNSLEY

With reference to your request dated 17th September, 2009, please find enclosed a mineral report and plans which detail the mining and geological situation for the above site.

This work was completed in 5 hours at £55.00 per hour and as per your instructions an invoice for £275.00+VAT will be submitted to Hallroyd Homes Ltd in due course.

Yours faithfully,

P. James,
Principal Mining Engineer.

Enc.

Tel: (01226)772689
Fax: (01226)772688
E-mail: symas@barnsley.gov.uk
Website: www.barnsley.gov.uk/symas

MINERAL REPORT

Date: 21st September, 2009

My Ref: PJ/M3360/4

CONFIDENTIAL

LAND OFF DODWORTH ROAD, BARNSLEY

SITUATION

The area of land under consideration is situated to the south of Dodworth Road, Barnsley and is shown edged orange on the attached plan no. M3360/4A.

GEOLOGY

The 1981 British Geological Survey (BGS) Plan indicates that the site is located on sandstones, siltstones and mudstones of the Middle Coal Measures with the strata generally dipping to the north-east.

The Barnsley Seam is conjectured to outcrop through the site as illustrated on plan M3360/4A.

MINING

Shallow Mining

The Barnsley Seam (section approximately. 2.6 m) is conjectured to outcrop through the site and lies at a shallow depth to the east.

The seam was mined in the area during the mid 1800's and early 1900's from Dodworth Road Colliery. Plan no. M3360/4B shows mine abandonment records for the Barnsley Seam.

A number of shafts and adits which were part of Dodworth Road Colliery are also located close to the eastern boundary of the site. SYMAS has no records regarding the condition or any treatment details of these mine entrances.

As indicated on the abandonment records (plan M3360/4B), old unrecorded workings were encountered during mining operations and therefore further workings and mine entrances can not be ruled out beneath the site to the east of the seam outcrop.

Surface Collapse

In 1984 a collapse of the surface occurred adjacent to the site entrance as illustrated on plan nos. M3360/4A and M3360/4B. Annex (A) contains SYMAS records detailing the council's claim with the National Coal Board and subsequent

Tel: (01226)772689
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Website: www.barnsley.gov.uk/symas

investigations and treatment. The collapse was confirmed as being caused by shallow roadways within the Barnsley Seam.

Deep Mining

Two shafts that were part of Victoria Colliery which worked both the Swallow Wood (depth 56 m) and Haigh Moor Seams (depth 72 m) from 1914 to 1922 are present within the site. The approximate shaft positions are illustrated on plan no. M3360/4A.

Plan M3360/4C illustrates the relevant part of Victoria Colliery, Swallow Wood Seam abandonment plan from 1922. Roadways and workings are shown beneath the site but are at a depth unlikely to cause surface stability issues. A 1 in 5 drift can be seen to the south of the shafts which it is estimated will be at a minimum depth of 35 m beneath the southern site. Again, at this depth there should not be any stability issues from this roadway.

Plan M3360/4D illustrates the relevant part of Victoria Colliery Haigh Moor Seam abandonment plan from 1922. Roadways and workings are shown, but at a depth which is unlikely to cause a stability issue.

Coal Authority records indicate that the shaft in the north-western corner of the site was excavated to a depth of 2.5 m after the fill had slumped and was subsequently plugged with mass concrete. SYMAS has no record as to the condition and treatment of the other shaft.

In summary the following coal seams were worked under or adjacent to the site in the past.

Seam	Depth (m)	Extraction (mm)	Timing
Swallow Wood	56	1000	1914-1922
Haigh Moor	72	1200	1919-1922
Flockton Thick	140	700	1943
Top Fenton	225	860	1957
Parkgate	230	1200	1932
Silkstone	325	1650	1919

All normal subsidence from these workings should have been complete decades ago and as the site now lies remote from the active coalfield it should not be affected by deep mining subsidence in the foreseeable future.

PREVIOUS LAND USE

Ordnance Survey Sheets 274/7 (1906 and 1932 Editions) are reproduced on plan nos. M3360/4E and M3360/4F respectively.

The 1906 Edition shows the site as open fields and the 1932 Edition shows the positions of the two Victoria Colliery Shafts and associated spoil.

It is understood that the site was, until recently, used as a car compound by Polar Ford.

LANDFILL

The land is located within 250 m of the following landfill sites as indicated on the current Borough Landfill Register which is reproduced on plan M3360/4G.

Category 1

No. 130 - Completed? Source - Environmental Health, Dodworth Road Crossroads, Pogmoor, Barnsley.

No. 131 - Completed? Source - Environmental Health, S.R. Gents, Dodworth Road, Barnsley.

Category 2

No. 44 - Completed mid 1960's. Source - Building Control section, clay extraction. Former Brickworks Quarry, rear of Cresswell Street, Pogmoor.

No. 134 - Completed? Source - Environmental Health, Recreation Ground, Pogmoor Road, Barnsley.

No. 139 - Completed May 1992. Operator Polar Motors, excavation subsoil and topsoil to form grassed embankment, rear of Polar Motors Dodworth Road, Barnsley.

Category 4

No. 57 - Completed December 1987. Operator BMBC. Construction, Demolition and excavation waste. West Road, Pogmoor, Barnsley.

No. 61 - Landfill commenced November 1982 Completed? Operator Co-op Retail Services. Incinerator residue and construction waste. Summer Lane/Stocks Lane Dairy, Barnsley.

FUGITIVE GASES

Considering the presence of the shallow seams and workings, sandstone bedrock old shafts, made ground and adjacent landfill, there is a risk of fugitive gas issues.

CONCLUSIONS

1. The site is currently stable from a deep mining subsidence aspect and will remain so for the foreseeable future.

2. The outcrop of the Barnsley Seam is conjectured through the site and shallow mineworkings are known to be present to the east. It is recommended that a site investigation be undertaken to check the position and condition of the seam and to investigate for further unrecorded shallow mineworkings beneath the land. Abandonment records herewith and the previous experience of a nearby surface collapse indicate that any Barnsley Seam workings beneath the site are likely to be within a critical depth. If workings are present, stabilization works would most likely be required prior to the construction of residential dwellings (subject to position and layout).

3. Abandonment Plan records and Ordnance Survey Plans indicate the existence of at least two mineshafts within the site, the two Victoria Colliery Shafts. Coal Authority records indicate that the shaft in the north-western corner of the site was excavated to a depth of 2.5 m after the fill had slumped and was subsequently plugged with mass concrete. SYMAS has no record as to the condition and treatment of the other shaft.

   The Dodworth Road Colliery shafts and adits lie in close proximity to the eastern edge of the site and as such an investigation should be undertaken to rule out the presence of these and further unrecorded shafts within the site.

   All mine entrances within the site should be stabilised in an appropriate manner considering the proposed end land use. (Note Conclusion 4).

   No residential dwellings should be sited over mine entrances or shafts or within an area bounded by a line drawn 45 degrees back from where the shaft intersects rockhead. The shafts will show on future mine record searches for properties with boundaries within 20 m. This could hinder future property sales.

4. No activities should be undertaken that intersect, disturb or interfere with Coal Authority interests without the prior consultation with the Coal Authority.

   Consultation with the Coal Authority is required prior to any investigation or operations that involves entry into any coal or mines of coal, including coal mine shafts, adits and workings. The Documentation which supports the Coal Authority's Permissions procedures can be viewed at: www.coal.gov.uk/services/permissions/index.cfm.

   The recently updated Coal Authority's Permit to investigate their interests also includes the following condition:

"Where in the Authority's opinion any mine entry's proximity to a proposed new development is likely to increase its liabilities the Applicant agrees to take formal conveyance of the mine entry(s). All such mine entries shall be fully stabilised by the applicant prior to the conveyance. The conveyance will be on the Authority's standard terms and conditions for a nominal sum."

5. Sandstone bedrock may be fractured both naturally and mining induced. Where any Sandstone bedrock is encountered, future development may require strengthened foundations if fissuring is present.

   Any coal exposed in excavations for future development should be blinded off using a suitable sulphur resistant weak mix concrete or other inert material to prevent spontaneous combustion from occurring.

6. It is recommended that the site is checked for any contamination associated with its previous usage and a remediation strategy is devised where appropriate. Made ground may be present on site as a legacy of the coal mining activity.

7. Considering the presence of the shallow seams and workings, sandstone bedrock, old shafts, possible made ground and adjacent landfill material, there is a risk of fugitive gas issues. The presence of fugitive gases should be adequately investigated.

   Monitoring in respect of fugitive gases should be undertaken during all site investigation and excavation works. Precautions against fugitive gases may need to be incorporated into any new buildings.

8. The site lies within 250 m of two Category 1 (Nos. 130 and 131) three Category 2 (Nos. 44, 134 and 139) and two Category 4 (Nos. 57 and 61) Landfill Sites, which are described as:-

   Category 1 - a site which is known to be producing landfill gas and from which landfill gas is migrating.

   Category 2 - a site on which insufficient information is known to permit an adequate response to be made on the extent to which landfill gas may be present.

   Category 4 - a site which the Waste Disposal Site Licence indicates has been licensed to accept material that would not be expected to give rise to landfill gas in substantial quantities. Or a site which has been granted an exemption from Waste Management Licensing pursuant to the provisions of the Waste Management Licensing Regulation 1994.

9. In view of the mining and geological circumstances a prudent developer would seek appropriate technical advice and employ the services of a competent Geo-environmental Consultant for investigative works and, where appropriate, the compilation of an appropriate remedial strategy. All development proposals should have regard to good engineering practice in mining areas as identified in authoritative publications on mining and ground stability problems.

THIS REPORT IS BASED ON AND LIMITED TO THE RECORDS IN THE POSSESSION OF SYMAS AT THE TIME THE ENQUIRY IS ANSWERED.

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Report prepared by P. James 21st September, 2009.

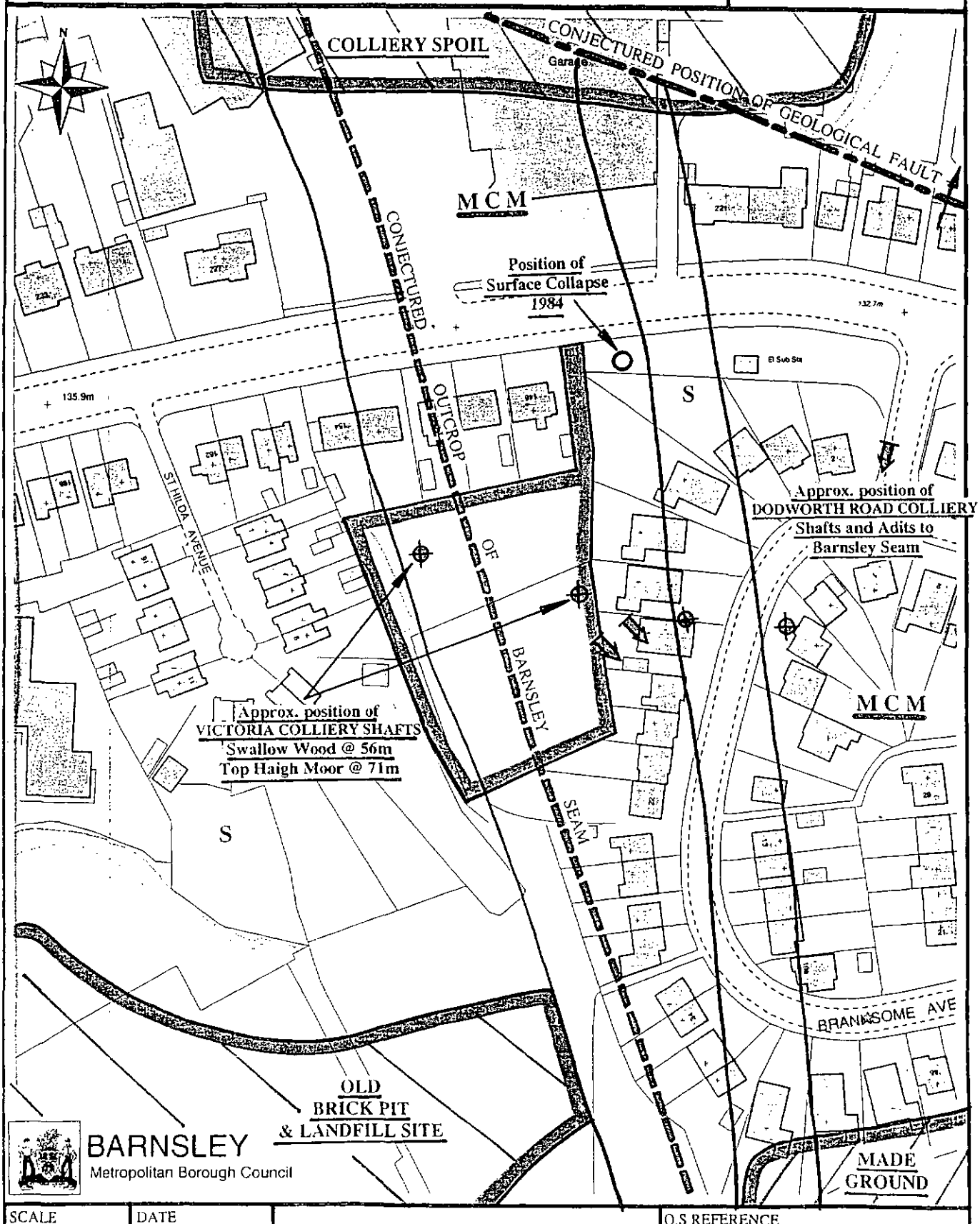
P. James,
Principal Mining Engineer.

DRAWING TITLE

LAND OFF DODWORTH ROAD, BARNSLEY
(BGS Geology with SYMAS Mine Records)

DRAWING NO.

M3360/4A



BARNSLEY
Metropolitan Borough Council

SCALE	DATE		O.S REFERENCE
1:1250	22.9.09	**SOUTH YORKSHIRE MINING**	SE 3206
DRAWN BY	CHECKED BY	**ADVISORY SERVICE**	P. JAMES BSc (Hons)
AS	PJ		PRINCIPAL MINING ENGINEER

BMBC Licence Number 100022264 2009

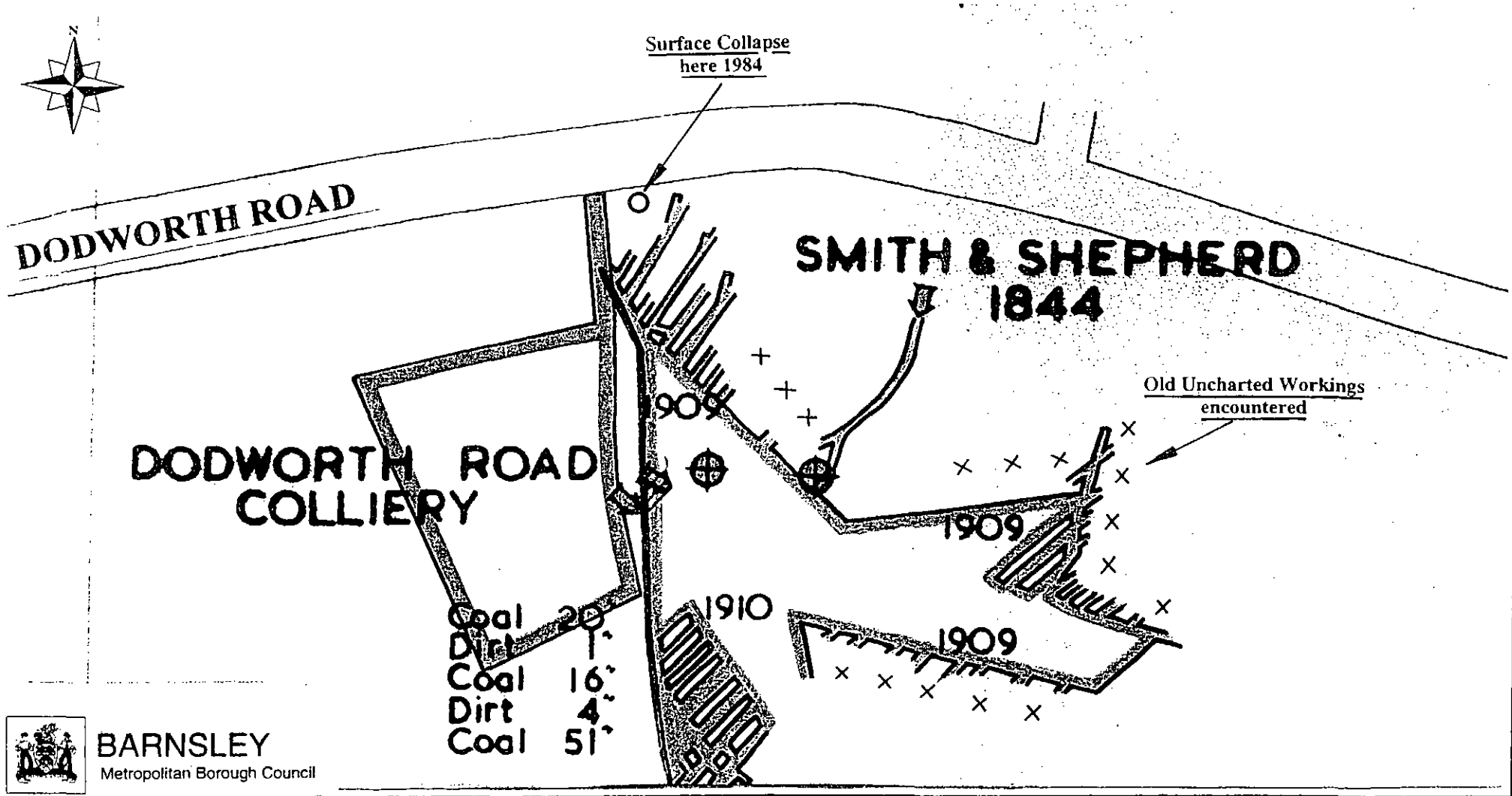
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DRAWING TITLE

LAND OFF DODWORTH ROAD, BARNSLEY
BARNSLEY SEAM ABANDONMENT PLAN

DRAWING NO.

M3360/4B



BARNSLEY
Metropolitan Borough Council

SCALE	DATE		O.S REFERENCE
1:1250	22.9.09	SOUTH YORKSHIRE MINING ADVISORY SERVICE	———
DRAWN BY: AS	CHECKED BY: PJ		P. JAMES BSc (Hons) PRINCIPAL MINING ENGINEER

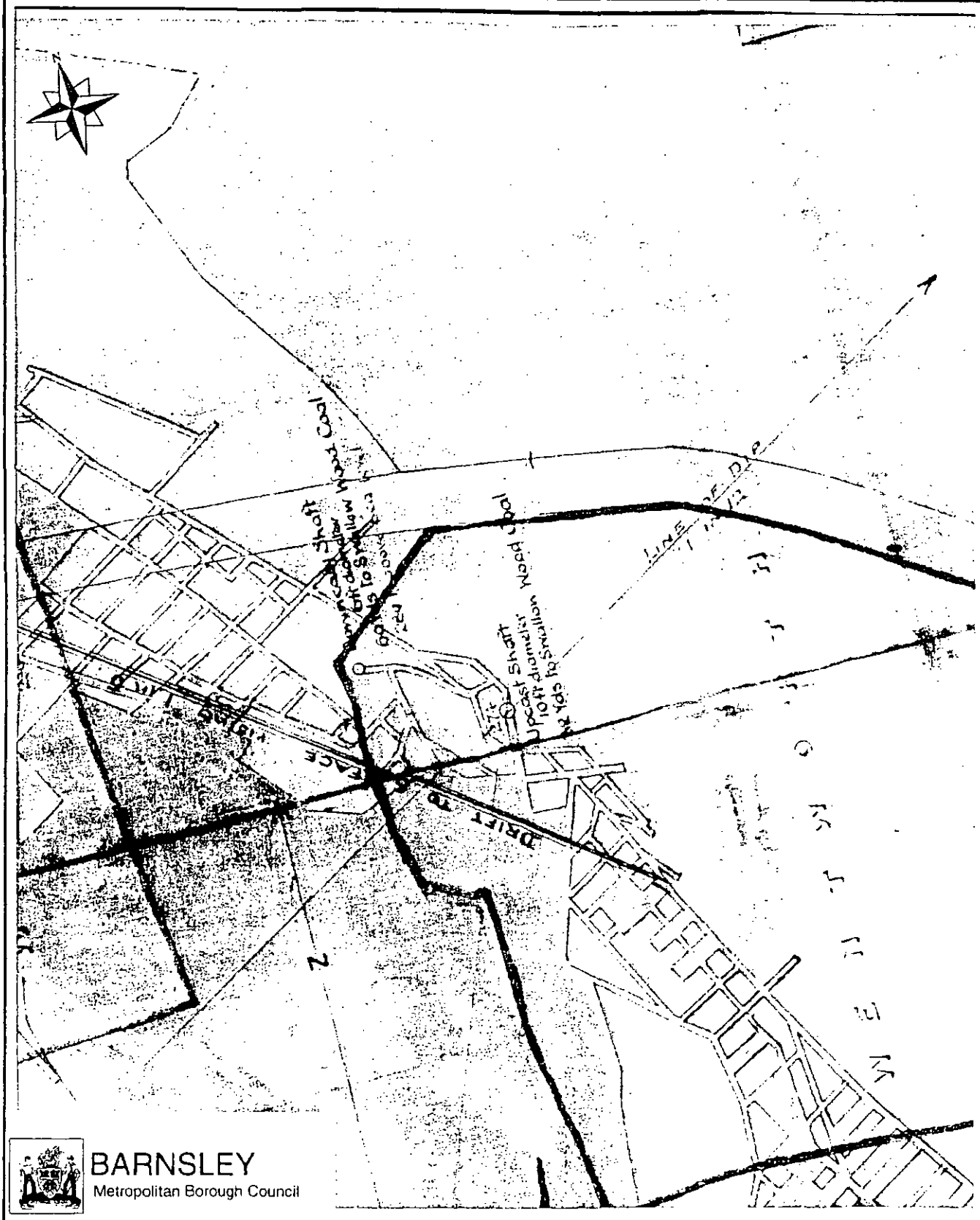
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DRAWING TITLE

LAND OFF DODWORTH ROAD, BARNSLEY
VICTORIA COLLIERY, SWALLOW WOOD SEAM
ABANDONMENT PLAN (No. 7466) 1922

DRAWING NO.

M3360/4C



BARNSLEY
Metropolitan Borough Council

SCALE	DATE		O.S REFERENCE
2 Chains to 1 Inch	22.9.09	SOUTH YORKSHIRE MINING	274 NE
DRAWN BY: AS	CHECKED BY:	ADVISORY SERVICE	P. JAMES BSc (Hons) PRINCIPAL MINING ENGINEER

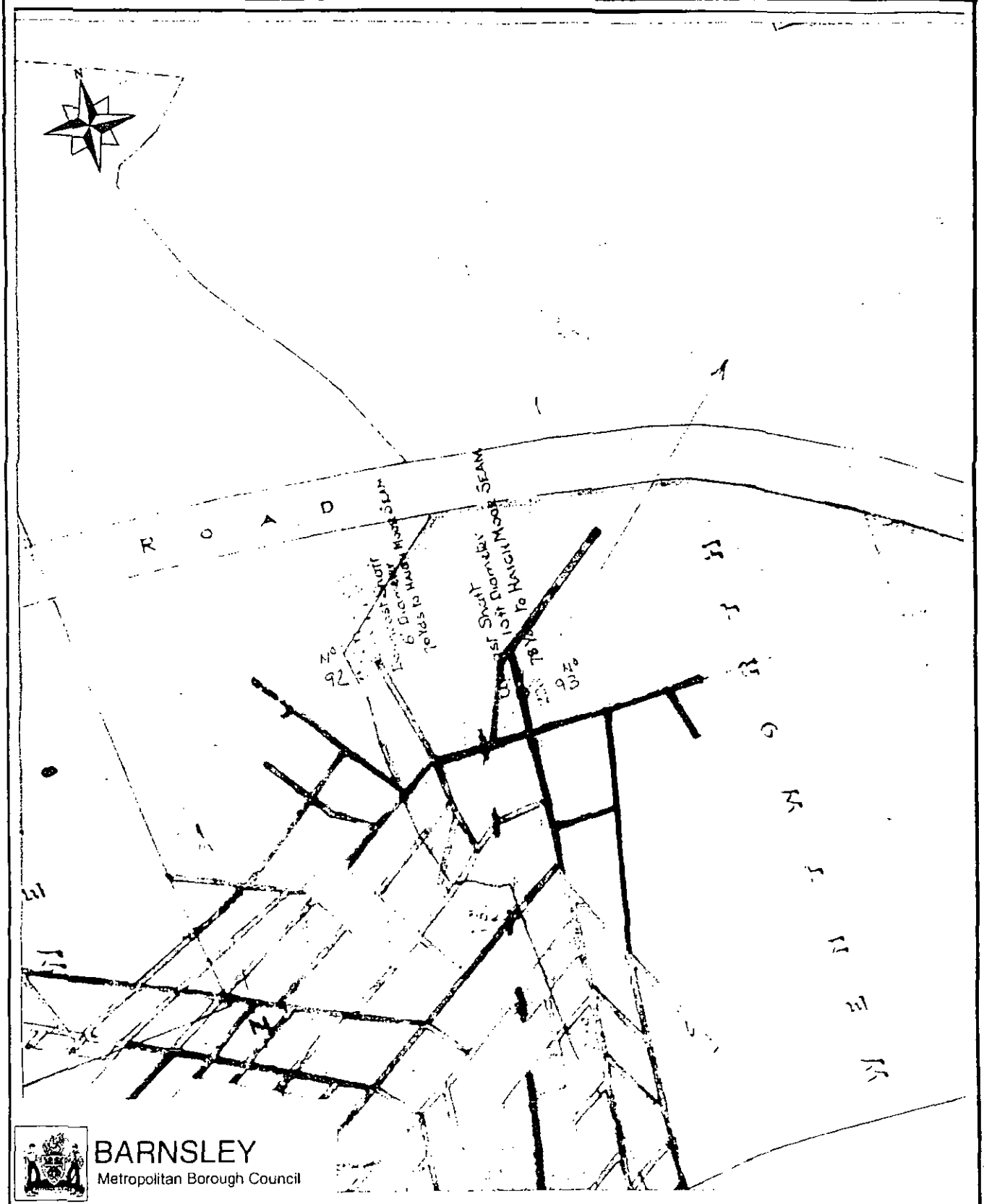
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DRAWING TITLE

LAND OFF DODWORTH ROAD, BARNSLEY
VICTORIA COLLIERY, HAIGH MOOR SEAM
ABANDONMENT PLAN (No. 7465) 1922

DRAWING NO.

M3360/4D



BARNSLEY
Metropolitan Borough Council

SCALE	DATE		O.S REFERENCE
2 Chains to 1 Inch	22.9.09	SOUTH YORKSHIRE MINING	274 NE
DRAWN BY: AS	CHECKED BY: PJ	ADVISORY SERVICE	P. JAMES BSc (Hons) PRINCIPAL MINING ENGINEER

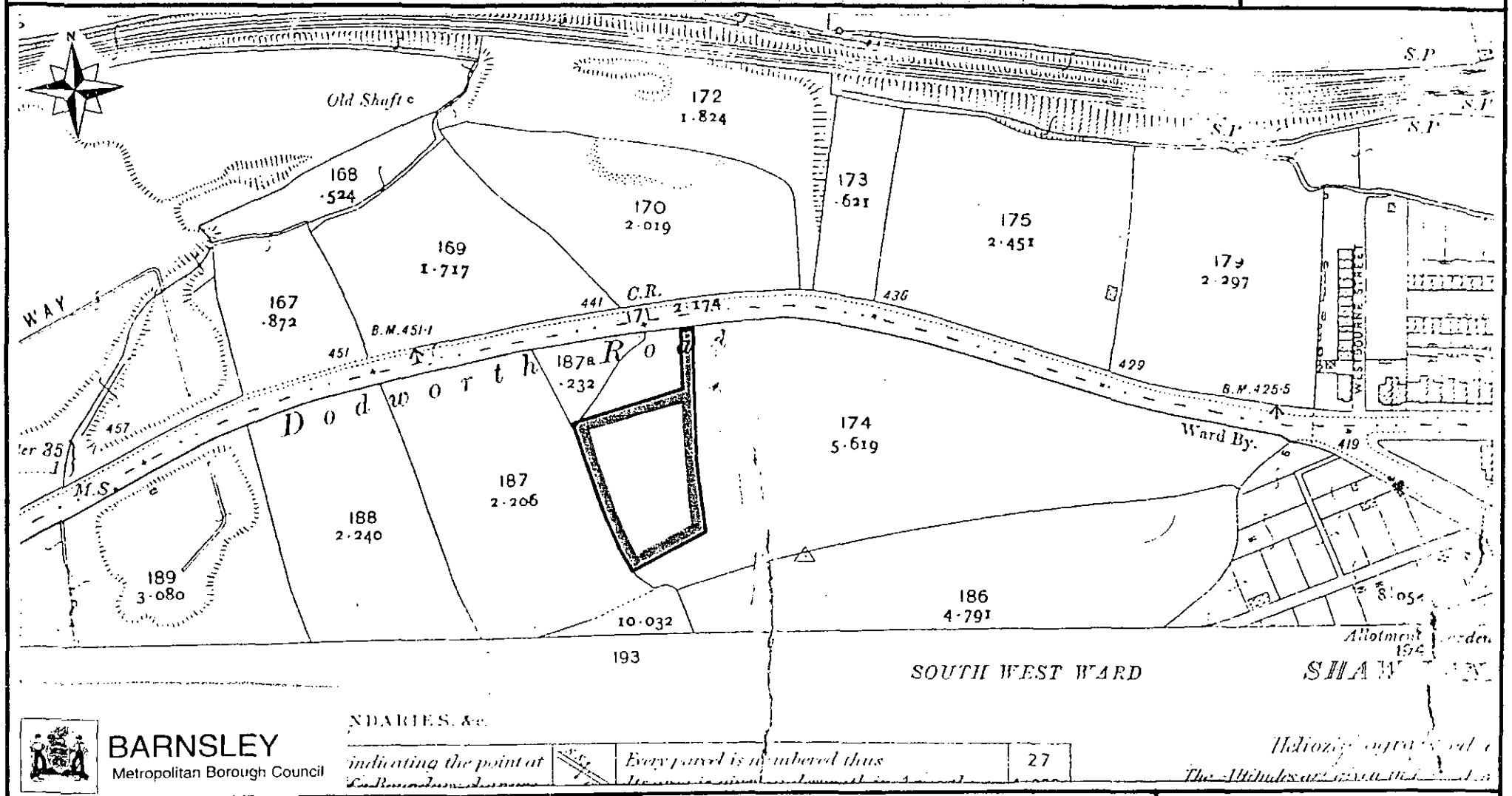
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DRAWING TITLE

LAND OFF DODWORTH ROAD, BARNSLEY
PREVIOUS LAND USE – 1906 ORDNANCE SURVEY

DRAWING NO.

