Phase I Desk Study Report

Wood Walk, Barnsley

For Cornell Group

Delta-Simons Project No. 16-0406.01

Issued: June 2016

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PHASE I DESK STUDY REPORT
WOOD WALK, BARNSLEY
FOR CORNELL GROUP
DELTA-SIMONS PROJECT NO. 16-0406.01

1.0 INTRODUCTION

1.1 Authorisation

Delta-Simons has been requested by Cornell Group (the 'Client') to undertake a Phase I Environmental Desk Study for land located at Wood Walk, Barnsley, S73 0NB (hereafter referred to as the 'Site'). A Site location map is included as Figure 1.

1.2 Context & Purpose

The purpose of the Phase I Desk Study is to determine whether any contamination or potential sources of contamination present at the Site represent a potential risk to the proposed development, the wider environment, and/or surrounding land users.

The Assessment will adhere to the principal aims of BS10175:2011+A1:2013 and CLR11 with regard to the consideration of potential soil and groundwater contamination and ground gas. In summary the Assessment will:

- Δ Assess the likelihood of finding contamination, its nature and its extent;
- Δ Evaluate the environmental setting of the Site and identify sensitive receptors;
- Δ Provide information from which likely contaminant-pathway-receptor relationships can be identified and formulate a Conceptual Site Model (CSM); and
- Δ Consider the need for an intrusive Site investigation.

1.3 Scope of Works

The scope of works for the Phase I Desk Study is presented in Table 1.

Table 1 - Scope of Works

Data Collection	1. Documentary research: – Review the Site history (location, surroundings); – Review the current Site use (including adjacent areas); and – Review the Site geology, hydrogeology, hydrology (including Radon & Coal); 2. Walkover of the Site; 3. Review a commercially available regulatory database known as Envirocheck®
Interpretation & Reporting	4. Formulate an initial CSM; 5. Undertake a preliminary risk assessment; 6. Assess the need for, and scope of, further investigation; and 7. Prepare a final Report.

1.4 Data Sources & Third Party Information

In completing this Assessment, Delta-Simons has utilised the following information:

- Existing location provided by the Client;
- Historical maps obtained from Landmark;
- British Geological Survey (BGS) online data;
- Environment Agency online data;
- Coal Authority Report; and
- Envirocheck Report obtained from Landmark.

1.5 Limitations

This Report provides an assessment of the potential contamination status of the ground below the Site based upon the available information. It does not provide a flood risk assessment and as such, any comments relating to such matters are for information only.

In summary, the Phase I Desk Study has been produced in accordance with the principles of BS10175 in relation to a Preliminary Investigation. However, although reference may be made to archaeological and ecological issues, or the potential presence of Asbestos Containing Materials (ACMs), the report does not constitute an archaeological or ecological assessment, nor does it constitute an asbestos inspection.

Delta-Simons obtained, reviewed and evaluated information in preparing this Report from the Client, Landmark Information Group and others. Delta-Simons' conclusions, opinions and recommendations are based upon this information. Delta-Simons does not warrant the accuracy of the information provided to it and will not be responsible

for any opinions which Delta-Simons has expressed, or conclusions which it has reached in reliance upon information which is subsequently proven to be inaccurate.

2.0 REVIEW OF SITE SETTING, HISTORY & REGULATORY INFORMATION

Site Location	The Site is located off Wood Walk, Barnsley and covers an area of approximately 3.55 Ha (hectares). The National Grid Reference (NGR) for the centre of the Site is 437370, 401710. A location map is shown in Figure 1.
Current Site Use & Surrounding Area	A Delta-Simons representative visited the Site on the 24th May 2016 to undertake a Site Walkover. The relevant features are shown in Figure 2 and are summarised below. The Site is currently an undeveloped grassed field with a small wooded copse located in the north-eastern corner. A dirt track leading to a small number of beehives in the south-eastern corner of the Site was noted, indicating some localised amateur bee farming. Overhead high voltage power cables run across the Site orientated south-west to north-east. Two roads boarder the northern, southern and eastern boundary of the Site with undeveloped / agriculture fields beyond and residential housing and police station to the south-west. Adjacent to the west is a recreation ground with an industrial estate approximately 400 m from the Site. The topography of the Site decreases eastwards from approximately 140 metres above ordnance datum (m AOD) to 135 m AOD. Off-Site topography generally increases west of the Site and decreases eastwards in the surrounding area. The surrounding area is a mix of agricultural fields and residential housing. The town of Hoyland is located to the south-west of the Site with the village of Jump present to the south-east. Blacker Hill is present to the north-west with undeveloped / agricultural fields to the north and north-east.
Proposed Development	It is understood that the proposed development is for residential housing with gardens. No development plans have been provided at this stage.
Geology	From the BGS Geology of Britain Viewer on the BGS website, it is understood that the Site is underlain directly by the bedrock of the Wooley Edge Rock (Sandstone) in the east with the Pennine Middle Coal Measures Formation (Mudstone, Siltstone and Sandstone) present in the west. No superficial deposits are mapped for the Site. Two faults interact with the Site with one fault adjacent to the western boundary and another fault running across the Site in the east.
Hydrogeology	The Environment Agency (EA) Aquifer Designation maps identify both bedrock geologies as a Secondary A Aquifer. The Site is not located within a groundwater Source Protection Zone. The Envirocheck Report indicates that there are four groundwater abstractions approximately 270 m north-east of the Site.
Hydrology	The nearest surface water feature is approximately 50 m to the south-west and relates to an unnamed drain. The Site is not within an area to be considered at risk from extreme flooding from rivers or seas without defences. The Envirocheck Report indicates that there are no surface water abstractions within 1 km of the Site.

