SITE CONDITION REPORT

NB Clark Ltd

Butterwell DP Recycling Centre

Longhirst

Morpeth

Northumberland

NE61 3NF

Olive Compliance Ltd
19 Main Street,Ponteland, Newcastle upon Tyne, NE20 9NH
Company No: 12861220

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1.0 Introduction

NB Clark Ltd (NBC) has instructed Olive Compliance Limited (OCL) to prepare an application for a Bespoke Environmental Permit Application for an inert waste transfer station, with treatment at Butterwell Disposal Point, Longhirst, Morpeth, Northumberland, NE61 3NF.

Waste operations at the site will be authorised by a Bespoke environmental permit

This SCR has been prepared in accordance with the Environment Agency's H5 Guidance Note on SCR[1]. The objective of the SCR is to record and describe the condition of the land at the site at the time of the permit application. The SCR will provide a point of reference and baseline environmental data so that when the permit is surrendered it can be demonstrated that there has been no deterioration in the condition of the land as a result of the proposed operations and ensure that the condition of the land is in a 'satisfactory state' on surrender of the permit.

Sections 1 to 3 of the EA's SCR template have been completed in the preparation of this document, which comprises the following:

- site details;
- condition of the land at permit issue;
    - geology;
    - hydrogeology;
    - hydrology;
- pollution history;
- evidence of historic contamination; and
- permitted activities.

Section 4 to 7 of the SCR template will be maintained post the permit variation.

Sections 8 to 10 will be completed and submitted only in support of the application to surrender the permit.

[1] EA Guidance; Site Condition Report – guidance and templates, Version 3, May 2013.

2.0 Site Condition Report (H5) Template

1.0 SITE DETAILS	
Name of the applicant	NB Clark Homes Ltd
Activity address	The site (centred at NGR 424550 591100) is located at Butterwell Disposal Point, Longhirst, Morpeth, Northumberland, NE61 3NF.
National grid reference	(centred at NGR 424550 591100)

Document reference and dates for Site Condition Report at permit application and surrender	N/A

Document references for site plans (including location and boundaries)	See drawings Drawing 001 – Location Plan Drawing 002 – Permitted Area Drawing 003 – Layout Plan Drawing 004 – Receptor Plan Drawing 005 – Drainage and Water Supply Drawing 006 – Wash plant and Layout

2.0 CONDITION OF THE LAND AT PERMIT ISSUE

Environmental setting including:

- geology
- hydrogeology
- surface waters

European/International Sites

Searches on the Multi Agency Geographical Information for the Countryside (MAGIC) website[2] confirm there are no Sites of Special Scientific Interest (SSSI), a special area of conservation (SAC), special protection areas (SPA) or RAMSAR sites within 2km of the site boundary (See Table 2).

Designated Sites within 2km

Designation	Site Name	Reason for Designation
Special Area of Conservation	None within 2km	
Special Protection Area	None within 2km	
National Nature Reserve	None within 2km	
Site of Special Scientific Interest	None within 2km	
SSSI Impact Risk Zone (IRZ) The site lies within an identified SSSI Impact Risk Zone relating to desigr The following impact risk triggers are identified: • Landfill, including inert landfill, non-hazardous landfill and haz • Any discharge of water or liquid waste of more than 20m³/day or to surface water, such as a beck or stream.		
Local Nature Reserve	Ulgham Meadow	-

The ECIA report produced in March 2023 which identifies local habitats and potential impacts from the proposed site and activities including

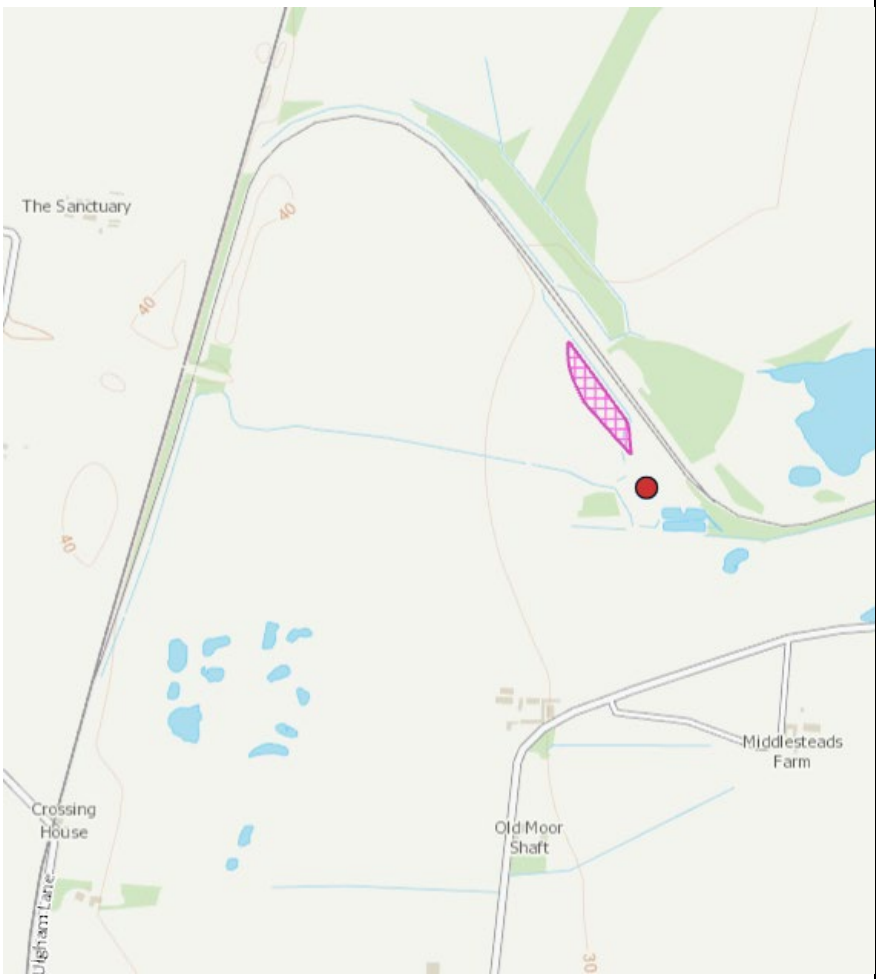
[2] MAGIC (defra.gov.uk) accessed August 2023

the Northumbria Coast SPA / RAMSAR site, the Northumberland Marine SPA and the Hawthorn Cottage Pasture SSSI. It was concluded that there would be a neutral effect and other receptors identified within the Application Site were not considered to be important ecological receptors.

Other receptors

Deciduous Woodland is recorded 50m to the East of the site as shown in Image 2 below, taken from the EA Screening pre the initial permit application.

Image 2 – Deciduous Woodland Location – EA Screening Map Extract



An area identified as deciduous woodland extends into the site boundary, however from a review of aerial imagery dating back to

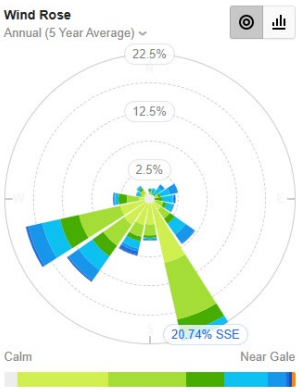
	2002, no woodland is or has been present on site. None of the following receptors have been identified within 1km of the proposed permit boundary. • National Nature Reserves; • World Heritage Sites; • Registered Parks and Gardens; • Area of Outstanding Natural Beauty; • Woodland Trust Sites; and • National Forest. The MAGIC website identified no areas of woodland listed within the Ancient Woodland Inventory within 2km of the site. **Major Roads and Transport Links** There are no motorways within 1km of the site boundary. The site is within 800m (west of the site) of the Network Rail Eastern Railway Line. P**ublic/Tourist Areas** The site is surrounded by open countryside and dogwalkers or horse riders use the greenspace surrounding the site. **Non-Statutory Designated Sites - Linton Lane Northumberland Wildlife Trust Reserve** The Linton Lane Northumberland Wildlife Trust Reserve is located approximately 20m to the northeast from the Site boundary at its' closest point, separated by a strip of open mosaic habitat and a railway line. The area comprises a former opencast coal mining site. The habitat in the Reserve includes two large ponds, a mixture of mature woodland and maturing alder/ willow carr, species rich grassland, marsh and aquatic habitats. The Site supports waterfowl assemblages as well as smaller passerine assemblages within the woodland areas. The wetland areas within the Reserve are fed by the water flowing off the Site and surrounding fields. Due to the value of the habitat of the reserve both intrinsically and for

the habitat which it provides to a range of species Linton Lane Northumberland Wildlife Trust Reserve is considered to be an IEF of Local level Importance.

Prevailing Wind Direction

The wind rose below shows the percentage of wind data recording over a 5-year average, reflecting the dominant wind direction from the site boundary (information sourced from the willyweather[3] application).

Image 3 – Wind Direction Average 5-year data – Boulmer



The wind rose (above) shows that the predominant wind direction is from the south-south-west (20.74%).

It can be observed from Figure 2 (above) that the wind will be blowing principally towards receptors such as agricultural land and the East Coast Mainline.

Geology

According to the relevant British Geological Survey map, the underlying geology of the site is detailed below.

The 1/50,000 scale BGS geological map records that glacial till or 'boulder clay' extends across the entire Site, but in its northern and western parts there is a covering layer of made ground.

Areas of backfilled opencast workings are shown to lie to the north and

[3] Weather Forecast - United Kingdom - WillyWeather Accessed August 2023

north-east.

Since the compilation of this map, a large part of the Site was subject to opencast mining by UK Coal.

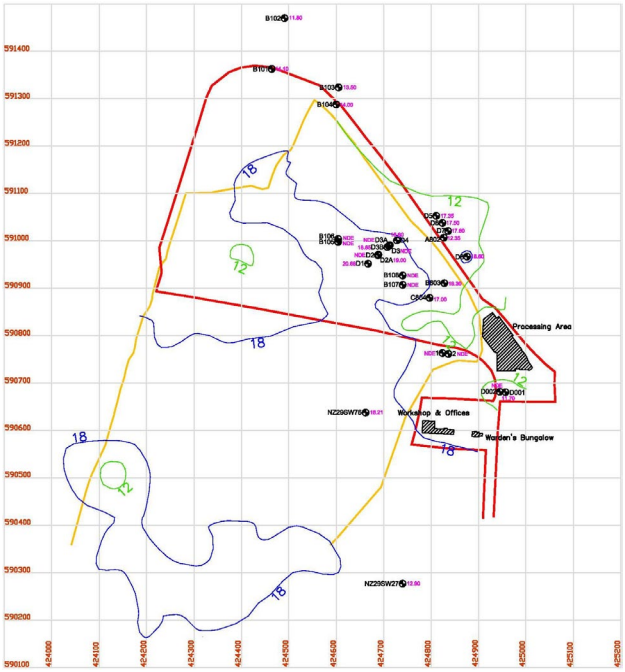
The 1/63,360 and 1/50,000 scale maps record that the Site is underlain by strata of the Upper Carboniferous, Pennine Middle Coal Measures Formation. These comprise an interbedded succession of mudstones, siltstones, sandstones, coal seams and seatearths.

The strata are shown to dip at between 3 and 5° (1v in 19h to 1v in 11h) towards the east and south-east.

The area is crossed by WNW-ESE and NE-SW normal faults of varying displacement.

There are details of only two boreholes held in the BGS's archive that provide information relevant to this study. Their locations are shown below.

Image 4 – BGS Borehole Locations



Borehole no. NZ29SW27 is located on the south side of the C125 public

road at High Steads Farm and records 12.90m of glacial cover.

Borehole no. NZ29SW76 was removed during UK Coal's opencast mining operations.

Hydrogeology

The superficial deposits at the Site are classified as a Secondary Aquifer by the Environment Agency, but given the predominance of glacial till, they are unlikely to represent an important source of water, even at a local level.

The bedrock strata are classified as a Secondary Aquifer – A and comprise, 'fractured or potentially fractured rocks, which do not have a high primary permeability, or other formations of variable permeability including unconsolidated deposits.' These do not produce large quantities of water for abstraction, but they are important for local supplies and in supplying base flows to rivers.

Groundwater levels at the Site were previously controlled by large scale pumping at Ellington Colliery. This was facilitated by the interconnection of old mine workings. Pumping ended when the colliery was closed in August 2005 and the water was then allowed to slowly recover and flood the workings. Nonetheless, it was still possible for UK Coal to carry out its opencast mining operations without the need for groundwater abstraction.

The Site lies about 5.3km to the west of the colliery and it is estimated that the underlying mine workings will now be flooded to a level of between -28.7m AOD and -23.4m AOD based on hydraulic gradients of 1v in 1000h and 1v in 500h respectively. This means that the groundwater lies at about 49 to 55m below ground surface where it is proposed to erect buildings and carry out mineral processing at the Site.

It follows therefore that there are no mine water discharges at or around the Site or are there likely to be within the lifetime of the proposed development.

The licensed groundwater abstractions held by M. Dungait & Sons of Manor Farm, Ulgham (licence nos. 1/22/04/025 and 1/22/04/025/R01) are located some distance to the north-west of the Site and will not be impacted by the development. This is because there are no plans to abstract water or deposit contaminated materials and also applies to any unlicensed abstractions.

There are no source protection zones within 2km of the site.

There would appear to be only one former landfill site within the

	Envirocheck [4]search area. This was located at Rear Rose Cottage, Longhirst at Grid Ref. 425700 590500, about 800m south-east of the Site. The site received household waste but was closed some time ago. Again, there will be no adverse impact because there are no plans to abstract groundwater. **Surface Water Abstractions** The Landmark Envirocheck report records that water is abstracted from the River Lyne under the terms of a permit or licence held in the name of M. Dungait & Sons (licence number 1/22/04/022). This abstraction will not be impacted by the proposed development because it is located upstream of the Site. There are no recorded unlicensed abstractions. **Air Quality** The site is not in an air quality management zone. **Flood Risk** The site is classed as having an extremely low risk of flooding from rivers, the sea or reservoirs. The site is classed as having a high risk of flooding from surface water based on its location. **Water Courses and Hydrology** The Site lies in the catchment of the River Lyne which is classified as a, *'Main River'*. A small tributary flows from west to east and passes beneath the main access road to the south of the proposed mineral processing area. There are existing drainage channels that will be adapted and used as part of the proposed development. A Flood Risk and Drainage Assessment Report has been compiled for the Site (DAB Geotechnics Ltd., 2022b – See Appendix A). Using the EA Flood Risk reference application[5], the below information in relation of flood risk is detailed below.

[4] See Phase 1 Land Contamination Report

[5] Your long term flood risk assessment - Check your long term flood risk - GOV.UK (check-long-term-flood-risk.service.gov.uk)

	• Reservoirs Flooding from reservoirs is unlikely in this area • Rivers and the sea Very low risk • Surface water Low risk **Coal Mining** The Coal Authority's CON29M Mining Report (Appendix C in the Coal Mining Risk Assessment Report – Phase 1 See Appendix B) raises a number of important points which are summarised below. Further comments are based on the details shown on the Coal Authority's interactive map. (i) Records show that seven coal seams have been extracted at depths of up to 160m beneath the Site. These were last worked in 1965 and comprise a mixture of total (longwall and shortwall) extraction and goafed pillared workings. Uncharted workings may be present, but none were encountered during UK Coal's opencast mining operations. (ii) The Coal Authority's interactive map shows that the Site is underlain by past shallow workings, but it is unclear whether this takes into account UK Coal's opencast excavations. (iii) There are no records of any mine gas emissions at the Site. The risk of mine gas emission is discussed in the Coal Mining Risk Assessment Report (DAB Geotechnics Ltd., 2022a). The Envirocheck report refenced within the Phase 1 report records that the Site lies within a lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). No radon protective

Pollution history including: • pollution incidents that may have affected land • historical land-uses and associated contaminants • any visual/olfactory evidence of existing contamination • evidence of damage to pollution prevention measures	Historical Land-uses – Phase 1 Summary A large part of the Site was previously used for the importation, processing and storage of coal from a number of former opencast sites. The coal was then dispatched by rail using a purpose built loading facility. Opencast mining was later carried out at the Site during which all traces of the coal stocking ground were removed and the static processing equipment and rail loading facility were demolished. All the demolition and coal carpet materials were buried at depth as part of the permitted development. The opencast workings were then restored to agriculture and nature conservation. However, 24ha of land in the northern part of the Site was only partly restored and set aside for possible commercial and industrial development. The rail link and adjacent concrete hardstanding were also retained for possible later use. The existing water treatment area will be adapted for use during the proposed operation of the Site to remove suspended solids. These are expected to be the principal contaminant as all imported materials will be inert. The water in the lagoon and discharge channel is currently discoloured by a white to light brownish grey suspension. Sampling and chemical analysis has shown that the water has been affected by lime dosing that was previously undertaken to neutralise acidic runoff from coal stocking areas. This appears to have affected the adjacent unnamed tributary of the River Lyne. The analysis results show that the quality of the water does vary with the flow rate through the lagoon system, as might be expected, but measured total and dissolved concentrations of cadmium, lead, nickel, chromium, manganese and mercury are shown to fall below the corresponding EQS's for fresh water with or without further assessment based on bioavailability. The same can be said for zinc, but not in the case of copper, the source of which remains unclear. There are no background levels for this metal which makes further assessment as to its environmental impact very difficult. Nonetheless, even if the contamination is unique to the Site, there will be significant levels of dilution downstream and it is not thought that the concentrations are likely to have an adverse impact on the environment. The Site has been assigned a LOW historical contamination rating based on the findings of this assessment. It is also concluded that the current land use hazard rating is LOW. There are no significant sources of contamination on the Site that represent more than a low to very lowrisk to potential receptors. Information on historical land use has been gathered from the Durham Council planning application.