M3360/4E



SCALE	DATE		O.S REFERENCE
1: 2500	22.9.09	SOUTH YORKSHIRE MINING	274/7 – 1906
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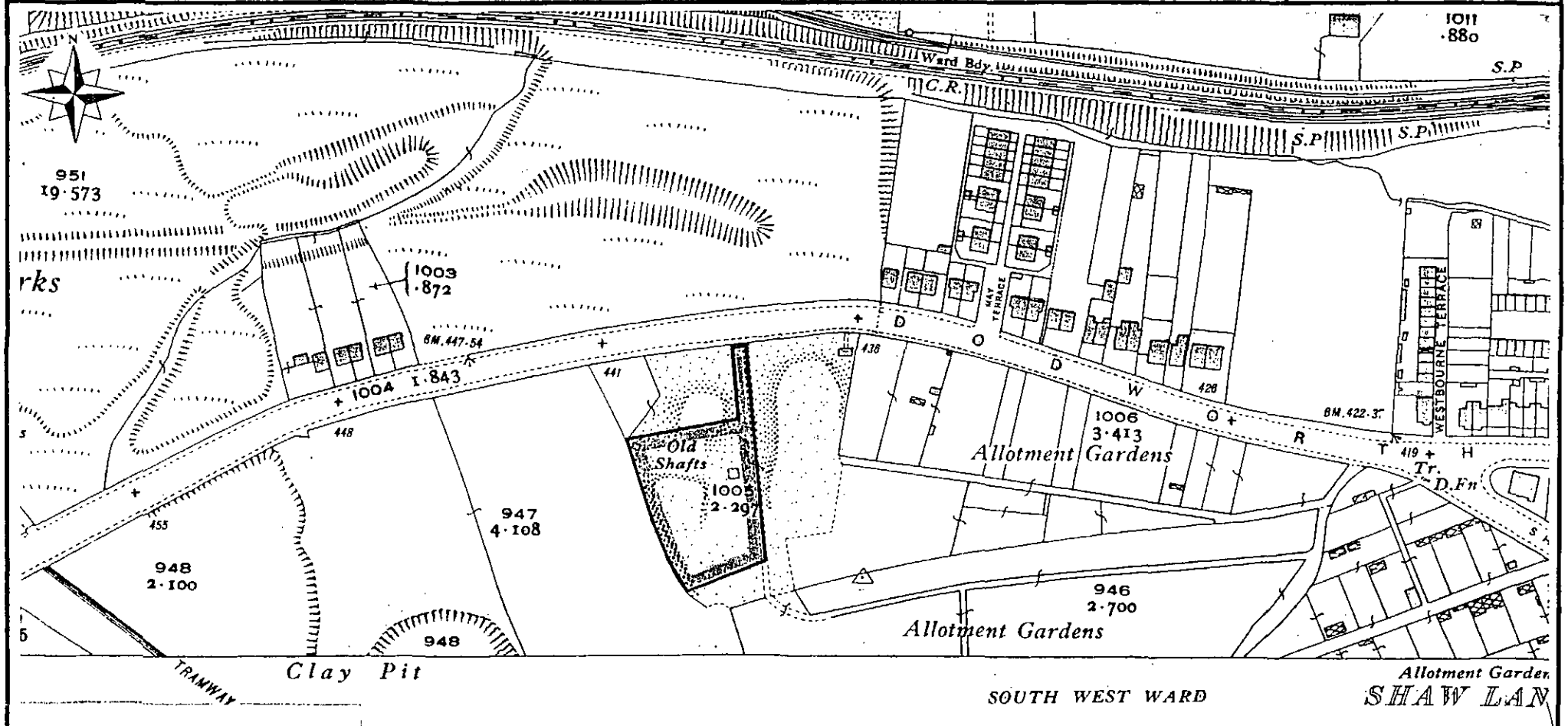
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DRAWING TITLE

LAND OFF DODWORTH ROAD, BARNSLEY
PREVIOUS LAND USE – 1932 ORDNANCE SURVEY

DRAWING NO.

M3360/4F



BARNSLEY
Metropolitan Borough Council

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SCALE	DATE		O.S REFERENCE
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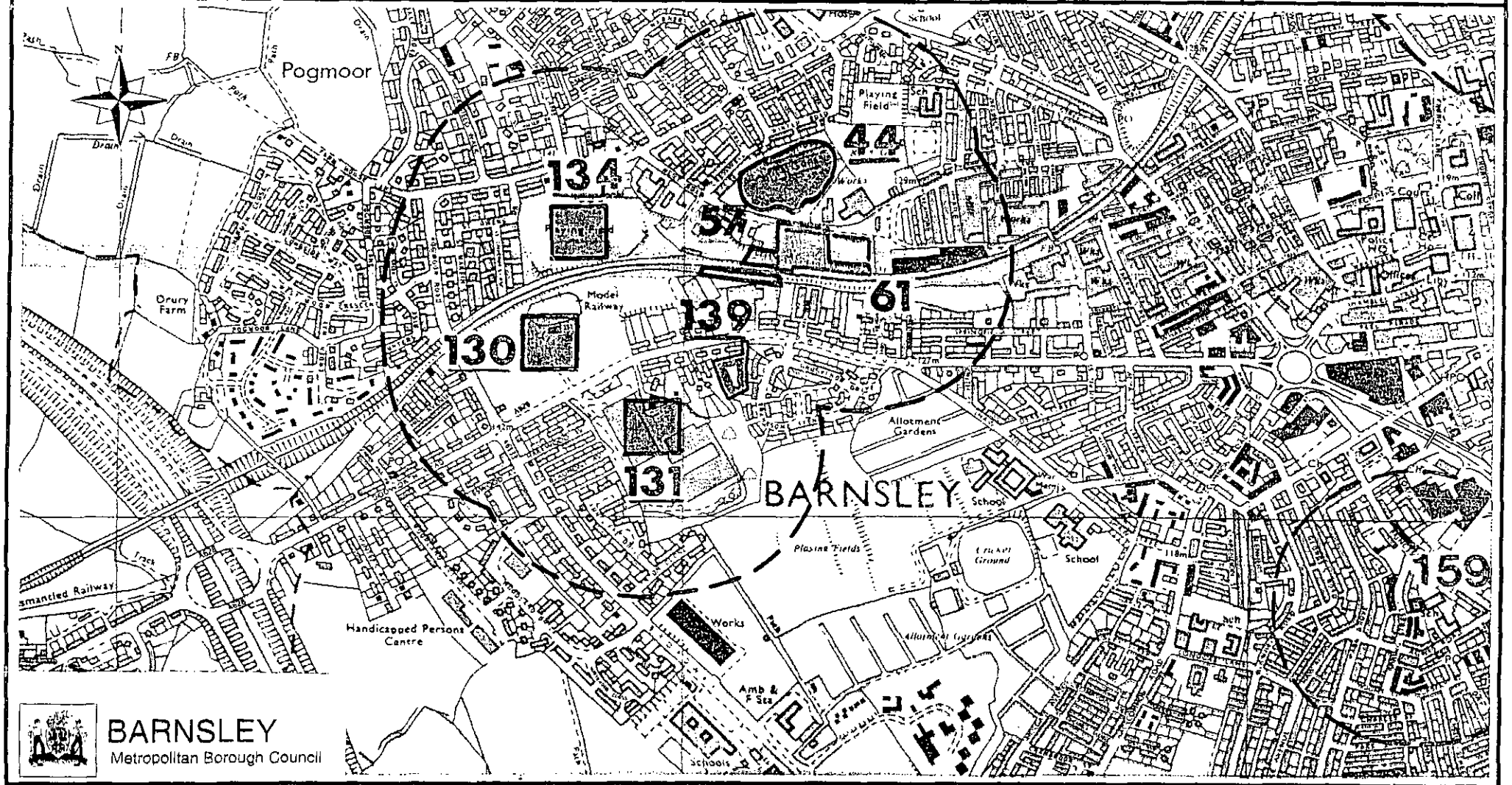
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DRAWING TITLE

LAND OFF DODWORTH ROAD, BARNSLEY
LANDFILL REGISTER

DRAWING NO.

M3360/4G



BARNSLEY
Metropolitan Borough Council

SCALE	DATE		O.S REFERENCE
1:10000	22.9.09	**SOUTH YORKSHIRE MINING**	SE 30 NW
DRAWN BY: AS	CHECKED BY: PJ	**ADVISORY SERVICE**	P. JAMES BSc (Hons) PRINCIPAL MINING ENGINEER

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ANNEX A

SOUTH YORKSHIRE COUNTY COUNCIL

MINING ENGINEERS SECTION

SUBJECT: COLLAPSE ADJACENT TO A628
DODWORTH ROAD, BARNSLEY.

REF: GAB/GB/M.592/
M.2946

DATE: 25th October 1984.

Further to the file report of the 19th October I visited the site on the 22nd October and met Rod Pinhay of the West Works Unit.

Stowing was in progress, the heading was almost filled and Mr. Pinhay said that he intended to fill the excavation with the stowing material hoping to complete the work by late afternoon. This would save fencing off for the night and the job would be completed the next day by topping off with sub soil.

The firm carrying out the stowing was Blastmixer International Ltd., Huddersfield. The equipment was all carried on one lorry unit. A hopper at the back for receiving the mix from the ready mix concrete lorry, a conveyor from this hopper took the mix into the hopper/stowing unit which was then blown into the excavation viz 300mm dia. plastic pipes. The lean mix used was a 15 to 1 limestone/cement mix, limestone being graded 20 - 60mm.

Mr. Pinhay said that it was likley to take less than the estimated 72cu. metres to fill the old working and excavation. The contractor is paid on a single rate for delivery and placing (similar to grouting) this works out at roughly £ 40 / cu. metre.

Having now seen this type of treatment works for old mineworkings and and particularly the operator/equipment involved it is worthwhile making a note of the firm involved should similar occurrences take place.

All the equipment is on a mobile unit, it can be operated more or less on top of the job and providing access is available to direct the stowing pipe within the mineworking the treatment method is speedy, efficient and relatively cheap.

I have taken a photograph of the stowing unit and will attach it to this report in due course.

G. A. Ball

G. A. BALL
Deputy Chief Mining Engineer.

Rod Pinhay 25/10/84 – Orig. quote £2700 for 72 cub. m.
Revised quote on actual quantity £1764 for 42 cub. m.

11th October

Meeting on site, same persons attended as above.

Further excavation confirmed that the part of the heading away from the road had collapsed in the past and had been backfilled with rubble. That part of the heading running towards the road was followed until reaching 2½m from the footpath. It was obvious at this point that the heading was still open and could lead beneath the footpath and the road. The depth from the surface to the top of the collapse was approx. 2½m. Little collapse had occurred above the coal, the top of which was visible at the sides of the heading. At this time the heading appeared only as a hole in the side of the excavation approx. 1m x 1m in dimension. An inspection of the opening was made and a gas test was taken by the Engineers Safety Officer. This test showed no harmful gas to be present. The inspection did however show that the heading certainly passed beneath the footpath and that it appeared to open out from the original narrow opening.

At this point Mr. Pinney was reluctant to proceed further as services were in the footpath and required checking out. The entrance to the heading was made safe and it was agreed that the investigation would re-commence Monday 15th October.

15th October

Same persons present as previous. Services in the footpath include a 17" diameter water main and all main telephone cables westward out of Barnsley over the Pennines.

It was resolved that the investigation would proceed to 1m from the footpath and a decision as to remedial treatment made at that time.

A check on the road surface showed no apparent blemishes which could be attributable to the underlying heading.

Excavation of the heading proceeded and at the agreed distance from the footpath the excavation was terminated.

Upon carrying out a visual survey of the opening and entrance to the heading it was immediately apparent that the narrow entrance enlarged directly beneath the footpath and formed a galliery worked on the "short wall" working principle. By use of drain rods and estimation, the direction of the heading was ascertained to run diagonally across the road to the north. It was approx. 12m in length from the end of the trench (I could detect what appeared to be the end of the working) and it opened out into an approx. 2½m wide galliery. Its height being approx. 2m viz. the height of the seam.

Little collapse had occurred above the roof and the coal sides were vertical and standing well. There was no water in the heading, no supports and little general deterioration of roof rocks and coal sides had occurred. Estimated depth

cont/d...

SOUTH YORKSHIRE COUNTY COUNCIL

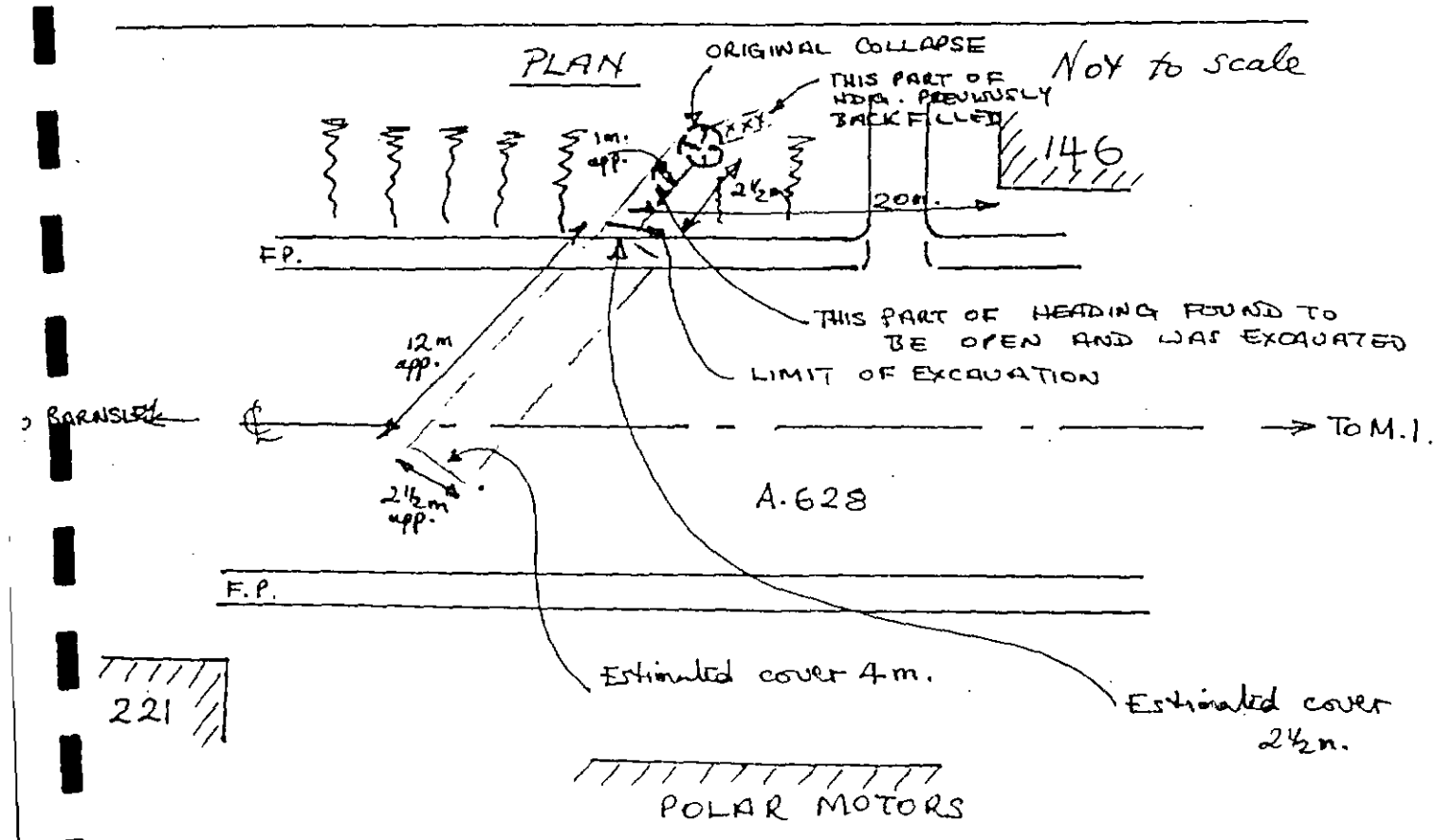
MINING ENGINEERS SECTION

REF: VR/GB/M.592
M.2946

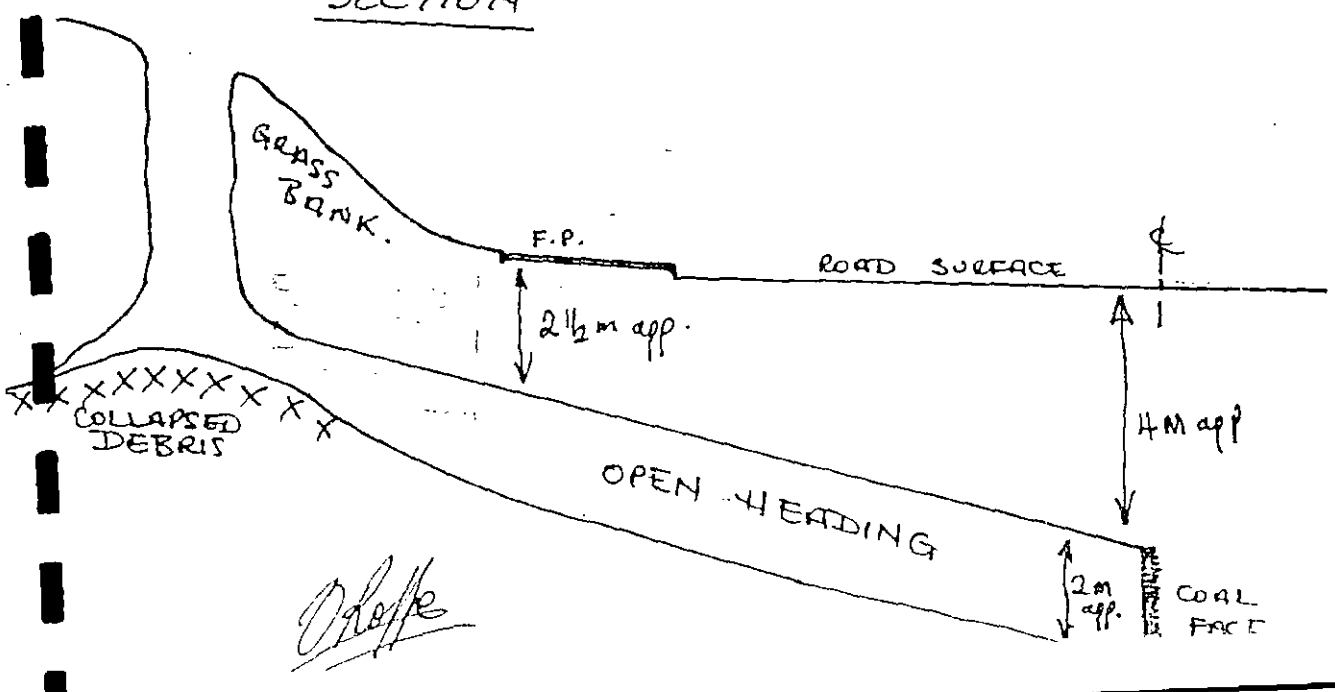
SUBJECT: COLLAPSE OF SURFACE ADJACENT TO A628 (DODWORTH ROAD), BARNSLEY.

DATE:

PLAN



SECTION



O'Rourke

PART II - DAMAGE TO PROPERTY OTHER THAN DWELLING-HOUSES

(To be completed in all cases when damage occurs to any property other than a dwelling-house or a building or structure appurtenant to a dwelling-house)

10. POSTAL ADDRESS OF THE DAMAGED PROPERTY. *(If there is no postal address, state the locality of the damaged property)*	11. DESCRIBE THE NATURE OF THE PROPERTY AND THE PURPOSES FOR WHICH IT IS NORMALLY USED
A628 DODWORTH ROAD BARNSLEY (position defined on attached plan)	Grass verge adjacent to highway

12. DATE WHEN DAMAGE OCCURRED	13. BRIEF DESCRIPTION OF THE DAMAGE
7th October 1984	Sudden collapse of the surface

14. ARE YOU:-	15. GIVE AS FULL PARTICULARS AS YOU CAN OF ANY OTHER PERSONS HAVING AN INTEREST IN THE PROPERTY, INCLUDING THEIR NAMES AND ADDRESSES AND THE NATURE OF THEIR INTEREST
(A) THE OWNER OF THE FREEHOLD OF THE PROPERTY (IN ENGLAND AND WALES) OR THE PROPRIETOR OF THE DOMINIUM UTILE OR THE OWNER OF THE PROPERTY (IN SCOTLAND)? Yes	-
or (B) A TENANT LIABLE TO MAKE GOOD THE DAMAGE OR A GROUND LESSEE? -	
or (C) A TENANT ENTITLED TO SERVE A DAMAGE NOTICE UNDER SECTION 10 OF THE ACT? -	

16. WILL THE REPAIR OF THE DAMAGE FALL WITHIN A STATUTORY DUTY IN CONNECTION WITH THE MAINTENANCE OF PUBLIC SERVICES IMPOSED ON A GOVERNMENT DEPARTMENT, LOCAL AUTHORITY OR STATUTORY UNDERTAKERS?

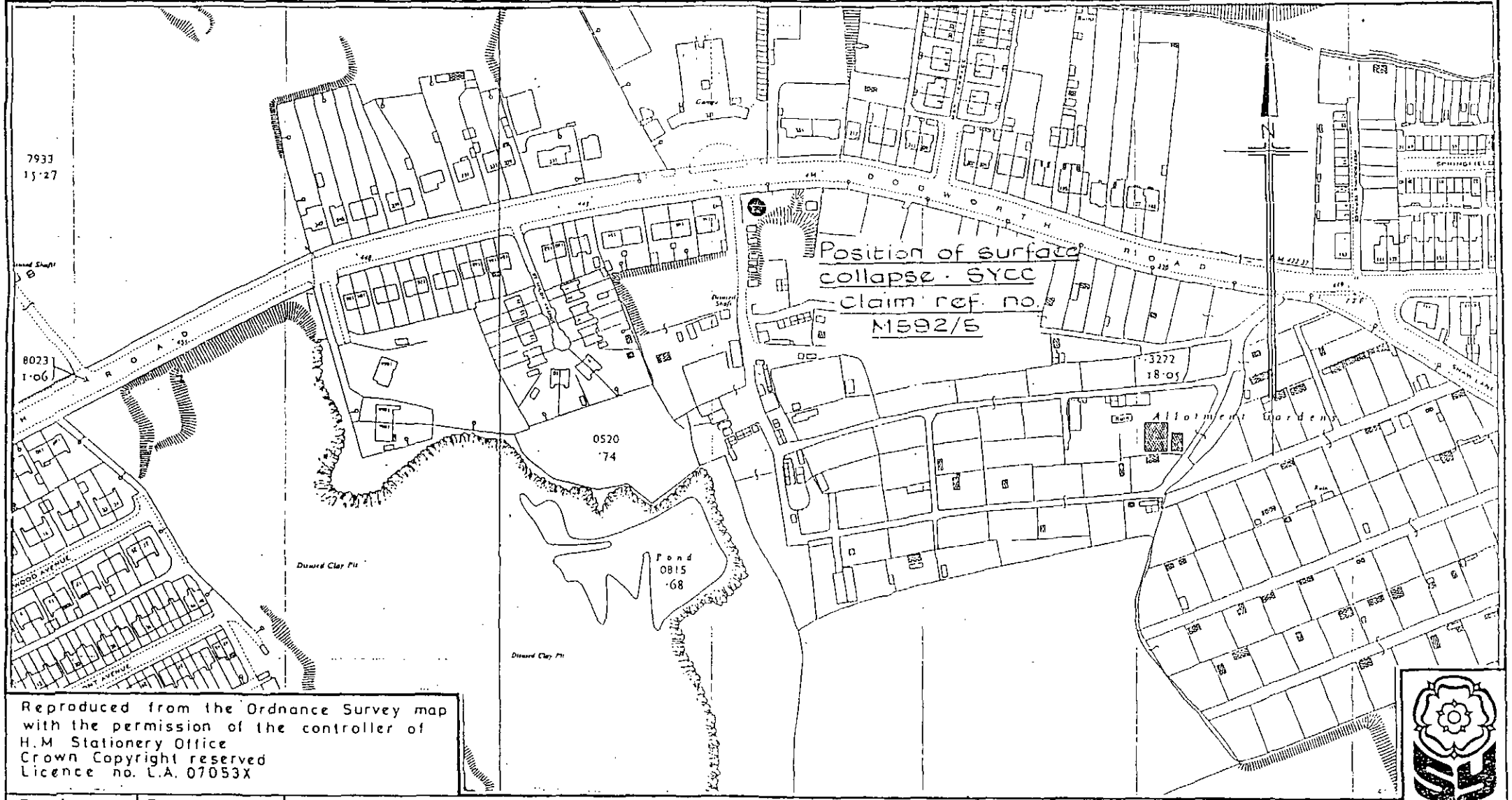
Yes

Drawing Title

COLLAPSE OF THE SURFACE ADJACENT TO A628 (DODWORTH ROAD), BARNSLEY

Drawing No

M592/5



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Scale	Date		O.S Reference
1/2500	10.10.84	SOUTH YORKSHIRE COUNTY COUNCIL	SE 3206, 3306
Drawn by AG	Checked by	CHIEF MINING ENGINEERS SECTION	P.N.Spurrier C.E[redacted] F.[redacted]n. [redacted]F. R[redacted]. S[redacted]

APPENDIX D

COAL MINING REPORT

The Coal Authority

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Issued by:
Ground Stability Report Office, 200 LICHFIELD LANE, BERRY HILL, MANSFIELD, NOTTINGHAMSHIRE, NG18 4RG
Website: www.groundstability.com - Phone: 0845 762 6848 - DX 716176 MANSFIELD 5

MILLS KEMP & BROWN,
DX 12258 BARNSLEY 1

Person dealing with this matter:	**Keith Pennington** + DARREN MOODY
Our reference:	**00035198-09**
Your reference:	DAW/CMT/WOOLLER
Electronic Ref:	EME_00012143560001_005
RRUID:	005.00012143560001
Date of your enquiry:	**05 August 2009**
Date we received your enquiry:	**05 August 2009**
Date of issue:	**07 August 2009**

This report is for the property described in the address below and the attached plan. The report is issued subject to the terms and conditions attached, which you are strongly advised to read.

Ground Stability Report
Land At, Dodworth Road, Barnsley, South Yorkshire

This report is based on and limited to the records in the possession of the Coal Authority; the records and geological interpretation of The British Geological Survey (BGS) and the records of the Cheshire Brine Subsidence Compensation Board, at the time the search is answered.

Coal mining	see comments below
Shrinkable clay	see comments below
Running sand	No
Compressible deposits	No
Collapsible deposits	No
Landslide potential	see comments below
Soluble rocks	No
Brine Compensation District	No

Information from the Coal Authority

Underground Coal Mining

Past

The property is in the likely zone of influence from workings in 4 seams of coal at shallow to 310m depth, and last worked in 1922.

Present

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

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© The Coal Authority © NERC

Future

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

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

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

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

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

Mine entries

Within, or within 20 metres of, the boundary of the property there are 6 mine entries, the approximate positions of which are shown on the attached plan.

Coal Authority records disclose the following information:

433406-002. No treatment details.
433406-001. was excavated to a depth of 2.5m after the fill had slumped and was subsequently plugged with mass concrete in March 1998 .
433406-010. No treatment details.
433406-009. No treatment details.
433406-011. No treatment details.
433406-017. No treatment details.

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

Coal-mining geology

At the surface, there are no known faults or other lines of weakness due to coal mining that have made the property unstable.