Coal	The Envirocheck Report indicates that the Site is within in an area affected by coal mining activity and as such a mining report was obtained from the Coal Authority. The mining report indicates that the Site is within an area that could be affected by underground mining of 11 seams of coal between 130 and 500 m depth which were last worked in 1976. The Site is also within an area where the Coal Authority believe there is coal at or close to the surface. This coal may have been worked at some time in the past. Furthermore, the Site is also in an area of open cast mining, and it is understood from abandonment plans dated 1994 that the Site was predominantly mined via open cast methods to around 20.m bgl. The Site levels are likely to have been re-instated with the stockpiled soil over burden. A Coal Mining Risk Assessment is Provided as a separate report.
Radon	The Envirocheck report indicates that indicates that the Site is not within a Radon Affected Area and as such radon protective measures are not required in the construction of new buildings.
Historical Map Review **Site:** **Surrounding Area:**	Historical maps have been obtained and reviewed from between 1854 and 2016. The historical map extracts are provided as Appendix I. From the recorded evidence on the available historical maps the Site appears to have remained largely undeveloped, however it is understood it was mined by opencast methods between 1984 and 1994. The earliest map edition shows the surrounding area as predominantly undeveloped with Wood Walk adjacent to the south and some evidence of mining activity approximately 250 m south-west. By 1893 residential houses were present approximately 200 m south-west. In 1905 the area remained largely undeveloped with a brick yard approximately 250 m south and Hoyland Silkstone Colliery with cooling ponds, railways and tanks between approximately 250 m and 500 m east. Further residential housing was developed by 1931 with no significant changes occurring until circa 1938 where a reservoir approximately 250 m south-east and a spring approximately 250 m north-east is shown on the map. By 1966 Platts Common was developed adjacent to the west of the Site and a police station is shown adjacent to the south west corner. A mine is mapped approximately 300 m south-west and the reservoir is no longer present. The town of Hoyland is more developed by that time. Additional residential housing was present to the south-west by 1980. The road layout seen today is present on the 1999 map edition which includes the addition of two roundabouts and the Dearne Valley Parkway road was present to the north. No significant changes occurred up until the 2016 map edition.
Envirocheck Report	An Envirocheck Report has been obtained for the Site and has been provided as Appendix II. The Envirocheck report identified no significant potential sources of contamination on-Site. Within 250 m of the Site the Envirocheck report identified nine (9 No.)

	contemporary trade directories the closest of which are listed below: Δ One inactive garage services (65 m); Δ One inactive vehicle breakdown and recovery service (235 m); and Δ One inactive motor cycle and component manufacturers (235 m). A tank is noted approximately 250 m south-west and is associated with industrial land use.

3.0 CONCEPTUAL SITE MODEL

3.1 Introduction

A conceptual exposure model represents the relationships between contaminant sources, pathways and receptors, to support the identification and assessment of possible pollutant linkages (PPL) and an assessment of known pollutant linkages, where identified from existing information.

Where PPLs are identified, a preliminary risk assessment is carried out to assess the likelihood that each possible linkage exists and to decide whether these pose potentially unacceptable risks to identified receptors and require further assessment. Where this linkage is of a form that subsequently leads to land being identified as 'contaminated land' under the terms of Part 2A of the EPA 1990, the linkage is termed a **significant pollutant linkage**.

At the preliminary risk assessment stage, which is usually based upon desk top information, the decision on whether a PPL poses a potentially unacceptable risk is based upon professional judgement. The significance of the PPL will also be determined dependent on the context of the land use and the purpose of the assessment.

Assessing risks from land contamination underpins the "suitable for use" approach adopted for Part 2A of the EPA 1990 regulatory regime and for planning policy.

3.2 Conceptual Model & Risk Assessment

The Site is currently undeveloped and has been so since the earliest map edition, however, from a CMRA, the site is known to have been mined by open cast methods between 1984 and 1994, as such significant Made Ground may be present associated with the infilling of the quarry. The surrounding area is currently residential with some agricultural fields to the north and east. Potentially contaminated land uses have been identified off-Site which include a garage service, vehicle breakdown service, a motorcycle manufacturers and a tank associated with industrial use.

Based on the information obtained from this Assessment, a preliminary risk assessment using the source-pathway-receptor approach has been formulated, which identifies plausible pollutant linkages at the Site in the context of the proposed

end-use. These are detailed in Table 2 and Risk Definitions are provided in Appendix III.

Table 2 - Identified Pollutant Linkages

Source	Pathway	Receptor	Matrix Assessment	Assessment of Linkage Significance/Potential Mitigation Measures
Significant Made Ground associated with the infilling of the former on-Site open cast mine. Contamination from identified off-Site sources including, a garage services, vehicle break down service and motorcycle manufacturers, and a tank. Unidentified Hot Spots of contamination	Direct ingestion, direct contact & inhalation of dust/ vapours.	Future Site users.	**Low Risk**	Significant on-Site sources of contamination have not been identified, with the exception of possible deep Made Ground. However this material is likley to be overburden associated with the mining of the coal at shallow depths. Limited potential sources of contamination have been identified off-Site which include a garage service, vehicle breakdown service, motorcycle manufacturers and a tank associated with industrial use. However, given the distance from the Site the risk to future Site users is considered low. A 'hotspot protocol' should be put in place to deal with any previously unidentified hotspots of contamination. A clean layer of certified suitable for use topsoil should be incorporated in to all proposed landscaped areas. Testing of existing topsoil should be undertaken to advise on its suitability for re-use in proposed landscaped areas.
		Construction workers.	**Low Risk**	There is the potential for construction/maintenance groundworkers to become exposed to any contaminated soils, including asbestos or shallow groundwater during any intrusive groundworks undertaken at the Site. Safe working practices should be implemented and appropriate personal protective equipment (PPE/RPE) should be used to mitigate any potential risk from contact with soils and shallow/perched groundwater.
	Leaching and vertical & lateral migration.	Controlled waters	**Very Low Risk**	Given significant potential sources of contamination have not been identified on-Site, the risk to controlled waters is considered very low. In addition, the Site is not located in an SPZ and no potable water abstractions are located within 250 m.
	Direct infiltration in water supply pipes.	Service conduits.	**Low Risk**	No significant potential sources of on-Site contamination have been identified, however it is considered prudent to undertake limited hydrocarbon testing of the soils to advise on the requirements for potable water supply pipes.
	Plant uptake.	Vegetation within landscaped areas.	**Very Low Risk**	Significant potential sources of contamination have not been identified on-Site. Testing of existing topsoil should be undertaken to advise on its suitability for re-use in proposed landscaped areas.