	The below land uses may have contributed to any existing contamination at the site however, as shown in the planning history detailed below, infrastructure including concrete surfacing has been installed to prevent and to remove potential pathways for contaminants to migrate to the land and soils beneath the site. **Planning History 2023** Hybrid application - Full application - distribution of primary aggregates on site via railhead and distribution out by road, recycling plan for inert construction/demolition waste to secondary aggregates/soil materials; and addition of pumphouses, weighbridge, and wheel wash. Outline application for erection of office, workshops and security office/site warden dwelling (amended description 6th April 2023).
Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)	No record or evidence of historic contamination available. No visual or identifiable contamination recorded. PHASE 1 CONTAMINATION ASSESSMENT (DESK STUDY REPORT) – Conducted 2023
Baseline soil and groundwater reference data	PHASE 1 CONTAMINATION ASSESSMENT (DESK STUDY REPORT) – Conducted 2023
Supporting information	Environmental Risk Assessment (ERA_NBC)

3.0 PERMITTED ACTIVITIES	
Permitted activities	The operator wishes to apply for a Bespoke Inert Transfer Station with a wash plant to produce aggregates to end of waste status. The inert waste will be fed into the wash plant where it will undergo a fully automated treatment process. The washing process will allow the separation and recovery of sand, and various grades of single size clean aggregate. Outputs from the wash process • A small amount of plastic/wood/metal fractions • A final silt-like fraction (filter-cake) will be produced. Should any inert materials arrive at site, and not be deemed suitable or does not require to be subject to the washing process, they may be processed using the original crushing and screening methods to produce various grades of recycled aggregate. NBC will apply the WRAP Quality Protocol (Current Version June 2023) to these materials to create a non-waste. This will enable the company to recover a greater number of aggregates from the materials brought into the site for treatment. Soils will be screened and tested post treatment and re purposed off site in landscaping and development projects under the appropriate permissions and legislation. A wash plant management plan has been produced to cover the management of wash water and its recovery. The site layout is shown on Drawing 003. Wastes and products are then stored in allocated bays awaiting removal from site.

Non-permitted activities undertaken	N/A
Document references for: • Plan showing activity layout; and • Environmental risk assessment.	Drawings 001 - 006 Environmental Risk Assessment Reference ERA_NBC

To be completed post application issue

4.0 Changes to the activity	
Have there been any changes to the activity boundary?	
Have there been any changes to the permitted activities?	
Have any 'dangerous substances' not identified in the Application Site Condition Report been used or produced as a result of the permitted activities?	
Checklist of supporting information	• Plan showing any changes to the boundary (where relevant) • Description of the changes to the permitted activities (where relevant) • List of 'dangerous substances' used/produced by the permitted activities that were not identified in the Application Site Condition Report (where relevant)

5.0 Measures taken to protect land	
Checklist of supporting information	• Inspection records and summary of findings of inspections for all pollution prevention measures • Records of maintenance, repair and replacement of pollution prevention measures

6.0 Pollution incidents that may have had an impact on land, and their remediation

Checklist of supporting information	• Records of pollution incidents that may have impacted on land • Records of their investigation and remediation

7.0 Soil gas and water quality monitoring (where undertaken)	
Checklist of supporting information	• **Description of soil gas and/or water monitoring undertaken** • **Monitoring results (including graphs)**

DAB Geotechnics Ltd.

N B CLARK LTD.

FORMER BUTTERWELL SURFACE MINE AND COAL DISPOSAL POINT

PHASE 1 CONTAMINATION ASSESSMENT (DESK STUDY REPORT)

DAB Geotechnics Ltd.

FORMER BUTTERWELL SURFACE MINE AND COAL DISPOSAL POINT

PHASE 1 CONTAMINATION ASSESSMENT (DESK STUDY REPORT)

30th March 2023

	Name	Signature	Date
Reviewed by	D. A. Blythe		30th March 2023
Issue Status	**Final**		
Purpose	**For Client's information**		

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FORMER BUTTERWELL SURFACE MINE AND COAL DISPOSAL POINT PHASE 1 CONTAMINATION ASSESSMENT (DESK STUDY REPORT)

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1. INTRODUCTION

1.1 Background

N. B. Clark Ltd. proposes to develop part of the former Butterwell Surface Mine and Coal Disposal Point (**DP**) for the importation of primary aggregates and inert wastes, and the production of secondary aggregates, soil and soil making material. Use will be made of the existing rail link and road network. The development will include the further restoration of approximately 24ha of land and the erection of a warden's residence, workshop and offices.

1.2 Location and Topography

The Site covers a total area of 29.45ha and lies approximately 3.5km WSW of Ellington and 7.5km north-east of Morpeth in the County of Northumberland (**Figure 1**). It is bounded to the north, north-east and north-west by a rail loop that extends from the East Coast Main Line (**ECML**) a short distance to the west. Restored agricultural land lies to the south. The Site encompasses the footprint of the offices, car park, plant yard and water treatment area of the former opencast site as well as the coal stocking area and railhead. Access to the Site will continue to be gained from the C125 public road.

The National Grid Reference for the approximate centre of the Site is 424550 591100 (1/50,000 Ordnance Survey Sheet No. 81 Alnwick, Morpeth & Surrounding Area).

The Site occupies part of Northumberland's coastal plain. Surface elevations range from 137m above Ordnance Datum (**AOD**) in the north-west to 124m AOD in the south-east.

1.3 Purpose and Aims of this Assessment

The aims of the Phase 1 Contamination Assessment are as follows:

(i) to review in detail the previous historical uses of the Site and to identify all potential sources and areas of contamination;

(ii) to review information with respect to the geological setting of the Site in order to identify any potential hazards that may exist;

(iii) to review information relating to the environmental setting of the Site in order to aid in the understanding of the nature, extent and behaviour of any contaminants that might be present; and

(iv) to obtain sufficient information to allow a preliminary environmental risk rating to be assigned to the Site.

2. SOURCES OF INFORMATION

2.1 Ordnance Survey

Early editions of the 1/2500 and 1/10,560 scale Ordnance Survey (**OS**) maps have been obtained for the Site and are presented in **Appendix A**.

2.2 Landmark Envirocheck Data

A Landmark Envirocheck report is presented in **Appendix B**. This is based on a radial search area of up to 1km and is centred on Grid Ref. 424930 590680 in the south-eastern part of the Site. It focuses on the proposed mineral processing area and the location of the associated offices, workshop and warden's residence.

2.3 British Geological Survey

The geology of the Site has been determined by reference to the following British Geological Survey (**BGS**) publications:

1/63,360 scale Geological Map, Sheet No. 9 (Rothbury). Solid Edition (1966);
1/50,000 scale Geological Map, Sheet No. 9, Bedrock and Superficial Edition (2009);
1/10,560 scale Geological Maps, Sheet Nos. NZ60NE & SE; and

'Geology of the Rothbury District' (Lawrence et al., 2011).

Two archive borehole logs have also been downloaded from the BGS's internet website (British Geological Survey, 2023).

2.4 National Coal Board, British Coal and UK Coal Mining Ltd. Documents

An examination has been made of the ground investigation boreholes (nos. 1, 2, A22, A23, A802, B803, B101-B108, C804, D001 and D002), soil laboratory test results and reports for the National Coal Board (**NCB**) disposal point that once occupied the Site (Northumbrian Drilling Contractors Geotechnical Data Ref. Nos. 21/N/129, March 1975 and 006/N/499, April 1980). Additional investigations were carried out for an unbuilt DP extension in 1993. These included the drilling of borehole nos. D1-D8, the excavation of trial pit nos. TP1 to TP4 and further testing and reporting (Norwest Holst Ground Investigation Report Ref. No. JI/TW/F9526). The relevant 1/10,560 scale Old Workings Plans (nos. NZ29SW and NZ29SE) have also been examined.

Reference has been made to a number of archive plans that were prepared by UK Coal Mining Ltd. (**UK Coal**) as part of its opencast development at the DP site (2011-2016). These are listed as follows:

1/2500 scale Existing Features Plan (Dwg. No. 188/D01);
1/2500 scale Site Plan (Dwg. No. 188/D02);
1/2500 scale Geological Plan;
1/2500 scale Drift Thickness Plan;
1/2500 scale Sand & Gravel Thickness Plan; and
1/2500 scale Rockhead Levels Plan.

The plans are based on the results of some 255 rotary boreholes drilled to determine the coal reserves and the nature and thickness of the overburden. The opencast excavations were extended from the Ashington (D/E) to the Top Yard (G1) coal seam

2.5 Coal Authority

The Coal Authority's interactive map viewer has been used to confirm the presence of old workings at depth beneath the Site. Reference has also been made to a CON29M Mining Report. Full details are given in the Coal Mining Risk Assessment Report (DAB Geotechnics Ltd., 2022a).

2.6 Planning Application Documents

Planning application documents have been provided by N. B. Clarke Ltd. Particular attention has been drawn to Figures 3A and 3B and the latter is presented as **Figure 2** in this report.

2.7 Aerial Photographs

A number of historical aerial photographs have been examined to confirm the extent of more recent developments at the Site.

3. HISTORICAL DEVELOPMENT

Table 1 provides a summary of the details shown on the historical editions of the Ordnance Survey Maps presented in **Appendix A**.

Map Edition and Scale	Recorded Details
1866 1/10,560	The Site is shown to comprise a series of agricultural field enclosures. Linton tile works is recorded about 900m to the north-east. An unnamed tributary of the River Lyne is shown to cross the Site in an easterly direction.
1895 1/2500	The 1/2500 scale map confirms that the land use in the central part of the Site was agricultural. The unnamed tributary of the River Lyne is shown to follow an easterly course.
1897 1/2500	The details shown on this map are similar to those recorded on the 1895 edition.
1898 1/10,560	The land use at the Site appears unchanged. Linton tile works had been closed and the area is identified as old clay pits, but a brick works had been established about 400m to the east close to an old shaft. Linton Colliery had been constructed with a rail link running NNW-SSE.
1923 1/2500	The details shown on this map are similar to those recorded on the 1895 edition.
1924 1/10,560	No changes are recorded on the Site. The surface buildings at Linton Colliery had been extended and housing erected for its employees. A colliery spoil tip is shown on the site of the brickworks. The rail network had been extended around the colliery. The clay pits at the former Linton tile works are no longer recorded.
1938 1/10,560	Coverage is restricted to the Linton Colliery area where little or no development appears to have occurred since 1924.
1940-1951 1/10,000	The land use at the Site remains unchanged. A shaft is recorded to the south of the Site at Old Moor. The rail system had been extended to the old shaft on the north-western side of Linton Colliery to allow further tipping. The existing tip had been enlarged and further tipping is shown to the north. The road around High Stead and Middle Stead had been completely re-aligned and straightened along its course to the east.
1951 1/10,000	Coverage is restricted to the area around Linton Colliery. Few or no changes are recorded since the publication of the 1941-1950 map.
1957-1958 1/2500	A mineral railway line is shown to have been constructed across the central part of the Site close to the unnamed tributary of the River Lyne. A small area of waterlogged ground is shown to the north of the line.
1966-1969 1/10,000	A mineral railway is shown to extend across the Site to a newly established Longhirst Drift mine. The spoil tips at Linton Colliery had been extended. The Site otherwise remains in agricultural use.
1974 1/10,000	Coverage is restricted to the area south-east of the Site only.
1978-1985 1/2500	The east-west rail link to Longhirst Drift was removed prior to the construction of the Disposal Point which is shown in its completed form on the 1978-1985 map. A rail loop had been built to serve the DP and provide a connection with the ECML. Four water treatment lagoons are shown together with the internal haul road to Linton Lane opencast site. This extends to the north-east.

Table 1 Summary of Details Shown on Early Editions of the OS Maps

Map Edition and Scale	Recorded Details
1980-1985 1/10,000	Only partial coverage of the Site is provided. Linton Colliery is no longer operational. The rail sidings are shown as having been removed, but the main system remains largely intact. A small lake is recorded to the east of the Site. This was formed as a result of mining subsidence. Two of the water treatment lagoons at the former Butterwell DP are shown close by.
1990 1/2500	The map records that little or no change had occurred on the Site since 1978-1985. However, an additional water storage pond had been constructed to the north of the treatment lagoons at the DP site.
1991 1/2500	No coverage provided.
1992 1/10,000	All the railway lines around Linton Colliery had been removed by 1992 and the Linton Lane opencast site was being developed on land to the west. The West Linton opencast development is also shown to the north of the Site, although this would have been at least partly restored by this time. The full extent of the former Butterwell DP is recorded, together with the internal haul roads to West Linton and Linton Lane opencast sites. Butterwell surface mine was accessed to the west using the bridge crossing over the ECML. Only one building is shown to remain on the Longhirst Drift site. The size of the lake to the east of the Site remains unchanged.
1994 1/2500	No changes are recorded on the Site since the publication of the 1990 1/2500 scale map.
2000 1/10,000	The lake to the east of the Site is shown to have marginally increased in size. A second lake is recorded to the south-west of Linton. Details of the Disposal Point are clearly recorded with the access road, four water treatment lagoons and other storage ponds. All the opencast workings to the north of the Site are shown as having been restored. The haul road and bridge crossing over the ECML to Butterwell surface mine has been retained even though this site had also been largely restored.
2022 (Street View) 1/10.000	The Longhirst Drift site is shown to have been restored with the creation of a number of ponds. The original DP buildings and infrastructure had been removed, though the water treatment lagoons had been retained, if only in a slightly modified form, together with the access road. This followed the development of UK Coal's opencast site.

Table 1 cont'd. Summary of Details Shown on Early Editions of the OS Maps

The NCB (later British Coal) constructed a coal disposal point on the Site during the mid to late 1970's. This was designed to receive raw coal from the nearby Butterwell, Stobswood, West Linton and Linton Lane opencast sites and process it for dispatch by road and rail. The development comprised the construction of coal stocking areas, reception hoppers, crushing equipment and rapid loading bunkers. It was noted that the land was previously in agricultural use, but was poorly drained and occasionally flooded due to mining subsidence. A water treatment area comprising four settlement lagoons was constructed and a permitted discharge point established on an unnamed tributary of the River Lyne. Oxidation of the inherent sulphide content in the coal led to the creation of acid runoff in the stocking area and this was treated using an automatic lime dosing plant linked to the settlement lagoons.

In later years, mobile crushing and screening equipment were also used to assist in the processing and blending of coal. The DP continued to operate after the privatisation of the coal industry and the sale of its assets to RJB Mining Ltd. (later UK Coal).