Opencast Coal Mining

Past

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

Present

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

Future

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

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

Coal-mining subsidence

The Coal Authority has not received a damage notice or claim for the property since 1 January 1984.
There is no current Stop Notice delaying the start of remedial works or repairs to the property.

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

Mine gas

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

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Hazards related to coal mining

The property has been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

Withdrawal of Support

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

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

Working Facilities Orders

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

Payments to Owners of Former Copyhold Land

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

Comments on Coal Authority information

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

Therefore if development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. Developers should be aware that the investigation of coal seams/ former mines of coal may have the potential to generate and/or displace underground gases and these risks both under and adjacent to the development should be fully considered in developing any proposals. The need for effective measures to prevent gases entering into public properties either *during investigation or after development also needs to be assessed and properly addressed. This is* necessary due to the public safety implications of any development in these circumstances.

The attached plan shows the approximate location of the disused mine entry/entries referred to in this report. For reasons of clarity, mine entry symbols may not be drawn to the same scale as the plan. Property owners have the benefit of statutory protection (under the Coal Mining Subsidence act 1991*). This contains provision for the making good, to the reasonable satisfaction of the owner, of physical damage from disused coal mine workings including disused coal mine entries. A leaflet setting out the rights and the obligations of either the Coal Authority or other responsible persons under the 1991 Act can be obtained by telephoning 0845 762 6848 or online at www.coal.gov.uk/services/subsidence.
If you wish to discuss the relevance of any of the information contained in this report you should seek the advice of a qualified mining engineer or surveyor. If you or your adviser wish to examine the source plans from which the information has been taken these are normally available at our Mansfield office, free of charge, by prior appointment, telephone 01623 637233. Should you or your adviser wish to carry out any physical investigations that may enter, disturb or interfere with any disused mine entry the prior permission of the owner must be sought. For coal mine entries the owner will normally be the Coal Authority.
The Coal Authority, regardless of responsibility and in conjunction with other public bodies, provide an emergency call out facility in coalfield areas to assess the public safety implications of mining features (including disused mine entries). Our emergency telephone number at all times is 01623 646333.

*Note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

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Information from the British Geological Survey on potential for natural ground movement

Shrinkable Clay

The property is in an area underlain by clay. Clay can swell or shrink if the moisture content changes.

However, the clay deposits in this area are considered to be mainly of "low plasticity". This means it is unlikely that they will cause ground movement.

Running sand

The property is not in an area underlain by running sand.

Deposits which could compress

The property is not in an area underlain by deposits which could compress and cause ground movement.

Deposits which could collapse

The property is not in an area underlain by deposits which could collapse and cause ground movement.

Natural landslide activity

The property is in an area where the local geology and steepness of slope could combine to create the likelihood of landslide activity.

However, landslide activity is unlikely to occur.

Soluble rocks

The property is not in an area underlain by soluble rocks.

Comments on the British Geological Survey information

These features should not necessarily give cause for concern.

Whether or not a property is affected by ground movement can depend on a number of factors such as its age, type of construction, and on its surroundings and such matters as drainage and nearby trees.

Since 1992 buildings should have been designed and constructed according to buildings regulations to ensure natural ground movement will not cause damage to a building.

However, you should consider the possible consequences before you:

- carry out any building or excavation work;
- alter the ground surface or drainage of surface or ground water; or
- plant or remove large shrubs or trees

Ground movement can cause uneven damage or subsidence to a property.

Developers should always carry out an appropriate risk assessment before starting any work on, or around, a property.

If you own the property and it is damaged by ground movement: You should contact your insurance company and anyone else who has an interest in the property, for example, the mortgage lender.

If you are considering buying the property and BGS has identified that ground movement could occur you should tell your professional advisers.

Information from the Cheshire Brine Subsidence Compensation Board

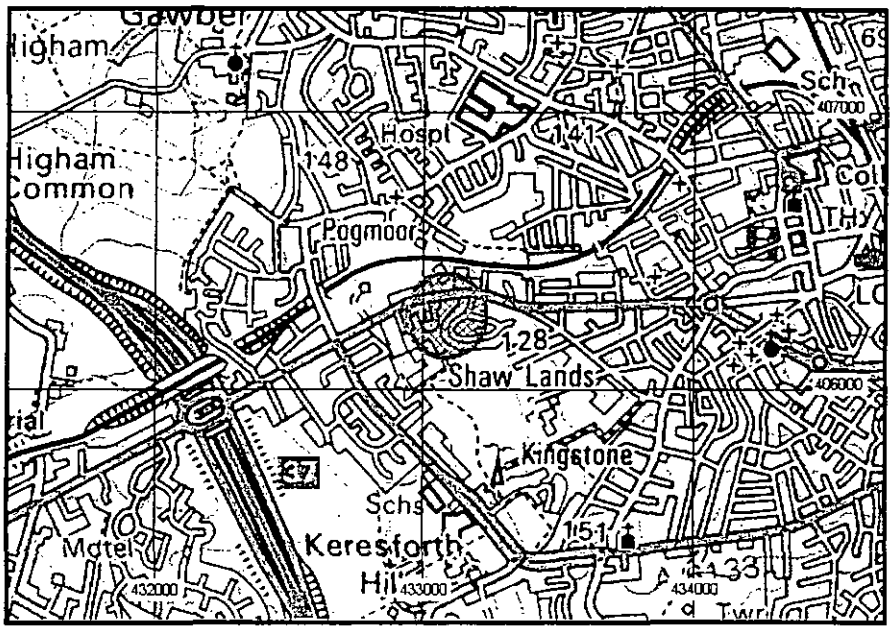
The property lies outside the Cheshire Brine Compensation District.

Additional remarks

This report is prepared in accordance with the Law Society's Guidance Notes 2006, the User Guide 2006 and the Coal Authority, British Geological Survey and the Cheshire Brine Subsidence Compensation Board's Terms and Conditions 2006. These are available to view at www.groundstability.com or by contacting the Coal Authority's customer service team on 0845 762 6848 or by email to groundstability@coal.gov.uk. These terms and conditions apply regardless of the method used to order and receive reports. The report is compliant with Home Information Pack and Home Report (Scotland) requirements.

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

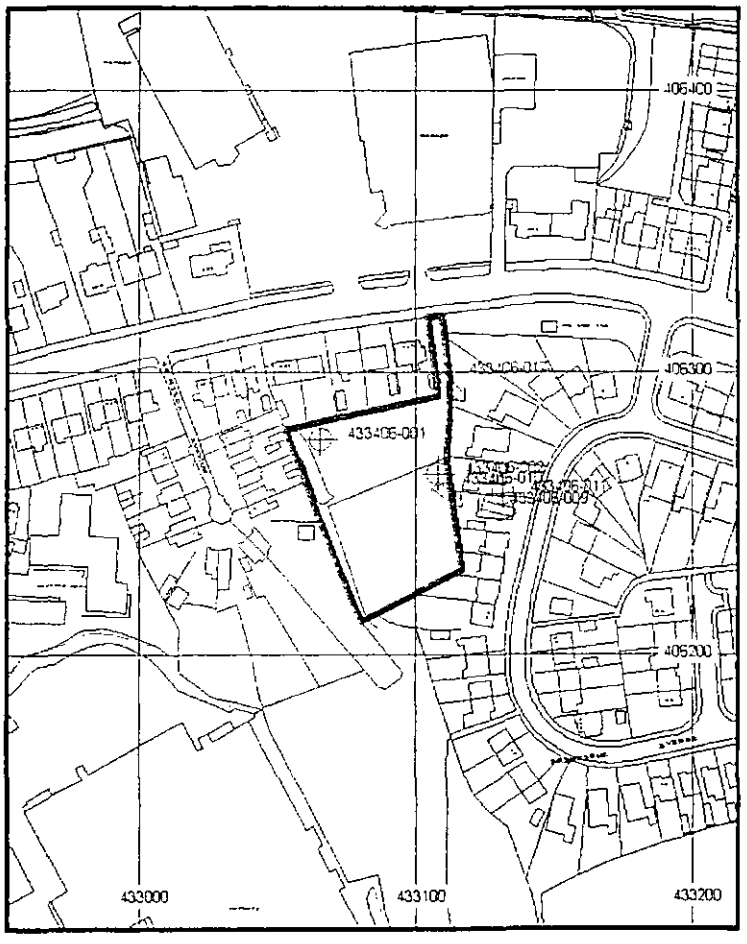
Location map



Approximate position of property

Enquiry boundary

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Key

Approximate position of enquiry boundary shown

Disused Adit or Mineshaft

Mapping sourced from Ordnance Survey

TERMS

DEFINITIONS

In these Terms the following words have the following meanings:

"BGS" means the British Geological Survey of Kingsley Dunham Centre, Keyworth, Nottingham, NG12 5GG, a component organisation of the Natural Environment Research Council;
"CA" means the Coal Authority of 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG;
"Cheshire Brine" means the Cheshire Brine Subsidence Compensation Board of Sir Henry Doulton House, Forge Lane, Etruria, Stoke on Trent, ST1 5BD;
"Customer" means the person, firm or company placing the Order, either on its own behalf as User or as agent for a User;
"Guidance" means the relevant current version of the Guidance Notes and User Guide for the Report, available on request and displayed on the Website;
"Order" means any request for a Report made by the Customer;
"Property" means the address or location specified by the Customer in the Order;
"Report" means a ground stability report (in printed, electronic or any other form) which combines information on coal mining, brine subsidence claims and natural ground movement which has been prepared by CA in respect of the Property using data from, amongst others, the Suppliers and to which these Terms apply;
"Supplier(s)" means all or any of CA, BGS and/or Cheshire Brine;
"these Terms" means these terms and conditions, incorporating the Guidance (if and to the extent of any conflict between these Terms and the Guidance, the provisions of these Terms will prevail);
"User(s)" means the person or persons so described in Clause 15; and
"Website" means CA's website for the provision of the Reports service (currently www.groundstability.com).

TERMS

1. These Terms apply to the provision of Reports by CA to the Customer and/or the User.

2. The Customer and the User agree that the placing of an Order indicates their acceptance of these Terms.

3. These Terms shall apply to the exclusion of all other terms and conditions.

4. CA reserves the right to change these Terms from time to time with immediate effect and without prior notice. Any changes to these Terms will be displayed on the Website. Placement of Orders after any such variation will be deemed to be an acceptance of these Terms as amended in respect of Reports which are provided in response to Orders placed after the variation is made.

5. Where the Customer is acting as an agent for a User, the Customer will provide a copy of the Report and these Terms to the User.

LIMITATIONS OF THE REPORT

General

6. The Report is prepared with due skill and care, but has a number of limitations which are set out in these Terms which the Customer and the User acknowledge and accept when relying on it.

Sources of Information

7. The Report has been prepared by CA using information held by CA, together with information supplied to it by BGS and Cheshire Brine. The Report is based on, and is limited to:

a) the specific features identified in the Report, as more particularly described in the Guidance; and

b) each Supplier's interpretation of the records it holds relating to the particular features for which the Report states that the Supplier is responsible (and, in the case of information from BGS and Cheshire Brine, as provided to CA) at the time the Report is prepared.

The Customer and the User therefore acknowledge and agree that the records used to prepare the Report do not represent an exhaustive or comprehensive list of all records that may exist or may be available for the Property (see further Clause 8). The Customer and the User also acknowledge that no physical inspection of the Property has or will be carried out in the preparation of the Report.

8. Without prejudice to the generality of Clause 7:

a) information from CA is based on records in its possession relating to coal mining activity. There may be information held by others on historical coal mining, and information on other types mining, which is not searched as part of the Report;

b) information from BGS relates solely to the following six natural ground stability hazards: shrinkable clay; running sand; compressible deposits; collapsible deposits; landslide activity; and soluble rocks. It does not cover any other geological hazards, or man-made hazards (such as contaminated land). BGS may hold data on other geological hazards and features that may affect the Property which are not searched as part of the Report and consequently the Report should not be taken as a guarantee that there are no other geological hazards or other issues affecting the Property; and

c) information from BGS is prepared using the BGS GeoSure database which is based on 1:10,000 scale geological mapping reduced to 1:50,000 scale. The Customer and the User therefore acknowledge that BGS may be able to provide a more specific and detailed interpretation relating to the geological conditions and ground stability at the Property than that which is included in the Report. A more detailed interpretation is available via the BGS GeoReports service on BGS's website www.bgs.ac.uk.

9. The information from the Suppliers may be derived from records from a number of disparate sources which vary in age, quantity and quality. Such records may include material donated to the Suppliers by third parties, which may not have been subject to any verification or other quality control process.

10. Raw data used to prepare the Reports may have been transcribed from analogue to digital format, or may have been acquired by means of automated measuring techniques. Although such processes are subjected, where possible, to quality control to ensure reliability, some raw data may have been processed without human intervention and may in consequence contain undetected errors.

11. The records available to the Suppliers are constantly being updated. The Suppliers cannot be responsible to the Customer or Users for any changes in the information on which the Report is based which occur after the date on which the Report is prepared. Where this Report is for a residential property, insurance is included to cover loss in property value caused and arising from these circumstances. The Report includes a policy and key facts summary which outlines the significant features, benefits and limitations of the cover provided. The full terms, conditions and exclusions are shown in the policy document.

Maps

12. The Customer and the User must take all reasonable steps to check that the details in the Order are correct and that the Report provided by CA has been prepared for the correct location and property type, and that the boundaries of the Property as shown in the Report's plan correspond with those of the Property. Any discrepancies between the Order and the Report must be notified to the CA within 28 days after the issue date of the Report and CA will, in the case of error by CA, issue a revised Report free of charge; otherwise a new Report should be ordered with payment of the appropriate fee.

13. The Property has been located using Ordnance Survey ("OS") mapping. The Suppliers do not warrant that the OS information is complete or accurate and accept no liability for the plotted position of the Property as shown on OS maps. Further, the relative position between surface features and coal mining and other geological features may differ between OS maps and the Suppliers' maps used to prepare the Report, depending upon when the Suppliers' maps were prepared.

14. The plan or plans accompanying the Report must not be enlarged otherwise the accuracy will be affected.

RELIANCE ON THE REPORT

Who may rely on the Report

15. Only the following persons ("Users") may rely on the Report:

a) the owner of the Property at the time the Report is prepared;

b) any purchaser of the whole of the Property from the owner described in a above; and

c) any person who provides funding to the persons in a or b above which is secured on the whole of the Property.

Such reliance will be subject to the provisions of Clauses 17 and 24 to 28 (inclusive).

Extent of Reliance

16. The Report has been prepared for use by the Users only and the Report should not be relied upon by any other third party.

17. Customers or Users may not act in reliance upon the Report (either by purchasing the Property, providing funding secured on the Property or carrying out any works on or affecting the Property) more than ninety (90) days after its date of issue.

18. The Report gives an indication of whether ground movement could occur at the Property. This does not necessarily mean that the Property is or will be affected by ground instability. Such an assessment can only be made by inspection of the Property by a qualified professional, such as a surveyor or engineer. The Report DOES NOT therefore:

a) include any information or warranty relating to the actual state, or the structural or other condition, of the Property;

b) determine the saleability or value, or the safety, of the Property;

c) indicate the suitability of the Property for any particular purpose (including, without limitation, its suitability for development (within the meaning of section 55 of the Town and Country Planning Act 1990 as amended) or any building, excavation or landscaping work); or

d) act as a substitute for any physical inspection, specialist interpretations and/or professional advice.

19. No representations, warranties or terms (whether express or implied by statute, common law, custom, trade usage, course of dealing or otherwise) are given in relation to the Report unless they are expressly set out in these Terms, save to the extent that such terms cannot be excluded by law.

USE OF THE REPORT

20. The Customer and the User acknowledge that the Report is confidential and that it is intended for the purposes of the User only. Accordingly the Customer and the User agree that they are permitted to use and copy the Report for these purposes only.

21. The Customer and the User (or any person who is provided with a copy of the Report) will not:

a) remove, obliterate or alter any trade mark or any copyright or other proprietary notice which is contained in the Report;

b) reformat or otherwise change, add to or enhance the Report, or combine it with or incorporate it into any other information, data or materials; or

c) create any product which is derived directly or indirectly from the data contained in the Report; or

d) resell the Report (other than in the case of a bona fide legal adviser recharging the cost of the Report as a disbursement) unless this has been specifically authorised in writing by CA.

22. The copyright and all other intellectual property rights in the Report will remain the property of the Suppliers or other third parties (as appropriate). Neither the Customer nor the User will acquire any rights in respect of the Report other than as expressly provided in these Terms.

EVENTS BEYOND THE SUPPLIERS' CONTROL

23. A Supplier will not be liable to the Customer or the User for any delay or failure in performance of its obligations which result from circumstances beyond its reasonable control (including, without limitation, fire, explosion, flood, tempest, unusually adverse weather conditions, war, hostilities, riot, acts of terrorism, failure or shortage of power supplies, telecommunications or processing failure or computer malfunction) or the acts or omissions of any person for which a Supplier is not legally responsible.

LIABILITY

24. The Report has been prepared for the Property on the basis of information on the Property's location and type provided by the Customer and/or the User, and consequently the Suppliers exclude all liability which may arise from any errors or omissions in the information so provided or from any failure to check for discrepancies pursuant to Clause 12.

25. The Report has been prepared specifically for the Property, and on the basis of the property type specified in the Order. Under no circumstances will the Suppliers be liable if a Report is relied on for any other property, or if a Report on a residential property is used for a non-residential or commercial property or for the development of the Property, and vice versa.

26. Except in the circumstances described in Clause 28 the total liability of the Suppliers to the Customer and the User arising from an error in the Report caused by negligence, breach of contract or in any other way will be limited to:

a) the reasonable costs of carrying out necessary remedial work on the Property reasonably promptly; or

b) the difference between the true market value of the Property and the market value of the Property on the basis of the Report at the time of reliance on the Report in accordance with these Terms.

27. Except in the circumstances described in Clause 28 or to the extent that a Supplier is found to be liable for the losses described in Clause 26 (a) or (b) arising from an error in the Report, the Supplier will not be liable to the Customer or the User for: loss of business, goodwill, profits or savings, loss of use or opportunity, lost or wasted staff time or for any indirect or consequential loss (whether arising from negligence, breach of contract or in any other way) even if the Customer or User was advised of or knew of the likelihood of that loss or type of loss arising.

28. Nothing in these Terms excludes or limits the liability of the Suppliers for death or personal injury caused by their negligence, or for fraud.

GENERAL

29. The headings in these Terms are for ease of reference only and do not affect their interpretation or construction.

30. Use of the singular includes the plural and vice versa, and use of any gender includes the other genders.

31. The benefit of these Terms cannot be assigned or transferred by the Customer or the User without the Suppliers' prior written consent. The Suppliers may assign any or all of their rights and obligations under these Terms without prior notice.

32. These Terms (together with the Order and the Guidance) represent the entire agreement relating to the supply of the Report and the relationship which that supply creates between the Suppliers and Customers and Users. No prior statement, representation or arrangement of any nature (whether written or oral) will add to, vary or waive terms of this agreement and the Customer and the User acknowledge that they have not relied on any

statement or representation made by or on behalf of CA or any other Supplier in agreeing to enter into this agreement. Nothing in this Clause 32 will operate to limit or exclude liability for fraud.

33. The illegality or invalidity of any part of these Terms will not affect the legality or validity of the remainder of these Terms.

34. Except to the extent that these Terms confer benefits on the Suppliers and the Users, no third party is entitled to the benefit of these Terms under the Contracts (Rights of Third Parties) Act 1999.

35. These Terms are governed by English law. The English courts (where the Property is situated in England or Wales) and the Scottish courts (where the Property is situated in Scotland) have exclusive jurisdiction to deal with any dispute which may arise out of or in connection with them.

THESE TERMS ARE AVAILABLE IN LARGER PRINT FOR THOSE WITH IMPAIRED VISION OR AT WWW.COAL.GOV.UK

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APPENDIX E

LANDMARK SITECHECK ASSESS REPORT

Commercial

Sitecheck Assess

Mills Kemp & Brown, Head office
DX: 12258
Barnsley

Fax / E-mail: 01226 218889 /
Client Ref: DAW/PF/A8438
STL Reference: 1004044
Received Date: 28/08/2009

Property:

Land on the South Side of Dodworth Road, Barnsley

Name and Address of Data Source:

Landmark Info Group Ltd
The Smith Centre, Fairmile, Henley-on- Thames, Oxon, RG9 6AB

This search complies with the requirements of the Search Code. further details of which can be found at www.pccb.org.uk.

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Complete searches on property online ontime www.stlgroup.co.uk

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PROPERTY SEARCHES
STL
no stone left unturned

in association with

Sitecheck® Assess

Professional Opinion

on environmental risk

FURTHER ACTION

The Sitecheck Assess report dated 27/08/2009 and reference SAS-28725117_1_1, 1004044 for Land On The South Side Of Dodworth Road, BARNSLEY has examined the sources of potential contamination in terms of historic land use, environmental data and current land uses where known. The report has highlighted the presence of potentially contaminative past land uses and unknown filled ground on or within 25 metres of the site boundary.

INTRODUCTION

This professional opinion determines the level of environmental risk, as to whether a pollutant linkage exists which is created when there is a source of contamination, a pathway for it to travel along and receptors, which may be harmed. This risk-based approach underpins the governments approach to contaminated land. If a pollutant linkage exists the property may be regarded by the local authority as being "Contaminated Land" for the purposes of Part IIA of the Environmental Protection Act 1990.

In completing this report Wilbourn Associates has undertaken a review of data made available to it. No site inspection, further enquiries or investigation of surface or ground conditions has been carried out by Wilbourn Associates. No information as to the age, value and type of property has been made available. It is important to note that it is not known by Wilbourn Associates for what purpose the report has been commissioned.

FACTORS AFFECTING THIS PROPERTY

Potential Sources:

- A detailed examination of the historical Ordnance Survey maps from 1855 to the present day has revealed that the site remained undeveloped, existing as agricultural land, up until some time between 1907 and 1931, when the site became subject to tipping, with shafts marked. This use remained up until some time between 1956 and 1960 when the site was redeveloped with buildings of unspecified use. By 1991 the site had been cleared. This use remains up to present day mapping.
- From a review of historic map data the Sitecheck Assess Report has identified that the site is located on or within 25 metres of a former heap of unknown constituents and unknown filled ground.

Potential Pathways:

- Direct human contact with soil (and water).
- Contamination transport to shallow groundwater.
- Contamination transport to deep groundwater.
- Gas migration through soils, service media and building foundations.

WILBOURN ASSOCIATES Chartered Environmental Surveyors

Professional Opinion

on environmental risk

(VIII) This report should be referred to any surveyor retained by the parties, particularly those who have been engaged to produce a structural survey and/or valuation. There may also be issues arising from the current use of the premises which could give rise to matters of environmental management. In accordance with the RICS guidance note, *'Contamination and Environmental Matters – their implications for property professionals'*, published in October 2003, the surveyor is required to use the RICS Property Observation Checklist for commercial property to record any visible contamination.

(IX) If it has not been possible to obtain satisfactory conclusions to the issues raised above, consideration should be given to the appointment of an appropriate consultant to investigate matters further given the nature of the property and the issues involved. Such a consultant must be appropriately qualified and insured for the level of instruction.

(X) If this report has been purchased as part of an investment transaction and the factors outlined above require further investigation please see http://www.environmental-surveyors.com/Sitecheck.pdf for advice. If however this report has been purchased with a view of redevelopment taking place please see http://www.environmental-surveyors.com/sitecheck-assess-redevelopment.pdf for further advice.

If the issues outlined above are adequately addressed by the surveyors and solicitors retained in this matter, there may be no impairment to the value of the property or any risk that the property would be designated as "contaminated land" within the meaning of Part IIA of the Environmental Protection Act 1990. The documentation should rest with the deeds and be made available for future transactions.

OTHER ENVIRONMENTAL FACTORS

In this case the following environmental factors have been identified which a client may wish to be investigated before proceeding further:

1. An area affected by radon
2. An area which may be affected by coal mining activity
3. An area of Mining Instability

Philip E. Wilbourn BSc CEnv FRICS
Chartered Environmental Surveyor

RICS

silc

Wilbourn Associates are regulated by the RICS. The professional opinion forms part of the Sitecheck Assess report and is subject to Landmark Information Groups Terms and conditions of Business in force from time to time. Further information on the methodology and the datasets examined in this professional opinion is included in the Sitecheck Assess Practitioner Guide.

Potential Receptors:

- The property itself, surrounding properties and their respective occupants may be considered as receptors. Buildings and people can suffer harm by definition of Part IIA of the Environmental Protection Act 1990.
- The groundwater vulnerability map Sheet 11 South Pennines, has revealed that the site is located above a Minor aquifer. Although minor aquifers seldom produce large quantities of water for abstraction they may be important for local supplies and supplying base flow to rivers.

CONCLUSIONS:

The data examined in this risk assessment indicates that there may be a potential source of contamination arising from the potentially contaminative past land uses and filled ground which may have significant implications. It would appear from this preliminary appraisal that there may be a potential pollutant linkage.

In our opinion, from the information we have examined, there is a risk that the value of the property could be impaired.

In our opinion the property may also constitute "contaminated land" as defined by Part IIA of the Environmental Protection Act 1990.

ADDITIONAL FACTORS FOR CONSIDERATION:

(I) If the property is modern, are there warranties or similar guarantees? If so, it is important to ensure that those parties offering the warranties are of sufficient financial standing backed by appropriate insurance cover.

(II) Did the developer of the property ensure that during the construction phase any potentially contaminative features were appropriately addressed? If so, are these supported by warranties and/or documentary evidence? Have the local authority 'signed off' the remedial works. For example, did the developer include gas membranes or passive venting where the property has been built on unknown filled ground?

(III) Does any relevant planning permission contain requirements regarding the potential contamination feature? Did it require remedial works to be undertaken? If so, have these works been undertaken to the satisfaction of the local authority?

(IV) Speak with Building Control Department of the local authority to ascertain whether there are known records of gas emissions, contamination issues and/or ground instability problems in the immediate area.

(V) Speak with the Local Authority Environmental Health Officer to ascertain any known pollution or contamination issues surrounding this feature and whether they are considering taking any action under Part IIA of the Environmental Protection Act 1990 on a formal, or informal, basis.

(VI) If the property forms part of a development proposal have all the planning preconditions been complied with? This report should be considered as a precursor to a thorough investigation of the site for planning control purposes.

(VII) Do any environmental reports exist for the site? Have these been prepared by appropriately qualified, competent and insured consultants? Do they address the issues raised in this preliminary appraisal? Can you rely upon them? Is the consultant prepared to assign the benefit of these?

SOURCES OF ADDITIONAL PROFESSIONAL GUIDANCE

- If the report is for valuation, or investment, or other forms of lending decision making there may be issues arising from the current occupation, which need to be examined. The Royal Institution of Chartered Surveyors has provided guidance with respect to such matters and specific reference should be made to the guidance note *'Contamination and Environmental Matters – their implications for property professionals'*. This guidance note is referred to in UKGN1.1 paragraphs 9.1 and 9.2 of the *RICS Appraisal and Valuation Standards (5th Edition) (The "Red Book")*.

  It is recommended that the client reviews the outputs of any valuation report, which should include a Property Observation Checklist, contained at Appendix C for commercial property or Appendix D for rural property in the Royal Institution of Chartered Surveyors guidance note *'Contamination and Environmental Matters – their implications for property professionals'*. Completion of these checklists does not constitute an environmental assessment for the purposes of Professional Indemnity Insurance where many surveyors are unlikely to have appropriate indemnity cover. Any contamination, which is observed on the site by the surveyor during the normal course of their inspection, can also be recorded.

- If the property is let, the landlord or the tenant (as appropriate) should take legal advice as to whether the covenants in the lease constitute legal or financial burdens. The Law Society's *"Environmental Law Handbook-5th Edition"* provides valuable assistance.

  In leases with no express covenants dealing with environmental matters, lawyers and surveyors need to be aware of the extent to which the repairing of covenants can be applied and, when advising tenant clients in particular, will need to draw attention to the client's obligations to comply with enacted legislation.

- Should contamination have been observed on site a suitably qualified, insured and experienced professional, preferably with the Specialist in Land Condition (SiLC) accreditation, should quantify whether this could give rise to an action by a regulator or any other party. A suitable management plan for action incorporated in a Land Quality Statement in accordance with RICS guidance should be put in place and appropriate matters taken up with the tenant/occupier.

- In terms of development this report should be seen as a precursor to a thorough investigation of the property for planning control purposes. The DTI funded guidance published by the Construction Industry Research and Information Association (CIRIA) *Brownfields-managing the development of previously developed land-a client's guide* may be a useful starting point.

Sitecheck® Assess

Contents

Report Sections and Details	Page

Summary of Site -

This section comprises source, pathway and receptor information found on site. Other factors which may affect the site are also included.

Aerial Photo 1

The aerial photo gives an overall view of the area. The smaller large-scale Ordnance Survey map includes the site boundary and search zone buffer at 250m.

Location Map 2

The accurate large-scale Ordnance Survey map confirms the boundary of the subject site. The descriptive text may identify other features which could be of relevance but not reported. The smaller aerial photo includes the site boundary.

Summary Table 3

This section comprises of a summary table of the information found on site and in its vicinity.

Current Land Use 7

This section contains a map, which shows current land use features. The following pages detail these features and identify the Reference Number and direction.