Source	Pathway	Receptor	Matrix Assessment	Assessment of Linkage Significance/Potential Mitigation Measures
	Lateral migration through any groundwater beneath the Site.	Off-Site neighbouring properties.	**Very Low Risk**	Significant potential sources of contamination have not been identified, as such the risk to off Site receptors is considered very low.
Potentially contaminated groundwater (migration from off-Site sources)	Direct contact/ingestion and inhalation of dust and vapours.	Future Site users.	**Low Risk**	Limited potential sources of off-Site contamination have been identified, however given the distance from the Site the risk of mobilisation through any groundwater to the Site is considered very low.
Potential for ground-gas.	Vertical and lateral migration.	Human health and buildings.	**Medium Risk**	Potential sources of ground gas have been identified associated with the possible infilled opencast mine. A limited intrusive investigation and subsequent ground gas monitoring should be undertaken to assess the associated risks.
Radon	Vertical and lateral migration.	Human health and buildings.	**Very Low Risk**	The Site is not within a radon affected area and as such no radon protective measures are required in the construction of new buildings.

4.0 CONCLUSIONS & RECOMMENDATIONS

4.1 Conclusions

The Site is currently undeveloped and has been so since the earliest map edition, however, from a CMRA, the Site is known to have been mined by open cast methods between 1984 and 1994, as such significant Made Ground may be present associated with the infilling of the quarry. The surrounding area is currently residential with some agricultural fields to the north and east. Potentially contaminated land uses have been identified off-Site which include a garage service, vehicle breakdown service, a motorcycle manufacturers and a tank associated with industrial use.

Limited potential off-Site sources of contamination have been identified within 250m of the Site associated with historic land use. The surrounding area was historically agricultural with residential development occurring in the second half of the 20th century. Mining activity is noted to occur 300 m and 500 m from the Site associated with Hoyland Silkstone Quarry. A major roadway (Dearne Valley Parkway) was developed in circa 1999.

A source-pathway-receptor risk assessment has been undertaken in the context of the proposed redevelopment and in accordance with Part 2A of the EPA, 1990. PPL have been identified and the key potential receptors are considered to be construction workers, future Site users, water supply pipes, plants in landscaped areas, and buildings.

4.2 Recommendations

On the basis of the information obtained and reviewed as part of this Assessment and the conclusions drawn above, Delta-Simons considers that the following activities should be undertaken at the Site:

- Limited environmental assessment in conjunction with a Geotechnical assessment, to assess the risks to the identified receptors. This should include a hazardous ground gas risk assessment;
- A Coal Mining Risk Assessment is required, and has been produced by Delta-Simons under a separate cover;
- Any groundworkers who are required to perform sub-surface work at the Site should be made aware of the possibility of encountering unforeseen

contamination. Therefore, good standards of personal hygiene should be observed with appropriate levels of PPE provided and utilised, and toolbox talks should be given to contractors prior to the commencement of works. Workers involved in the removal of asbestos containing materials should utilise appropriate PPE, RPE, hygiene and toolbox talks;

- A 'hotspot' protocol is recommended for dealing with encountering any unforeseen contamination during ground works at the Site;
- It is recommended that a clean layer of certified topsoil is imported into the proposed landscaped areas. Testing of current topsoil to assess its suitability for re-use should be undertaken; and
- It is recommended that limited hydrocarbon testing of the soils is undertaken to advise on the requirements for potable water pipes.

5.0 LIMITATIONS TO ENVIRONMENTAL ASSESSMENTS

The recommendations contained in this Report represent Delta-Simons' professional opinions, based upon the information referred to in Section 1.0 of this Report, exercising the duty of care required of an experienced Environmental Consultant. Delta-Simons does not warrant or guarantee that the Site is free of hazardous or potentially hazardous materials or conditions.

Delta-Simons obtained, reviewed and evaluated information in preparing this Report from the Client, Landmark Information Group and others. Delta-Simons' conclusions, opinions and recommendations have been determined using this information. Delta-Simons does not warrant the accuracy of the information provided to it and will not be responsible for any opinions which Delta-Simons has expressed, or conclusions which it has reached in reliance upon information which is subsequently proven to be inaccurate.

This Report was prepared by Delta-Simons for the sole and exclusive use of the Client and for the specific purpose for which Delta-Simons was instructed as defined in Section 1.1 of this Report. Nothing contained in this Report shall be construed to give any rights or benefits to anyone other than the Client and Delta-Simons, and all duties and responsibilities undertaken are for the sole and exclusive benefit of the Client and not for the benefit of any other party. In particular, Delta-Simons does not intend, without its written consent, for this Report to be disseminated to anyone other than the Client or to be used or relied upon by anyone other than the Client. Use of the Report by any other person is unauthorised and such use is at the sole risk of the user. Anyone using or relying upon this Report, other than the Client, agrees by virtue of its use to indemnify and hold harmless Delta-Simons from and against all claims, losses and damages (of whatsoever nature and howsoever or whensoever arising), arising out of or resulting from the performance of the work by the Consultant.