Coal crushing and screening operations ceased and the stocking grounds were cleared when mineral extraction was completed at Stobswood site. UK Coal later secured planning permission to recover the underlying opencast coal reserves at the DP. Aerial photographs of the Site dating from 2007, 2013 and 2022 are presented as **Figures 3**, **4** and **5**. These show the Site before, during and after opencast mining. The permitted maximum extent of the excavations is marked by an orange line. It can be seen that the opencast workings extended across most of the stocking area and that overburden was stored in its remaining part. Remnant deposits of coal and stocking area 'carpet' (poor quality coal and mudstone) were removed and tipped as backfill in the opencast workings. The static coal processing and loading installation was demolished and the concrete crushed and buried at depth. Inert waste that had been deposited to the north of the former Longhirst Drift (around Grid Ref.424360 590450) was similarly treated. This material was subject to a detailed site investigation entailing the excavation of 10 trial pits, sampling and chemical analysis. No evidence of contamination was found and this was reported as part of the planning application for the opencast development. A new processing and loading area was created to dispatch the extracted coal. This has been retained together with the rail link and will be used as part of the proposed development. The water treatment area was slightly modified and the dosing plant dismantled because of the absence of acidic runoff.

The southern part of UK Coal's opencast site was restored to agriculture and areas of ecological interest. A mixture of subsoil and glacial clay was spread across its northern part, but no topsoil was applied because it was intended to development the area for commercial and/or industrial purposes. There are some volumes of stored topsoil remaining alongside the ECML and the north-western perimeter of the Site (**Figure 5**). UK Coal's offices and workshop were removed to leave an area of hardstanding. This will be used as part of the proposed development.

4. EXISTING SITE CONDITIONS AND ENVIRONMENTAL SETTING

4.1 Walkover Inspection

A walkover inspection of the Site was carried out on the 2nd December during which a number of electronic images were taken. These are presented as **Photographs 1** to **15**.

Land previously occupied by UK Coal's offices, car park and plant yard comprises an area of tarmacadam and concrete hardstanding (**Photographs 1** and **2**). There was no visual or olfactory evidence of any fuel or lubrication oil spills at the time of the inspection. These materials were stored in accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001. The developer's 'laydown' area (**Photograph 3**) lies immediately to the north and remains completely undeveloped.

The proposed mineral processing area (**Photographs 4**, **5** and **6**) comprises concrete hardstanding that was constructed at the time of UK Coal's opencast development. It occupies land that was wooded and previously undeveloped when the Site was occupied by a coal disposal point (**Figure 3**). The hardstanding was used as a coal processing, stockpiling and rail loading area (**Figure 4**). It was retained because there were plans to use it as part of the proposed Highthorn opencast development. All traces of coal were removed and there is no evidence to suggest that the area is contaminated.

The rail link (**Photograph 7**) lies outside the Site boundary. The line is founded on stone ballast, but apart from oil leakage from diesel electric locomotives, any contamination is likely to be limited and largely immobile. The line has only been used for coal traffic during its entire history. Since it was last used, there will have been some natural degradation of any oil based products.

The Site inspection was carried out during a period of very wet weather. The runoff from the northern part of the Site was observed to be clear (**Photographs 8** and **9**) as was the water in the unnamed tributary of the River Lyne (**Photograph 10**). The latter runs approximately west to east through the Site. However, the water in the treatment lagoons and in the discharge channel (**Photographs 11** and **12**) was found to be discoloured by a white to light brownish grey suspension. A number of samples were taken on the 26th January and 16th March 2023 and these were analysed by Chemtech Ltd. in a fully accredited chemical laboratory. The results are provided in **Appendix C** and are summarized in **Tables 2** and **4** (Section 4.5) where their compliance with Environmental Quality and UK Drinking Water Standards has been assessed and further comment provided. Reference has also been made to the Environment Agency's water quality results for the River Lyne.

The water from the Site discharges into an area of reed and rush growth (**Photograph 13**) that extends for some distance downstream. This will doubtless remove most of the suspended solids. Sampling was not extended off-Site where open water might be accessible because there are other inflows and potential contamination from agricultural land.

The 24 hectare of open land in the northern part of the Site (**Photograph 14**) supports a sparse vegetative cover and is presently devoid of any drainage. Infiltration rates are low owing to the low permeability of the subsoil and glacial cover that was applied across the backfilled opencast excavations. The four concrete blocks shown in **Photograph 15** mark the end of an electricity cable which may have been disconnected.

4.2 Geology

4.2.1 British Geological Survey

The 1/50,000 scale BGS geological map records that glacial till or 'boulder clay' extends across the entire Site, but in its northern and western parts there is a covering layer of made ground. Areas of backfilled opencast workings are shown to lie to the north and north-east. Since the compilation of this map, a large part of the Site was subject to opencast mining by UK Coal.

The 1/63,360 and 1/50,000 scale maps record that the Site is underlain by strata of the Upper Carboniferous, Pennine Middle Coal Measures Formation. These comprise an interbedded succession of mudstones, siltstones, sandstones, coal seams and seatearths. The strata are shown to dip at between 3 and 5° (1v in 19h to 1v in 11h) towards the east and south-east. The area is crossed by WNW-ESE and NE-SW normal faults of varying displacement.

There are details of only two boreholes held in the BGS's archive that provide information relevant to this study. Their locations are shown on **Figure 6**. Borehole no. NZ29SW27 is located on the south side of the C125 public road at High Steads Farm and records 12.90m of glacial cover. Borehole no. NZ29SW76 was removed during UK Coal's opencast mining operations, but the log shows a rockhead depth of 18.21m.

4.2.2 Plans Compiled by the National Coal Board and UK Coal Mining Ltd.

4.2.2.1 Superficial Deposits

An extract of UK Coal's 1/2500 scale Drift Thickness Plan is presented as **Figure 6**. This records the total thickness of superficial deposits prior to UK Coal's opencast mining and is based on exploratory drilling. The drift thicknesses recorded in the two BGS boreholes and those drilled as part of the ground investigations for the DP have been added. Exploratory drilling showed that deposits ranged in thickness from just over 10m beneath the southern part of the opencast site to 24.70m immediately north of the rail loop.

By far the majority of the superficial cover at UK Coal's opencast site comprised glacial till with some fluvio-glacial sand and gravel. The following is a summary of the succession recorded in the DP ground investigation boreholes:

Soil Description	Recorded Thickness (m)
Soft to stiff and sometimes very stiff, orange brown and brown mottled sandy CLAY with much fine to coarse gravel and occasional pockets of dense, moist, fine to medium sand.	0.00 – 3.80
Soft, brown, laminated, sandy CLAY.	0.00 – 1.80
Firm to very stiff, brown and grey brown, silty, sandy CLAY with fine to coarse gravel. Occasional sand bands, and sandstone cobbles and boulders.	2.50 – 17.05
Firm, brown, laminated CLAY.	0.00 – 0.10
Firm, brown sandy CLAY with sand bands.	0.00 – 0.80
Medium to very dense, light brown to brown, laminated SILT and fine to coarse, clayey SAND with fine to medium gravel.	0.00 – 6.25
Hard to very hard, brown to dark grey, silty, sandy CLAY with fine to coarse gravel. Occasional large boulders.	0.00 – 4.30

Relatively thin deposits of made ground were found to extend across the former coal stocking, processing and loading areas at the time of the DP ground investigation. The 1/2500 scale Sand & Gravel Thickness Plan shows that prior to opencast mining the majority of the glacial sand and gravel deposits were less than 1m in thickness.

Figure 6 shows the permitted extent of UK Coal's surface excavations where the superficial cover was effectively removed and placed as backfill together with large volumes of bedrock. The proposed mineral processing area, workshop, offices and warden's bungalow lie outside the backfill and will be founded on glacial deposits of over 12m in thickness.

4.2.2.2 Bedrock Strata

UK Coal's 1/2500 scale Geological Plan records that the bedrock strata dip towards the south-east at between 1v in 15h (3.8º) and 1v in 9h (6.3º). Minor NNW-SSE and WNW-ESE trending faults are shown to extend through the excavation area with displacements of approximately 2m towards the south and south-west. The ENE-WSW trending High Steads Fault is displayed along the southern margin of the excavations. This has a displacement of about 41m to the north.

The permitted opencast excavations extended from above the Ashington (D/E) down to the Top Yard (G1) coal seam. The latter formed the excavation pavement, although extraction was restricted to the Bottom Main (F2) and Ashington (D/E) seams in the west and north-east respectively. Abandoned mine workings were exposed in the Ashington High Main (D/E), Diamond (E), Top Main (F1) and Top Yard (G1) coal seams. Exploratory drilling also confirmed that there were extensive workings in the Bottom Yard (G2) beneath most of the excavations.

The NCB's 1/10,560 scale Old Workings Plans show that the proposed Site is underlain by workings in the Ashington (D/E), High Main (E), Top Main (F1), Bottom Yard (G2), Low Main (J), Brass Thill (K) and Hutton (L) seams. The shallowest lies at a base depth of about 17m below ground surface in the mineral processing area and roughly 20m where it is proposed to construct the workshop, offices and warden's bungalow.

4.2.3 Coal Authority Mining Report and Interactive Map

The Coal Authority's CON29M Mining Report (Appendix C in the Coal Mining Risk Assessment Report) raises a number of important points which are summarized below. Further comments are based on the details shown on the Coal Authority's interactive map.

(i) Records show that seven coal seams have been extracted at depths of up to 160m beneath the Site. These were last worked in 1965 and comprise a mixture of total (longwall and shortwall) extraction and goafed pillared workings. Uncharted workings may be present, but none were encountered during UK Coal's opencast mining operations.

(ii) The Coal Authority's interactive map shows that the Site is underlain by past shallow workings, but it is unclear whether this takes into account UK Coal's opencast excavations.

(iii) There are no records of any mine gas emissions at the Site.

The risk of mine gas emission is discussed in the Coal Mining Risk Assessment Report (DAB Geotechnics Ltd., 2022a). The Envirocheck report records that the Site lies within a lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). No radon protective measures are considered necessary in the construction of new dwellings or extensions.

4.3 Hydrology

4.3.1 Catchment and Drainage

The Site lies in the catchment of the River Lyne which is classified as a, *'Main River'*. A small tributary flows from west to east and passes beneath the main access road to the south of the proposed mineral processing area. There are existing drainage channels that will be adapted and used as part of the proposed development. Additional drainage will be installed in the northern part of the Site after further volumes of soil have been deposited to complete its restoration. A Flood Risk and Drainage Assessment Report has been compiled for the Site (DAB Geotechnics Ltd., 2022b).

4.3.2 Sampling and Chemical Analysis

Attention has been drawn to the colour of the water in the treatment lagoons and discharge channel. **Table 2** provides details of the chemical analysis results for five water samples taken in and around the water treatment area on the 26th January 2023. Testing was carried out by Chemtech Ltd. using UKAS accredited procedures. Comparison has been made with the latest Environmental Quality Standards (**EQS** values) for freshwater and exceedances are highlighted in yellow. Where there is no corresponding EQS, reliance has been placed on UK Drinking Water Standards (**UKDWS**) and non-compliant test results are highlighted in green.

Sample Number and Location		1. Close to Inlet	2. Southern Lagoon	3. Northern Lagoon	4. Outlet (from Northern Lagoon)	5. Tributary of River Lyne	River Lyne at Ulgham Grange	River Lyne at Lynemouth	Water Quality Standards
Date Sampled		26/01/23	26/01/23	26/01/23	26/01/23	26/01/23	2017-2020	2020-2022	
Antimony (total)	µg/l Sb	0.3	0.5	0.4	0.4	0.4			5 (UKDWS)
Arsenic (total)	µg/l As	0.62	0.85	0.74	0.75	0.64			50 (AA EQS) $ 10 (UKDWS)
Boron (total)	µg/l B	30	27	26	25	33			2000 (AA EQS) & 1000 (UKDWS)
Cadmium (total)	µg/l Cd	<0.07	0.10	<0.07	<0.07	<0.07			0.15 (AA EQS)[2]
Calcium (total)	mg/l Ca	1142	1283	913	909	1181	58.3-73	-	250 (UKDWS)
Chromium (total)	µg/l Cr	1.3	1.4	2.1	2.1	1.6			3.40 (AA EQS)[3]
Copper (total)	µg/l Cu	2.4	3.6	3.3	2.9	2.7			1 (AA EQS)[4]
Iron (total)	µg/l Fe	350	512	1834	2072	145			1000 (AA EQS)
Lead (total)	µg/l Pb	3.6	5.8	4.5	4.6	3.3	<30-210	-	1.2 (AA EQS)[4]
Magnesium (total)	mg/l Mg	288	287	219	221	284	7.88-14.1	-	50 (UKDWS)
Manganese (total)	µg/l Mn	12.0	10.7	12.9	12.4	3.8			30 (AA EQS)[4] & 50 (UKDWS)
Mercury (total)	µg/l Hg	<0.008	<0.008	<0.008	<0.008	<0.008			0.07 (Max) (EQS)
Nickel (total)	µg/l Ni	1.5	2.0	2.3	2.2	1.7			4 (AA EQS)[4]
Potassium (total)	mg/l K	24.7	26.8	26.9	26.5	25.1			12 (UKDWS)
Sodium (total)	mg/l Na	254	524	227	222	389			200 (UKDWS)
Zinc (total)	µg/l Zn	12	11	13	12	4			10.9 (AA EQS)[4]
Hardness (by calculation)[1]	mg/l $CaCO_3$	-	-	-	-	-	145-258		
pH	units	8.0	8.1	8.1	8.1	8.3	7.61-8.32	7.62-8.23	6-9 (EQS)
Temperature							2.9-16.6	0.9-17.0	
Electrical conductivity	µS/cm	686	608	536	519	746	242-620	546-1897	2500 (UKDWS)
Chloride	mg/l Cl	39.0	35.9	27.4	26.0	44.7			250 (AA EQS)
Nitrate	mg/l NO_3	<0.3	<0.3	<0.3	<0.3	<0.3	2.45-4.10	0.87-8.52	50 (UKDWS)
Sulphate	mg/l SO_4	111	98	84	78	109			400 (AA EQS) & 250 (UKDWS)
Alkalinity (settled)	mg/l $CaCO_3$	186	162	148	144	216	64-190	130-210	
Suspended solids	mg/l	8.5	18	35	29	35.5			
Chemical Oxygen Demand (total)	mg/l O_2	18	19	29	27	41			
Dissolved Oxygen	mg/l O_2	10.7	10.8	10.9	11.1	12.7	6.88-14.20	6.30-13.90	
Dissolved Organic Carbon	mg/l C	42	38	33	32	53			

AA – Annual average [1]Calculated using 2.497[Ca] + 4.118[Mg [2] Based on 100-150 mg/l $CaCO_3$] [3] Based on Chromium VI [4] Bioavailable. UKDWS UK Drinking Water Standards Denotes total concentration

Table 2 Surface Water Sample Analysis Results

Total concentrations were measured because of the visible presence of what appears to be a chemical precipitate. The water will not be used for public supply, but it is very hard and does carry total concentrations of calcium, magnesium, sodium and potassium that exceed the UKDWS. There are no EQS values for these substances (i.e. no perceived adverse environmental impact) and none are currently proposed.

The pH of the samples indicates slightly alkaline conditions. This together with the water hardness and the calcium and magnesium concentrations reflects the residual impact of lime dosing when the Site was operated as a coal stocking, processing and loading facility. Samples 1 and 5 were taken in close proximity to the water treatment area so it would appear that the ground has also been affected. The discolouration is due mainly to the precipitation of calcium, magnesium and other metallic compounds which the measurement of total concentrations takes into consideration. The pH values are all EQS compliant. The maximum permissible suspended solids concentration was 50 mg/l (pH 5-9) when the DP was operational and 60 mg/l (pH 6-9, iron 3 mg/l, maximum discharge flow 80 l/s) during opencast operations (ref. no. NE/EPRKP3825GB/001). The fact that the solids remain in suspension suggests that they are at least partly colloidal and that the lagoons cannot provide the settlement capacity even at relatively low flows. Filtration using straw bales or a reed bed would likely resolve the problem. Currently the water discharges into an area of reeds and rushes before it enters the unnamed tributary of the River Lyne. (Note that this watercourse is almost entirely sourced within the Site.) The watercourse is also subject to rush and reed growth and it wasn't possible to access open water for some considerable distance downstream of the discharge point on the 26th January.