Historical Land Use 13

This section contains a map, which shows historical land use features. The following pages detail these features and identify the Reference Number and direction. A table listing all the maps used to source this information is included.

Sensitivity 18

This section contains a map, which shows pathway and receptor features. The following pages detail these features and identify the Reference Number and direction. This section also contains a separate Flood Map and flood details.

Other Factors 21

This section contains information on other factors which may affect the site and its vicinity.

Useful Information 23

This section contains information which may be of use when interpreting the report.

Useful Contacts 24

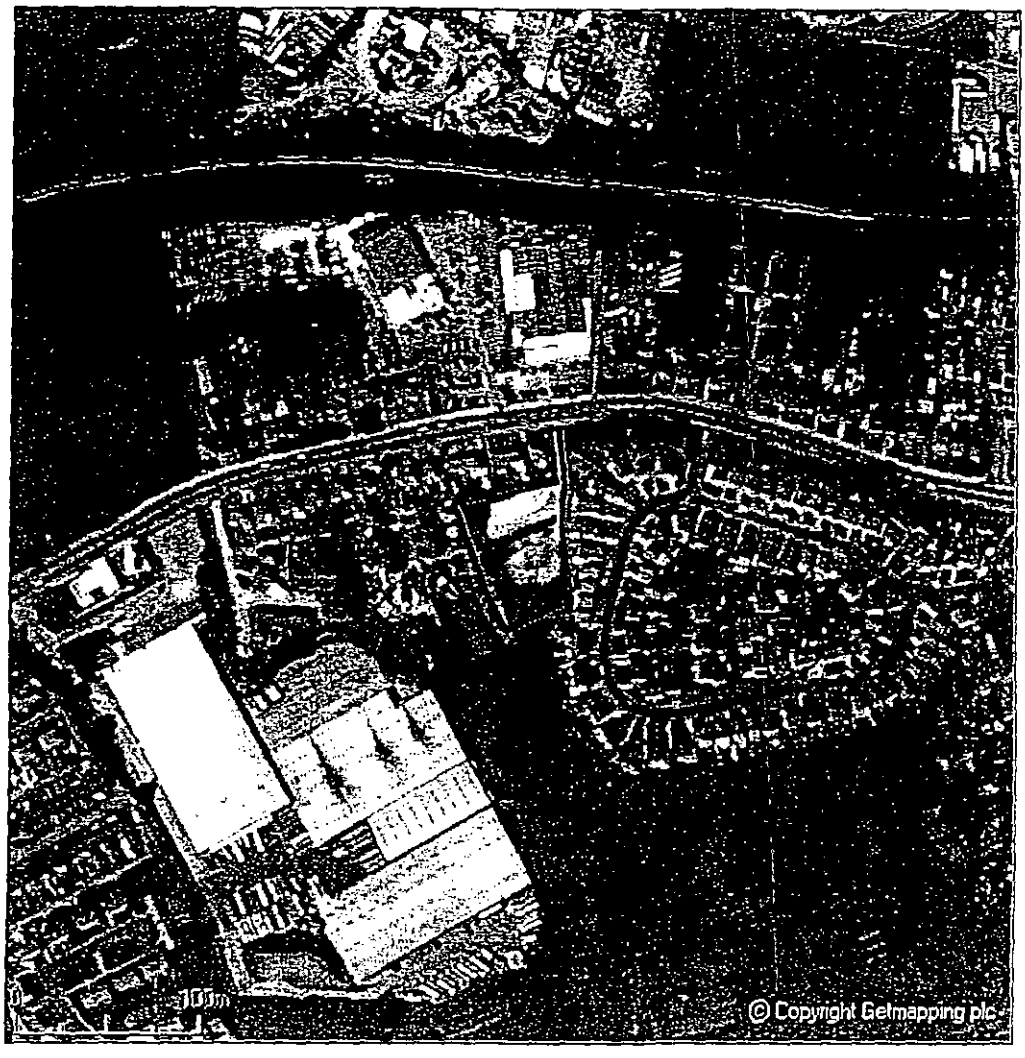
All textual information is linked by the 'Contact Ref' to this quick reference list of contacts. These contacts may be able to supply additional information or answer any subsequent query relating to that record.

Historical Land Use Potentially Contaminative Uses	Page No.	Reference Number (Map ID)
Potentially Contaminative Industrial Uses (Past Land Use)		
Heap, unknown constituents, Date of Mapping: 1938	14	1

Sensitivity Pathways	Page No.	Reference Number (Map ID)
Groundwater Vulnerability		
Geological Classification: Minor Aquifer (Variably permeable) - These can be fractured or potentially fractured rocks, which do not have a high primary permeability, or other formations of variable permeability including unconsolidated deposits. Although not producing large quantities of water for abstraction, they are important for local supplies and in supplying base flow to rivers, Soil Classification: Soils of High Leaching Potential (U) - Soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere. A worst case vulnerability classification (H) assumed, until proved otherwise, Map Scale: 1:100,000, Map Name: Sheet 11 South Pennines, Contact Ref: 2	20	-

Other Factors Geological	Page No.	Reference Number (Map ID)
Coal Mining Affected Areas		
In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section., Contact Ref: 4	21	-
Mining Instability		
Risk: Inconclusive Coal Mining,	21	-
Radon Potential - Radon Affected Areas		
Affected Areas: The property is in a radon affected area, as between 1 and 3% of homes are above the action level, Source: British Geological Survey, National Geoscience Information Service, Contact Ref: 3	21	-
Radon Potential - Radon Protection Measures		
Radon Protection Measures: None, Source: British Geological Survey, National Geoscience Information Service, Contact Ref: 3	21	-
Shallow Mining Hazards		
Hazard Potential: Low-Moderate, Contact Ref: 3	22	-

Other Factors Geological	Page No.	Reference Number (Map ID)
Potential for Landslide Ground Stability Hazards		
Hazard Potential: Very Low, Contact Ref: 3	21	-
Potential for Shrinking or Swelling Clay Ground Stability Hazards		
Hazard Potential: Very Low, Contact Ref: 3	21	-



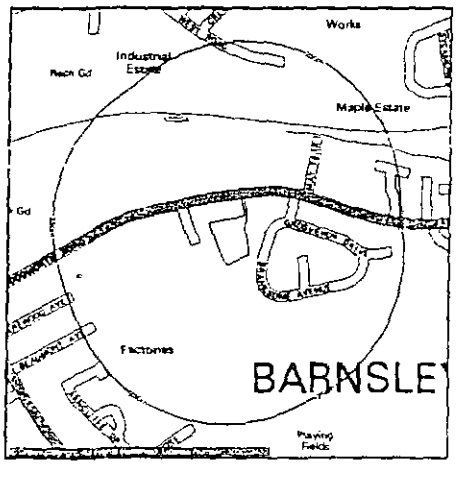
Site
Land on the South Side of Doqworth Road,BARNSLEY

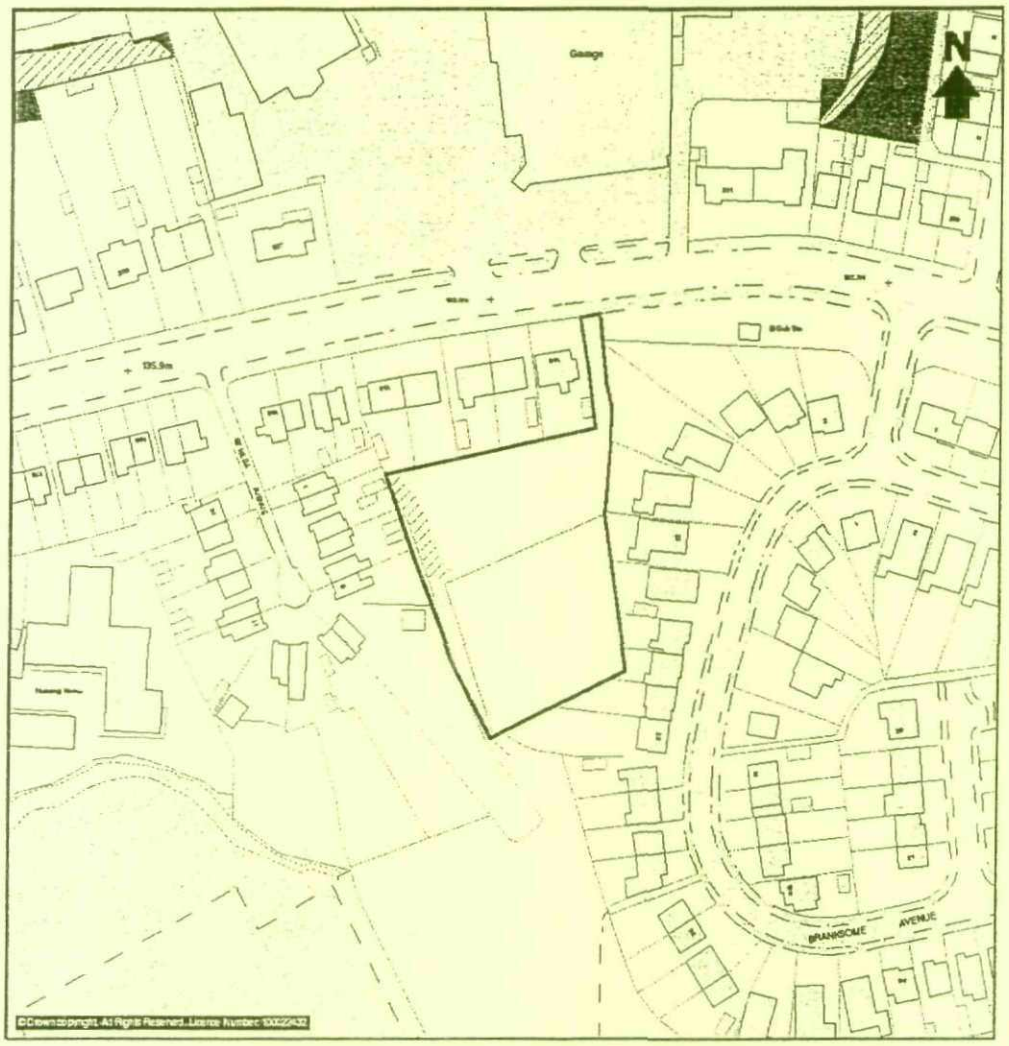
Grid Reference
433090, 406260

Report Reference
SAS_28725117_1_1

Customer Reference
1004044

Size of Site
3384 m²





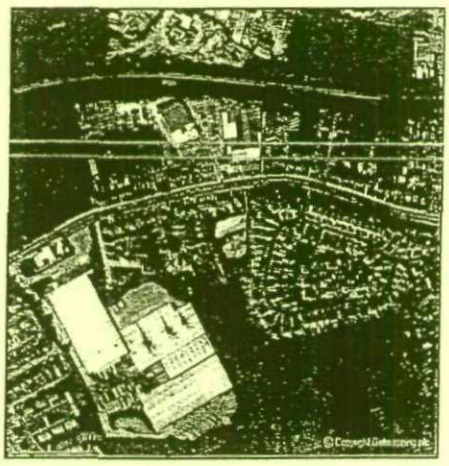
Site
Land on the South Side of Dodworth Road,BARNSLEY

Grid Reference
433090, 406260

Report Reference
SAS_28725117_1_1

Customer Reference
1004044

Size of Site
3384 m²



Current Land Use Sources	On Site 0	0-250m 29	250-500m 29
Waste / Landfill Sites			
BGS Recorded Landfill Sites	0	1	0
Licensed Waste Management Facilities (Landfill Boundaries)	0	0	0
Licensed Waste Management Facilities (Locations)	0	1	0
Local Authority Recorded Landfill Sites	0	7	0
Registered Landfill Sites	0	2	1
Registered Waste Transfer Sites	0	1	0
Registered Waste Treatment or Disposal Sites	0	0	0
Statutory Authorisations			
Local Authority Pollution Prevention and Controls	0	3	2
Contaminated Land Register Entries and Notices	0	0	0
Registered Radioactive Substances	0	0	0
Discharge Consents			
Discharge Consents	0	0	0
Water Industry Act Referrals	0	0	0
Industrial Processes			
Integrated Pollution Controls	0	0	4
Integrated Pollution Control Registered Waste Sites	0	0	0
Integrated Pollution Prevention And Control	0	0	2
Local Authority Integrated Pollution Prevention And Control	0	0	0
Storage of Hazardous Substances			
Control of Major Accident Hazards Sites (COMAH)	0	0	0
Explosive Sites	0	0	0
Notification of Installations Handling Hazardous Substances (NIHHS)	0	0	0
Planning Hazardous Substance Consents	0	0	0
Contraventions			
Local Authority Pollution Prevention and Control Enforcements	0	0	0
Enforcement and Prohibition Notices	0	0	0
Planning Hazardous Substance Enforcements	0	0	0
Prosecutions Relating to Authorised Processes	0	0	0
Prosecutions Relating to Controlled Waters	0	0	0
Substantiated Pollution Incident Register	0	0	0

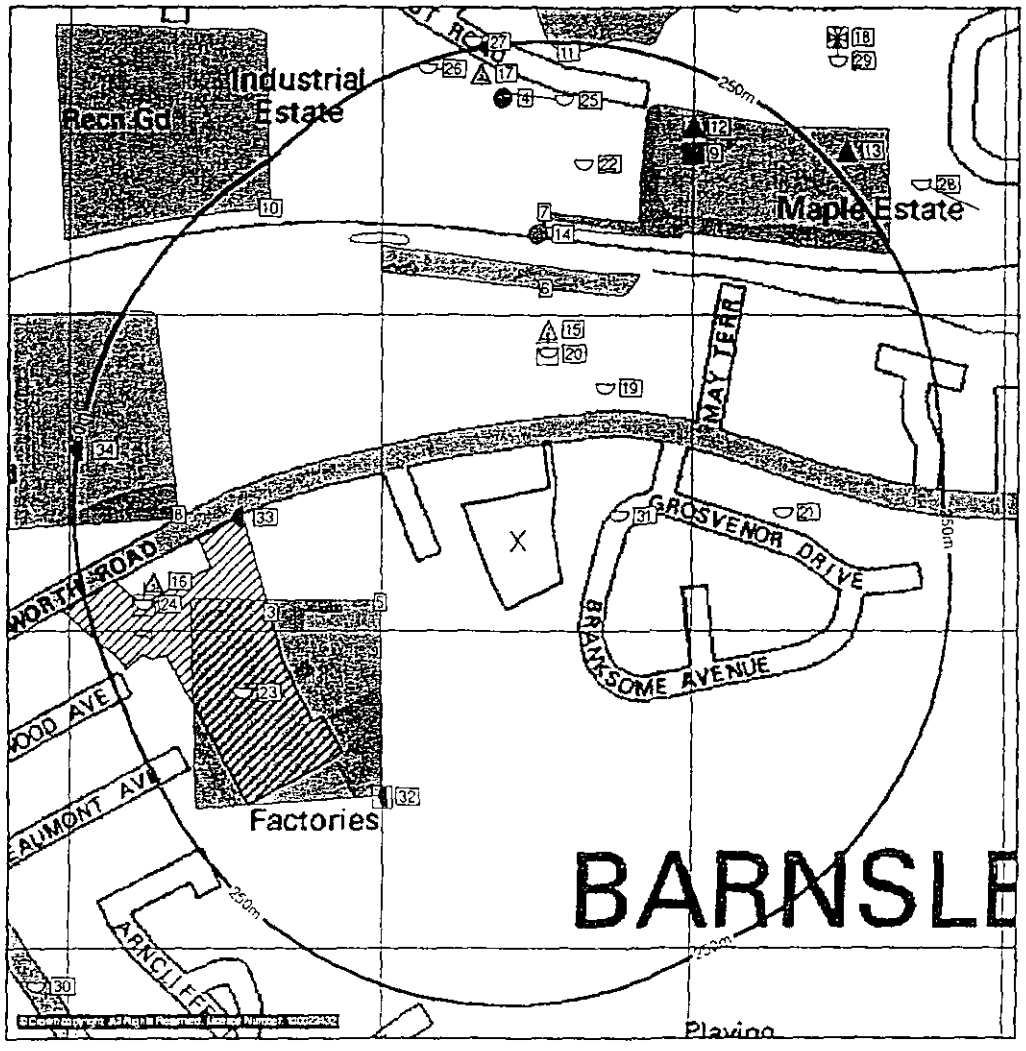
Current Land Use	On Site	0-250m	250-500m
Sources	**0**	**29**	**29**
Potentially Contaminative Uses			
Contemporary Trade Directory Entries	0	9	17
Fuel Station Entries	0	2	1
Miscellaneous			
BGS Recorded Mineral Sites	0	3	2

Historical Land Use	On Site	0-250m	250-500m
Sources	**1**	**31**	**21**
Potentially Contaminative Uses			
Historical Tanks And Energy Facilities	0	11	11
Potentially Contaminative Industrial Uses (Past Land Use)	1	14	7
Potentially Infilled Land			
Former Marshes	0	0	0
Potentially Infilled Land (Non-Water)	0	5	1
Potentially Infilled Land (Water)	0	1	2

Sensitivity	On Site	0-250m	250-500m
Pathways and Receptors	**1**	**1**	**0**
Pathways			
Groundwater Vulnerability	1	n/a	n/a
Drift Deposits	0	n/a	n/a
Historical Flood Liabilities	0	0	0
Extreme Flooding from Rivers or Sea without Defences	0	0	n/a
Flooding from Rivers or Sea without Defences	0	0	n/a
Areas Benefiting from Flood Defences	0	0	n/a
Flood Water Storage Areas	0	0	n/a
Flood Defences	0	0	n/a

Sensitivity Pathways and Receptors	On Site 1	0-250m 1	250-500m 0
Environmentally Sensitive Receptors			
Areas of Outstanding Natural Beauty	0	0	0
Environmentally Sensitive Areas	0	0	0
Local Nature Reserves	0	0	0
Marine Nature Reserves	0	0	0
National Nature Reserves	0	0	0
Nearest Surface Water Feature	0	1	0
Ramsar Sites	0	0	0
Sites of Special Scientific Interest	0	0	0
Source Protection Zones	0	0	0
Special Areas of Conservation	0	0	0
Special Protection Areas	0	0	0
Water Abstractions	0	0	0
Protected Countryside Areas			
Forest Parks	0	0	0
National Parks	0	0	0
National Scenic Areas	0	0	0

Other Factors	On Site	0-250m	250-500m
Geological	**9**	**5**	**0**
Brine Compensation Area	0	n/a	n/a
Coal Mining Affected Areas	1	n/a	n/a
Mining Instability	1	0	n/a
Natural and Mining Cavities	0	0	0
Radon Potential - Radon Affected Areas	1	n/a	n/a
Radon Potential - Radon Protection Measures	1	n/a	n/a
Potential for Collapsible Ground Stability Hazards	0	0	n/a
Potential for Compressible Ground Stability Hazards	1	1	n/a
Potential for Ground Dissolution Stability Hazards	0	0	n/a
Potential for Landslide Ground Stability Hazards	1	1	n/a
Potential for Running Sand Ground Stability Hazards	1	1	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	1	1	n/a
Shallow Mining Hazards	1	1	n/a



General

- Site Boundary
- Search Buffer
- Bearing Reference Point
- Reference Number

Miscellaneous

- BGS Recorded Mineral Site

Potentially Contaminative Use

- Potentially Contaminative Use
- Potentially Contaminative Use (High Risk)

Waste/Landfill Sites

- BGS Recorded Landfill Site
- Licensed Waste Management Facilities (Landfill)
- Local Authority Recorded Landfill Site
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site
- Registered Landfill Site
- Point Location of Registered Landfill Site
- BGS Recorded Landfill Site (Point)
- Licensed Waste Management Facilities (Location)
- Local Authority Recorded Landfill Site (Point)
- Registered Waste Transfer Site (Point)
- Registered Waste Treatment or Disposal Site (Point)
- Registered Landfill Site Potential Landfill Buffer

Contraventions

- Local Authority Pollution Prevention and Control Enforcement
- Planning Hazardous Substance Enforcement
- Prosecution Relating to Authorised Processes
- Enforcement and Prohibition Notice
- Substantiated Pollution Incident Register
- Prosecution Relating to Controlled Waters

Storage Of Hazardous Substances

- COMAH
- Planning Hazardous Substance Consent
- Explosive Site
- NIHHS

Industrial Processes

- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Integrated Pollution Control Registered Waste Site
- Local Authority Integrated Pollution Prevention and Control

Statutory Authorisations

- Local Authority Pollution Prevention and Control
- Contaminated Land Register Entry or Notice (Point)
- Contaminated Land Register Entry or Notice
- Registered Radioactive Substance

Discharge Consents

- Discharge Consent
- Water Industry Act Referral

Sources Waste / Landfill Sites	Ref No.	Search Buffer	Direction
Local Authority Landfill Coverage			
Name: Barnsley Metropolitan Borough Council, - Has supplied landfill data, Contact Ref: 1	-	On Site	N
BGS Recorded Landfill Sites			
Disused Quarry, Dodworth Rd, BARNSLEY, Yorks, BGS Landfill Survey Site, Positional Accuracy: Manually positioned to the address or location, Boundary Accuracy: Derived	3	0-250m	W
Licensed Waste Management Facilities (Locations)			
Location: Haulage Yard, Off West Road, Pogmoor, Barnsley, South Yorkshire, S75 2DH, Licence Number: 60564, Site Category: Household, Commercial And Industrial Transfer Stations, Licence Status: Issued,IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m, Contact Ref: 2	4	0-250m	N
Local Authority Recorded Landfill Sites			
Not Supplied, Reference: 131, Positional Accuracy: Positioned by the supplier, Boundary Quality: Moderate, Contact Ref: 1	5	0-250m	SW
Not Supplied, Reference: 57, Positional Accuracy: Positioned by the supplier, Boundary Quality: Moderate, Contact Ref: 1	6	0-250m	N
Not Supplied, Reference: 61, Positional Accuracy: Positioned by the supplier, Boundary Quality: Moderate, Contact Ref: 1	7	0-250m	N
Not Supplied, Reference: 130, Positional Accuracy: Positioned by the supplier, Boundary Quality: Moderate, Contact Ref: 1	8	0-250m	W
Not Supplied, Reference: 139, Positional Accuracy: Unknown, Boundary Quality: Not Applicable, Contact Ref: 1	9	0-250m	NE
Not Supplied, Reference: 134, Positional Accuracy: Positioned by the supplier, Boundary Quality: Moderate, Contact Ref: 1	10	0-250m	NW
Not Supplied, Reference: 44, Positional Accuracy: Positioned by the supplier, Boundary Quality: Moderate, Contact Ref: 1	11	0-250m	N
Registered Landfill Sites			
A F Budge (Contractors) Ltd, West Road, Pogmoor, Barnsley, South Yorkshire, Reference: WD20 B 572 (WD2 B19), Status: Licence lapsed/cancelled/defunct/not applicable/surrendered, Cancelled, Positional Accuracy: Manually positioned to the address or location, Boundary Quality: Not Applicable, Contact Ref: 2	12	0-250m	NE
Barnsley M.B.C., West Road, Pogmoor, Barnsley, South Yorkshire, Reference: WD 2 B19, Status: Licence lapsed/cancelled/defunct/not applicable/surrendered, Cancelled, Positional Accuracy: Manually positioned to the address or location, Boundary Quality: Not Applicable, Contact Ref: 2	12	0-250m	NE
C.R.S. Ltd Yorkshire Reg, Summer Lane Dairy, Stocks Lane, Barnsley, South Yorkshire, Reference: WD20 B 38, Status: Licence lapsed/cancelled/defunct/not applicable/surrendered, Cancelled, Positional Accuracy: Manually positioned to the address or location, Boundary Quality: Not Applicable, Contact Ref: 2	13	250-500m	NE

Sources Waste / Landfill Sites	Ref No.	Search Buffer	Direction
Registered Waste Transfer Sites			
D Lycett, Haulage Yard Off West Road, Pogmoor, Barnsley, South Yorkshire, Reference: WD20 B 554 MOD 3, Status: Operational as far as is known, Operational, Positional Accuracy: Located by supplier to within 100m,Boundary Quality: Not Supplied Contact Ref: 2	14	0-250m	N

Statutory Authorisations	Ref No.	Search Buffer	Direction
Local Authority Pollution Prevention and Controls			
Polar Motor Co Ltd, Dodworth Road, BARNSLEY, South Yorkshire, S70 6PA, Part B - Other Industries, Reference: Ppc/B/37, Status: Permitted, Positional Accuracy: Automatically positioned to the address, Contact Ref: 1	15	0-250m	N
Shell Barnsley Motorway, Dodworth Road, Barnsley, S70 6PD, Part B - Fuel and Power Industry Sector, Reference: PPC/B/99, Status: Permitted, Positional Accuracy: Located by supplier to within 10m, Contact Ref: 1	16	0-250m	W
S J Autowelding, West Road, Pogmoor, BARNSLEY, S75 2DH, Part B - Fuel and Power Industry Sector, Reference: Ppc/B/09, Status: Permitted, Positional Accuracy: Located by supplier to within 10m, Contact Ref: 1	17	0-250m	N
Intake 1 Service Station, Pogmoor Road, BARNSLEY, South Yorkshire, S75 2DZ, Part B - Fuel and Power Industry Sector, Reference: PPC/B/65, Status: Permitted, Positional Accuracy: Automatically positioned to the address, Contact Ref: 1	-	250-500m	NW
Crows Garage, Pogmoor Road, Pogmoor, BARNSLEY, S75 2DZ, Part B - Fuel and Power Industry Sector, Reference: Ppc/B/06, Status: Permitted, Positional Accuracy: Manually positioned to the address or location, Contact Ref: 1	-	250-500m	NW

Industrial Processes	Ref No.	Search Buffer	Direction
Integrated Pollution Controls			
Royston Lead Ltd, Pogmoor Works, Stocks Lane, BARNSLEY, South Yorkshire, S75 2DS, Non-Ferrous Metals, Reference: BB9539, Status: Authorisation superseded by a substantial or non substantial variation, Superseded, Positional Accuracy: Automatically positioned to the address, Contact Ref: 2	18	250-500m	NE
Royston Lead, Pogmoor Works, Stocks Lane, BARNSLEY, South Yorkshire, S75 2DS, Petrochemical Processes, Reference: AN6671, Status: Application since found to be exempt from IPC, Exempt, Positional Accuracy: Automatically positioned to the address, Contact Ref: 2	18	250-500m	NE
Royston Lead Ltd, Pogmoor Works, Stocks Lane, BARNSLEY, South Yorkshire, S75 2DS, Non-Ferrous Metals, Reference: Bi5710, Status: Revoked - Now IPPC, Positional Accuracy: Automatically positioned to the address, Contact Ref: 2	18	250-500m	NE

If you would like any further assistance regarding this report then please contact Landmark on (Tel) 0844 844 9966, (Fax) 0844 844 9980, Email: info@landmarkinfo.co.uk

Sources Industrial Processes	Ref No.	Search Buffer	Direction
Integrated Pollution Controls			
Royston Lead Ltd, Pogmoor Works, Stocks Lane, BARNSLEY, South Yorkshire, S75 2DS, Non-Ferrous Metals, Reference: BE6064, Status: Authorisation superseded by a substantial or non substantial variation, Superseded, Positional Accuracy: Automatically positioned to the address, Contact Ref: 2	18	250-500m	NE
Integrated Pollution Prevention And Control			
Royston Lead Limited, Royston Lead Ltd, Pogmoor Works, Stocks Lane, Barnsley, South Yorkshire, S75 2DS, Integrated Pollution And Prevention Control Processes, Reference: Bk6408ig, Status: Effective, Positional Accuracy: Automatically positioned to the address, Contact Ref: 2	18	250-500m	NE
Royston Lead Limited, Royston Lead Ltd, Pogmoor Works, Stocks Lane,,, BARNSLEY, South Yorkshire, S75 2DS, Integrated Pollution And Prevention Control Processes, Reference: PP3838GZ, Status: Valid, Positional Accuracy: Automatically positioned to the address, Contact Ref: 2	18	250-500m	NE