This Report was written by:



Jack Elsome Date 23rd June 2016

Graduate

This Report was reviewed by:



Paul Huteson Date 23rd June 2016

Principal

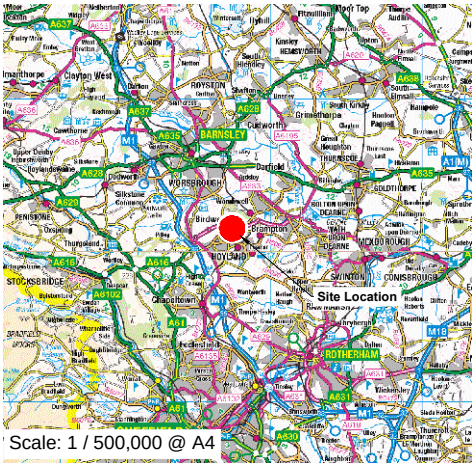
This Report was authorised by:



Paul Bennett Date 23rd June 2016

Unit Director – Regions

Figures



LEGEND

Site Boundary

Ordnance Survey, (c) Crown Copyright 2015. All rights reserved.

deltasimons

TITLE:
Site Location Map
Wood Walk, Hoyland
Barnsley

DRAWN BY: SD	SCALE: To Scale@A4	PROJECT NO: 16-0406.01
CHECKED BY: JE	REVISION: 1	FIGURE NO: 1
DATE: 27 May 2016		

PH01: View towards the southern boundary and street lamp

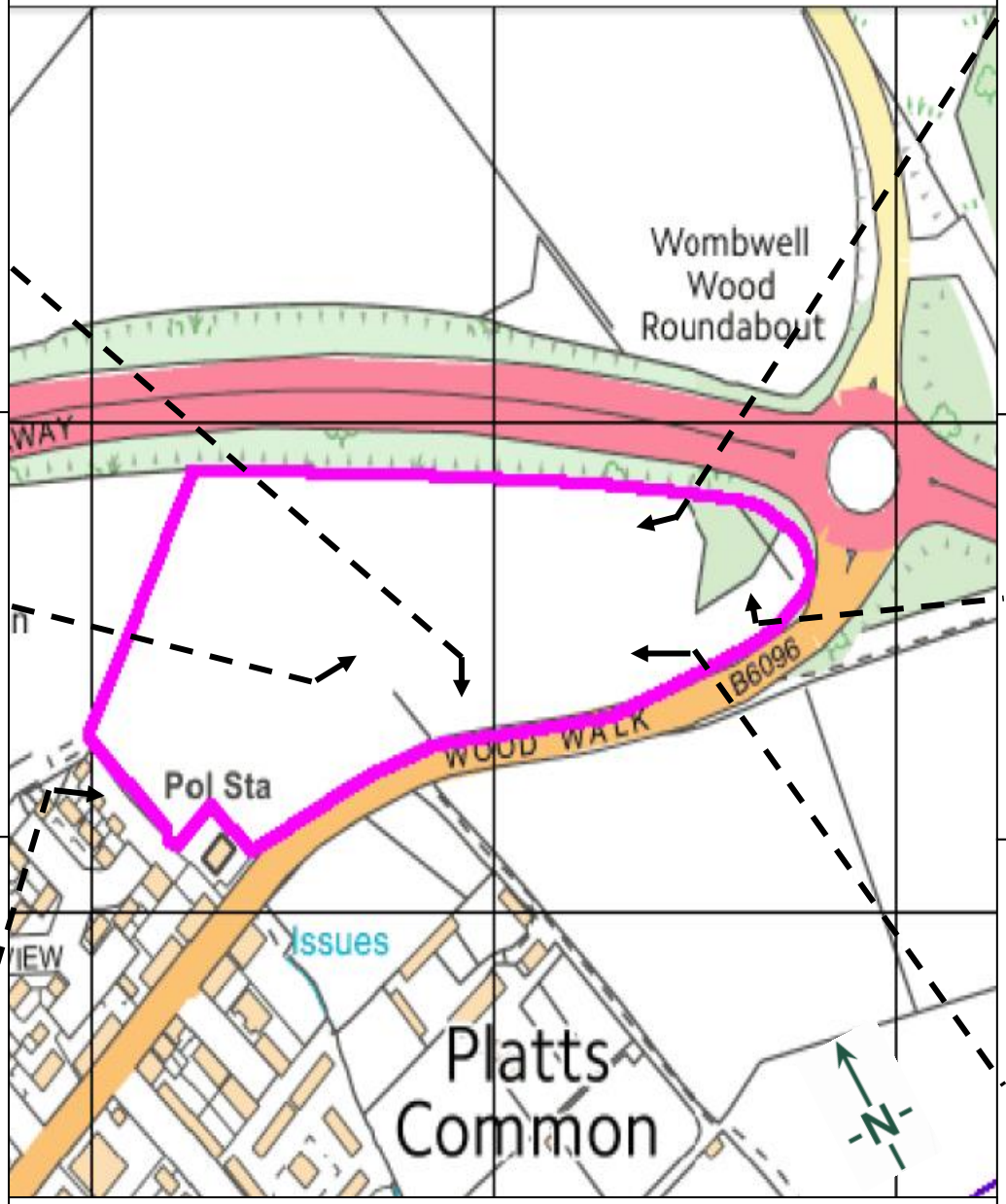


PH02: Overhead high voltage cables.