The analysis results show that the total concentrations of cadmium, which has strong chemical affinities with zinc, are all compliant with the published EQS value. The same applies with regard to mercury and nickel. The iron concentrations exceed the EQS in two of the samples taken at the Site. It is entirely possible that some of the suspended solids are made up of iron oxy-hydroxide as soluble Fe^{2+} ions usually oxidise to Fe^{3+} on contact with air. These solids can be filtered if not settled.

Environmental Quality Standards for the protection of aquatic life were derived under previous legislation (i.e. the Dangerous Substance Directive 76/464/EEC) and several of these were expressed as hardness bandings to reflect apparent changes in toxicity with water hardness. The limits for copper, for example, were are follows:

0-50 mg/l $CaCO_3$	1 μg/l	100-250 mg/l $CaCO_3$	10 μg/l
50-100 mg/l $CaCO_3$	6 μg/l	>250 mg/l $CaCO_3$	28 μg/l

On this basis, the water samples at Butterwell DP would be compliant with respect to copper.

Better understanding of the impact of dissolved metals now shows that their toxicity is dependent on a range of other water quality parameters, principally pH and dissolved organic carbon (**DOC**). These parameters influence the concentration of metals responsible for toxic effects in flora and fauna (i.e. their bioavailable concentrations). This supports the long established view that measured total and dissolved concentrations have limited relevance to potential environmental risk. If the metals ions bind to other ions, such as carbonate (CO_3^{2-}) or DOC then it reduces their ability to bind to the organism. The effect appears to decrease where the DOC concentrations are higher than about 30 mg/l, Sodium (Na^+) and calcium (Ca^{2+}) ions can compete with potentially toxic metals to limit their effect. The presence of iron and aluminium can also have an impact due to their very high affinity for complexation by DOC.

Inorganic lead compounds have low solubility in natural waters, but this increases with greater acidity. The measured pH levels in **Table 2** are all slightly alkaline so the dissolved concentrations are expected to be low. The bioavailable concentrations represent a small fraction of the dissolved component and an even smaller part of the total values measured at the Site. They have been roughly estimated using an Environment Agency screening tool and the measured DOC values. The results are presented in **Table 3**.

Sample date 26th January 2023

Sample No.	Measured Total Lead Concentration (µg/l Pb)	Dissolved Organic Carbon (mg/l C)	Site Specific PNEC Dissolved Pb (µg/l Pb)	BioF	Available Lead Concentration (µg/l Pb)
1	3.6	42	24	0.05	0.18
2	5.8	38	24	0.05	0.29
3	4.5	33	24	0.05	0.23
4	4.6	32	24	0.05	0.23
5	3.3	53	24	0.05	0.17

PNEC - Predicted No Effect Concentration.
In all cases the measured DOC concentrations exceed 20 mg/l which is used to calculate a site specific PNEC value. A value of 20 mg/l has therefore been used in the calculations.

BioF - the bioavailability factor is the ratio of the 'Reference HC5' value calculated from water chemistry parameters reflecting high bioavailability ('reference conditions') divided by the Local HC5, the value calculated from water chemistry parameters from a local site. Through the use of a BioF, differences in bioavailability are accounted for by adjustments to the monitoring data, but the bioavailable EQS remains the same.

The HC5 is the 5th percentile of a species sensitivity distribution. This value therefore protects 95% of the species. The HC5 is commonly used as the scientific basis for setting EQS's. If a full biotic ligand model is available, the HC5 can be normalized to account for the bioavailability conditions (as a local HC5 and reference HC5). A local HC5 is a bioavailability corrected HC5. This means that the local HC5 takes the bioavailability conditions at a specific site into account.

Table 3 Estimated Available Lead Concentrations for Samples of 26th January 2023

The calculations should be carried out using measured dissolved concentrations which would provide even lower results, but in any event the results show that they fall well below 1.2 µg/l (i.e. they are compliant with the standard).

A second round of sampling was carried out on the 16th March 2023. Testing was again carried out by Chemtech Ltd., but on this occasion dissolved concentrations were considered. The results are presented in **Table 4** where comparison is again made with EQS and UKDWS values. There was a greater inflow and outflow of water at the time of sampling and this has clearly affected the results. Variations are to be expected where surface runoff from any site naturally drains to its point of discharge. The calcium and pH values are higher than might be expected, again indicating the impact of historic lime dosing, but without adverse effect on the environment. The suspended solids concentrations are certainly low enough to comply with the terms of a stringent discharge permit. The only exceedances, highlighted in yellow, relate to the copper concentrations. Note that all the lead concentrations fall below 1 µg/l so further assessment is not required. The concentrations of iron are also quite low. However, use has been made of the Environment Agency's M-BAT spreadsheet to further assess the concentrations of copper, zinc, manganese and nickel. The measured pH values and the calcium and DOC concentrations were input to derive site specific PNEC and bioavailable concentrations for the three metals. The results are presented in **Table 5**. Measured concentrations that exceed the derived PNEC values (Predicted No Effect Concentrations) are highlighted in yellow and copper is again identified as non-compliant. Where this is not the case, the spreadsheet calculations have derived bioavailable concentrations. It can be seen that these are much smaller than the measured dissolved concentrations.

Ambient background concentrations should also be accounted for as part of the EQS compliance assessment for zinc. Data have been published for various catchments in the UK. A background level of 2 µg/l is quoted for the River Tyne which must take into consideration the effects of historic metal and coal mining. There are no data for the River Lyne, but an allowance of 1 µg/l would seem reasonable based on the allowance made by the Scottish Environment Protection Agency for all watercourses in Scotland. Background levels of copper should also be taken into account and if a similar figure is acceptable, sample non-compliance at Butterwell DP becomes very marginal. Unfortunately, there are no data to make any kind of assessment and so it is not known whether the elevated copper concentrations are unique to this Site. It is not known whether similar assessments been made for any of the discharges into the River Lyne or its tributaries..

Sample Number and Location		1. Inlet Water	2. Southern Lagoon	3. Northern Lagoon	4. Outlet (from Northern Lagoon)	5. Tributary of River Lyne	River Lyne at Ulgham Grange	River Lyne at Lynemouth	Water Quality Standards
Date Sampled		16/03/23	16/03/23	16/03/23	16/03/23	16/03/23	2017-2020	2020-2022	
Antimony (total)	µg/l Sb	0.3	0.3	0.4	0.3	0.5			5 (UKDWS)
Arsenic (total)	µg/l As	0.51	0.57	0.67	0.51	0.46			50 (AA EQS) $ 10 (UKDWS)
Boron (total)	µg/l B	33	24	54	39	54			2000 (AA EQS) & 1000 (UKDWS)
Cadmium (total)	µg/l Cd	<0.07	<0.07	<0.07	<0.07	<0.07			0.15 (AA EQS)[2]
Calcium (total)	mg/l Ca	84	82	116	81	76	58.3-73	-	250 (UKDWS)
Chromium (total)	µg/l Cr	<0.2	<0.2	0.2	<0.2	<0.2			3.40 (AA EQS)[3]
Copper (total)	µg/l Cu	2.2	2.5	2.7	1.9	2.3			1 (AA EQS)[4]
Iron (total)	µg/l Fe	37	26	35	27	9			1000 (AA EQS)
Lead (total)	µg/l Pb	<0.2	<0.2	<0.2	<0.2	<0.2	<30-210	-	1.2 (AA EQS)[4]
Magnesium (total)	mg/l Mg	24	23	32	20	18	7.88-14.1	-	50 (UKDWS)
Manganese (total)	µg/l Mn	10.3	5.9	14.3	8.3	20.3			30 (AA EQS)[4] & 50 (UKDWS)
Mercury (total)	µg/l Hg	<0.008	<0.008	<0.008	<0.008	<0.008			0.07 (Max) (EQS)
Nickel (total)	µg/l Ni	1.3	1.6	1.7	1.3	1.5			4 (AA EQS)[4]
Potassium (total)	mg/l K	4.2	4.3	5.7	3.8	3.1			12 (UKDWS)
Sodium (total)	mg/l Na	15.9	19.0	22.6	17.2	20.7			200 (UKDWS)
Zinc (total)	µg/l Zn	1	<1	<1	<1	2			10.9 (AA EQS)[4]
Hardness (by calculation)[1]	mg/l $CaCO_3$	309	299	421	285	264	145-258		
pH	units	8.2	8.2	8.3	8.3	8.4	7.61-8.32	7.62-8.23	6-9 (EQS)
Temperature							2.9-16.6	0.9-17.0	
Electrical conductivity	µS/cm	612	589	626	595	567	242-620	546-1897	2500 (UKDWS)
Chloride	mg/l Cl	43.2	43.3	45.3	46.6	30.9			250 (AA EQS)
Nitrate	mg/l NO_3	12.8	5.2	14.1	20.8	0.6	2.45-4.10	0.87-8.52	50 (UKDWS)
Sulphate	mg/l SO_4	114.4	108.9	106.8	81.4	66.0			400 (AA EQS) & 250 (UKDWS)
Alkalinity (settled)	mg/l $CaCO_3$	138	128	134	140	190	64-190	130-210	
Suspended solids	mg/l	11	35	15	25	12			
Chemical Oxygen Demand (total)	mg/l O_2	19	22	19	12	18			
Dissolved Oxygen	mg/l O_2						6.88-14.20	6.30-13.90	
Dissolved Organic Carbon	mg/l C	39	35	38	37	50			

AA – Annual average [1]Calculated using dissolved 2.497[Ca] + 4.118[Mg [2] Based on 100-150 mg/l $CaCO_3$] [3] Based on Chromium VI [4] Bioavailable. UKDWS UK Drinking water standards

Table 4 Surface Water Sample Analysis Results

Sample No.	Location	Derived PNEC (µg/l)	Derived Bioavailable Concentration (µg/l)	Measured Concentration (µg/l)	Notes
Copper					
1	Inlet	1.0	-	2.2	PNEC derived using DOC concentration of 15 mg/l and in the case of sample 3 a calcium concentration of 93 mg/l, as otherwise the measured values exceed valid ranges for copper.
2	Southern Lagoon	1.0	-	2.5	
3	Northern Lagoon	1.0	-	2.7	
4	Outlet	1.0	-	1.9	
5	Unnamed tributary	1.0	-	2.3	
Zinc					
1	Inlet	89.35	0.12	1	PNEC derived using a DOC concentration of 20 mg/l and a pH of 8 as otherwise the measured values exceed valid ranges for zinc.
2	Southern Lagoon	89.49	0.12	<1*	
3	Northern Lagoon	87.55	0.12	<1*	
4	Outlet	89.56	0.12	<1*	
5	Unnamed tributary	89.91	0.14	2	
Nickel					
1	Inlet	23.03	0.23	1.3	PNEC derived using DOC concentrations of 20 and in the case of sample 3 a calcium concentration of 88 mg/l, as otherwise the measured values exceed valid ranges for nickel.
2	Southern Lagoon	22.55	0.28	1.6	
3	Northern Lagoon	21.24	0.32	1.7	
4	Outlet	19.59	0.27	1.3	
5	Unnamed tributary	18.55	0.39	1.5	
Manganese					
1	Inlet	149.07	8.5	10.3	PNEC derived using a DOC concentration of 20 and a pH of 8 as otherwise the measured values exceed valid ranges for manganese.
2	Southern Lagoon	149.07	4.87	5.9	
3	Northern Lagoon	123	14.30	14.3	
4	Outlet	123	8.3	8.3	
5	Unnamed tributary	123	20.3	20.3	

PNEC - Predicted No Effect Concentration. *A value of 1 was used in the calculations.

Table 5 Results of M-BAT Analysis using Dissolved Concentrations of Copper, Zinc, Nickel and Manganese

What is the source of the copper? The concentrations are very low in real terms. Coal Measures strata contain inherent sulphides; predominantly iron pyrites with much lower proportions of galena (PbS), sphalerite (ZnS), chalcopyrite ($CuFeS_2$), arsenopyrire (FeAsS) and millerite (NiS). These decompose through exposure and bacterial activity to form soluble sulphates, which in the case of iron hydrolyse to create insoluble oxyhydroxides. The reactions create acidic conditions, but in Northumberland there is usually, but not always, sufficient carbonate material to provide a suitable buffer. The mine water that lies at depth beneath the Site is more or less pH neutral as a consequence. Acid runoff was created when large volumes of coal were stored on the Site and this will have been accompanied by elevated metal and sulphate concentrations. Lime treatment was required to neutralize the water prior to discharge.

All the coal has been removed, even from the concrete hardstanding. A cover of subsoil and glacial clay has been applied across the Site as part of its restoration. Hard cover is present elsewhere. The subsoil and glacial clay contain fragments of Coal Measures rock materials and remain exposed over a wide area in the north-west. However, if this material was the source of the contamination, it would be expected that there would also be elevated concentrations of nickel, zinc, lead and sulphate. The sulphate concentrations are all well below the EQS for both sets of results so it is not thought that sulphide decomposition is a problem at the Site. The idea that the Site has inherited, *'coal mining legacies'*, is not accepted. However, the placement of topsoil and the establishment of vegetative cover might serve to improve the situation.

Runoff from the proposed mineral processing and stockpiling areas should not give rise to any impact on discharge water quality provided that only inert materials are imported as proposed. This will be a requirement of any waste licensing at the Site. The principal contaminant in the runoff will be inert suspended solids which can be removed by simple settlement in silt traps, sumps and the existing lagoons.

More sampling and testing will be carried out to determine compliance with the Site discharge consent or permit. The Agency will also carry out its own sampling as part of its statutory duties. Indeed, the quality of the discharge water was monitored throughout the period of opencast mining and restoration at the Site. There are no reports of any breeches of the Agency's discharge consent conditions and there is no reason to suppose there will be any problems during the course of the proposed development.

The discharge consent for the Site (ref. no. NE/EPRKP3825GB/001) was transferred from UK Coal to Harworth Estates Mines Property Ltd. on the 8th December 2016. It has since been transferred to N. B. Clark Ltd. The local authority pollution, prevention and controls (PPC) licences held for the purposes of coal processing have also been surrendered. The recorded pollution incident (no. 45712) does not refer to any historical activities at the Site.

4.3.3 Surface Water Abstractions

The Landmark Envirocheck report (**Appendix B**) records that water is abstracted from the River Lyne under the terms of a permit or licence held in the name of M. Dungait & Sons (licence number 1/22/04/022). This abstraction will not be impacted by the proposed development because it is located upstream of the Site. There are no recorded unlicensed abstractions.

4.4 Hydrogeology

The superficial deposits at the Site are classified as a Secondary Aquifer by the Environment Agency, but given the predominance of glacial till, they are unlikely to represent an important source of water, even at a local level. The bedrock strata are classified as a Secondary Aquifer – A and comprise, '*fractured or potentially fractured rocks, which do not have a high primary permeability, or other formations of variable permeability including unconsolidated deposits.'* These do not produce large quantities of water for abstraction, but they are important for local supplies and in supplying base flows to rivers.

Groundwater levels at the Site were previously controlled by large scale pumping at Ellington Colliery. This was facilitated by the interconnection of old mine workings. Pumping ended when the colliery was closed in August 2005 and the water was then allowed to slowly recover and flood the workings. Nonetheless, it was still possible for UK Coal to carry out its opencast mining operations without the need for groundwater abstraction. Monitoring carried out before the commencement of opencast mining confirmed the presence of dewatered strata and it was estimated that the excavations would be dry to at least -33.31m AOD (i.e. 33.31 below OD), as indeed proved to be the case. Since that time, the Coal Authority has established its own pumping operations at the former Lynemouth Colliery where it maintains the water level at around -34m AOD. The Site lies about 5.3km to the west of the colliery and it is estimated that the underlying mine workings will now be flooded to a level of between -28.7m AOD and -23.4m AOD based on hydraulic gradients of 1v in 1000h and 1v in 500h respectively. This means that the groundwater lies at about 49 to 55m below ground surface where it is proposed to erect buildings and carry out mineral processing at the Site. It follows therefore that there are no mine water discharges at or around the Site or are there likely to be within the lifetime of the proposed development.