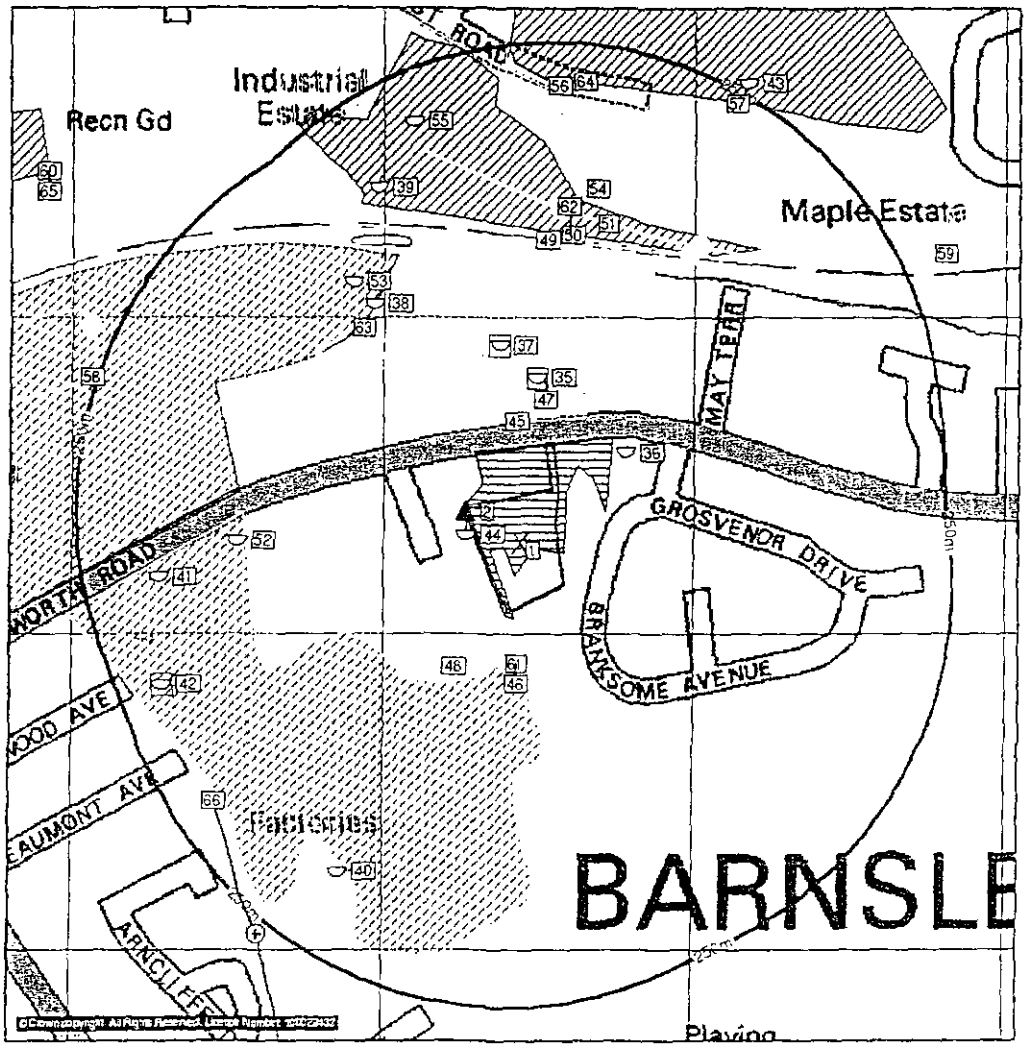
Potentially Contaminative Uses	Ref No.	Search Buffer	Direction
Contemporary Trade Directory Entries			
Beaumont Commercials, 221, Dodworth Road, Barnsley, South Yorkshire, S70 6HT, Commercial Vehicle Servicing, Repairs, Parts & Accessories, Status: Inactive, Positional Accuracy: Automatically positioned to the address	19	0-250m	NE
Polar Van Centre, Dodworth Road, Barnsley, South Yorkshire, S70 6PA, Commercial Vehicle Dealers, Status: Inactive, Positional Accuracy: Automatically positioned to the address	20	0-250m	N
Rapid Fit, Dodworth Road, Barnsley, South Yorkshire, S70 6PA, Exhaust & Shock Absorber Centres, Status: Inactive, Positional Accuracy: Automatically positioned to the address	20	0-250m	N
S.E. Gas Services, 15, Grosvenor Drive, BARNSLEY, South Yorkshire, S70 6HU, Boilers - Servicing, Replacements & Repairs, Status: Inactive, Positional Accuracy: Automatically positioned to the address	21	0-250m	E
Pauls Autos Ltd, West Road, Barnsley, South Yorkshire, S75 2DH, Garage Services, Status: Inactive, Positional Accuracy: Automatically positioned to the address	22	0-250m	N
S R Gent (International) Ltd, Dodworth Road, Barnsley, South Yorkshire, S70 6JE, Clothing & Fabrics - Manufacturers, Status: Inactive, Positional Accuracy: Automatically positioned to the address	23	0-250m	SW
Shell, Dodworth Rd, Barnsley, South Yorkshire, S70 6JE, Petrol Filling Stations - 24 Hour, Status: Active, Positional Accuracy: Manually positioned to the address or location	24	0-250m	W
Hiltons Electrical Services, West Road, Barnsley, South Yorkshire, S75 2DH, Electrical Engineers, Status: Active, Positional Accuracy: Automatically positioned to the address	25	0-250m	N
David Warsop & Co, West Road, BARNSLEY, South Yorkshire, S75 2DH, Precision Engineers, Status: Inactive, Positional Accuracy: Automatically positioned to the address	26	0-250m	N

Sources Potentially Contaminative Uses	Ref No.	Search Buffer	Direction
Contemporary Trade Directory Entries			
Sw Transport, West Rd, Barnsley, South Yorkshire, S75 2DH, Road Haulage Services, Status: Inactive, Positional Accuracy: Manually positioned to the road within the address or location	27	250-500m	N
Pat King, 1 Jacksons Yard,Dodworth Rd, Barnsley, South Yorkshire, S70 6DZ, Clothing & Fabrics - Manufacturers, Status: Inactive, Positional Accuracy: Manually positioned to the road within the address or location	-	250-500m	E
Marks Pet & Farm Feeds, Maple Estate,Stocks La, Barnsley, South Yorkshire, S75 2BL, Pet Foods & Animal Feeds, Status: Active, Positional Accuracy: Manually positioned within the geographical locality	28	250-500m	NE
Royston Lead Ltd, Pogmoor Works, Stocks Lane, Barnsley, South Yorkshire, S75 2DS, Engineers - General, Status: Active, Positional Accuracy: Automatically positioned to the address	29	250-500m	NE
W R Rack Solutions, Unit 31, Maple Estate, Stocks Lane, Barnsley, South Yorkshire, S75 2BL, Pallets, Crates & Packing Cases, Status: Active, Positional Accuracy: Automatically positioned to the address	-	250-500m	NE
Easy Life Mobility, 62, Winter Road, Barnsley, South Yorkshire, S75 2EL, Disability Equipment - Manufacturers & Suppliers, Status: Active, Positional Accuracy: Automatically positioned to the address	-	250-500m	N
Haydon Print Solutions Ltd, Media HouseGlendale Ct, Barnsley, South Yorkshire, S75 2DU, Printers, Status: Inactive, Positional Accuracy: Manually positioned to the road within the address or location	-	250-500m	NW
Raw 2k Ltd, Unit 11, Maple Estate, Stocks Lane, Barnsley, South Yorkshire, S75 2BL, Salvage Dealers, Status: Active, Positional Accuracy: Automatically positioned to the address	-	250-500m	NE
Vesseltech (Uk) Ltd, Unit 9, Maple Estate, Stocks Lane, Barnsley, South Yorkshire, S75 2BL, Stainless Steel Manufacturers, Status: Active, Positional Accuracy: Automatically positioned to the address	-	250-500m	NE
Wincanton, Broadway, Barnsley, South Yorkshire, S70 6RA, Distribution Services, Status: Inactive, Positional Accuracy: Manually positioned to the road within the address or location	30	250-500m	SW
Discontinued Bathrooms, 140, Pogmoor Road, Barnsley, South Yorkshire, S75 2DX, Bath Resurfacing, Status: Inactive, Positional Accuracy: Automatically positioned to the address	-	250-500m	NW
Intake 1 Filling Station, Pogmoor Road, Barnsley, South Yorkshire, S75 2DZ, Petrol Filling Stations - 24 Hour, Status: Active, Positional Accuracy: Automatically positioned to the address	-	250-500m	NW
Kv Services Pest Control Barnsley, 67, Broadway, BARNSLEY, South Yorkshire, S70 6QJ, Pest & Vermin Control, Status: Active, Positional Accuracy: Automatically positioned to the address	-	250-500m	SW
Torque Motors, 131, Dodworth Road, Barnsley, South Yorkshire, S70 6HL, Garage Services, Status: Active, Positional Accuracy: Automatically positioned to the address	-	250-500m	E
Crows Garage, Greaves Fold, Barnsley, South Yorkshire, S75 2EA, Garage Services, Status: Active, Positional Accuracy: Automatically positioned to the address	-	250-500m	NW

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Sources Potentially Contaminative Uses	Ref No.	Search Buffer	Direction
Contemporary Trade Directory Entries			
Protech Roofing Services, 56, Pogmoor Road, Barnsley, South Yorkshire, S75 2EW, Fascias and Soffits, Status: Inactive, Positional Accuracy: Automatically positioned to the address	-	250-500m	N
Alan Lodge, 95, Pogmoor Road, Barnsley, South Yorkshire, S75 2LP, Road Haulage Services, Status: Inactive, Positional Accuracy: Automatically positioned to the address	-	250-500m	NW
Fuel Station Entries			
Polar Motor Company Ltd, Dodworth Road, BARNSLEY, South Yorkshire, S70 6PA, Fuel Station, Status: Obsolete, Positional Accuracy: Approximate location provided by supplier,	31	0-250m	E
Shell Barnsley, Dodworth Road, Barnsley, South Yorkshire, S70 6DY, Fuel Station, Status: Open, Positional Accuracy: Manually positioned to the address or location,	24	0-250m	W
Jet Intake 1, Pogmoor Road, BARNSLEY, South Yorkshire, S75 2DZ, Fuel Station, Status: Open, Positional Accuracy: Located by supplier to within 100m,	-	250-500m	NW

Miscellaneous	Ref No.	Search Buffer	Direction
BGS Recorded Mineral Sites			
Dodworth Road, Dodworth Road, Barnsley, South Yorkshire, Status: Ceased, Reference: 13308, Positional Accuracy: Located by supplier to within 10m, Contact Ref: 3	32	0-250m	SW
Dodworth Road, Dodworth Road, Barnsley, South Yorkshire, Status: Ceased, Reference: 13308, Positional Accuracy: Located by supplier to within 10m, Contact Ref: 3	32	0-250m	SW
Dodworth Road, Dodworth Road, Barnsley, South Yorkshire, Status: Ceased, Reference: 37853, Positional Accuracy: Located by supplier to within 10m, Contact Ref: 3	33	0-250m	W
Dodworth Road, Dodworth Road, Barnsley, South Yorkshire, Status: Ceased, Reference: 13307, Positional Accuracy: Located by supplier to within 10m, Contact Ref: 3	34	250-500m	W
Stocks Lane, Stocks Lane, Barnsley, South Yorkshire, Status: Ceased, Reference: 13306, Positional Accuracy: Located by supplier to within 10m, Contact Ref: 3	-	250-500m	N



General	Potentially Contaminative Use		Potentially Infilled Land	
Site Boundary	Point Feature	Point Feature (High Risk)	Point Feature	Point Feature (High Risk)
Search Buffer	Area Feature	Area Feature (High Risk)	Area Feature	Area Feature (High Risk)
Bearing Reference Point	Line Feature	Line Feature (High Risk)	Line Feature	Line Feature (High Risk)
Reference Number				

If you would like any further assistance regarding this report then please contact
Landmark on (Tel) 0844 844 9966, (Fax) 0844 844 9980, Email: info@landmarkinfo.co.uk

Sources Potentially Contaminative Uses	Ref No.	Search Buffer	Direction
Historical Tanks And Energy Facilities			
Potential Tanks, Date of Mapping: 1960 Scale of Mapping: 1:1,250,	35	0-250m	N
Potential Tanks, Date of Mapping: 1961 Scale of Mapping: 1:2,500,	35	0-250m	N
Electrical Sub Station Facilities, Date of Mapping: 1977 Scale of Mapping: 1:1,250,	36	0-250m	NE
Potential Tanks, Date of Mapping: 1977 Scale of Mapping: 1:1,250,	37	0-250m	N
Electrical Sub Station Facilities, Date of Mapping: 1977 Scale of Mapping: 1:1,250,	37	0-250m	N
Potential Tanks, Date of Mapping: 1988 Scale of Mapping: 1:1,250,	38	0-250m	NW
Tanks, Date of Mapping: 1988 Scale of Mapping: 1:1,250,	39	0-250m	NW
Tanks, Date of Mapping: 1988 Scale of Mapping: 1:1,250,	40	0-250m	SW
Petroleum Storage Facilities, Date of Mapping: 1969 - 1988 Scale of Mapping: 1:1,250,	41	0-250m	W
Electrical Sub Station Facilities, Date of Mapping: 1988 Scale of Mapping: 1:1,250,	42	0-250m	W
Gas Monitoring Facilities, Date of Mapping: 1988 Scale of Mapping: 1:1,250,	42	0-250m	W
Electrical Sub Station Facilities, Date of Mapping: 1971 Scale of Mapping: 1:1,250,	43	250-500m	NE
Electrical Sub Station Facilities, Date of Mapping: 1970 Scale of Mapping: 1:1,250,	-	250-500m	SW
Electrical Sub Station Facilities, Date of Mapping: 1971 Scale of Mapping: 1:2,500,	-	250-500m	SW
Tanks, Date of Mapping: 1989 Scale of Mapping: 1:1,250,	-	250-500m	NW
Electrical Sub Station Facilities, Date of Mapping: 1969 - 1988 Scale of Mapping: 1:1,250,	-	250-500m	W
Gas Monitoring Facilities, Date of Mapping: 1988 Scale of Mapping: 1:1,250,	-	250-500m	W
Tanks, Date of Mapping: 1977 Scale of Mapping: 1:1,250,	-	250-500m	NE
Potential Tanks, Date of Mapping: 1972 Scale of Mapping: 1:1,250,	-	250-500m	NW
Potential Tanks, Date of Mapping: 1989 Scale of Mapping: 1:1,250,	-	250-500m	E
Tanks, Date of Mapping: 1974 Scale of Mapping: 1:1,250,	-	250-500m	S
Potential Tanks, Date of Mapping: 1989 Scale of Mapping: 1:1,250,	-	250-500m	NW
Potentially Contaminative Industrial Uses (Past Land Use)			
Heap, unknown constituents, Date of Mapping: 1938	1	On Site	SE
Mining & quarrying general, Date of Mapping: 1938	44	0-250m	NW
Motor vehicles: maintenance & repair e.g. garages, Date of Mapping: 1993	45	0-250m	N

Sources Potentially Contaminative Uses	Ref No.	Search Buffer	Direction
Potentially Contaminative Industrial Uses (Past Land Use)			
Quarrying of sand & clay, operation of sand & gravel pits, Date of Mapping: 1938 - 1956	46	0-250m	S
Clay bricks & tiles [manufacture], Date of Mapping: 1894 - 1956	47	0-250m	N
Factory or works - use not specified, Date of Mapping: 1993	48	0-250m	SW
Railways, Date of Mapping: 1855 - 1993	49	0-250m	N
Clay bricks & tiles [manufacture], Date of Mapping: 1907	50	0-250m	N
Railways, Date of Mapping: 1938 - 1956	51	0-250m	N
General quarrying, Date of Mapping: 1855	52	0-250m	W
Mining & quarrying general, Date of Mapping: 1907	53	0-250m	NW
Factory or works - use not specified, Date of Mapping: 1993	54	0-250m	N
Refuse disposal, Date of Mapping: 1938 - 1956	55	0-250m	N
Clay bricks & tiles [manufacture], Date of Mapping: 1938 - 1956	56	0-250m	N
Factory or works - use not specified, Date of Mapping: 1993	57	0-250m	NE
Railways, Date of Mapping: 1993	58	250-500m	W
Road haulage, Date of Mapping: 1993	59	250-500m	NE
Mining of coal & lignite, Date of Mapping: 1938	60	250-500m	NW
Mining & quarrying general, Date of Mapping: 1907	-	250-500m	NE
Railways, Date of Mapping: 1894 - 1956	-	250-500m	NE
Electricity production & distribution [inc large transformers], Date of Mapping: 1993	-	250-500m	W
Factory or works - use not specified, Date of Mapping: 1993	-	250-500m	NE

Sources Potentially Infilled Land	Ref No.	Search Buffer	Direction
Potentially Infilled Land (Non-Water)			
Unknown Filled Ground (Pit, quarry etc), Date of Mapping: 1993	2	0-250m	NW
Unknown Filled Ground (Pit, quarry etc), Date of Mapping: 1993	61	0-250m	S
Unknown Filled Ground (Pit, quarry etc), Date of Mapping: 1993	62	0-250m	N
Unknown Filled Ground (Pit, quarry etc), Date of Mapping: 1993	63	0-250m	NW
Unknown Filled Ground (Pit, quarry etc), Date of Mapping: 1993	64	0-250m	N
Unknown Filled Ground (Pit, quarry etc), Date of Mapping: 1993	65	250-500m	NW
Potentially Infilled Land (Water)			
Unknown Filled Ground (Pond, marsh, river, stream, dock etc), Date of Mapping: 1956	66	0-250m	SW
Unknown Filled Ground (Pond, marsh, river, stream, dock etc), Date of Mapping: 1956	-	250-500m	SW
Unknown Filled Ground (Pond, marsh, river, stream, dock etc), Date of Mapping: 1907	-	250-500m	E

Map Details

The following maps have been analysed for Historical Tanks and Energy Facilities

1:1,250	Mapsheet	Published
Ordnance Survey Plan	SE3306SW	1960
Ordnance Survey Plan	SE3306SW	1977

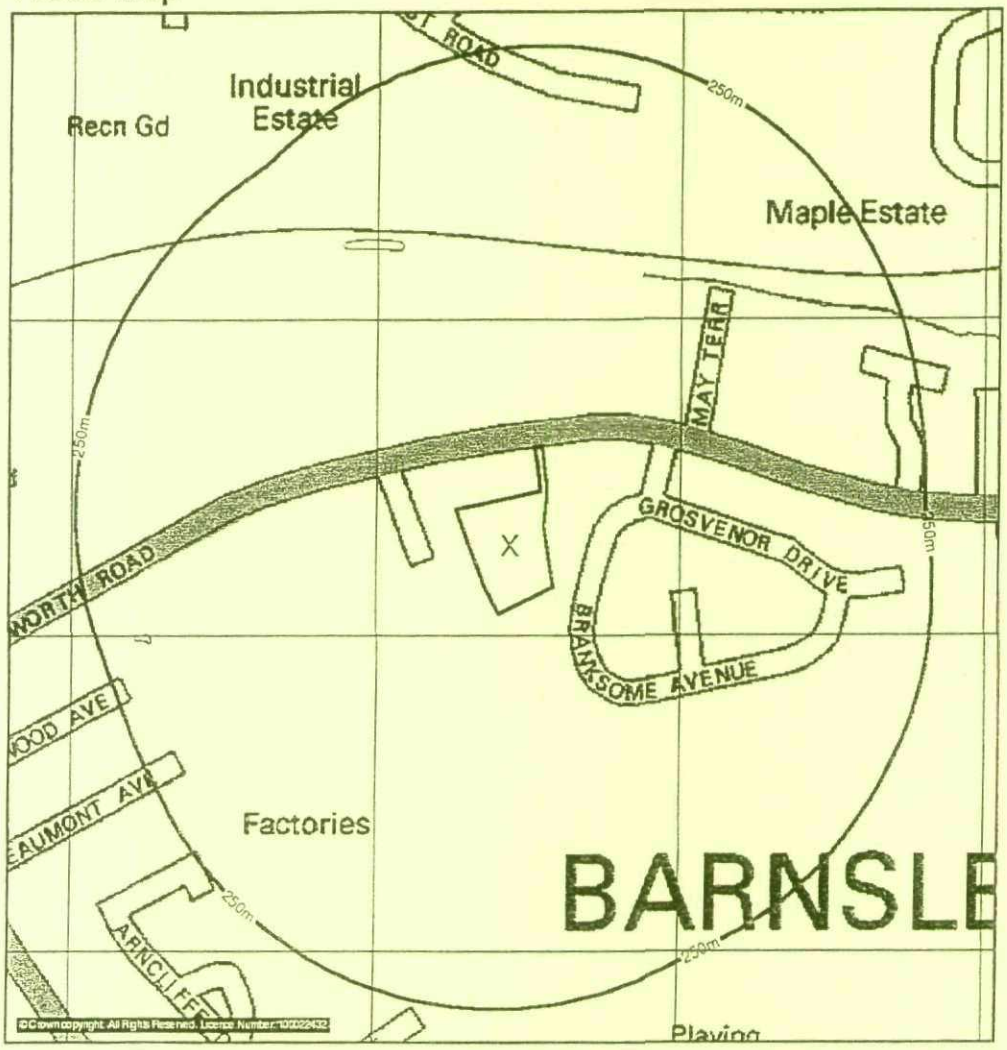
1:2,500	Mapsheet	Published
Ordnance Survey Plan	SE3306	1961

The following maps have been analysed for Potentially Contaminative Uses and Potentially Infilled Land information

1:10,000	Mapsheet	Published
Ordnance Survey Plan	SE30NW	1993

1:10,560	Mapsheet	Published
Yorkshire	274_00	1855
Yorkshire	274_NE	1894
Yorkshire	274_NE	1907
Yorkshire	274_NE	1938
Ordnance Survey Plan	SE30NW	1956

Flood Map



General

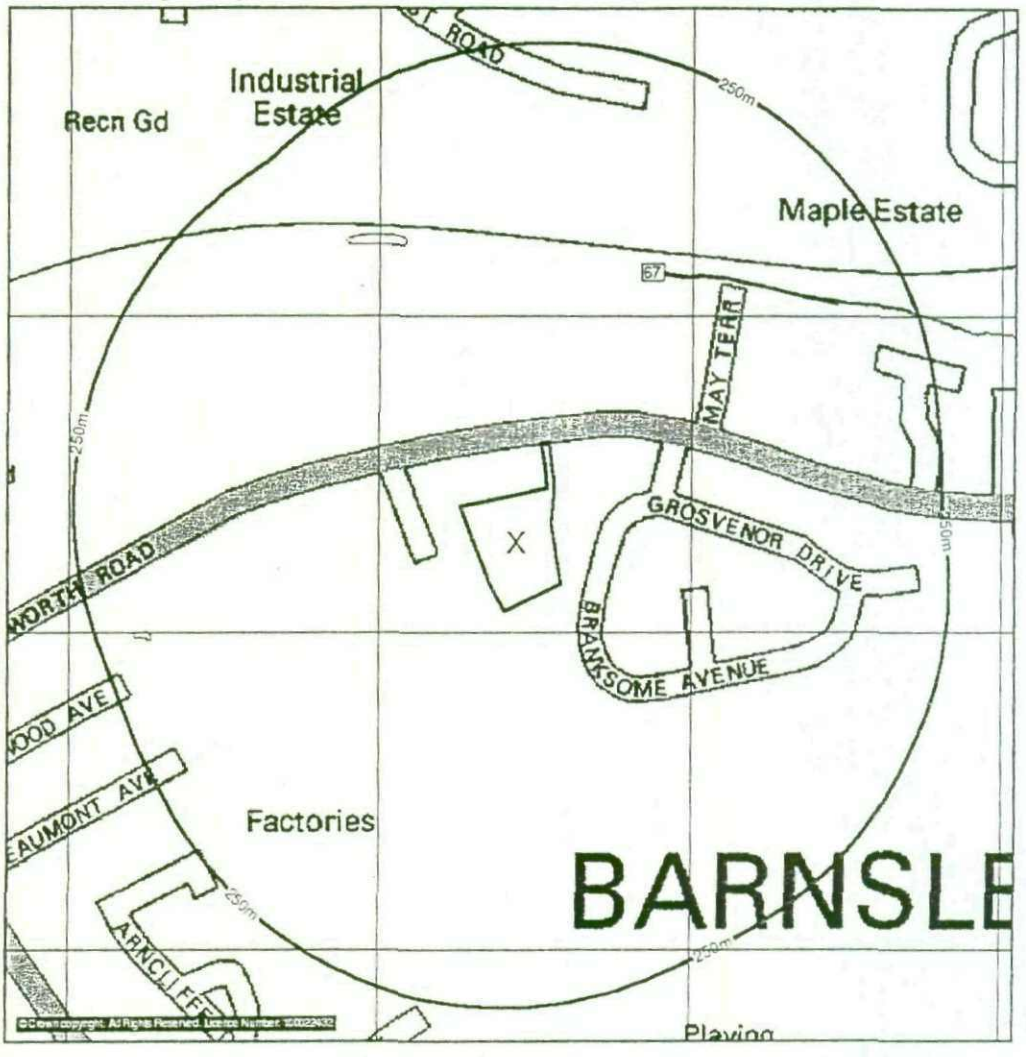
- Site Boundary
- Search Buffer
- Bearing Reference Point
- Reference Number

Area of Floodplain

- Areas Benefiting from Flood Defences
- Flood Water Storage Areas
- Flood Defences
- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)

If you would like any further assistance regarding this report then please contact
Landmark on (Tel) 0844 844 9966, (Fax) 0844 844 9980, Email: info@landmarkinfo.co.uk

Sensitivity Map



General	Environmentally Sensitive Land Use		Protected Countryside Areas
Site Boundary	Area of Outstanding Natural Beauty	Site of Special Scientific Interest	Forest Park
	Environmentally Sensitive Area	Special Area of Conservation	National Park
Search Buffer	Local Nature Reserve	Special Protection Area	National Scenic Area
Bearing Reference Point	Marine Nature Reserve	Nearest Surface Water Feature	
	National Nature Reserve	Water Abstractions	
Reference Number	Ramsar Site		

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Landmark on (Tel) 0844 844 9966, (Fax) 0844 844 9980, Email: info@landmarkinfo.co.uk

Pathways and Receptors Pathways	Ref No.	Search Buffer	Direction
Groundwater Vulnerability			
Geological Classification: Minor Aquifer (Variably permeable) - These can be fractured or potentially fractured rocks, which do not have a high primary permeability, or other formations of variable permeability including unconsolidated deposits. Although not producing large quantities of water for abstraction, they are important for local supplies and in supplying base flow to rivers, Soil Classification: Soils of High Leaching Potential (U) - Soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere. A worst case vulnerability classification (H) assumed, until proved otherwise, Map Scale: 1:100,000, Map Name: Sheet 11 South Pennines, Contact Ref: 2	-	On Site	SW
Drift Deposits			
None	-		-
Extreme Flooding from Rivers or Sea without Defences			
None	-		-
Flooding from Rivers or Sea without Defences			
None	-		-
Areas Benefiting from Flood Defences			
None	-		-
Flood Water Storage Areas			
None	-		-
Flood Defences			
None	-		-

Environmentally Sensitive Receptors	Ref No.	Search Buffer	Direction
Nearest Surface Water Feature			
Distance: 125m	67	0-250m	NE

Other Factors

Geological

	Search Buffer	Direction
Brine Compensation Area		
No		-
Coal Mining Affected Areas		
In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section., Contact Ref: 4	On Site	SW
Mining Instability		
Risk: Inconclusive Coal Mining,	On Site	E
Radon Potential - Radon Affected Areas		
Affected Areas: The property is in a radon affected area, as between 1 and 3% of homes are above the action level, Source: British Geological Survey, National Geoscience Information Service, Contact Ref: 3	On Site	N
Radon Potential - Radon Protection Measures		
Radon Protection Measures: None, Source: British Geological Survey, National Geoscience Information Service, Contact Ref: 3	On Site	N
Potential for Collapsible Ground Stability Hazards		
No Hazard		-
Potential for Compressible Ground Stability Hazards		
Hazard Potential: No Hazard Contact Ref: 3	On Site	N
Hazard Potential: Very Low Contact Ref: 3	0-250m	N
Potential for Ground Dissolution Stability Hazards		
No Hazard		-
Potential for Landslide Ground Stability Hazards		
Hazard Potential: Very Low Contact Ref: 3	On Site	E
Hazard Potential: Low Contact Ref: 3	0-250m	E
Potential for Running Sand Ground Stability Hazards		
Hazard Potential: No Hazard Contact Ref: 3	On Site	N
Hazard Potential: Very Low Contact Ref: 3	0-250m	N
Potential for Shrinking or Swelling Clay Ground Stability Hazards		
Hazard Potential: Very Low Contact Ref: 3	On Site	S
Hazard Potential: No Hazard Contact Ref: 3	0-250m	E

Other Factors Geological	Search Buffer	Direction
Shallow Mining Hazards		
Hazard Potential: Low-Moderate Contact Ref: 3	On Site	N
Hazard Potential: Low-Moderate Contact Ref: 3	0-250m	N

Registered Landfill Sites

At present no complete national data set exists for landfill site boundaries, therefore a point grid reference, provided by the data supplier, is used for some landfill sites. In certain cases the point grid references supplied provide only an approximate position and can vary from the site entrance to the centre of the site. Where the exact position of the site is unclear, Landmark construct either a 100 metre or 250 metre "buffer" around the point to warn of the possible presence of landfill. The size of this "buffer" relates to the positional accuracy that can be attributed to the site. The "buffer" is shown on the map as an orange cross-hatched circle and is referred to in the map legend as Potential Landfill Buffer. Where actual boundaries are available, the landfill site area is shown on the map as a red diagonal hatched polygon and referred to in the map legend as Registered Landfill Site.

Local Authority Recorded Landfill Sites

Local Authority landfill data are sourced from individual local authorities that were able to provide information on sites operating prior to the introduction of the Control of Pollution Act (COPA) in 1974. Appropriate authorities are listed under Local Authority Landfill Coverage with an indication of whether or not they were able to make landfill data available. Details of any records identified are disclosed. You should be aware that if the local authority 'Had landfill data but passed it to the relevant environment agency' it does not necessarily mean that local authority landfill data is included in our other Landfill datasets. In addition if no data has been made available, for all or part of the search area, you should be aware that a negative response under 'Local Authority Recorded Landfill Sites' does not necessarily confirm that no local authority landfills exist.