PH03: Large tree and overhead power cables.





PH04: View south west across Site



PH05: Bee farm in the east.



PH06: View west across Site.



Note: There is uncertainty as unrecorded land use may have occurred and caused contamination that has not been identified by the observations,

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TITLE:
Relevant Features Plan
Wood Walk
Barnsley

DWN: JE	SCA: Not to scale	PROJECT NO.: 16-0406.01	
CHK: -	REV: -	FIGURE NO.: 2	
DATE: May 2016			

Appendix I

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
Pole
Sloping Masonry
Cutting
Embankment
Standard Gauge Multiple Track
Road Under
Road Over
Level Crossing
Foot Bridge
Standard Gauge Single Track
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

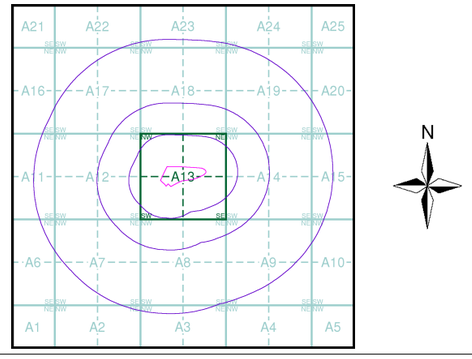
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or community 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	1854 - 1855	2
Yorkshire	1:10,560	1893 - 1894	3
Yorkshire	1:10,560	1893	4
Yorkshire	1:10,560	1905 - 1907	5
Yorkshire	1:10,560	1931 - 1932	6
Yorkshire	1:10,560	1938	7
Yorkshire	1:10,560	1938 - 1948	8
Yorkshire	1:10,560	1948	9
Ordnance Survey Plan	1:10,000	1956	10
Ordnance Survey Plan	1:10,000	1966	11
Ordnance Survey Plan	1:10,000	1980	12
Ordnance Survey Plan	1:10,000	1989	13
Historical Aerial Photography	1:10,000	1999	14
10K Raster Mapping	1:10,000	2000	15
10K Raster Mapping	1:10,000	2006	16
VectorMap Local	1:10,000	2016	17

Historical Map - Slice A



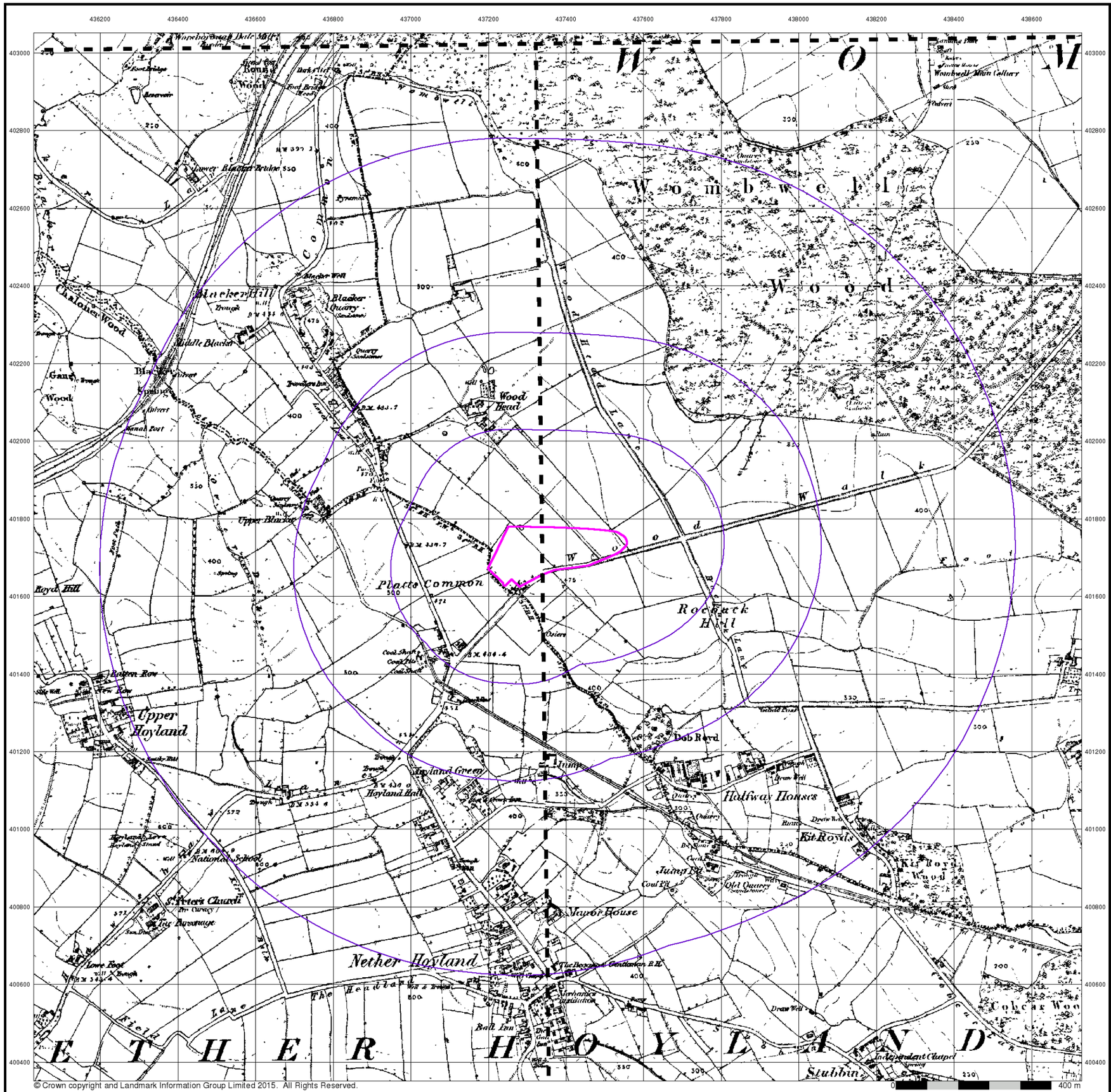
Order Details

Order Number: 86959950_1_1
Customer Ref: 16-0406.01
National Grid Reference: 437370, 401710
Slice: A
Site Area (Ha): 3.57
Search Buffer (m): 1000