The licensed groundwater abstractions held by M. Dungait & Sons of Manor Farm, Ulgham (licence nos. 1/22/04/025 and 1/22/04/025/R01) are located some distance to the north-west of the Site and will not be impacted by the development. This is because there are no plans to abstract water or deposit contaminated materials and also applies to any unlicensed abstractions. There are no source protection zones.

There would appear to be only one former landfill site within the Envirocheck search area. This was located at Rear Rose Cottage, Longhirst at Grid Ref. 425700 590500, about 800m south-east of the Site. The site received household waste, but was closed some time ago. Again, there will be no adverse impact because there are no plans to abstract groundwater.

5. IMPLICATIONS FOR DEVELOPMENT

The Site remained largely in agricultural use until the construction of the DP by the National Coal Board in the 1970's. None of the coal that was previously stored or processed at the Site was combusted and so it is highly unlikely that there has been any significant contamination by potentially harmful derivatives such as phenols and polycyclic aromatic hydrocarbons (PAH's). The stockpiles were regularly monitored and any heating associated with the natural oxidation of the coal was detected at an early stage (e.g. by observing the presence of water vapour and measuring the temperature using a probe). Any such effects were mitigated by compacting the outer surface of the stockpile to prevent further air ingress. There are no records of burning coal having to be removed and treated. It was in the operators' best interest not to lose coal.

Natural sulphides present in the coal were subject to oxidation and acidification. The runoff was routinely treated using an automatic lime batching plant located adjacent to the existing lagoons. This was removed when the Site was developed for opencast mining and much smaller volumes of coal were stored for much shorter periods of time on a purpose built concrete pad underlain by in-situ glacial material. The hardstanding will be used for the proposed mineral processing operations. The original DP buildings and the associated stocking area were completely removed and the materials buried at depth as part of the opencast mining operation.

All the railway lines that were constructed around the Site were used solely for the transportation of coal. There were no coke works at Linton Colliery or any of the other mines in the area so the risk of rail wagons importing potentially hazardous contaminants ito the area is considered to be low. The rail link to the DP was only ever used by diesel-electric locomotives, none of which were re-fuelled or serviced adjacent to the Site.

There is no evidence of any oil spills or contamination in the area of UK Coal's former plant maintenance, car park and offices. In any event, the concrete and tarmacadam cover will have prevented significant migration as would the underlying in-situ glacial till. Fuel and lubricating oils were stored in accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001. This will continue to be the case during the course of the proposed development.

The risk of mine gas migration has been considered in the Coal Mining Risk Assessment (DAB Geotechnics Ltd., 2022a).

It is proposed to import only fully certificated inert waste materials and primary aggregates onto the Site. These materials will be crushed, screened and washed in a purpose built installation. The discharge water will be treated and discharged into a tributary of the River Lyne subject to the approval and conditions set by the Lead Local Flood Authority and the Environment Agency.

To summarize, there is no evidence to suggest that the Site is grossly contaminated and it will not become so as a consequence of the proposed development.

6. RISK ASSESSMENT AND HAZARD RATING

6.1 Risk to Potential Receptors

It is proposed to use part of the former Butterwell Surface Mine and Coal Disposal Point for the importation and processing of primary aggregates, inert construction and demolition waste and the production of secondary aggregates, soils and soil making materials. An area of land covering some 24ha in the northern part of the Site will be further restored to agriculture using suitable topsoil material. This land was previously set aside for industrial or commercial development. An assessment has been carried out based on the risk to potential receptors. The approach adopted in this report is based on CIRIA report C552 (CIRIA, 2001). For each of the pollution linkages, an estimate is made of: the potential severity of the risk and the likelihood of the risk occurring. The risk severity classification is shown in **Table 4**.

Severe	Acute risks to human health. Catastrophic damage to buildings/property (e.g. by explosion). Major pollution of controlled waters (watercourses or groundwater).
Medium	Chronic (long-term) risk to human health. Pollution of sensitive controlled waters (surface waters or aquifers). Significant effects on sensitive ecosystems or species.
Mild	Pollution of non-sensitive waters. Significant damage to buildings or structures.
Minor	Requirement for protective equipment during site works to mitigate health effects. Damage to non-sensitive ecosystems or species. Minor damage to buildings or structures.

Table 4 Severity of Risk

The probability of the risk occurring is based on the criteria given in **Table 5**.

High Likelihood	Pollutant linkage may be present, and risk is almost certain to occur in the long term, or there is evidence of harm to the receptor
Likely	Pollutant linkage may be present, and it is probable that the risk will occur over the long term
Low Likelihood	Pollutant linkage may be present and there is a possibility of the risk occurring, although there is no certainty that it will do so
Unlikely	Pollutant linkage may be present but the circumstance under which harm would occur are improbable

Table 5 Probability of Risk Occurring

An overall evaluation of the level of risk is gained from a comparison of the severity and probability as presented in **Table 6**. **Table 7** provides details of a risk assessment based on the proposed end land use and can be used to evaluate the likelihood of the receptor being affected.

		Severity			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**High Likelihood**	Very high risk	High risk	Moderate risk	Moderate/low risk
	Likely	High risk	Moderate risk	Moderate/low risk	Low risk
	Low Likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk

Table 6 Comparison of Severity and Probability

Source(s)	Pathway(s)	Receptor(s)	Severity	Probability	Risk
Organic contamination in soils from historic activities related to the production and processing of coal.	Ingestion, inhalation and dermal contact via permeable soils.	Human health: Site operatives.	Minor	Unlikely	Very low risk
		Human health: future Site users	Minor	Unlikely	Very low risk
	Direct contact via permeable soils.	Existing and future services/infrastructure (e.g. plastic pipes and ducting)	Minor	Unlikely	Very low risk
	Root uptake.	Vegetation	Minor	Unlikely	Very low risk
Inorganic contamination in soils from historic activities related to the production and processing of coal.	Ingestion, inhalation and dermal contact via permeable soils.	Human health: Site operatives.	Minor	Low likelihood	Very low risk
		Human health: future Site users	Minor	Low likelihood	Very low risk
	Direct contact via permeable soils.	Existing and future services/infrastructure (e.g. plastic pipes and ducting)	Minor	Unlikely	Very low risk
	Root uptake.	Vegetation	Minor	Likely	Low risk
Leachable contamination, dissolved hydrocarbon and inorganic compounds (from historic and proposed activities on the Site).	Root uptake.	Vegetation	Minor	Low likelihood	Very low risk
	Lateral migration via permeable soils.	Existing surface watercourses	Minor	Likely	Low risk
Mine gas from coal workings, radon gas, soil gas and vapour.	Migration through permeable soils.	Human health: Site operatives, visitors and neighbouring properties.	Minor	Mine gas: unlikely where thick deposits of glacial material remain and even where subsoil covers opencast backfill. Radon gas: likely, but concentrations so low no protective measures deemed necessary. Soil gases and vapours: unlikely, no organic contamination.	Low to very low risk

Table 7 Risk Assessment based on Proposed End Land Use

6.2 Hazard Rating

The assessment of potential contamination has also been carried out by means of a broad contamination hazard rating based on the land use history, but without the benefit of an intrusive investigation. There are three risk ratings for historical land use:

High - *the nature of the historical land use is such that the presence of significant contamination is considered very likely and can be regarded as undesirable*.

Medium - *the nature of the historical land use is such that the presence of contamination is considered likely, the significance of which will depend on the degree of contamination*.

Low - *the nature of the historical land use is such that general contamination occurring on the site is unlikely to be present a significant risk*.

A hazard rating has also been devised to put into context the significance of contamination due to the current land uses. The occurrence of one or more of the factors listed below will determine the appropriate site rating.

High - *the nature of the potential contaminants arising from current uses is such that with highly permeable strata, potentially significant groundwater movements, sensitive adjacent land uses and with little or no mitigation measures undertaken, it is considered highly likely that a significant hazard exists to the site users, buildings, services and groundwater, both on and off the site*.

Medium - *the nature of the potential contaminants arising from current uses is such that with permeable strata, possible groundwater movements, similarly sensitive adjacent land uses, and with mitigation measures undertaken, it is considered likely that a hazard exists to site users, buildings, services and groundwater, both on and off the site*.

Low - *the nature of the potential contaminants arising from current uses is such that with low permeability strata, minor groundwater movements, less sensitive adjacent land uses and with mitigation measures undertaken, it is considered unlikely that any significant hazard exists to site users, buildings, services and groundwater, both on and off the site*.

Based on the findings of this assessment, the Site can be given a LOW historical contamination rating. This rating is awarded because it was used for agricultural purposes until the 1970's. It was then used only for coal stocking, processing and dispatch. After the removal of all the coal, most of the area was then subject to opencast mining which removed the surface materials and placed them at depth. The Site is presently comprises partly restored open land and areas of hard cover and for this reason the current land use hazard rating is considered to be LOW.

A qualitative source-pathway-receptor assessment has been undertaken and a conceptual model has been produced. This is presented as **Figure 7**. There are presently no significant contaminant sources on the Site. This situation will not change if it is developed as planned.

7. SUMMARY AND CONCLUSIONS

1. N. B. Clark Ltd. proposes to develop part of the former Butterwell Surface Mine and Coal Disposal Point for the importation of primary aggregates and inert wastes, and the production of secondary aggregates, soil and soil making material. Use will be made of the existing areas of hard cover as well as the adjacent rail link and road network. The development will include the further restoration of approximately 24ha of land and the erection of a warden's residence, workshop and offices.

2. A large part of the Site was previously used for the importation, processing and storage of coal from a number of former opencast sites. The coal was then dispatched by rail using a purpose built loading facility. Opencast mining was later carried out at the Site during which all traces of the coal stocking ground were removed and the static processing equipment and rail loading facility were demolished. All the demolition and coal carpet materials were buried at depth as part of the permitted development. The opencast workings were then restored to agriculture and nature conservation. However, 24ha of land in the northern part of the Site was only partly restored and set aside for possible commercial and industrial development. The rail link and adjacent concrete hardstanding were also retained for possible later use.

3. The existing water treatment area will be adapted for use during the proposed operation of the Site to remove suspended solids. These are expected to be the principal contaminant as all imported materials will be inert. The water in the lagoon and discharge channel is currently discoloured by a white to light brownish grey suspension. Sampling and chemical analysis has shown that the water has been affected by lime dosing that was previously undertaken to neutralise acidic runoff from coal stocking areas. This appears to have affected the adjacent unnamed tributary of the River Lyne. The analysis results show that the quality of the water does vary with the flow rate through the lagoon system, as might be expected, but measured total and dissolved concentrations of cadmium, lead, nickel, chromium, manganese and mercury are shown to fall below the corresponding EQS's for fresh water with or without further assessment based on bioavailability. The same can be said for zinc, but not in the case of copper, the source of which remains unclear. There are no background levels for this metal which makes further assessment as to its environmental impact very difficult. Nonetheless, even if the contamination is unique to the Site, there will be significant levels of dilution downstream and it is not thought that the concentrations are likely to have an adverse impact on the environment. The provision of a topsoil and vegetative cover in the northern part of the Site may resolve the situation, but otherwise it will very difficult to find a sustainable solution. The proposed development will not add to the problem provided that the imported materials are inert as will be required by any waste management licence that the Environment Agency may grant.

4. The Site has been assigned a LOW historical contamination rating based on the findings of this assessment. It is also concluded that the current land use hazard rating is LOW. There are no significant sources of contamination on the Site that represent more than a low to very low risk to potential receptors.

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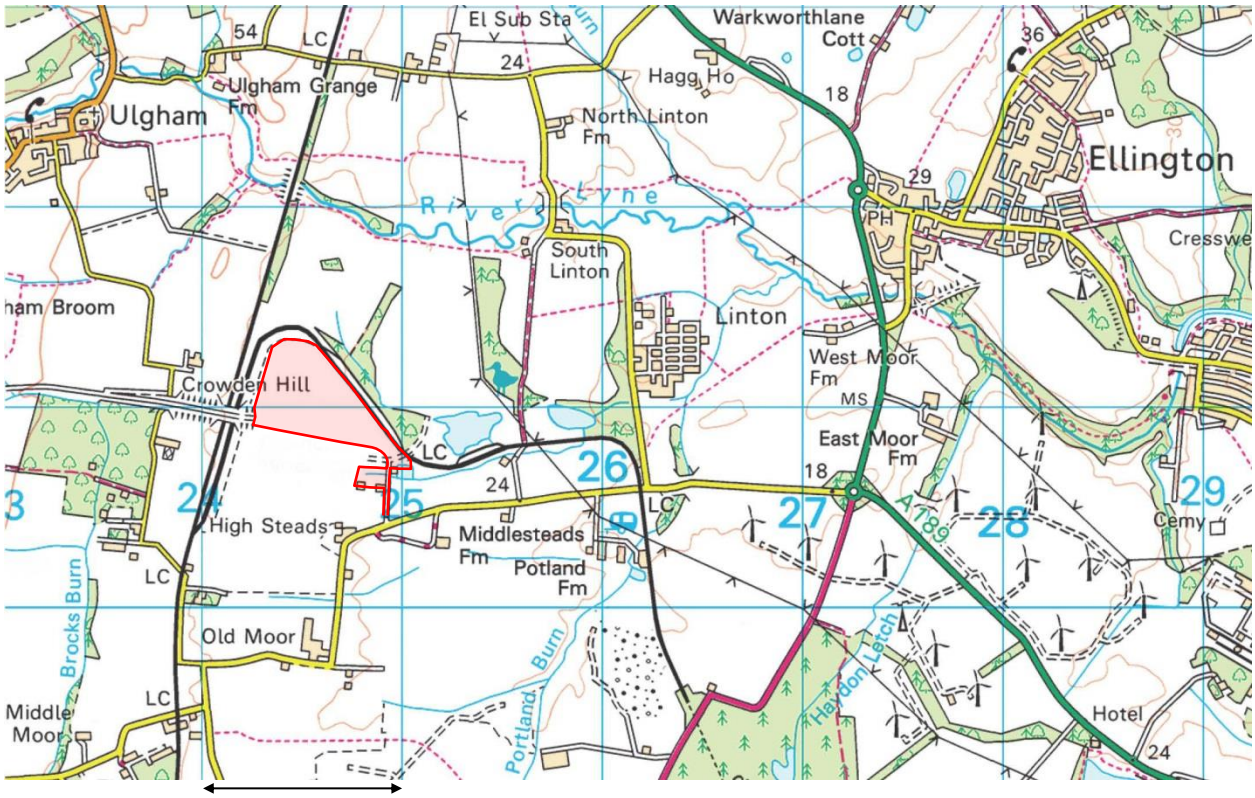
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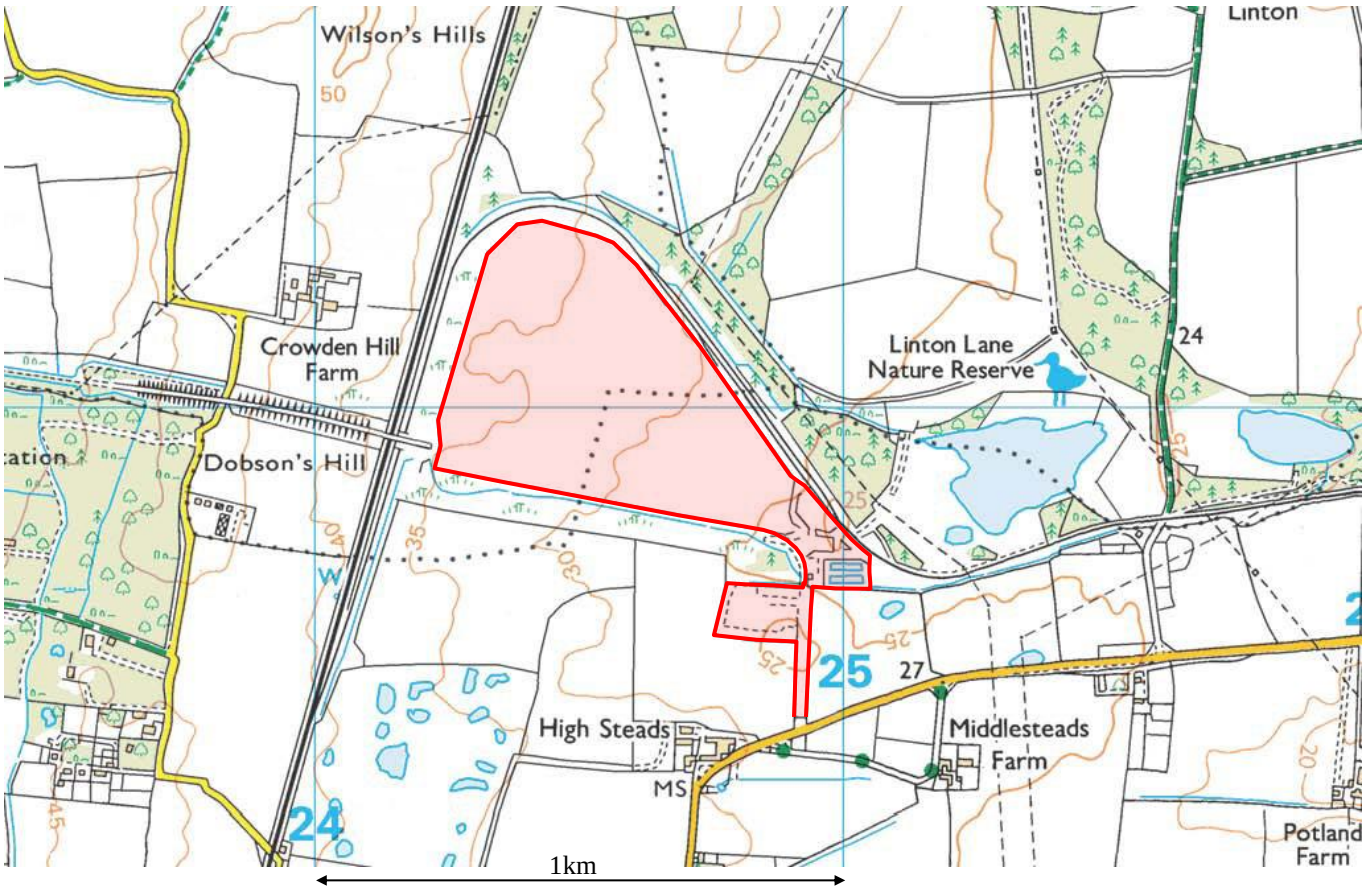
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FIGURES