Flooding

The Sitecheck report flood map plots all flood related features revealed within the search area as supplied by the relevant agency. However, to avoid confusion, the text entry in the body of the report only reveals the detail of the nearest feature in each flood data set. This is also reflected in the summary table where only a single entry is included to indicate the search buffer of the nearest occurrence.

Mining Instability Data

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The Sitecheck Assess User guide is available free of charge from our website www.sitecheck.co.uk

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Environment Agency

SEPA

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THE COAL AUTHORITY

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Contact Names and Addresses

1 Barnsley Metropolitan Borough Council Environmental Health and Trading Standards

Central Offices
Kendray Street
Barnsley
South Yorkshire
S70 2TN

Telephone 01226 770770
Fax 01226 772599

www.barnsley.gov.uk

2 Environment Agency National Customer Contact Centre (NCCC)

PO Box 544
Templeborough
Rotherham
S60 1BY

Telephone 08708 506 506

enquiries@environment-agency.gov.uk

Please note that the Environment Agency/SEPA have a charging policy in place for enquiries.

3 British Geological Survey Enquiry Service

British Geological Survey
Kingsley Dunham Centre
Keyworth
Nottingham
Nottinghamshire
NG12 5GG

Telephone 0115 936 3143
Fax 0115 936 3276

enquiries@bgs.ac.uk
www.bgs.ac.uk

4 The Coal Authority Mining Report Service

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

Telephone 0845 7626848

thecoalauthority@coal.gov.uk

Other Contacts

Institution of Civil Engineering Surveyors

26 Market Street
ALTRINCHAM
Cheshire
WA14 1PF

Telephone 0161 928 8074

www.ices.org.uk/ices.asp

The Association of Geotechnical and Geoenvironmental Specialists

Foreham Street
83 Copers
Cope Road
Beckenham
Kent
BR3 1NR

Telephone 020 86588212

www.ags.org.uk/

The Environmental Auditors Registration Association

Welton House
Limekiln Way
Lincoln
LN2 4US

Telephone 01522 540069

www.greenchannel.com/iea/earahome.htm

The Environmental Industries Commission

45 Weymouth Street
London
W1N 3LD

Telephone 020 79351675

www.eic-uk.co.uk/

The Institution of Civil Engineers

One Great George Street
Westminster
LONDON
SW1P 3AA

Telephone 0207 222 7722
Fax 0207 222 7500

www.ice.org.uk

The Royal Institution of Chartered Surveyors

12 Great George Street
Parliament Square
London
SW1P 3AD

Telephone 020 7222 7000

www.rics.org.uk/

Wilbourn Associates

30 Jessops Riverside
800 Brightside Lane
Sheffield
S9 2RX

www.environmental-surveyors.com

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   iii. any person who provides funding secured on the whole of the Property Site,
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   v. any person who acts for You in a professional or commercial capacity; and
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b. If Your rights are terminated under this clause and You have made an advance payment We will refund You a reasonable proportion of the balance as determined by Us in relation to the value of Services previously purchased.
c. Landmark reserves the right to refuse to supply any or all Services to You without notice or reason.

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   ii. Landmark's only obligation is to exercise reasonable skill and care in providing environmental property risk information to persons acting in a professional or commercial capacity who are skilled in the use of property and environmental information and You hereby acknowledge that You are such a person;
   iii. no physical inspection of the Property Site reported on is carried out as part of any Services offered by Landmark and Landmark do not warrant that all land uses or features whether past or current will be identified in the Services. The Services do not include any information relating to the actual state or condition of any Property Site nor should they be used or taken to indicate or exclude actual fitness or unfitness of a Property Site

for any particular purpose nor should it be relied upon for determining saleability or value or used as a substitute for any physical investigation or inspection. Landmark recommends that You inspect and take other advice in relation to the Property Site and not rely exclusively on the Services.

iv. Subject to clause 6.o below, Landmark shall not be responsible for error or corruption in the Services resulting from inaccuracy or omission in primary or secondary information and data, inaccurate processing of information and data by third parties, computer malfunction or corruption of data whilst in the course of conversion, geo-coding, processing by computer or electronic means, or in the course of transmission by telephone or other communication link, or printing.

v. Landmark will not be held liable in any way if a Report on residential property is used for commercial property or more than the one residential property for which it was ordered.

vi. the Services have not been prepared to meet Your or anyone else's individual requirements; that You assume the entire risk as to the suitability of the Services and waive any claim of detrimental reliance upon the same; and You confirm You are solely responsible for the selection or omission of any specific part of the Content;

vii. Landmark offer no warranty for the performance of any linked internet service not operated by Landmark;

viii. You will on using the Services make a reasonable inspection of any results to satisfy Yourself that there are no defects or failures. In the event that there is a material defect You will notify us in writing of such defect within seven days of its discovery;

ix. Any support or assistance provided to You in connection with these Terms is at Your risk;

h. All liability for any insurance products purchased by You rests solely with the insurer. Landmark does not endorse any particular product or insurer and no information contained within the Services should be deemed to imply otherwise. You acknowledge that if You Order any such insurance Landmark will deem such as Your consent to forward a copy of the Report to the insurers. Where such policy is purchased, all liability remains with the insurers and You are entirely responsible for ensuring that the insurance policy offered is suitable for Your needs and should seek independent advice. Landmark does not guarantee that an insurance poucy will be available on a Property Site. All decisions with regard to the offer of insurance policies for any premises will be made solely at the discretion of the insurers and Landmark accepts no liability in this regard. The provision of a Report does not constitute any indication by Landmark that insurance will be available on the property.

i. Professional opinions contained in Reports are provided to Landmark by third parties, and such third parties are solely liable for the opinion provided. For the avoidance of doubt, those parties providing assessments or professional opinions on Landmark products include RPS Plc & Wilbourn Associates Limited, and any issues with regard to the provision of such opinion should be taken up with the relevant third party.
If Landmark provides You with any additional service obtained from a third party, including but not limited to any interpretation or conclusion, risk assessment or environmental report or search carried out in relation to a Report on Your Property Site, subject to clause 6.o below Landmark will not be liable in any way for any information contained therein or any issues arising out of the provision of those additional services to You. Landmark will be deemed to have acted as an agent in these circumstances and the supply of these additional services will be governed by the terms and conditions of those Third Parties.

j. In any event no person may rely on a Service more than 12 months after its original date.

k. If You wish to vary any limitation of liability as set out in these Terms, You must request such variation prior to ordering the Service. Landmark shall use its reasonable endeavours to agree such variation but shall not be obliged to do so.

l. Time shall not be of the essence with respect to the provision of the Services.

m. Ordnance Survey have undertaken a positional accuracy improvement programme which may result in discrepancies between the positioning of features used in datasets in the Services and the updated Ordnance Survey mapping. Subject to clause 6.o below, Landmark and its Suppliers exclude all and any liability incurred as a result of the implementation of such positional accuracy improvement programme.

n. Where Landmark provides its own risk assessment in connection with any Report, Landmark shall carry out such assessment with all reasonable skill and care but shall have no liability for any such risk assessment conclusion which is provided for information only, save where Landmark conducted the same negligently, in which case the provisions of clause 6 shall apply. Notwithstanding the provision of any such risk assessment conclusion you should carefully examine the remainder of the Report and should not take or refrain from taking any action based solely on the basis of the risk assessment. For the avoidance of doubt, the provisions of this clause 6n apply solely to risk assessments conducted by Landmark, and the provision of any other risk assessment by a third party shall be governed by such third party's terms in accordance with the provisions of clause 6i above.

o. Landmark obtains much of the information contained in its Report from third parties. Landmark will not accept any liability to You for any negligent or incorrect entry, or error or corruption in the Third Party Content supplied to Landmark, but Landmark's Suppliers may be liable for such negligent or incorrect entries, or errors or corruptions, subject to the terms and conditions on which they supply the Third Party Content to Landmark.

7. Contribution

a. Save where expressly provided, this clause 7 shall apply solely to Envirosearch Residential Reports (regardless of the result of such Report). Nothing in this clause 7 shall operate to oversee or vary the provisions of clause 6.

b. Landmark are prepared to offer, at their sole discretion, and without any admission or inference of liability a contribution towards the costs of any remediation works required under a Notice (as defined below) on the terms of this clause 7 ("the Contribution")

c. In the event that a Remediation Notice is served on the First Purchaser or First Purchaser's Lender of a Property Site under Part II(A) of the Environmental Protection Act 1990 ("the Notice") Landmark will contribute to the cost of such works as either the First Purchaser or First Purchaser's Lender (but not both) are required to carry out under the Notice subject to the provisions of this clause 7 and on the following terms:

i. the Contribution shall only apply to contamination or a pollution incident present or having occurred prior to the date of the Report;

ii. the Contribution shall only apply where the Property Site is a single residential dwelling house or a single residential flat within a block of flats. For the avoidance of doubt, this obligation does not apply to any commercial property, nor to any Property Site being developed or redeveloped whether for residential purposes or otherwise;

iii. the Contribution is strictly limited to the cost of works at the Property Site and at no other site.

iv. the Contribution will not be paid in respect of any of the following.
Radioactive contamination of whatsoever nature, directly or indirectly caused by or contributed to or arising from ionising radiations or contamination by radioactivity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel or the radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof.
Asbestos arising out of or related in any way to asbestos or asbestos-containing materials on or in structures or services serving the structures.
Naturally occurring materials arising from the presence or required removal of naturally occuring materials except in circumstances where such materials are present in concentrations which are in excess of their natural concentration.
Intentional non-compliance arising from the intentional disregard of or knowing wilful or deliberate non-compliance by any owner or occupier of the Property Site with any statute, regulation, administrative complaint, notice of violation, or notice letter of any Regulatory Authority.
Any condition which is known or ought reasonably to have been known to the First Purchaser or the First Purchaser's Lender prior to the purchase of the Report.
Any condition which is caused by acts of War or an Act of Terrorism.
Any property belonging to or in the custody or control of the First Purchaser which does not form a fixed part of the Property Site or the structure.
Any fines liquidated damages punitive or exemplary damages.
Any bodily injury including without limitation, death, illness or disease, mental injury, anguish or nervous shock.
Any financial loss in respect of any loss of any rental, profit, revenue, savings or business or any consequential indirect or economic loss damage or expense including the cost of rent of temporary premises or business interruption.
Any losses incurred following a material change in use of, alteration or development of the Property Site.

d. The maximum sum that shall be contributed by Landmark in respect of any Contribution shall be limited to £60,000. In the event that more than one Report is purchased on the Property Site the Contribution will only be payable under the first Report purchased by or on behalf of any First Purchaser or First Purchaser's Lender and no Contribution will be made in respect of subsequent Reports purchased by or on behalf of such First Purchaser, First Purchaser's Lender or any person connected to them.

e. Landmark shall only pay a Contribution where the Notice is served within 36 months of the date of the Report.

f. Any rights to a Contribution under this Clause 7 are not assignable in the event of a sale of the Property Site and Landmark will not make any Contribution after the date of completion of such sale.

g. In the event the First Purchaser or First Purchaser's Lender wishes to claim any Contribution, it shall notify Landmark in writing within 3 months of the date of the Notice. The First Purchaser or First Purchaser's Lender (as applicable) shall comply with all reasonable requirements of Landmark with regard to the commission and conduct of the remediation works to be carried out under the Notice, and in the event the First Purchaser or First Purchaser's Lender (as applicable) does not do so, including without limitation, obtaining Landmark's prior written consent to any estimates for such works or complying with any other reasonable request by Landmark, Landmark shall not be required to pay any Contribution. Notwithstanding the payment of the Contribution by Landmark the First Purchaser or First Purchaser's Lender as applicable shall take all reasonable steps to mitigate any costs incurred in connection with the conduct of works required under the terms of any Notice.

h. In the event that the First Purchaser or First Purchaser's Lender receives any communication from a statutory authority to the effect that there is an intent to serve a notice received under Part II(A) of the Environmental Protection Act 1990 they will advise Landmark within a maximum period of two months from receipt of such communication. This clause 7h and the service of any notice under it shall not affect the provisions of clauses 7 e and g, and any such communications, even if advised to Landmark will not operate as notice under clause 7e.

i. Landmark reserve the right at any time prior to a claim for Contribution being made in accordance with clause 7 g) above, to withdraw the offer of payment of Contributions without further notice.

8. Events Beyond Our Control

a. You acknowledge that Landmark shall not be liable for any delay, interruption or failure in the provision of the Services which are caused or contributed to by any circumstance which is outside our reasonable control including but not limited to, lack of power, telecommunications failure or overload, computer malfunction, inaccurate processing of data, or delays in receiving, loading or checking data, corruption of data whilst in the course of conversion, geo-coding, processing by computer in the course of electronic communication, or printing.

9. Severability

a. If any provision of these Terms are found by either a court or other competent authority to be void, invalid, illegal or unenforceable, that provision shall be deemed to be deleted from these Terms and never to have formed part of these Terms and the remaining provisions shall continue in full force and effect.

10. Governing Law

a. These terms shall be governed by and construed in accordance with English law and each party agrees irrevocably submit to the exclusive jurisdiction of the English courts If any dispute arises out of or in connection with this agreement (a "Dispute") the parties undertake that, prior to the commencement of Court proceedings, they will seek to have the Dispute resolved amicably by use of an alternative dispute resolution procedure acceptable to both parties with the assistance of the Centre for Dispute Resolution (CEDR) If required, by written notice initiating that procedure. If the Dispute has not been resolved to the satisfaction of either party within 60 days of initiation of the procedure or if either party fails or refuses to participate in or withdraws from participating in the procedure then either party may refer the Dispute to the Court.

11. General; Complaints

a. Landmark may assign its rights and obligations under these Terms without prior notice or any limitation.

b. Landmark may authorise or allow our contractors and other third parties to provide to Landmark and/or to You services necessary or related to the Services and to perform Landmark's obligations and exercise Landmark's rights under these Terms, which may include collecting payment on Landmark's behalf.

c. No waiver on Landmark's part to exercise, and no delay in exercising, any right, power or provision hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any right, power or provision hereunder preclude the exercise of that or any other right, power or provision.

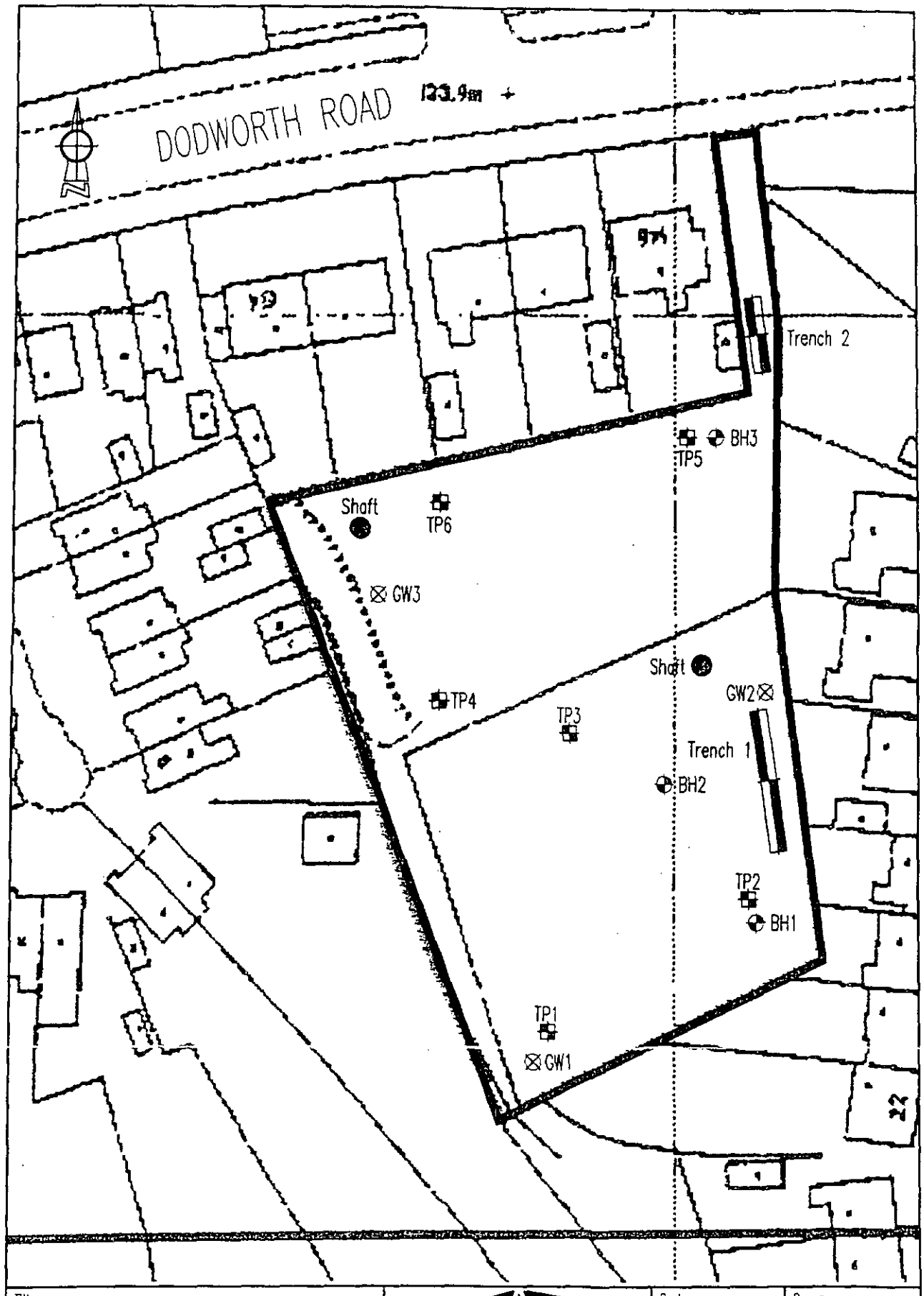
d. Unless otherwise stated in these Terms, all notices from You to Landmark must be in writing and sent to the Landmark registered office (or in the case of an Authorised Reseller, to its registered office address) and subject to paragraph e below all notices from Landmark to You will be displayed on our Websites from time to time.

e. Any complaints in relation to the Services should, in the first instance, be in writing addressed to the Customer Service Support Manager at the Landmark registered office. Landmark or its agents will respond to any such complaints in writing as soon as practicably possible.

f. A person who is not a party to any contract made pursuant to these Terms shall have no right under the Contract (Right of Third Parties) Act 1999 to enforce any terms of such contract and Landmark shall not be liable to any such third party in respect of any Services supplied.

g. Landmark's Privacy Policy as displayed on the Website governs the use made of any information You supply to Landmark.

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Title: INVESTIGATION LOCATION PLAN	ARP GEOTECHNICAL CHARTERED CONSULTING ENGINEERS Northwest House • 5/6 Northwest Business Park Servia Hill • Leeds LS6 2QH Telephone : 0113 245 8498 • Fax : 0113 244 3864 E-Mail : leeds@arpgeotechnical.co.uk	Scale: NTS	Drawn: MW
		Date: NOV 09	Chk.: JRP
Project/ Client: DODWORTH ROAD, BARNSLEY HALLROYD HOMES LTD.		Drg. No.: HLD/03/SI.03	Rev.

ARP GEOTECHNICAL LTD

Site: Dodworth Road, Barnsley			Trial Pit Number: TP1
Excavation Method: JCB 3CX backhoe excavator	Dimensions	Ground Level (mOD)	Client: Hallroyd Homes Ltd
			Job Number: HLD/03
	Location	Dates: 30/10/2009	Engineer: ARP Geotechnical Ltd
			Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.25	D1				(0.60)	MADE GROUND: Grass onto grey/red sand, gravel and cobbles. Gravel is angular, of brick, some ash and occasional limestone. Cobbles are angular, of brick (including trace whole bricks). Trace plastic sheeting pieces.		
0.60-0.85	D2				0.60 (0.25) 0.85	MADE GROUND: Reddy brown sandy gravel with occasional cobbles, all tabular, of mudstone. (Red Shale)		
					(1.50)	MADE GROUND: Grey sand and gravel with occasional cobbles, all tabular, of mudstone. (Colliery Spoil)		
2.35-2.50	D3				2.35 (0.15) 2.50	Grey/yellow thinly bedded fine grained SANDSTONE. Arising as tabular cobbles. Hard to dig.		
						Complete at 2.50m		

Plan

Remarks

No groundwater encountered.
Slight instability below 0.85m.
Excavation backfilled with arisings upon completion.

Scale (approx)	Logged By	Figure No.
1:40	JRP	HLD/03.TP1

ARP GEOTECHNICAL LTD

Site: Dodworth Road, Barnsley			Trial Pit Number: TP2
Excavation Method: JCB 3CX backhoe excavator	Dimensions:	Ground Level (mOD):	Client: Hallroyd Homes Ltd
Job Number: HLD/03	Location:	Dates: 30/10/2009	Engineer: ARP Geotechnical Ltd
Sheet: 1/1			

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.55)	MADE GROUND: Grey/red slightly clayey sand, gravel and occasional cobbles. Gravel is angular, of brick, sandstone and some ash. Cobbles are angular, of brick (including trace whole bricks), sandstone and occasional concrete. Trace plastic sheeting pieces.		
0.55-1.55	D1				0.55 (1.25)	MADE GROUND: Dark grey/black very silty sandy gravelly clay. Gravel is fine to coarse and tabular, of mudstone, and angular, of trace clinker. Trace metal, white asbestos sheeting and glass fragments ...from 1.2m, becoming brown with some sandstone and brick cobbles.		
					1.80 (0.90)	Firm to stiff light brown slightly sandy slightly gravelly CLAY. Gravel is fine to medium and tabular, of light grey mudstone. (Completely Weathered Mudstone)		
					2.70 (0.25) 2.95	Reddy/orange thinly laminated MUDSTONE. Arising as gravel and cobbles. Hard to dig.		
						Complete at 2.95m		

Plan

Remarks

No groundwater encountered.
Made ground slightly unstable.
Excavation backfilled with arisings upon completion.

Scale (approx)	Logged By	Figure No.
1:40	JRP	HLD/03.TP2

ARP GEOTECHNICAL LTD

Site: Dodworth Road, Barnsley			Trial Pit Number: TP3
Excavation Method: JCB 3CX backhoe excavator	Dimensions:	Ground Level (mOD):	Client: Hallroyd Homes Ltd
	Location:	Dates: 30/10/2009	Engineer: ARP Geotechnical Ltd
			Job Number: HLD/03
			Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.50	D1				(0.50)	MADE GROUND: MADE GROUND: Grey/red slightly clayey sand, gravel and occasional cobbles. Gravel is angular, of brick, sandstone, limestone and some ash. Cobbles are angular, of brick (including trace whole bricks), sandstone and occasional concrete. Trace glass.		
0.50-2.00	D2				0.50	MADE GROUND: Grey slightly clayey sand and gravel with occasional cobbles and trace boulders (up to 0.25m in diameter) all tabular, of mudstone. Trace sandstone cobbles and metal. (Colliery Spoil)		
					(2.20)			
2.70-3.50	D3				2.70	Firm to stiff brown/grey silty slightly sandy slightly gravelly CLAY. *Gravel is tabular, of mudstone.* (Completely Weathered Mudstone)		
3.00	HS 80.67kPa		80,78,84/Av. 80.67					
3.50	HS 92.00kPa		94,94,88/Av. 92.00		(1.40)	...from 3.6m becoming slightly silty and sandy.		
						...from 4m, trace gravel.		
					4.10	Complete at 4.10m		

Plan

Remarks

No groundwater encountered.
Made ground slightly unstable.
Excavation backfilled with arisings upon completion.

Scale (approx)	Logged By	Figure No.
1:40	JRP	HLD/03.TP3

ARP GEOTECHNICAL LTD

Site: Dodworth Road, Barnsley			Trial Pit Number: TP4
Excavation Method: JCB 3CX backhoe excavator	Dimensions:	Ground Level (mOD):	Client: Hallroyd Homes Ltd — Job Number: HLD/03
	Location:	Dates: 30/10/2009	Engineer: ARP Geotechnical Ltd — Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					0.10	MADE GROUND: Grass over limestone sub-base		
					(0.65)	MADE GROUND: Grey slightly clayey sand and gravel with occasional cobbles, all tabular, and of mudstone. (Colliery Spoil)		
0.75-1.60	D1				0.75	MADE GROUND: Reddy brown slightly clayey sand and gravel with occasional cobbles, all tabular, and of mudstone. (Red Shale)		
						...from 1.6m, becoming very sandy.		
					(2.40)			
					3.15	Firm grey/brown silty slightly sandy slightly gravelly CLAY. Gravel is fine to medium and tabular, of sandstone. Trace coal fragments (Completely Weathered Sandstone)		
					(0.95)			
						...from 3.8m, becoming gravelly. Gravel is tabular, of sandstone.		
					4.10	Grey/yellow thinly bedded fine grained SANDSTONE. Arising as tabular gravel and cobbles with a clay smear.		
					4.15	Complete at 4.15m		

Plan

Remarks

No groundwater encountered.
Made ground slightly unstable.
Excavation backfilled with arisings upon completion.

Scale (approx)	Logged By	Figure No.
1:40	JRP	HLD/03.TP4

ARP GEOTECHNICAL LTD

Site: Dodworth Road, Barnsley			Trial Pit Number: TP5
Excavation Method: *JCB 3CX backhoe excavator*	Dimensions	Ground Level (mOD)	Client: Halliroyd Homes Ltd / Job Number: HLD/03
	Location	Dates: 30/10/2009	Engineer: ARP Geotechnical Ltd / Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.15	D1				0.15	MADE GROUND: Tarmac over limestone sub-base		
0.15-0.65	D2				(0.50)	MADE GROUND: Grey slightly clayey sand and gravel with occasional cobbles, all tabular, and of mudstone. (Colliery Spoil)		
					0.65	MADE GROUND: Reddy brown slightly clayey sand and gravel with occasional cobbles, all tabular, and of mudstone. (Red Shale)		
						...from 1.2m, becoming clayey.		
					(1.65)			
					2.30	Firm brown silty slightly sandy slightly gravelly CLAY. Gravel is fine to medium and tabular, of light grey mudstone and trace coal. (Completely Weathered Mudstone)		
					(1.10)			
					3.40	Reddy brown thinly laminated MUDSTONE. Arising as tabular gravel and cobbles. Hard to dig.		
					3.50	Complete at 3.50m		

Plan

Remarks

No groundwater encountered.
Made ground slightly unstable.
Excavation backfilled with arisings upon completion.

Scale (approx)	Logged By	Figure No.
1:40	JRP	HLD/03.TP5

ARP GEOTECHNICAL LTD

Site: Dodworth Road, Barnsley			Trial Pit Number: TP6
Excavation Method: JCB 3CX backhoe excavator	Dimensions	Ground Level (mOD)	Client: Hallroyd Homes Ltd
			Job Number: HLD/03
	Location	Dates: 30/10/2009	Engineer: ARP Geotechnical Ltd
			Sheet: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.05 0.05-1.50	D1 D2				0.05	MADE GROUND: Limestone sub-base		
						MADE GROUND: Grey very clayey sand and gravel with occasional cobbles, all tabular, and of mudstone. (Colliery Spoil)		
					(2.10)			
						...from 1.2m, becoming clayey.		
2.15-3.00	D3				2.15	MADE GROUND: Grey and occasionally brown/black mottled slightly silty slightly sandy gravelly CLAY. Gravel is tabular, of sandstone, siltstone and coal.		
					(1.55)			
					3.70	Firm brown slightly silty sandy gravelly CLAY. Gravel is tabular, of sandstone. (Completely Weathered Sandstone)		
					(0.50)			
					4.20 4.30	Yellowy grey thinly bedded fine grained SANDSTONE. Arising as tabular cobbles with a moist clay smear. Hard to dig.		
						Complete at 4.30m		

Plan



Remarks

No groundwater encountered.
Sides remained stable.
Excavation backfilled with arisings upon completion.

Scale (approx)	Logged By	Figure No.
1:40	JRP	HLD/03.TP6

[redacted] Exploration Drilling
Mobile: 07939852446

Rotary Drilling Daily Report

Serial No: 1768

Project: Dodworth Road, Barnsley	Foreman: W. Gilmore	Type of Drilling: Rotary Water Flush	Borehole No: BH 1
Contract No:	Assistant: D McGlynn		Day and Date: 8.12.09
Client: A.R.P	Assistant:	Flush:	Borehole Dia: 125 mm
Client's Project No: HLO-03	Rig No: Beretta T44	Coreline; Y/N —	Casing Dia: 125 mm
Weather:	Vehicle No:	Core Boxes Used: —	Angle: Bearing:

DRILLING RECORD											DESCRIPTION OF STRATA	S.P.T or C.P.T. Blows / 75mm						
Casing Depth (m)	Water Level (m)	Shoe/ bit Size	From (m)	To (m)	Length (m)	Time (mins)	Flush Return %	Core Rec'y	Box No.	Strata Depth (m)		S/C	75	75	75	75	75	75
												SAMPLING						
												B/J	No.	Depth				
3m.										GL-1.60	MADE GROUND.							
										1.60-3.10	SALTY GREY CLAY.							
										3.10-6.00	DARK GREY WEATHERED MUD STONE.							
											END OF DAY 6m.							
											AUGER FROM GL-3.00m. THEN WATER FLUSH.							