Site Details

Wood Walk, Hoyland, BARNSLEY, South Yorkshire, S74 9SH

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



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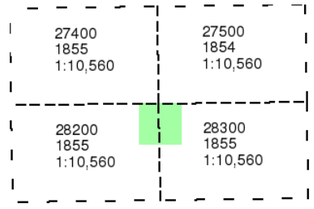
Yorkshire

Published 1854 - 1855

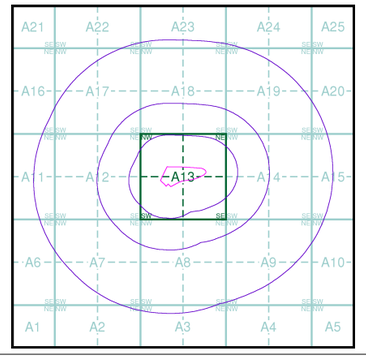
Source map scale - 1:10,560

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)



Historical Map - Slice A



Order Details

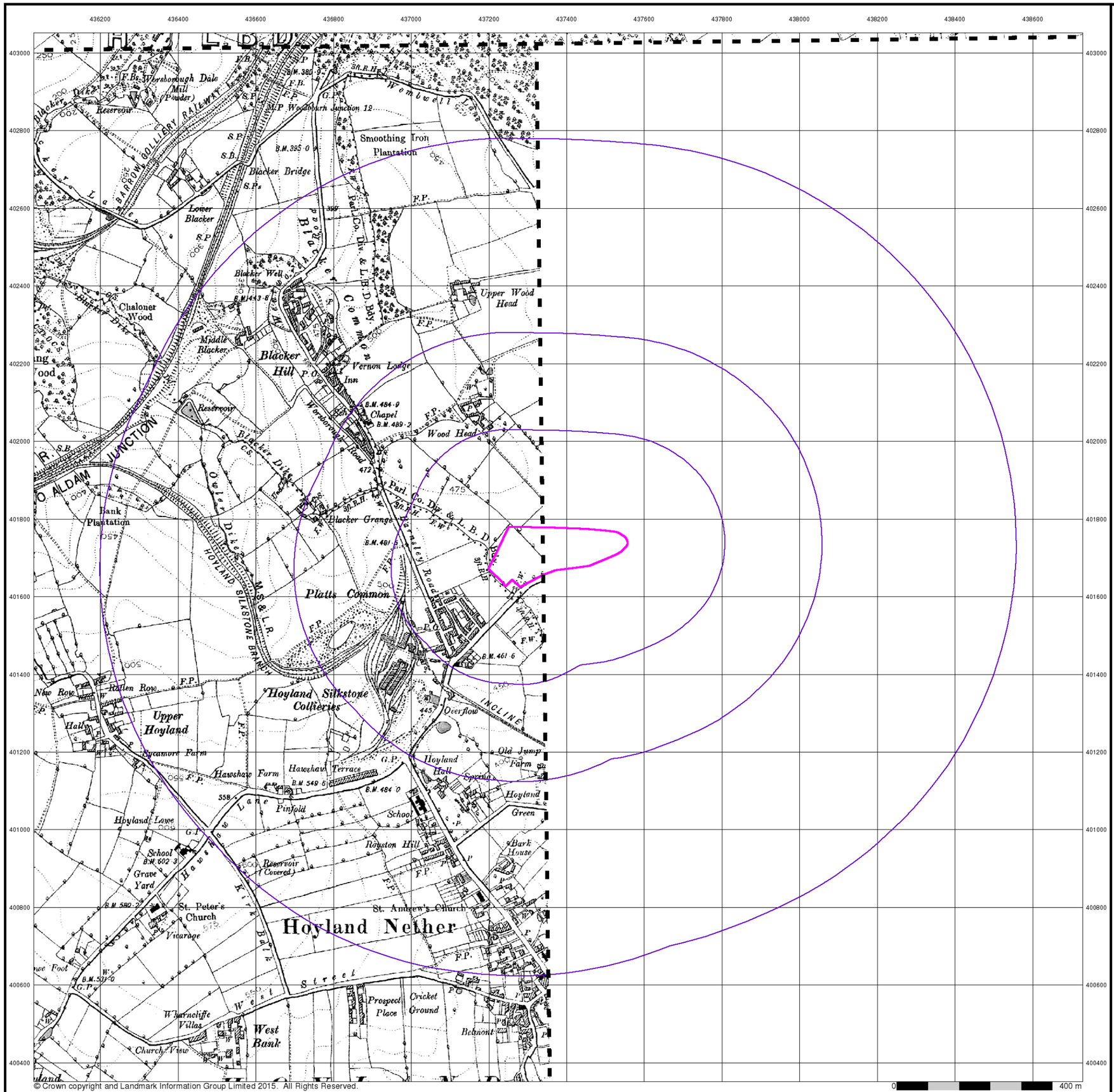
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Customer Ref:	16-0406.01
National Grid Reference:	437370, 401710
Slice:	A
Site Area (Ha):	3.57
Search Buffer (m):	1000