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Figure 1 Location

DAB Geotechnics Ltd.	Former Butterwell Surface Mine & Coal Disposal Site Phase 1 Contamination Assessment	Date: 30th November 2022



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Figure 2 Extract of Drawing No. BDP/3B

DAB Geotechnics Ltd.	Former Butterwell Surface Mine & Coal Disposal Site Phase 1 Contamination Assessment	Date: 30th November 2022

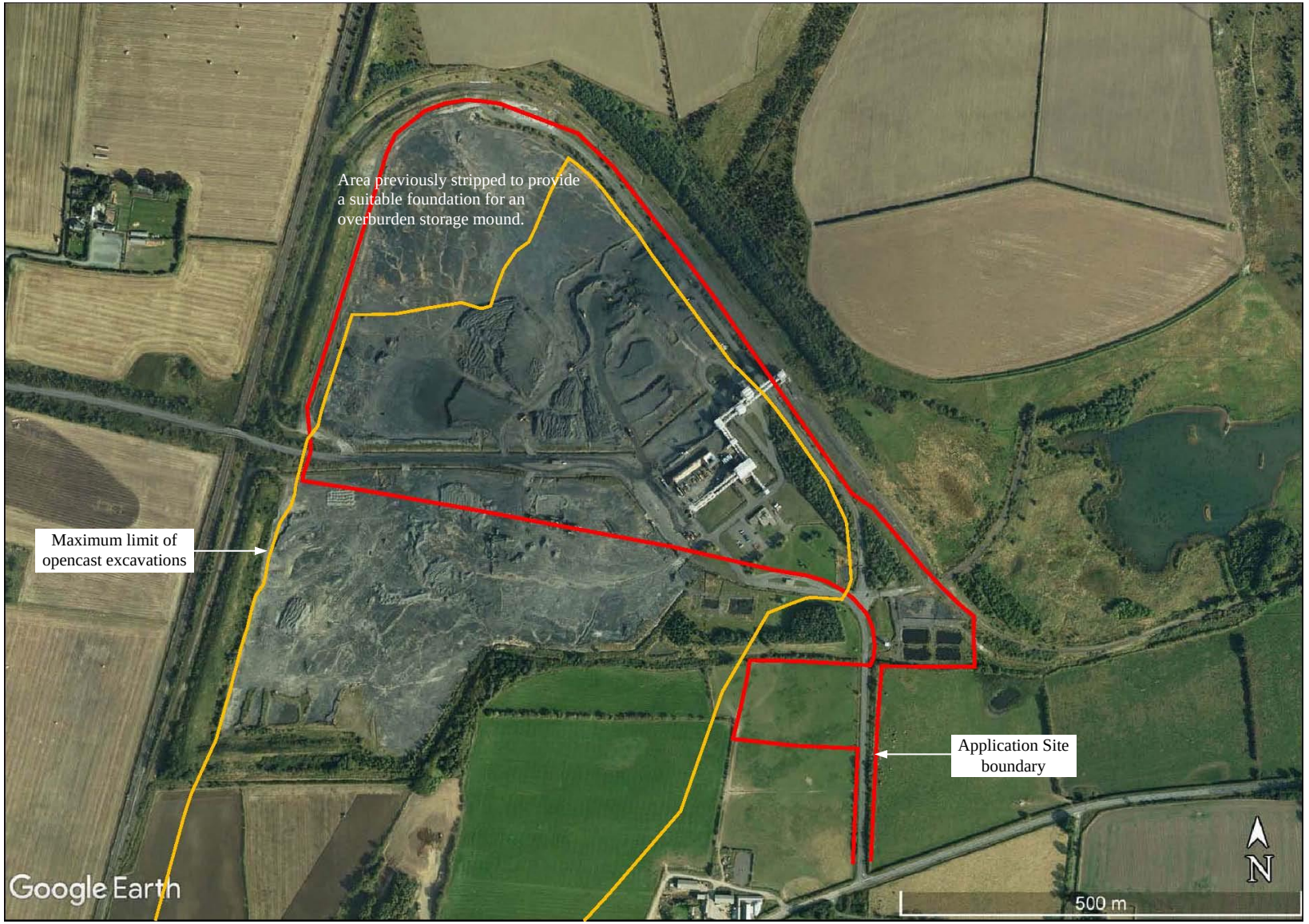


Figure 3 Aerial Photograph of the Site in 2007

DAB Geotechnics Ltd.	Former Butterwell Surface Mine & Coal Disposal Site - Phase 1 Contamination Assessment	Date: 10th December 2022



Figure 4 Aerial Photograph of the Site in 2013

DAB Geotechnics Ltd.	Former Butterwell Surface Mine & Coal Disposal Site - Phase 1 Contamination Assessment	Date: 10th December 2022

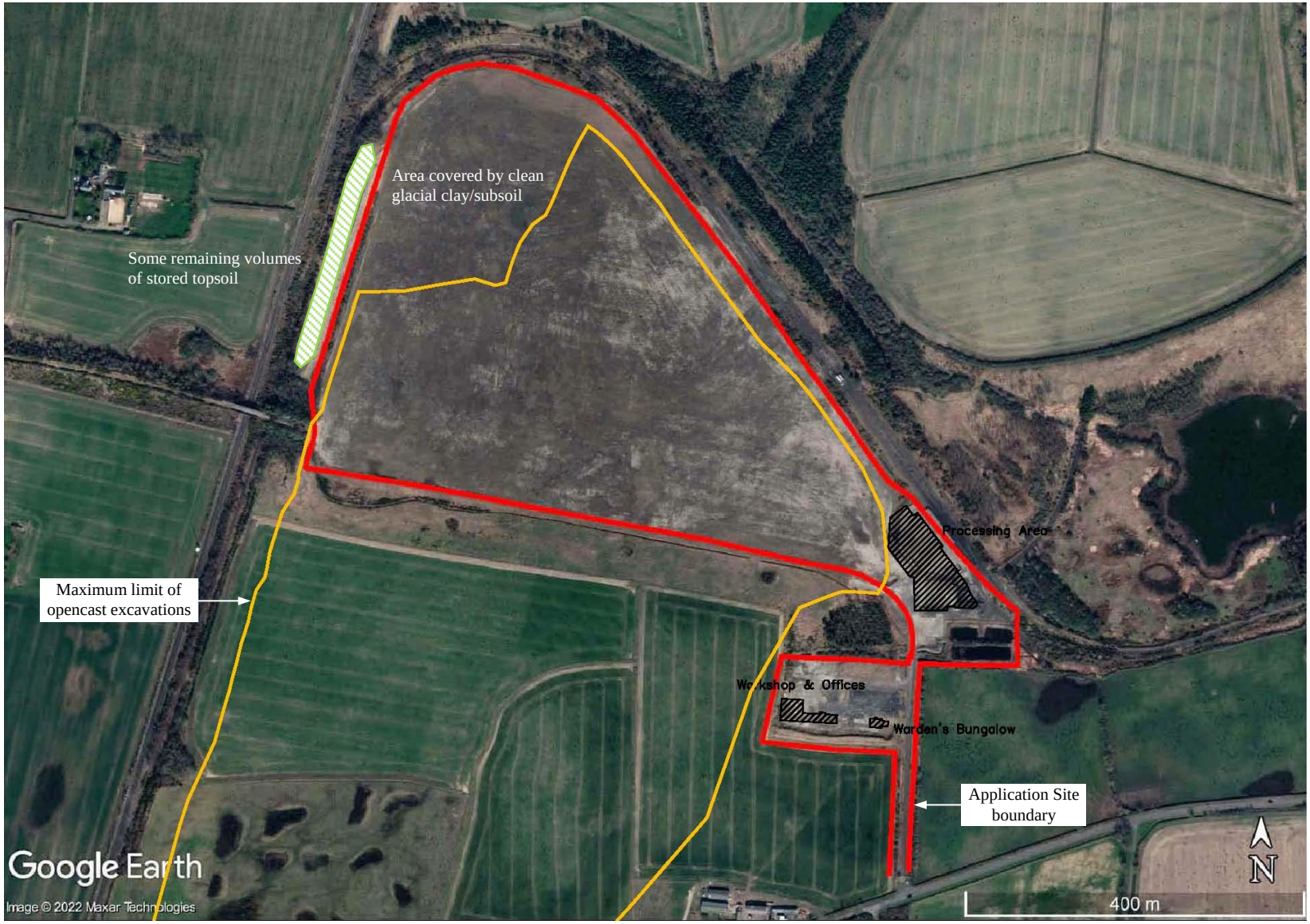
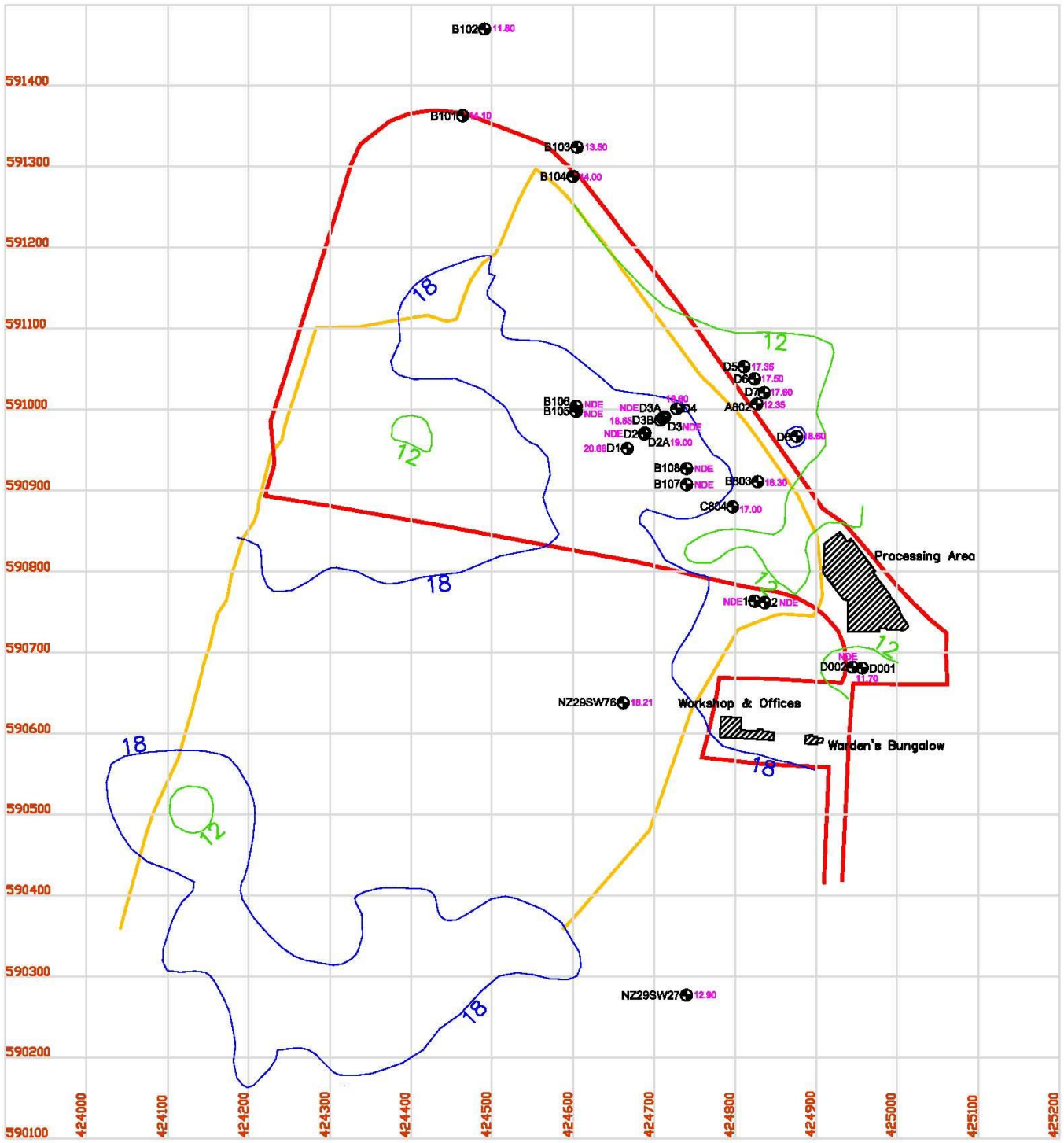


Figure 5 Aerial Photograph of the Site in 2022

DAB Geotechnics Ltd.	Former Butterwell Surface Mine & Coal Disposal Site - Phase 1 Contamination Assessment	Date: 10th December 2022



Site Boundary

Maximum permitted limit of UK Coal's opencast excavations

Contours of superficial cover thickness (in metres) prior to opencast mining 12 18

Ground investigation borehole on former DP site and BGS archive borehole D3B 18.65
with superficial cover thickness in metres (NDE = not deep enough)

Figure 6 Superficial Cover Thickness

DAB Geotechnics Ltd.	Former Butterwell Surface Mine & Coal Disposal Site Phase 1 Contamination Assessment	Date: 30th November 2022