Borehole Complete/ Incomplete

REMARKS: Standing Time, Dayworks, Breakdowns, Tests, Services, etc.

Signed: W. Gilmore ..... Driller

Signed: ..... Client's Rep.

WATER LEVEL RECORD				
Time	Start of Shift			End of Shift
Depth of Hole (m)				
Depth of Casing (m)				
Depth of Water (m)				
Depth of Water (m) after 10 Mins				
Depth of Water (m) after 20 Mins				
Depth of Water (m) after ..... Mins				

From	To	Total	hrs
Drilling			hrs
Casing			hrs
Move and Set Up			hrs
Delays			hrs
Inspections Pit: Yes/No/By Others			hrs
Cat Survey: Yes/No/By Others			hrs

TO:01132443964 P.2/8

Tyneside Exploration Drilling — Rotary Drilling Daily Report — Serial No: 1760

Mobile: 07939852446

Project: 200 WORTH ROAD, BARDSLEY.	Foreman: W GILMORE	Type of Drilling:	Borehole No: BH 1
Contract No:	Assistant: D. MAGLYN	OPEN HOLE	Day and Date: 9.12.09
Client: N.R.P	Assistant:	Flush: WATER FLUSH	Borehole Dia: 125mm
Client's Project No: HLO-03.	Rig No: BERETTA TH4	Coreline; Y/N —	Casing Dia: 125mm.
Weather:	Vehicle No:	Core Boxes Used: —	Angle: / Bearing:

DRILLING RECORD

Casing Depth (m)	Water Level (m)	Shoe/ bit Size	From (m)	To (m)	Length (m)	Time (mins)	Flush Return %	Core Rec'y	Box No.	Strata Depth (m)	DESCRIPTION OF STRATA	S.P.T or C.P.T. Blows / 75mm S/C 75 75 75 75 75 75
												SAMPLING B/J No. Depth
											START OF DAY 6m.	
										6.00-6.10	DARK GREY WEATHERED MUD STONE.	
										6.10-6.60	GREY MUD STONE.	
										6.60-8.90	FRACTURED BROWN STAINED STONE.	
										8.90-13.30	GREY MUD STONE	
										13.30-15.10	DARK GREY MUD STONE.	
										15.10-20.00m.	GREY MUD STONE.	
											END BH 20m.	

Borehole Complete/ Incomplete

REMARKS: Standing Time, Dayworks, Breakdowns, Tests, Services, etc.

GROUT UP BH 1m.

Signed: W Gilmore ..... Driller

Signed: ..... Client's Rep.

WATER LEVEL RECORD

Time	Start of Shift			End of Shift
Depth of Hole (m)				
Depth of Casing (m)				
Depth of Water (m)				
Depth of Water (m) after 10 Mins				
Depth of Water (m) after 20 Mins				
Depth of Water (m) after ... Mins				

From	To	Total	hrs
Drilling			hrs
Casing			hrs
Move and Set Up			hrs
Delays			hrs
Inspections Pit: Yes/No/By Others			hrs
Cat Survey: Yes/No/By Others			hrs
Standpipe/Piezometer: Yes/No			hrs

9-DEC-2009 13:46 FROM:TYNESIDE EXPLORATION 01912899916 TO:01132443864 P.3/8

Tyneside Exploration Drilling
Mobile: 07939852446

Rotary Drilling Daily Report

Serial No: 1771

Project: DONCASTER RD. BARNSLEY.	Foreman: W GILMORE	Type of Drilling: OPEN HOLE	Borehole No: 2.
Contract No:	Assistant: O MAGLYN		Day and Date: 10.12.09
Client: ARP.	Assistant:	Flush: WATER FLUSH	Borehole Dia: 125
Client's Project No: HLO-03	Rig No: BERETTA T44	Coreline; Y/N —	Casing Dia: 125
Weather:	Vehicle No:	Core Boxes Used: —	Angle: Bearing:

DRILLING RECORD											DESCRIPTION OF STRATA	S.P.T or C.P.T. Blows / 75mm						
Casing Depth (m)	Water Level (m)	Shoe/ bit Size	From (m)	To (m)	Length (m)	Time (mins)	Flush Return %	Core Rec'y	Box No.	Strata Depth (m)		S/C	75	75	75	75	75	75
												SAMPLING						
												B/J	No.	Depth				
7.5m.										0.1-2.60	MADE GROUND							
										2.60-3.40	SILTY GREY/ CLAY							
										3.40-6.70	GREY MUD STONE.							
										6.70-7.30	BROKEN FRACTURED SANDSTONE							
										7.30-14.10	GREY MUD STONE.							
										14.10-15.20	DARK GREY MUD STONE.							
										15.20-22.00	GREY MUD STONE							
											END BH 22m.							

Borehole Complete/ Incomplete

REMARKS: Standing Time, Dayworks, Breakdowns, Tests, Services, etc.

BACK FILL BH WITH ARISINGS AND GRANT. 1t.

Signed: W Gilmore ..... Driller

WATER LEVEL RECORD					From	To	Total	hrs
Time	Start of Shift			End of Shift	Drilling			hrs
Depth of Hole (m)					Casing			hrs
Depth of Casing (m)					Move and Set Up			hrs
Depth of Water (m)					Delays			hrs
Depth of Water (m) after 10 Mins					Inspections Pit: Yes/No/By Others			hrs
Depth of Water (m) after 20 Mins								

TYNESIDE EXPLORATION 01912899915
TO:01132443864
P.5/8

[redacted] Exploration [redacted] Drilling [redacted]

Mobile: 07939852446

Rotary Drilling Daily Report

Serial No: 1770

Project: WOODSMITH ROAD, BARNSLEY.	Foreman: W GILMORE	Type of Drilling: OPEN HOLE + AUGER	Borehole No: 3
Contract No:	Assistant: O. MAGLYN		Day and Date: 9-12-09
Client: A.R.P	Assistant:	Flush: WATER FLUSH	Borehole Dia: 125mm
Client's Project No: HLO-07.	Rig No: BERETTA TUK	Coreline; Y/N —	Casing Dia: 125mm
Weather:	Vehicle No:	Core Boxes Used: —	Angle: Bearing:

DRILLING RECORD											DESCRIPTION OF STRATA	S.P.T or C.P.T. Blows / 75mm						
Casing Depth (m)	Water Level (m)	Shoe/ bit Size	From (m)	To (m)	Length (m)	Time (mins)	Flush Return %	Core Rec'y	Box No.	Strata Depth (m)		S/C	75	75	75	75	75	75
												SAMPLING						
												B/J	No.	Depth				
4m										GL-2.90	MADE GROUND.							
										2.90-4.60	SILTY GREY CLAY.							
	AUGER FROM GL-4.00m. THEN									4.60-6.20	DARK GREY WEATHERED							
	WATER FLUSH.										MUD STONE.							
										6.20-7.80	GREY MUD STONE.							
										7.80-10.10	FRACTURED BROWN SAND STONE.							
										10.10-22.00m	GREY MUD STONE.							
											END OH 22m.							

Borehole Complete/ Incomplete

REMARKS: Standing Time, Dayworks, Breakdowns, Tests, Services, etc.

grout up BH 1m.

Signed: W Gilmore ..... Driller

Signed: ..... Client's Rep.

WATER LEVEL RECORD					
Time	Start of Shift			End of Shift	
Depth of Hole (m)					
Depth of Casing (m)					
Depth of Water (m)					
Depth of Water (m) after 10 Mins					
Depth of Water (m) after 20 Mins					
Depth of Water (m) after ... Mins					

From To Total	hrs
Drilling	hrs
Casing	hrs
Move and Set Up	hrs
Delays	hrs
Inspections Pit: Yes/No/By Others	hrs
Coal Survey: Yes/No/By Others	hrs
Standing/Dayworks: Yes/No	hrs

TO:01132443864 P.4/8

Tyneside Exploration Drilling — Rotary Drilling Daily Report — Serial No: 1774

Mobile: 07939852446

Project: WOODMOUTH RD. BARNSLEY.	Foreman: W GILMORE	Type of Drilling:	Borehole No: GWS 1
Contract No:	Assistant: D MACLYN	ORGAR	Day and Date: 10.12.09
Client: A.R.P	Assistant:	Flush:	Borehole Dia:
Client's Project No: HLO-03	Rig No: BERETTA T44	Coreline: Y/N	Casing Dia:
Weather:	Vehicle No:	Core Boxes Used:	Angle: Bearing:

DRILLING RECORD

Casing Depth (m)	Water Level (m)	Shoe/ bit Size	From (m)	To (m)	Length (m)	Time (mins)	Flush Return %	Core Rec'y	Box No.	Strata Depth (m)	DESCRIPTION OF STRATA	S.P.T or C.P.T. Blows / 75mm S/C 75 75 75 75 75 75 SAMPLING B/J No. Depth
			FLUSH COVER + CASING				TAP			GL-1.60	MADE GROUND	
										1.60-2.00	GREY MUD STONE.	
	BENTONITE SEAL						PLAIN PIPE				END BH 2m.	
	GRAVEL FILTER						SLOTTED PIPE					

Borehole Complete/ Incomplete

REMARKS: Standing Time, Dayworks, Breakdowns, Tests, Services, etc.

STAND PIPE ½h.

Signed: W Gilmore. ..... Driller

Signed: ..... Client's Rep.

WATER LEVEL RECORD

Time	Start of Shift			End of Shift
Depth of Hole (m)				
Depth of Casing (m)				
Depth of Water (m)				
Depth of Water (m) after 10 Mins				
Depth of Water (m) after 20 Mins				
Depth of Water (m) after ..... Mins				

From	To	Total	hrs
Drilling			hrs
Casing			hrs
Move and Set Up			hrs
Delays			hrs
Inspections Pit: Yes/No/By Others			hrs
Cat Survey: Yes/No/By Others			hrs
Standpipe/Piezometer Yes/No			hrs

DEC-2009 15:49 FROM:TYNESIDE EXPLORATION 01912859916 TO:01132443864 P.8/8

[redacted] Exploration Drilling
Mobile: 07939852446

Rotary Drilling Daily Report

Serial No: 1773

Project: DODWORTH RD. BARNSLEY	Foreman: W GILMORE	Type of Drilling:	Borehole No: GM) 2
Contract No:	Assistant: O MAGLYN	ORGAR	Day and Date: 10.12.09
Client: A.R.P	Assistant:	Flush:	Borehole Dia:
Client's Project No: HLO.03	Rig No: BERETTA T44	Coreline; Y/N	Casing Dia.
Weather:	Vehicle No:	Core Boxes Used:	Angle: Bearing:

DRILLING RECORD

Casing Depth (m)	Water Level (m)	Shoe/ bit Size	From (m)	To (m)	Length (m)	Time (mins)	Flush Return %	Core Rec'y	Box No.	Strata Depth (m)
										GL-2.40
				FLUSH ROVER TO 2.40 TAP						2.40
	BENTONITE SEAL				PLAIN PIPE					
	GRAVEL FILTER				SLOTTED PIPE.					

DESCRIPTION OF STRATA

MADE GROUND

GREY MUD STONE.

END BH 2.40.

S.P.T or C.P.T. Blows / 75mm

S/C	75	75	75	75	75	75

SAMPLING

B/I	No.	Depth

Borehole Complete/ Incomplete

REMARKS: Standing Time, Dayworks, Breakdowns, Tests, Services, etc.

STAND PIPE ½h.

Signed: W Gilmore ..... Driller

Signed: ..... Client's Rep.

WATER LEVEL RECORD

Time	Start of Shift			End of Shift
Depth of Hole (m)				
Depth of Casing (m)				
Depth of Water (m)				
Depth of Water (m) after 10 Mins				
Depth of Water (m) after 20 Mins				

From	To	Total	hrs
Drilling			hrs
Casing			hrs
Move and Set Up			hrs
Delays			hrs
Inspections Pit: Yes/No/By Others			hrs
Cat Survey: Yes/No/By Others			hrs

TYNE EXPLORATION 01912899915 TO:01132443864 P.7/8

Tyneside Exploration Drilling

[redacted]obile: 07939[redacted]2446

[redacted]tary [redacted]illing Daily Report

Serial No: 1772

Project: DONCASTER RD. BARNSLEY	Foreman: WILMORE	Type of Drilling:	Borehole No: GAS 3
Contract No:	Assistant: D MAGLYN	ORGAM	Day and Date: 10.12.09
Client: A.R.P	Assistant:	Flush:	Borehole Dia:
Client's Project No: HLO-07	Rig No: BERETTA T44	Coreline; Y/N	Casing Dia:
Weather:	Vehicle No:	Core Boxes Used:	Angle: / Bearing:

DRILLING RECORD											DESCRIPTION OF STRATA	S.P.T or C.P.T. Blows / 75mm						
Casing Depth (m)	Water Level (m)	Shoe/ bit Size	From (m)	To (m)	Length (m)	Time (mins)	Flush Return %	Core Rec'y	Box No.	Strata Depth (m)		S/C	75	75	75	75	75	75
												SAMPLING						
												B/J	No.	Depth				
				FLUSH CONCRETE		TANK TAP				GL-3.00	MADE GROUND.							
						PLAIN PIPE												
	BENTONITE SEAL										END BH 3m.							
						1m												
	GRAVEL FILTER.					SLOTTED PIPE												
						3m												

Borehole Complete/ Incomplete

REMARKS: Standing Time, Dayworks, Breakdowns, Tests, Services, etc.

STAND PIPE ½hr.

Signed: W Gilmore ..... Driller

Signed: ..... Client's Rep.

WATER LEVEL RECORD						From	To	Total	hrs
Time	Start of Shift				End of Shift	Drilling			hrs
Depth of Hole (m)						Casing			hrs
Depth of Casing (m)						Move and Set Up			hrs
Depth of Water (m)						Delays			hrs
Depth of Water (m) after 10 Mins						Inspections Pit: Yes/No/By Others			hrs
Depth of Water (m) after 20 Mins						Cat Survey: Yes/No/By Others			hrs
Depth of Water (m) after ..... Mins						Standpipe Piezometer: Yes/No			hrs

TO:01132443864 P.5/8

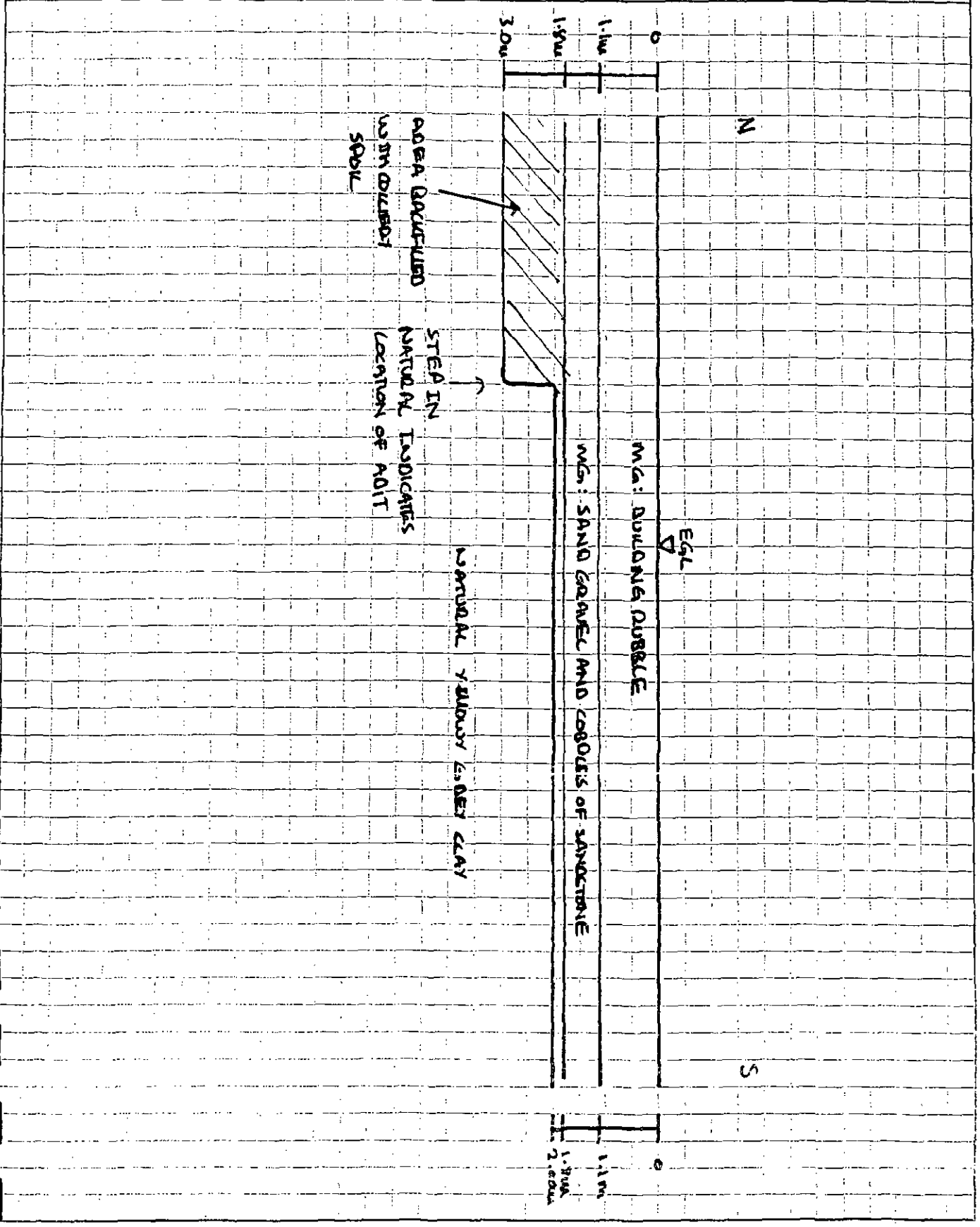
APPENDIX F

INVESTIGATION PLAN AND LOGS

ARP ASSOCIATES
AND GEOTECHNICAL LTD
CHARTERED CONSULTING ENGINEERS

5/6 Northwest Business Park
Servia Hill
Leeds
LS6 2QH
Tel: 0113 245 8498
Fax: 0113 244 3864
E-Mail: leeds@arpassociates.co.uk

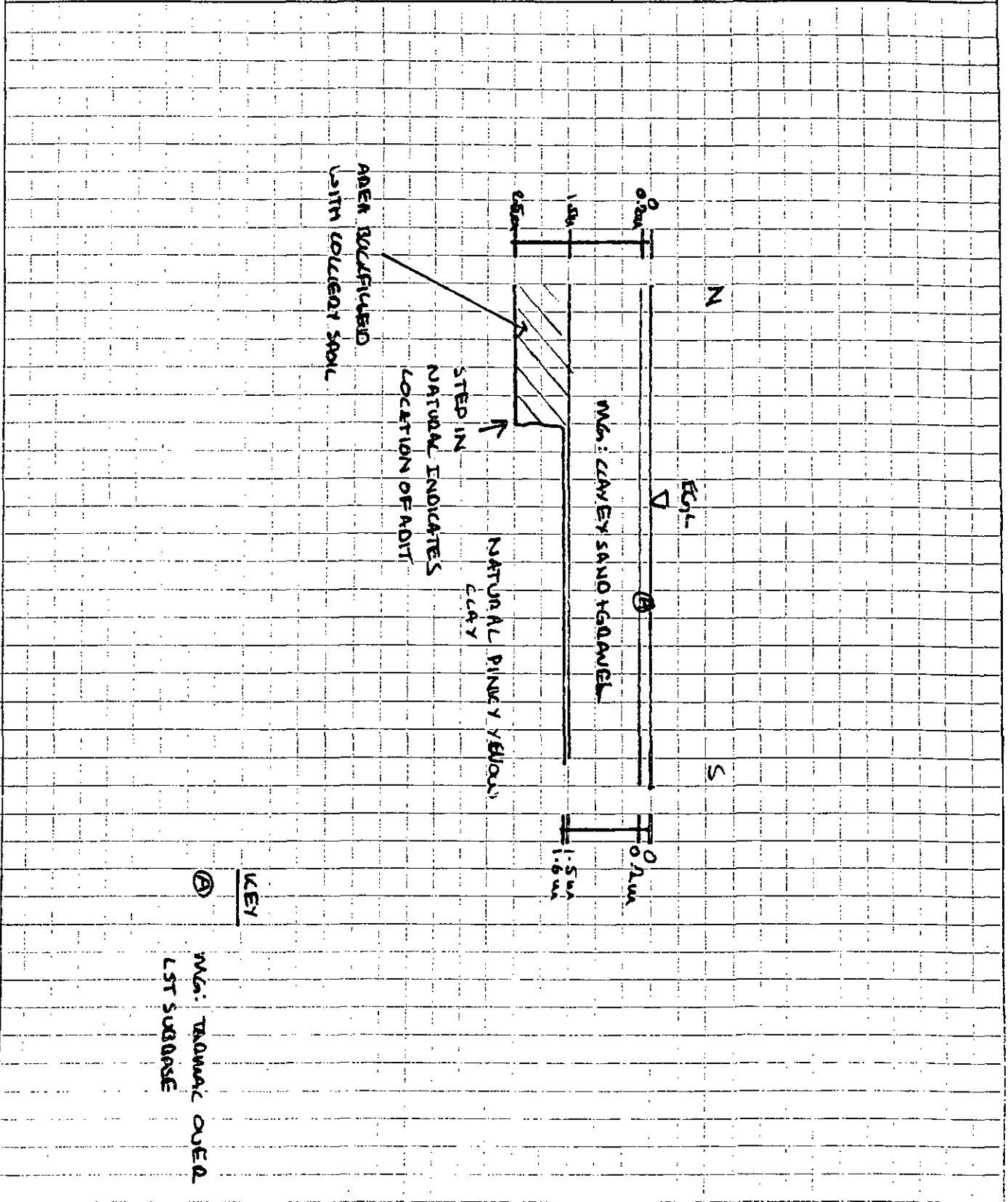
Client : HALLOOYD HOMES LTD	Project No. HAL/03	Sheet. 1 of 1
Project : DODWORTH ROAD, BARNSLEY	Calc By. JNP	Date. 21/12/2009
Element : TRENCH 1	Chkd By.	Date.



ARP ASSOCIATES
AND GEOTECHNICAL LTD
CHARTERED CONSULTING ENGINEERS

5/6 Northwest Business Park
Servia Hill
Leeds
LS6 2QH
Tel: 0113 245 8498
Fax: 0113 244 3864
E-Mail: leeds@arpassociates.co.uk

Client :	HALLROYD HOMES LTD	Project No. HAL/03	Sheet. 1 of 1
Project :	DODWORTH ROAD, BARNSLEY	Calc By. JRA	Date. 21/12/2009
Element :	TRENCH 2	Chkd By.	Date.



APPENDIX G

GAS MONITORING RESULTS

ARP GEOTECHNICAL BOREHOLE GAS MONITORING RESULTS

JOB NO. HLD/03 **CLIENT:** Hallroyd Homes Ltd

SITE: Dodworth Road, Barnsley

GW1

Date	BH Peak Flow (l/hr) *	Peak CH_4 %	Qhg CH_4 (l/hr)	Peak CO_2 %	Qhg CO_2 (l/hr)	Min. O_2 %	Depth to G Water (m)	Comment
17/12/2009	0.1	0.0	0.0000	0.2	0.0002	18.7	Dry	
			0.0000		0.0000			
			0.0000		0.0000			
			0.0000		0.0000			
			0.0000		0.0000			
			0.0000		0.0000			

* Where no flow is detected, detection limit of 0.1l/hr should be inserted

Qhg = Hazardous gas flow rate, in accordance with BS8485:2007

ARP GEOTECHNICAL BOREHOLE GAS MONITORING RESULTS

JOB NO. HLD/03 **CLIENT:** Hallroyd Homes Ltd

SITE: Dodworth Road, Barnsley

GW2

Date	BH Peak Flow (l/hr) *	Peak CH_4 %	Qhg CH_4 (l/hr)	Peak CO_2 %	Qhg CO_2 (l/hr)	Min. O_2 %	Depth to G Water (m)	Comment
17/12/2009	0.1	0.0	0.0000	0.3	0.0003	18.7	Dry	
			0.0000		0.0000			
			0.0000		0.0000			
			0.0000		0.0000			
			0.0000		0.0000			
			0.0000		0.0000			

* Where no flow is detected, detection limit of 0.1l/hr should be inserted

Qhg = Hazardous gas flow rate, in accordance with BS8485:2007

ARP GEOTECHNICAL BOREHOLE GAS MONITORING RESULTS

JOB NO. HLD/03 **CLIENT:** Hallroyd Homes Ltd

SITE: Dodworth Road, Barnsley

GW3

Date	BH Peak Flow (l/hr) *	Peak CH_4 %	Qhg CH_4 (l/hr)	Peak CO_2 %	Qhg CO_2 (l/hr)	Min. O_2 %	Depth to G Water (m)	Comment
17/12/2009	0.1	0.0	0.0000	0.2	0.0002	18.7	Dry	
			0.0000		0.0000			
			0.0000		0.0000			
			0.0000		0.0000			
			0.0000		0.0000			
			0.0000		0.0000			

* Where no flow is detected, detection limit of 0.1l/hr should be inserted

Qhg = Hazardous gas flow rate, in accordance with BS8485:2007

ARP GEOTECHNICAL BOREHOLE GAS MONITORING RESULTS

JOB NO. HLD/03 **CLIENT:** Hallroyd Homes Ltd

SITE: Dodworth Road, Barnsley

BAROMETRIC PRESSURES

Monitor Date	On Site	Day	Day Minus 1	Day Minus 2	Trend
17/12/2009	999	1016	1010	1020	Falling

Pressures taken at midday from Dishforth, corrected to sea level.

APPENDIX H

LABORATORY TEST CERTIFICATES AND SCREENING VALUES

ARP GEOTECHNICAL LTD

SCREENING VALUES:- RESIDENTIAL, PRODUCE GROWN AND EATEN

Determinand	Screening Value (mg/kg)			Source
Arsenic	32			CLEA SGV 2009
Cadmium	10			CLEA SGV 2009
Chromium (total)	130			CLEA SGV
Lead	450			CLEA SGV
Mercury	170			CLEA SGV 2009
Selenium	350			CLEA SGV 2009
Copper	111			CIEH
Nickel	130			CLEA SGV 2009
Zinc	330			CIEH
Acidity (pH)[2]	Should be greater than 5			CLEA
	1% SOM	2.5% SOM	5% SOM	
Benzo(a)pyrene	1.12	1.08	1.09	CIEH
Dibenz(a,h)anthracene	1.14	1.13	1.10	CIEH
Fluorene	38.4	91.4	184	CIEH
Naphthalene	7	17	34	Draft SGV
Phenols	420			CLEA SGV2009
Benzene	0.33			CLEA SGV 2009
Toluene	610			CLEA SGV 2009
Ethylbenzene	350			CLEA SGV 2009
o-Xylene	250			CLEA SGV 2009
m-Xylene	240			CLEA SGV 2009
p-Xylene	230			CLEA SGV 2009
Total TPH	If above 500, speciate and compare with values below.			LA
C5 to C6 Aliphatic	2.11	3.72	6.38	CIEH
C6 to C8 Aliphatic	5.37	11.9	22.7	CIEH
C8 to C10 Aliphatic	1.46	3.55	7.0	CIEH
C10 to C12 Aliphatic	8.53	20.8	40.1	CIEH
C12 to C16 Aliphatic	40.7	93.4	163	CIEH
C16 to C35 Aliphatic	16,400	16,400	16,300	CIEH
C35 TO C44 Aliphatic	16,400	16,400	16,400	CIEH
C5 to C7 Aromatic	0.575	1.33	2.57	CIEH
C7 to C8 Aromatic	0.624	1.46	2.85	CIEH
C8 to C10 Aromatic	1.09	2.67	5.30	CIEH
C10 to C12 Aromatic	1.94	4.76	9.44	CIEH
C12 to C16 Aromatic	2.19	5.39	10.7	CIEH
C16 to C21 Aromatic	115	132	133	CIEH
C21 TO C35 Aromatic	157	161	157	CIEH
C35 TO C44 Aromatic	157	161	157	CIEH

Notes:-

JULY 2009

SGV = Soil Guideline Value from the Environment Agency
CIEH = Land Quality Management / Chartered Institute of Environmental Health Generic Assessment Criteria, 2007
LA = Agreed with Local Authorities

ARP GEOTECHNICAL LIMITED

GROUNDWATER SCREENING VALUES

Determinand	Units	Screening Value () source
Arsenic	µg/l	10 (A)
Mercury	µg/l	1 (A)
Boron	µg/l	1000 (A)
Cadmium	µg/l	5 (A)
Chromium	µg/l	50 (A)
Copper	µg/l	2000 (A)
Nickel	µg/l	20 (A)
Lead	µg/l	10 (A)
Zinc	µg/l	5000 (A)
Acenaphthene	µg/l	>sol
Acenaphthylene	µg/l	
Benzo (a) Anthracene	µg/l	>sol
Chrysene	µg/l	>sol
Dibenzo (a,h) Anthracene	µg/l	>sol
Fluoranthene	µg/l	>sol
Fluorene	µg/l	>sol
Phenanthrene	µg/l	
Pyrene	µg/l	>sol
Benzo (a) Pyrene	µg/l	0.01 (A)
Benzo (g,h,i) Perylene	µg/l	
Anthracene	µg/l	>sol
Naphthalene	µg/l	10 (D)
PAH Total	µg/l	
Mineral Oil (TPH)	mg/l	0.01 (A)
Sulphate	mg/l	250 (A)
Phenol	mg/l	0.0005 (A)
Selenium	µg/l	10 (A)
Indeno (1,2,3-cd) pyrene	µg/l	>sol
Benzo (b&k) Fluoranthene	µg/l	
benzo(b)fluoranthene	µg/l	
benzo(k)fluoranthene	µg/l	
PAH (sum of four)	µg/l	0.1 (A)
Diesel range organics (C10 - (	mg/l	0.01 (A)
Lubricating oil range organics (C26 - C40	mg/l	0.01 (A)
TPH (C10 - C40)	mg/l	0.01 (A)
pH	pH units	
Iron	µg/l	200 (A)
Conductivity	uS/cm	1500 (A)
Chloride	mg/l	250 (A)
Ammonical nitrogen	mg/l N	
Nitrate filtered	mg/l	50 (A)
Toluene	µg/l	700 (E)
Ethylbenzene	µg/l	300 (E)
Benzene	µg/l	1 (A)
1,3&1,4 Dimethylbenzene (m & p-Xylene)	µg/l	500 (E)
1,2 - Dimenthylbenzene (o-Xylene)	µg/l	500 (E)
>C6 to C8 Aliphatic	ug/l	10 (A)
>C8 to C10 Aliphatic	ug/l	10 (A)
>C10 to C12 Aliphatic	ug/l	10 (A)
>C12 to C16 Aliphatic	ug/l	10 (A)
>C16 to C21 Aliphatic	ug/l	10 (A)
>C21 TO C40 Aliphatic	ug/l	10 (A)
Total Aliphatic	ug/l	
>C5 to C7 Aromatic	ug/l	10 (A)
>C7 to C8 Aromatic	ug/l	10 (A)
>C8 to C10 Aromatic	ug/l	10 (A)
>C10 to C12 Aromatic	ug/l	10 (A)
>C12 to C16 Aromatic	ug/l	10 (A)
>C16 to C21 Aromatic	ug/l	10 (A)
>C21 TO C40 Aromatic	ug/l	10 (A)
Total Aromatic	ug/l	
Total EPH aliphatic/Aromatic	ug/l	

A = UK Drinking Water Standards B = Dutch Intervention Value 1993 C = RBSL D = EQS E = WHO

dets
Derwentside Environmental Testing Services

2139

Certificate of Analysis

Date: 20/11/2009

Certificate Number: 09-32589-1

Client: ARP Geotechnical
5/6 Northwest Business Park
Servia Hill
Leeds
LS6 2QH

Our Reference: 09-32589-1

Client Reference: HLD/03

Contract Title: Dodworth Road, Barnsley

Description: 1 leachate sample, 9 soil samples

Date Received: 04/11/2009

Date Started: 04/11/2009

Date Completed: 20/11/2009

Test Procedures: Identified by prefix DETSn, details available upon request.