Site Details

Wood Walk, Hoyland, BARNSLEY, South Yorkshire, S74 9SH

Landmark Information Group

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



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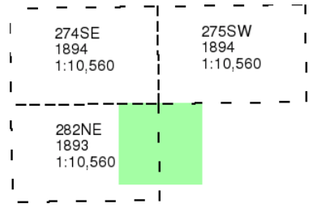
Yorkshire

Published 1893 - 1894

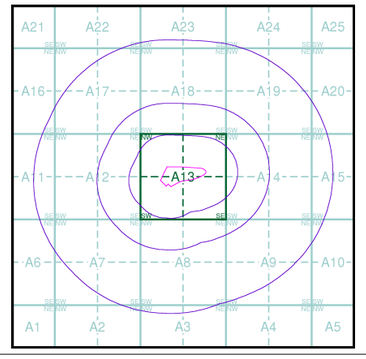
Source map scale - 1:10,560

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)



Historical Map - Slice A



Order Details

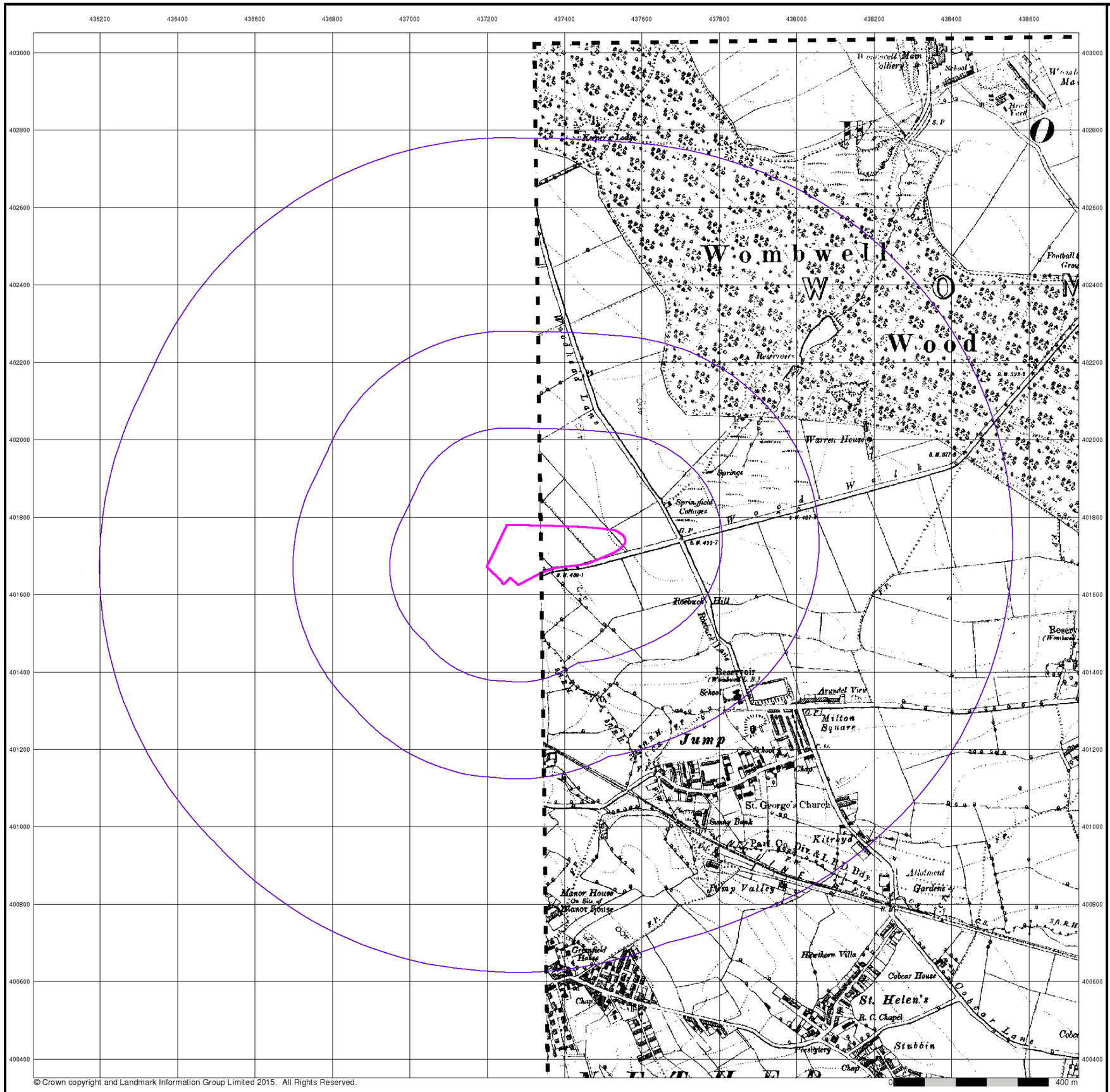
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Customer Ref:	16-0406.01
National Grid Reference:	437370, 401710
Slice:	A
Site Area (Ha):	3.57
Search Buffer (m):	1000

Site Details

Wood Walk, Hoyland, BARNSLEY, South Yorkshire, S74 9SH

Landmark Information Group

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



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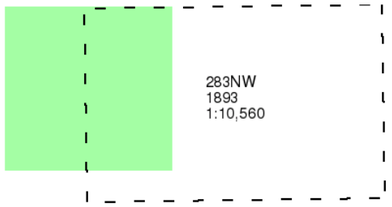
Yorkshire