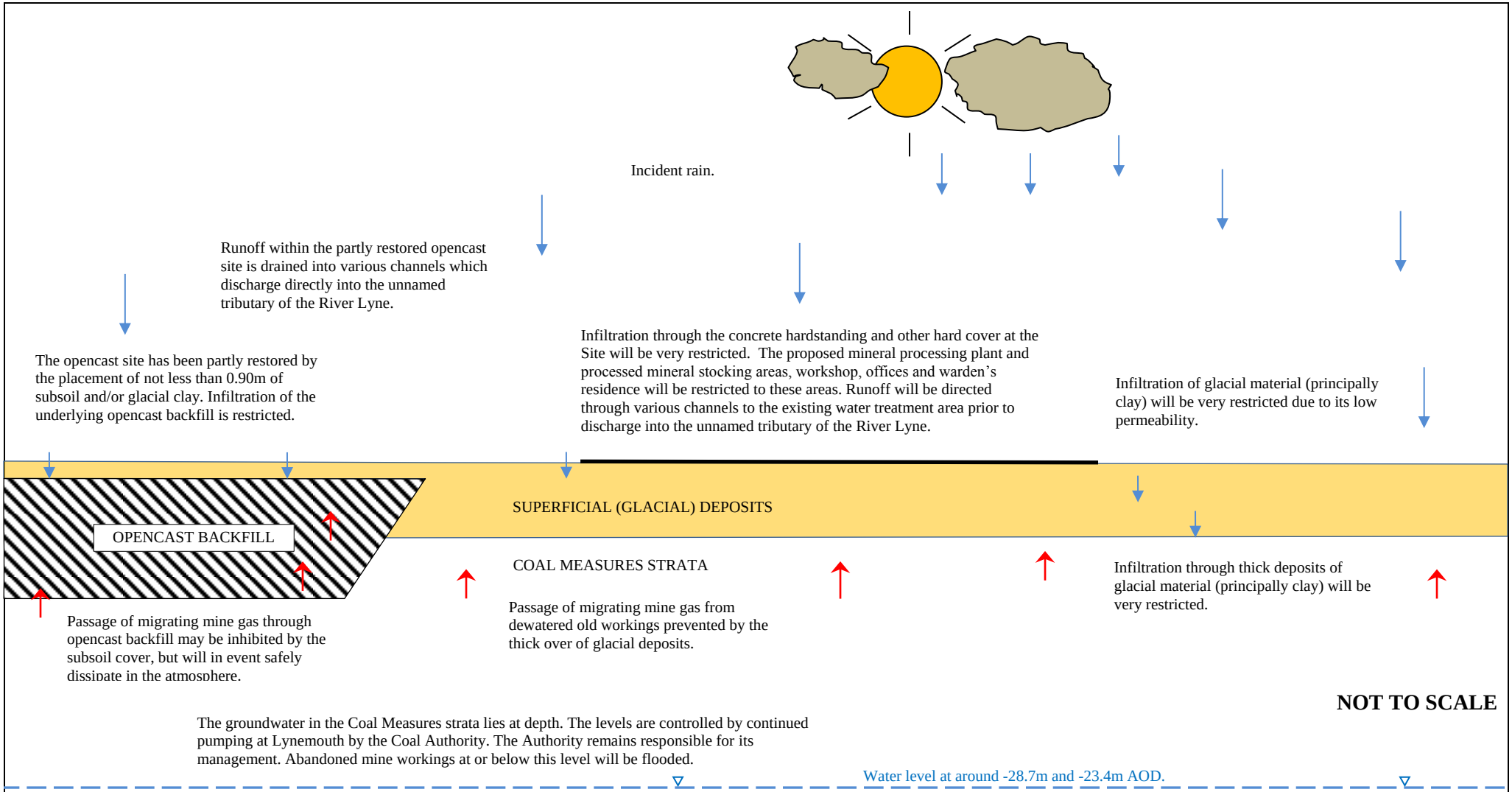


Figure 7 Conceptual Model

DAB Geotechnics Ltd.	Former Butterwell Surface Mine & Coal Disposal Site - Phase 1 Contamination Assessment	Date: 10th December 2022

PHOTOGRAPHS





Photograph 2 (above). The site of the former workshop which comprises concrete hardstanding (2nd December 2022).



Photograph 1 (above).
The former office and workshop area which will be adopted for the same use (2nd December 2022).

Photograph 3 (left).
The proposed 'laydown' area (2nd December 2022).





Photograph 4 (above). Looking north-east towards the proposed aggregate processing and stocking areas (2nd December 2022).

Photograph 5 (left). Looking north across the proposed processing and aggregate stocking areas from the access road. Both areas already comprise concrete hardstanding having been used during the production of coal at the former Butterwell DP surface mine (2nd December 2022).



Photograph 6. Looking south-east into the proposed recovery area where aggregates will be discharged from the processing plant and then transferred to the stocking area. This area comprises concrete hardstanding and is partly covered by recently accumulated surface runoff (2nd December 2022).



Photograph 7. Looking north-north-west along the existing rail link with the proposed aggregate stocking and unloading area (concrete hardstanding) on the left (2nd December 2022).



Photograph 8. The flow of surface water from the area of open land in the northern part of the Site (2nd December 2022).



Photograph 9. The south-easterly flowing drainage channel that receives runoff from the open land that forms the northern part of the Site (2nd December 2022).



Photograph 10. The unnamed tributary of the River Lyne that runs west to east across the Site. Here, it is seen flowing east from the culvert that extends beneath the access road (2nd December 2022).





Photograph 11 (above). The two remaining water treatment lagoons at the Site. The inflowing water was observed to be clear, but is here discoloured (2nd December 2022).

Photograph 12 (left). The discharge channel from the water treatment area (2nd December 2022).

Photograph 13 (below). The thickly area where the water from the treatment area discharges into the unnamed tributary of the River Lyne (2nd December 2022).







Photograph 14 (above). Looking north-north-west across open land across which only subsoil and glacial till has been spread. The rail link lies to the right on an embankment and the concrete blocks shown in Photograph 15 are located in the distance to the left of the perimeter fence (2nd December 2022).

Photograph 15 (left). Four concrete blocks that demarcate a live electric supply which was cut off once coal processing ceased operation. These were erected by Northern Electric and the cable is sealed with a 'pot end'. It has been left in place in case a new supply is required. A pole mounted transformer is located on the opposite side of the adjacent rail siding The cable therefore enters the Site at right angles to the rail lines (2nd December 2022).

APPENDIX A

Historical OS Maps

Order Number: 300463013
Customer Ref. 22010
National Grid Reference: 424930 590680
Search Buffer 1000

File Name	Map Series Name	Published Dates	Source Scale	Survey Date	Revision Date	Addition Date	Edition Date	Published Date
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300463013_1_A_EHM_OS_Plan_10000_ehm-ng-10000_1b_301336880.gif	Ordnance Survey Plan	1951	1:10,560		1940			1951
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300463013_1_A_EHM_OS_Plan_10000_ehm-ng-10000_4a_301336892.gif	Ordnance Survey Plan	1980-1985	1:10,000	1977-1981	1978-1983			1980-1985
300463013_1_A_EHM_OS_Plan_10000_ehm-ng-10000_2a_301336912.gif	Ordnance Survey Plan	1966-1969	1:10,560	1959-1967				1967-1969
300463013_1_A_EHM_OS_Plan_10000_ehm-ng-10000_1a_301336914.gif	Ordnance Survey Plan	1940-1951	1:10,560		1940			1950-1951
300463013_1_A_EHM_OS_Plan_10000_ehm-ng-10000_5a_301336916.gif	Ordnance Survey Plan	1992	1:10,000	1989-1991	1991			1992
300463013_1_A_10k_CRM_1999_10kcrm_l00001_301336888.gif	10K Raster Mapping	2000	1:10,000					

File Name	Map Series Name	Published Dates	Source Scale
300463013_1_A13_County_Series_2500_ep5-2500_b6_301336884.gif	Ordnance Survey Plan	1990	1:2,500
300463013_1_A13_County_Series_2500_ep5-2500_a5_301336886.gif	Ordnance Survey Plan	1957-1958	1:2,500
300463013_1_A13_County_Series_2500_ntb-2500_ep3_301336890.gif	Northumberland	1923	1:2,500
300463013_1_A13_County_Series_2500_ntb-2500_ep2_301336898.gif	Northumberland	1897	1:2,500
300463013_1_A13_County_Series_2500_ntb-2500_ep1_301336904.gif	Northumberland	1895	1:2,500
300463013_1_A13_County_Series_2500_ntb-2500_ep1-a_301336908.gif	Northumberland	1895	1:2,500
300463013_1_A13_County_Series_2500_ntb-2500_ep1-b_301336920.gif	Northumberland	1895	1:2,500
300463013_1_A13_SIM_2500_sm-2500_1_301336896.gif	Additional SIMs	1957-1958	1:2,500
300463013_1_A13_SIM_2500_sm-2500_3_301336900.gif	Additional SIMs	1991	1:2,500
300463013_1_A13_SIM_2500_sm-2500_2_301336906.gif	Additional SIMs	1978-1985	1:2,500
300463013_1_A13_Superplan_2500_sp-2500_1_301336918.gif	Large-Scale National Grid Data	1994	1:2,500

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

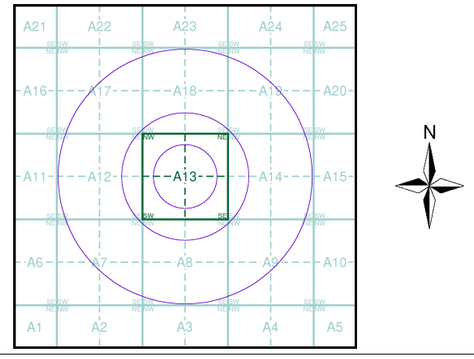
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or community 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
Northumberland	1:10,560	1866	2
Northumberland	1:10,560	1898	3
Northumberland	1:10,560	1924	4
Northumberland	1:10,560	1938	5
Ordnance Survey Plan	1:10,000	1940 - 1951	6
Ordnance Survey Plan	1:10,000	1951	7
Ordnance Survey Plan	1:10,000	1966 - 1969	8
Ordnance Survey Plan	1:10,000	1974	9
Ordnance Survey Plan	1:10,000	1980 - 1985	10
Ordnance Survey Plan	1:10,000	1992	11
10K Raster Mapping	1:10,000	2000	12
Street View	Variable		13

Historical Map - Slice A



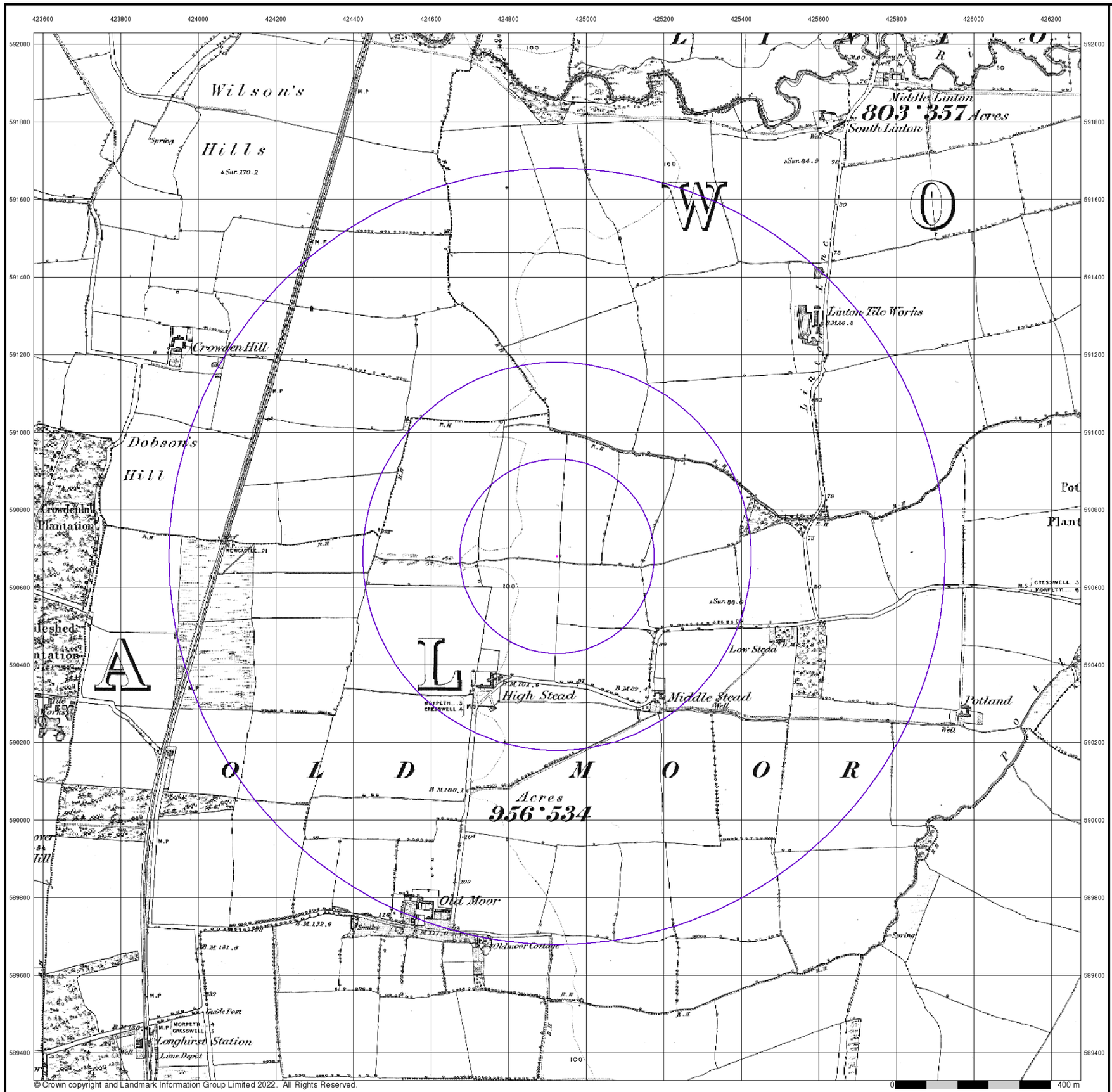
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Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

Site at 424550, 591100

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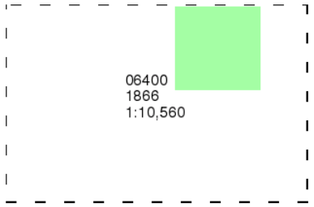
Northumberland

Published 1866

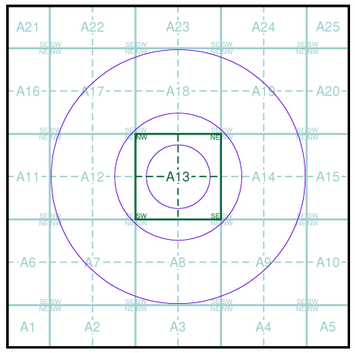
Source map scale - 1:10,560

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

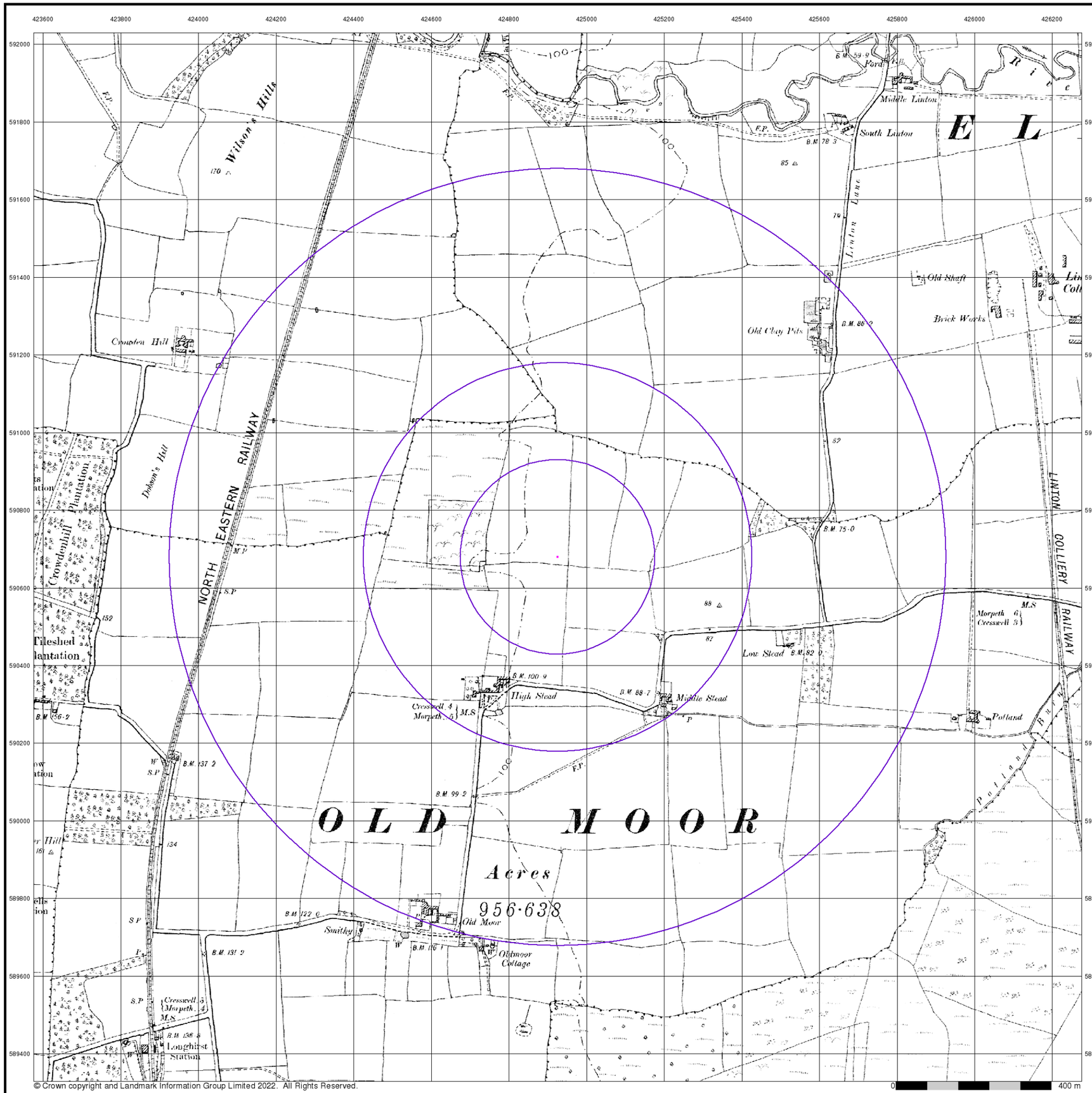
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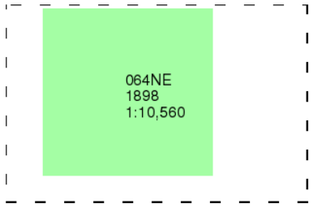
Northumberland