Notes: **This report supersedes 09-32589, additional testing carried out**
Observations and interpretations are outside the scope of UKAS accreditation
* denotes test not included in laboratory scope of accreditation
# denotes test that holds MCERT accreditation, however, MCERTS accreditation is only implied if the report carries the MCERTS logo
$ denotes tests completed by an approved subcontractor
I/S denotes insufficient sample to carry out test
U/S denotes that the sample is not suitable for testing
DETSM denotes tests carried out by DETS Midlands laboratory
Solid samples will be disposed 1 month and liquids 2 weeks after the date of issue of this test certificate
Asbestos subsamples will be kept for 6 months

Approved By:

Authorised Signatories: Rob Brown
Business Manager

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory

Derwentside Environmental Testing Services Limited
Unit 2, Park Road Industrial Estate South, Consett, Co Durham, DH8 5PY
Tel: 01207 582333 • Fax 01207 582444 • email: info@dets.co.uk • www.dets.co.uk

Summary of Chemical Analysis
Soil Samples

Our Ref: 09-32589-1
Client Ref: HLD/03
Contract Title: Dodworth Road, Barnsley

			SST	CLAY	CLAY	MST	MG
		Lab No.	224331	224332	224333	224334	224335
		Sample Ref	TP1	TP3	TP4	TP5	TP1
		Depth	2.35-2.50	2.70-3.50	3.15-4.00	3.40-3.50	0.00-0.25
		Other Ref	30/10/2009	30/10/2009	30/10/2009	30/10/2009	30/10/2009
		Sample Type					
Test	Units	DETSxx					
Arsenic	mg/kg	DETS 042#					4
Cadmium	mg/kg	DETS 042#					0.6
Chromium	mg/kg	DETS 042#					19
Copper	mg/kg	DETS 042#					16
Lead	mg/kg	DETS 042#					17
Mercury	mg/kg	DETS 081#					< 0.05
Nickel	mg/kg	DETS 042#					7
Selenium	mg/kg	DETS 042#					< 0.5
Zinc	mg/kg	DETS 042#					73
Boron (water soluble)	mg/kg	DETS 020#					1.0
Calorific Value	KJ/kg	DETS 037*					
Organic matter	%	DETS 002#					1.5
Total Sulphate as SO4	%	DETS 075#					0.14
Sulphate Aqueous Extract as SO4	mg/l	DETS 076#	20	55	10	76	150
Total Sulphur as S	%	DETS 064					
Total Potential Sulphate as SO4	%						
pH		DETS 008#	8.5	8.0	8.3	8.1	11.1
Aliphatic C5-C6	mg/kg	DETS 072*					
Aliphatic C6-C8	mg/kg	DETS 072*					
Aliphatic C8-C10	mg/kg	DETS 072*					
Aliphatic C10-C12	mg/kg	DETS 072*					
Aliphatic C12-C16	mg/kg	DETS 072*					
Aliphatic C16-C21	mg/kg	DETS 072*					
Aliphatic C21-C35	mg/kg	DETS 072*					
Aromatic C5-C7	mg/kg	DETS 072*					
Aromatic C7-C8	mg/kg	DETS 072*					
Aromatic C8-C10	mg/kg	DETS 072*					
Aromatic C10-C12	mg/kg	DETS 072*					
Aromatic C12-C16	mg/kg	DETS 072*					
Aromatic C16-C21	mg/kg	DETS 072*					
Aromatic C21-C35	mg/kg	DETS 072*					
Aliphatic C5-C35	mg/kg	DETS 072*					
Aromatic C5-C35	mg/kg	DETS 072*					
TPH Ali/Aro	mg/kg	DETS 072*					

Summary of Chemical Analysis
Soil Samples

Our Ref: 09-32589-1
Client Ref. HLD/03
Contract Title: Dodworth Road, Barnsley

		Lab No.	224331	224332	224333	224334	224335
		Sample Ref	TP1	TP3	TP4	TP5	TP1
		Depth	2.35-2.50	2.70-3.50	3.15-4.00	3.40-3.50	0.00-0.25
		Other Ref	30/10/2009	30/10/2009	30/10/2009	30/10/2009	30/10/2009
		Sample Type					
Test	Units	DETSxx					
Acenaphthene	mg/kg	DETS 050					< 0.1
Acenaphthylene	mg/kg	DETS 050					< 0.1
Anthracene	mg/kg	DETS 050					< 0.1
Benzo(a)anthracene	mg/kg	DETS 050					1.3
Benzo(a)pyrene	mg/kg	DETS 050					1.1
Benzo(b)fluoranthene	mg/kg	DETS 050					0.7
Benzo(k)fluoranthene	mg/kg	DETS 050					0.3
Benzo(g,h,i)perylene	mg/kg	DETS 050					0.6
Chrysene	mg/kg	DETS 050					1.1
Dibenzo(a,h)anthracene	mg/kg	DETS 050					0.2
Fluoranthene	mg/kg	DETS 050					2.4
Fluorene	mg/kg	DETS 050					< 0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	DETS 050					0.9
Naphthalene	mg/kg	DETS 050					< 0.1
Phenanthrene	mg/kg	DETS 050					0.4
Pyrene	mg/kg	DETS 050					2.4
PAH	mg/kg	DETS 050					11
EPH (C10-C40)	mg/kg	DETS 051#					640
Benzene	mg/kg	DETS 062#					< 0.01
Ethylbenzene	mg/kg	DETS 062#					< 0.01
Toluene	mg/kg	DETS 062#					< 0.01
Xylene	mg/kg	DETS 062#					< 0.01
Phenol - Monohydric	mg/kg	DETS 067#					< 0.3

Summary of Chemical Analysis
Soil Samples

Our Ref: 09-32589-1
Client Ref: HLD/03
Contract Title: Dodworth Road, Barnsley

			MG	MG Greyshale	MG Redshale	MG
		Lab No.	224336	224337	224338	224339
		Sample Ref	TP2	TP3	TP4	TP6
		Depth	0.55-1.55	0.50-2.00	0.75-1.60	2.15-3.00
		Other Ref	30/10/2009	30/10/2009	30/10/2009	30/10/2009
		Sample Type				
Test	Units	DETSxx				
Arsenic	mg/kg	DETS 042#	38	8	4	17
Cadmium	mg/kg	DETS 042#	1.2	0.6	0.6	0.4
Chromium	mg/kg	DETS 042#	36	17	21	15
Copper	mg/kg	DETS 042#	100	37	18	28
Lead	mg/kg	DETS 042#	480	33	18	15
Mercury	mg/kg	DETS 081#	0.77	0.11	0.12	0.16
Nickel	mg/kg	DETS 042#	33	37	34	29
Selenium	mg/kg	DETS 042#	< 0.5	< 0.5	< 0.5	< 0.5
Zinc	mg/kg	DETS 042#	300	120	90	71
Boron (water soluble)	mg/kg	DETS 020#	1.5	0.8	0.2	0.5
Calorific Value	KJ/kg	DETS 037*				2400
Organic matter	%	DETS 002#	6.9	5.3	0.4	12
Total Sulphate as SO4	%	DETS 075#	0.13	0.02	0.01	0.09
Sulphate Aqueous Extract as SO4	mg/l	DETS 076#	310	25	19	240
Total Sulphur as S	%	DETS 064		0.12	0.01	
Total Potential Sulphate as SO4	%			0.36	0.03	
pH		DETS 008#	8.9	8.9	9.1	8.1
Aliphatic C5-C6	mg/kg	DETS 072*	< 0.01			
Aliphatic C6-C8	mg/kg	DETS 072*	< 0.01			
Aliphatic C8-C10	mg/kg	DETS 072*	< 0.01			
Aliphatic C10-C12	mg/kg	DETS 072*	< 0.1			
Aliphatic C12-C16	mg/kg	DETS 072*	< 0.1			
Aliphatic C16-C21	mg/kg	DETS 072*	< 0.1			
Aliphatic C21-C35	mg/kg	DETS 072*	0.4			
Aromatic C5-C7	mg/kg	DETS 072*	< 0.01			
Aromatic C7-C8	mg/kg	DETS 072*	< 0.01			
Aromatic C8-C10	mg/kg	DETS 072*	< 0.01			
Aromatic C10-C12	mg/kg	DETS 072*	2.7			
Aromatic C12-C16	mg/kg	DETS 072*	0.9			
Aromatic C16-C21	mg/kg	DETS 072*	17			
Aromatic C21-C35	mg/kg	DETS 072*	48			
Aliphatic C5-C35	mg/kg	DETS 072*	< 1			
Aromatic C5-C35	mg/kg	DETS 072*	68			
TPH Ali/Aro	mg/kg	DETS 072*	69			

Summary of Chemical Analysis
Soil Samples

Our Ref: 09-32589-1
Client Ref: HLD/03
Contract Title: Dodworth Road, Barnsley

		Lab No.	224336	224337	224338	224339
		Sample Ref	TP2	TP3	TP4	TP6
		Depth	0.55-1.55	0.50-2.00	0.75-1.60	2.15-3.00
		Other Ref	30/10/2009	30/10/2009	30/10/2009	30/10/2009
		Sample Type				
Test	Units	DETSxx				
Acenaphthene	mg/kg	DETS 050	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	DETS 050	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	DETS 050	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	DETS 050	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	DETS 050	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	DETS 050	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	DETS 050	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	mg/kg	DETS 050	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	DETS 050	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	mg/kg	DETS 050	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	DETS 050	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	DETS 050	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-c,d)pyrene	mg/kg	DETS 050	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene	mg/kg	DETS 050	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	DETS 050	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	DETS 050	< 0.1	< 0.1	< 0.1	< 0.1
PAH	mg/kg	DETS 050	< 1.6	< 1.6	< 1.6	< 1.6
EPH (C10-C40)	mg/kg	DETS 051#	840	36	< 10	23
Benzene	mg/kg	DETS 062#	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	mg/kg	DETS 062#	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	mg/kg	DETS 062#	< 0.01	< 0.01	< 0.01	< 0.01
Xylene	mg/kg	DETS 062#	< 0.01	< 0.01	< 0.01	< 0.01
Phenol - Monohydric	mg/kg	DETS 067#	1.0	< 0.3	< 0.3	1.0

Summary of Asbestos Analysis
Soil Samples

Our Ref: 09-32589-1
Client Ref. HLD/03
Contract Title: Dodworth Road, Barnsley

Laboratory Number	Sample Ref	Depth	Other Ref	Material	Result
224335	TP1	0.00-0.25	30/10/2009	Soil	Chrysotile
224336	TP2	0.55-1.55	30/10/2009	Soil	Chrysotile
224337	TP3	0.50-2.00	30/10/2009	Soil	NAD
224338	TP4	0.75-1.60	30/10/2009	Soil	NAD
224339	TP6	2.15-3.00	30/10/2009	Soil	NAD

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos
NAD = No Asbestos Detected. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos

Samples are analysed using polarised light microscopy in accordance with HSG248 and documented in-house methods. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'.

Summary of Chemical Analysis
Leachate Samples

Our Ref: 09-32589-1
Client Ref: HLD/03
Contract Title: Dodworth Road, Barnsley

		Lab No.	227347
		Sample Ref	TP2
		Depth	0.55-1.55
		Other Ref	
		Sample Type	
Test	Units	DETSxx	
Lead Dissolved	ug/l	DETS 042	< 4

PSL
Professional Soils Laboratory

LABORATORY REPORT

4043

Contract Number: PSL09/1651

Client's Reference: Report Date: 09 November 2009

Client Name: ARP Associates
Northwest House
5/6 Northwest Business Park
Servia Hill
Leeds
LS6 2QH

For the attention of: John Parkinson

Contract Title: Dodworth Road Barnsley

Date Received: 5-Nov-09
Date Commenced: 5-Nov-09
Date Completed: 6-Nov-09

Notes: **Observations and Interpretations are outside the UKAS Accreditation**

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

R Gunson	A Watkins	D Lambe
(Director)	(Director)	(Senior Technician)

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SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Depth m	Description of Sample
TP3		D	2.70-3.50	Brown slightly gravelly sandy CLAY.
TP4		D	3.15-4.00	Brown gravelly sandy CLAY.

PSL
Professional Soils Laboratory

Compiled by	Date	Checked by	Date	Approved by	Date
	9/11/09		9/11/09		9/11/09

DODWORTH ROAD, BARNSLEY.

Contract No: PSL09/1651

Client Ref:

SUMMARY OF SOIL CLASSIFICATION TESTS

(B.S. 1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Depth m	Moisture Content % Clause 3.2	Bulk Density Mg/m^3 Clause 7.2	Dry Density Mg/m^3 Clause 7.2	Particle Density Mg/m^3 Clause 8.	Liquid Limit % Clause 4.3/4.4	Plastic Limit % Clause 5.	Plasticity Index % Clause 6.	% Passing .425mm	Remarks
TP3		D	2.70-3.50	23				41	24	17	96	Intermediate plasticity Cl.
TP4		D	3.15-4.00	17				35	18	17	84	Intermediate plasticity Cl.

SYMBOLS : NP : Non Plastic

* : Liquid Limit and Plastic Limit Wet Sieved.

PSL
Professional Soils Laboratory

Compiled by	Date	Checked by	Date	Approved by	Date
	9/11/09		9/11/09		9/11/09

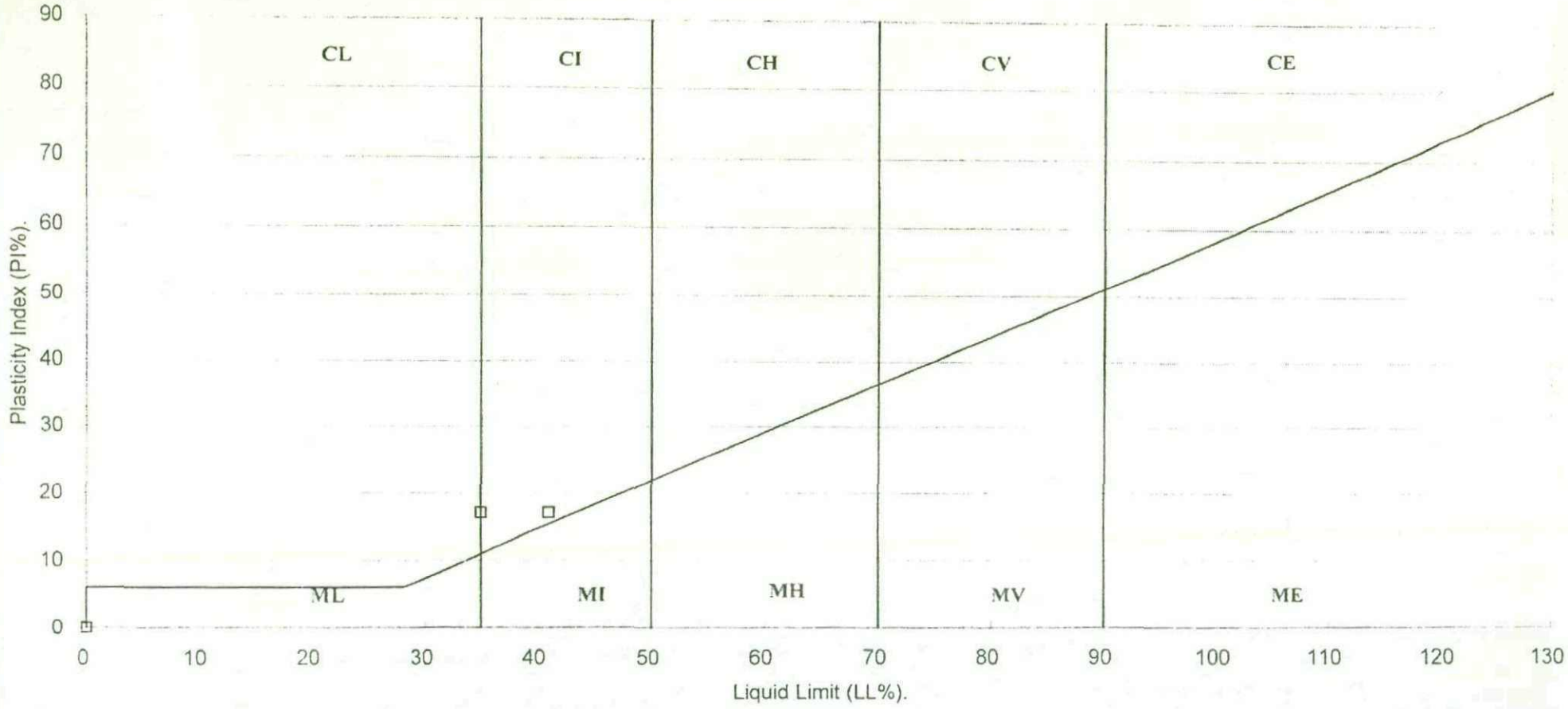
DODWORTH ROAD, BARNSLEY.

Contract No: PSL09/1651

Client Ref:

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

(B.S.5930 : 1999)



PSL Professional Soils Laboratory	Compiled by	Date	Checked by	Date	Approved by	Date
		9/11/09		9/11/09		9/11/09
	DODWORTH ROAD, BARNSLEY.				Contract No:	PSL09/1651
					Client Ref:	

APPENDIX I

MEAN AND MAX VALUE STATISTICAL ANALYSIS

MEAN AND MAX VALUE STATISTICAL ANALYSIS

JOB NO: HLD/03

MATERIAL: MG

MEAN VALUE

	TP1	TP2	TP3	TP4	TP6								
	0-0.25	0.55-1.55	0.5-2.0	0.75-1.6	2.15-3.0	n	t	mean	SD	sqrt n	t*s	()	US95th=
As	4	38	8	4	17	5	2.132	14.20	14.3	2.2	30.5	13.7	**27.9**
Pb	17	480	33	18	15	5	2.132	112.60	205.5	2.2	438.1	195.9	**308.5**
EPH	640	840	36	10	23	5	2.132	309.80	399.1	2.2	851.0	380.6	**690.4**

MAX VALUE (Logs)

										T	TCRIT	OUTLIER?*
As	0.60	1.58	0.90	0.60	1.23	5	n/a	0.98	0.4	1.41	1.60	N
Pb	1.23	2.68	1.52	1.26	1.18	5	n/a	1.57	0.6	1.75	1.60	Y
EPH	2.81	2.92	1.56	1.00	1.36	5	n/a	1.93	0.9	1.13	1.60	N

Outlier value in **BOLD** * if T>TCRIT

APPENDIX J

PROPOSED REMEDIATION METHOD STATEMENT

ARP GEOTECHNICAL LTD
CHARTERED CONSULTING ENGINEERS

HLD/03

HALLROYD HOMES LIMITED

DODWORTH ROAD, BARNSLEY

PROPOSED REMEDIATION METHOD STATEMENT FOR RESIDENTIAL END USE

1.0 Introduction

1.1 The ARP Geotechnical Ltd Desk Study and Geo-Environmental Report, dated December 2009 under reference HLD/03, identifies the engineering proposals for the development, and makes an assessment of contamination within the various parts of the site.

1.2 The contamination testing revealed the site to be essentially uncontaminated, except for an elevated lead outlier in the surface made ground, with a maximum concentration 480mg/kg. The near surface made ground was also found to contain chrysotile asbestos in 2No samples.

1.3 At the time of the investigation, the site was undeveloped land covered by hardstanding and dipped gently to the north. The surrounding area is mainly residential in nature.

1.4 The site overlies a minor aquifer. The nearest watercourse is 125m to the northeast, and the site is not at risk from flooding There are no surface or groundwater abstractions within 500m of the site.

1.5 Initial gas monitoring has indicated that no special precautions will be required on site. However, a further 5No. visits are still required, and the results will be reported by separate letter.

1.6 The site is within a Radon Affected Area, but no radon protective measures are required for buildings on the site. It may be prudent to install basic radon protection to avoid any future conveyancing difficulties.

1.7 Made ground was encountered across the whole site, comprising generally sand, gravel and cobbles of brick, sandstone, limestone and ash, to depths of between 0.05m and 0.6m. Further made ground was encountered beneath, across the whole site, generally comprising colliery spoil, red shale or grey/black sandy gravelly clay, to depths of between 1.80m and 3.70m. The made ground was found to be shallowest generally towards the south of the site, and the deepest areas were encountered in the northwestern corner. Beneath the made ground, the natural strata generally comprised sandy slightly gravelly clay of at least firm consistency. The gravel content comprised mudstone, siltstone, and sandstone, overlying sandstone or

mudstone bedrock. The rotary borehole investigation revealed no coal seams, voids or broken ground.

2.0 Remediation Proposals

2.1 The contamination risk assessment confirmed that, provided the following remedial measures are implemented, the materials present on the site are compatible with the proposed commercial usage: -

2.1.1 Retention of the made ground beneath either buildings or hardstanding. However, in any landscaped or garden areas, provision of 0.6m clean uncontaminated cover blanket, underlain by a 100mm hard break layer, will be required. The cover blanket can comprise either cohesive or granular material, should be free of all foreign matter and comply with the requirements below. The hard break material shall comprise 70mm single size crushed rock, brick or concrete.

Thickness (mm)	Description
Combined thickness 600mm	Topsoil Subsoil
100	Hard Break Layer

2.1.2 If placed beneath properties that have a ventilated floor, the material should be either covered by 100mm of inert material, or oversite concrete.

2.1.3 Service trenches should be oversized by 300mm on either side of a standard trench width and backfilled with uncontaminated material.

2.1.3 Waste acceptance criteria testing will be required for any material removed from site to landfill.

2.2 Appropriate PPE should be used throughout the construction phase. To mitigate risk during construction, washing facilities and a mess room, where overalls and boots are excluded, shall be provided for construction workers, and education of workers in respect of the contamination present shall also be undertaken and monitored.

2.3 The existing fill should be placed below cover as soon as possible. Where this is not possible, the existing fill material should not be allowed to become dry, to minimise the possibility of asbestos fibre release, and the site shall be damped down during dry weather. A water spray shall be present on the site at all times.

2.4 Surface water run-off shall be controlled during construction, if necessary, by the use of cut-off bunds or trenches.

3.0 Imported Material

3.1 Any imported topsoil, or subsoil, shall be tested at source for the suite of determinands appended to this Remediation Statement. Samples shall be taken at 1 for every 350 tonnes of material to be imported, and compared to the maximum concentration levels listed on the enclosure to ensure the material is inert and clean.

4.0 Validation of Garden and Soft Landscaped Areas

4.1 Once the cover blanket has been placed on any soft landscaped or garden areas, trial holes shall be carried out, in accordance with BS 10175 'Investigation of Potentially Contaminated Sites', to confirm the 600mm topsoil and subsoil layer, and 100mm hard break layer, has been achieved in soft landscaped areas, or the absence of contaminated material from soft areas.

4.2 Samples taken from the validation investigation shall be issued to a UKAS accredited laboratory and analysed for the suite of determinands appended to this Remediation Statement and compared to the maximum residential concentration levels listed on the enclosure. The results of the laboratory analysis and plan will form part of the Remediation Validation Report, which will include information on how the work was carried out, test results, sample location and excavation logs.

4.3 On completion, a Validation Report will be prepared for the site, and this will include information on how the works were carried out, the source of any imported materials and consignment notes of any materials removed from site. The report will be issued to the Planning Authority for release of the appropriate planning condition on completion of the works.

4.4 If necessary, interim reports will be prepared as the works proceed, and issued on a regular basis throughout the works. The interim reports will be incorporated into the final Remediation Validation Report. The report will be issued to the Planning Authority for release of appropriate planning condition on completion of the works.

5.0 Unexpected Contamination

5.1 Any unexpected contaminated material uncovered during the works shall be inspected, sampled and analysed in the laboratory for the suite of determinands appended to this Remediation Statement, and compared to the maximum concentration levels listed on the enclosure. Works on the affected material shall cease until the appraisal is complete and, if necessary, a revised Method Statement is to be prepared and approved by the Planning Authority before work is recommenced.

ARP GEOTECHNICAL LTD

SCREENING VALUES:- RESIDENTIAL, PRODUCE GROWN AND EATEN

Determinand	Screening Value (mg/kg)			Source
Arsenic	32			CLEA SGV 2009
Cadmium	10			CLEA SGV 2009
Chromium (total)	130			CLEA SGV
Lead	450			CLEA SGV
Mercury	170			CLEA SGV 2009
Selenium	350			CLEA SGV 2009
Copper	111			CIEH
Nickel	130			CLEA SGV 2009
Zinc	330			CIEH
Acidity (pH)[2]	Should be greater than 5			CLEA
	1% SOM	**2.5% SOM**	**5% SOM**	
Benzo(a)pyrene	1.12	1.08	1.09	CIEH
Dibenz(a,h)anthracene	1.14	1.13	1.10	CIEH
Fluorene	38.4	91.4	184	CIEH
Naphthalene	7	17	34	Draft SGV
Phenols	420			CLEA SGV2009
Benzene	0.33			CLEA SGV 2009
Toluene	610			CLEA SGV 2009
Ethylbenzene	350			CLEA SGV 2009
o-Xylene	250			CLEA SGV 2009
m-Xylene	240			CLEA SGV 2009
p-Xylene	230			CLEA SGV 2009
Total TPH	If above 500, speciate and compare with values below.			LA
C5 to C6 Aliphatic	2.11	3.72	6.38	CIEH
C6 to C8 Aliphatic	5.37	11.9	22.7	CIEH
C8 to C10 Aliphatic	1.46	3.55	7.0	CIEH
C10 to C12 Aliphatic	8.53	20.8	40.1	CIEH
C12 to C16 Aliphatic	40.7	93.4	163	CIEH
C16 to C35 Aliphatic	16,400	16,400	16,300	CIEH
C35 TO C44 Aliphatic	16,400	16,400	16,400	CIEH
C5 to C7 Aromatic	0.575	1.33	2.57	CIEH
C7 to C8 Aromatic	0.624	1.46	2.85	CIEH
C8 to C10 Aromatic	1.09	2.67	5.30	CIEH
C10 to C12 Aromatic	1.94	4.76	9.44	CIEH
C12 to C16 Aromatic	2.19	5.39	10.7	CIEH
C16 to C21 Aromatic	115	132	133	CIEH
C21 TO C35 Aromatic	157	161	157	CIEH
C35 TO C44 Aromatic	157	161	157	CIEH

Notes:- JULY 2009

SGV = Soil Guideline Value from the Environment Agency
CIEH = Land Quality Management / Chartered Institute of Environmental Health Generic Assessment Criteria, 2007
LA = Agreed with Local Authorities