Published 1893

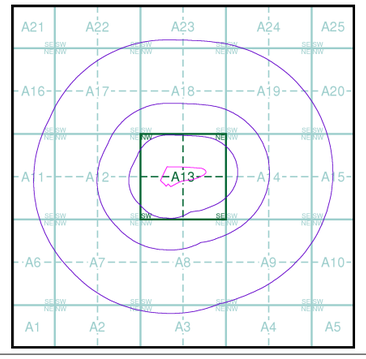
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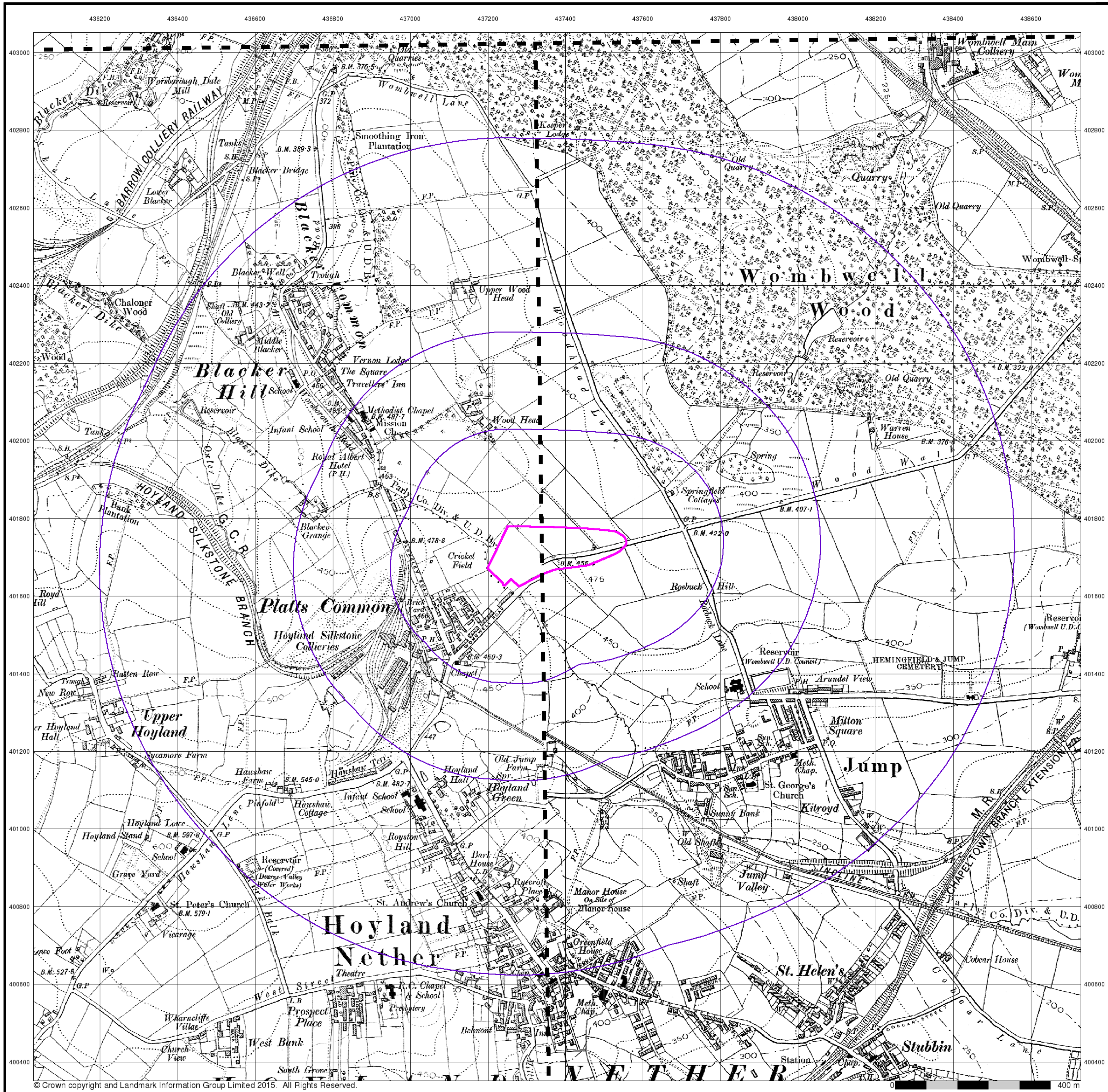
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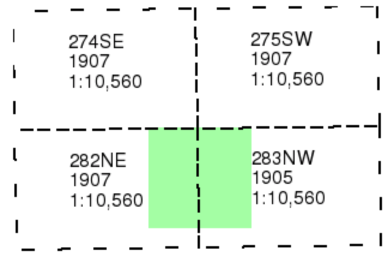
Yorkshire

Published 1905 - 1907

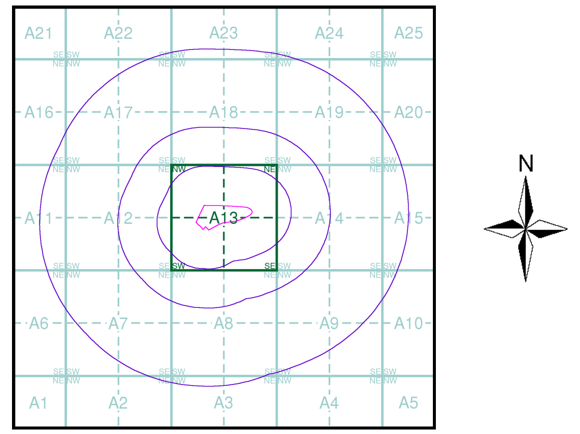
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