Published 1898

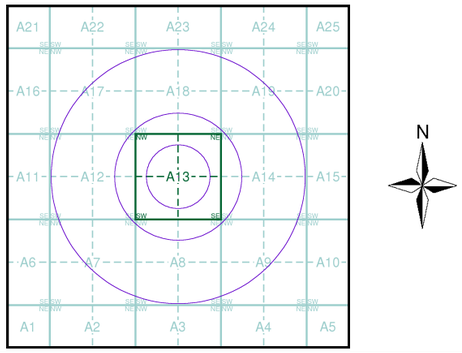
Source map scale - 1:10,560

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

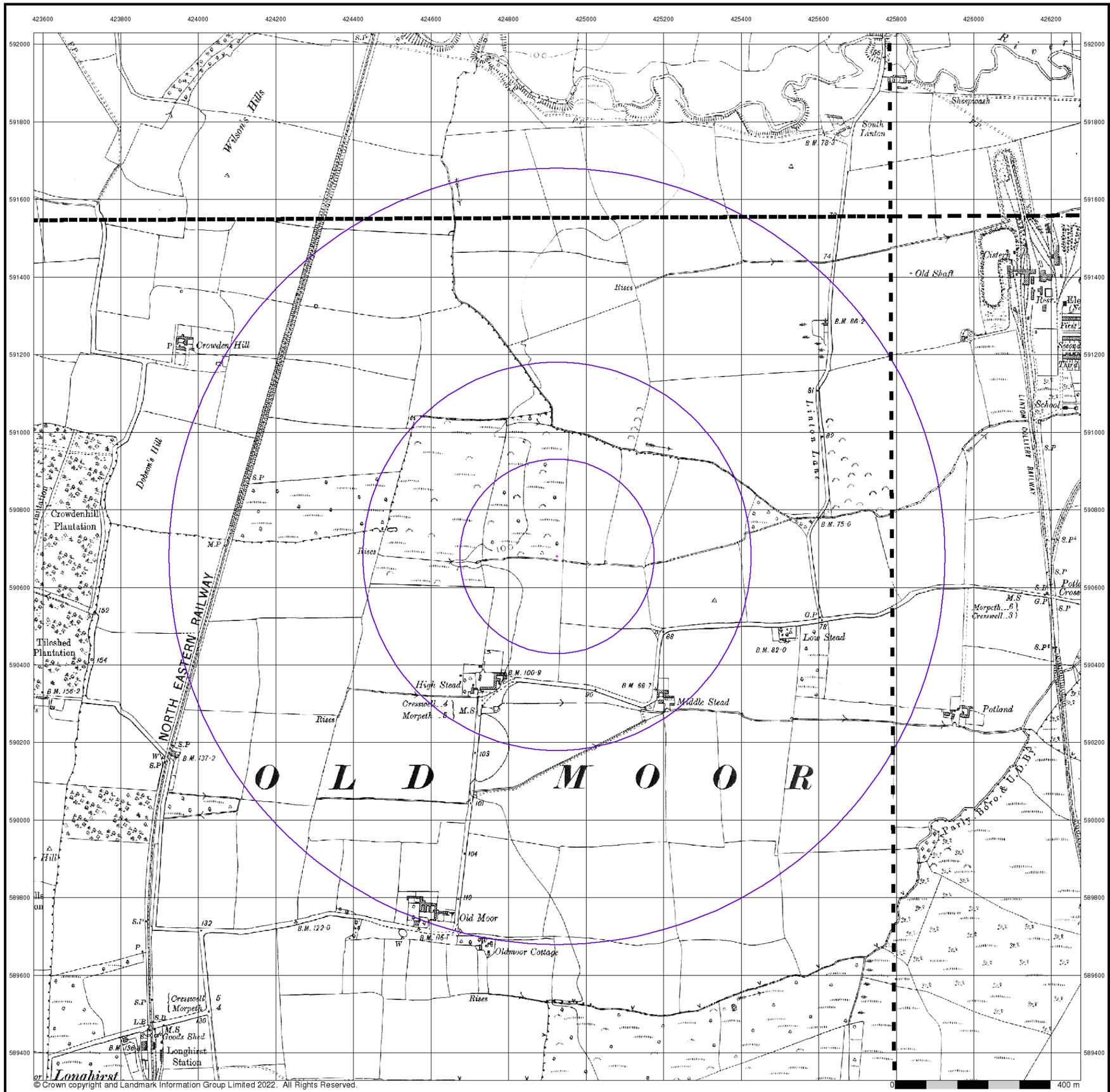
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Search Buffer (m):	1000

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Northumberland

Published 1924

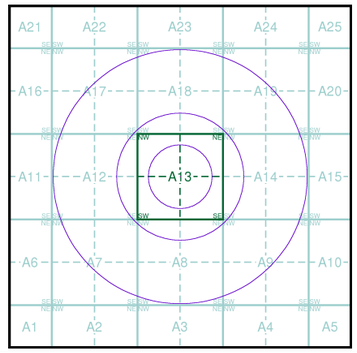
Source map scale - 1:10,560

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Map Name(s) and Date(s)

060NE 1924 1:10,560	061NW 1924 1:10,560
060SE 1924 1:10,560	061SW 1924 1:10,560

Historical Map - Slice A



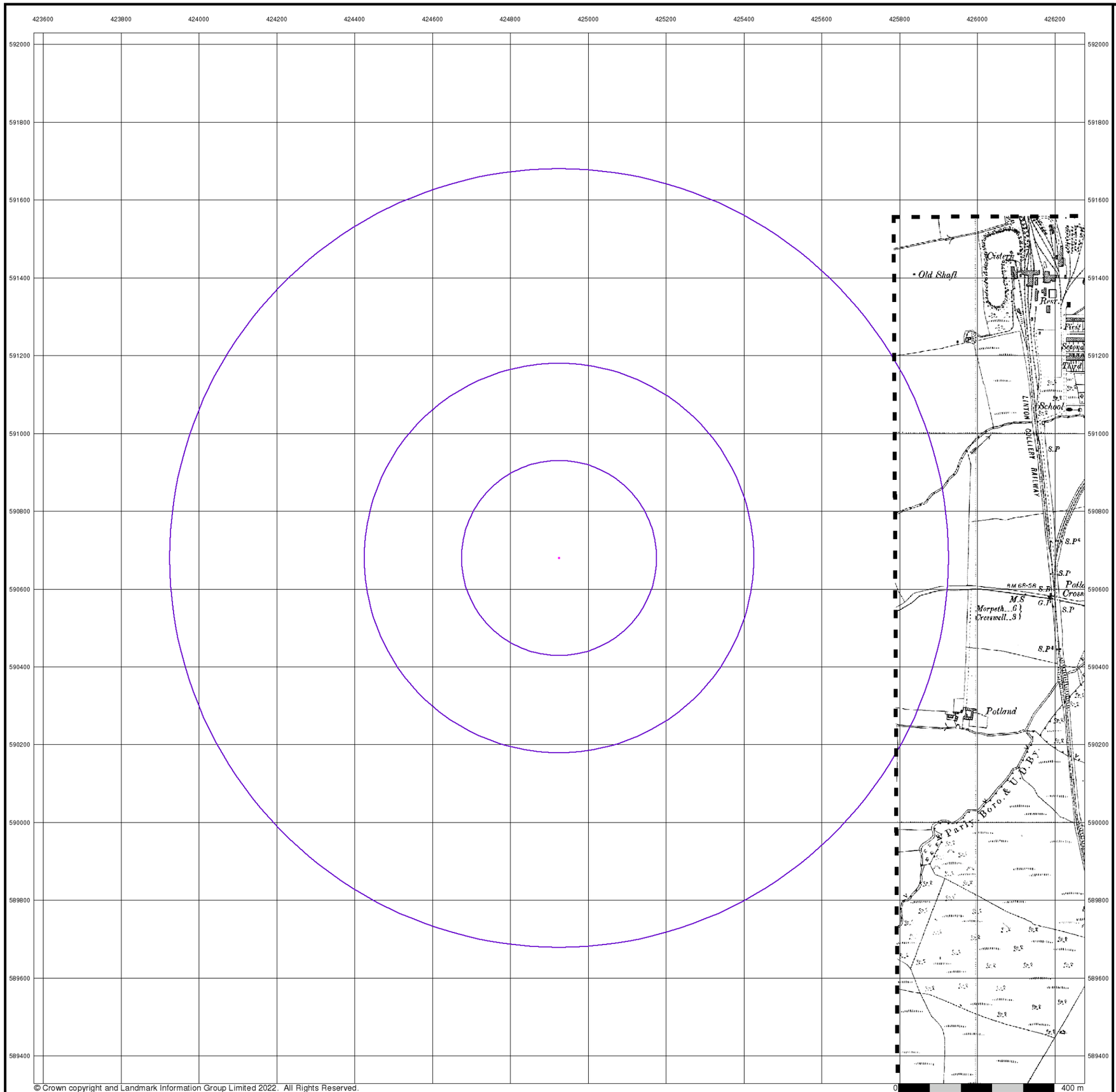
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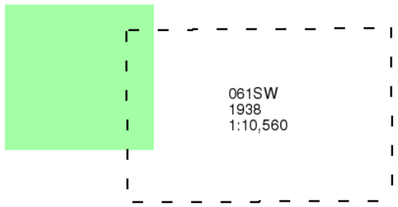
Northumberland

Published 1938

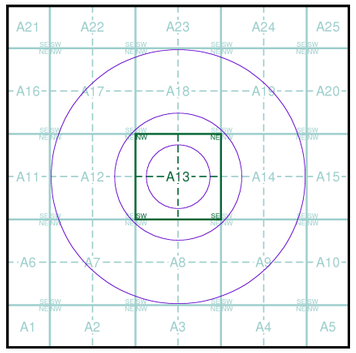
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

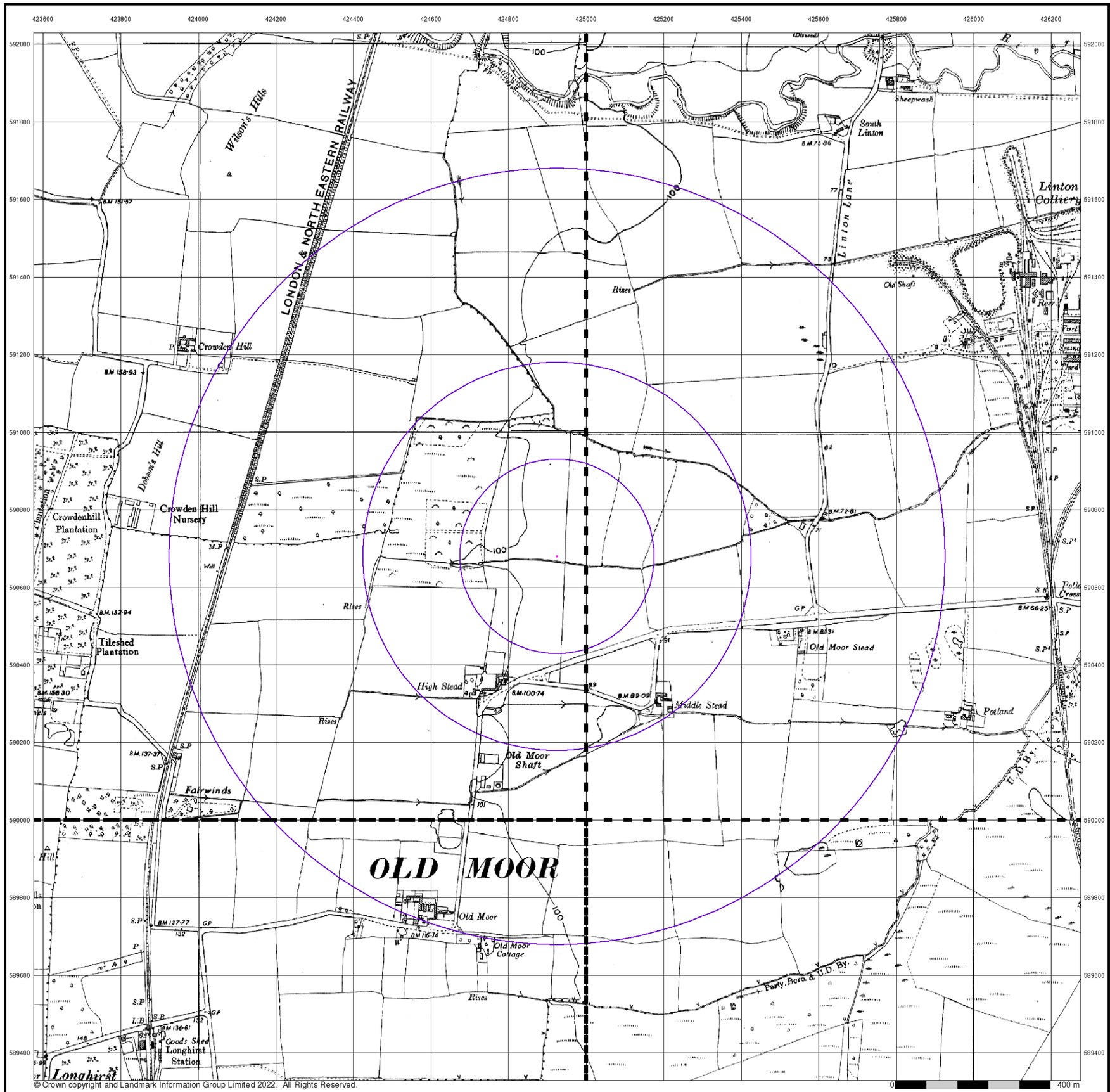
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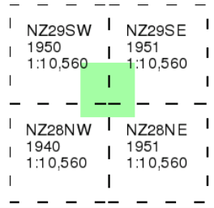
Ordnance Survey Plan

Published 1940 - 1951

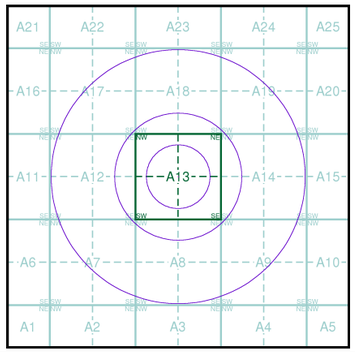
Source map scale - 1:10,000

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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

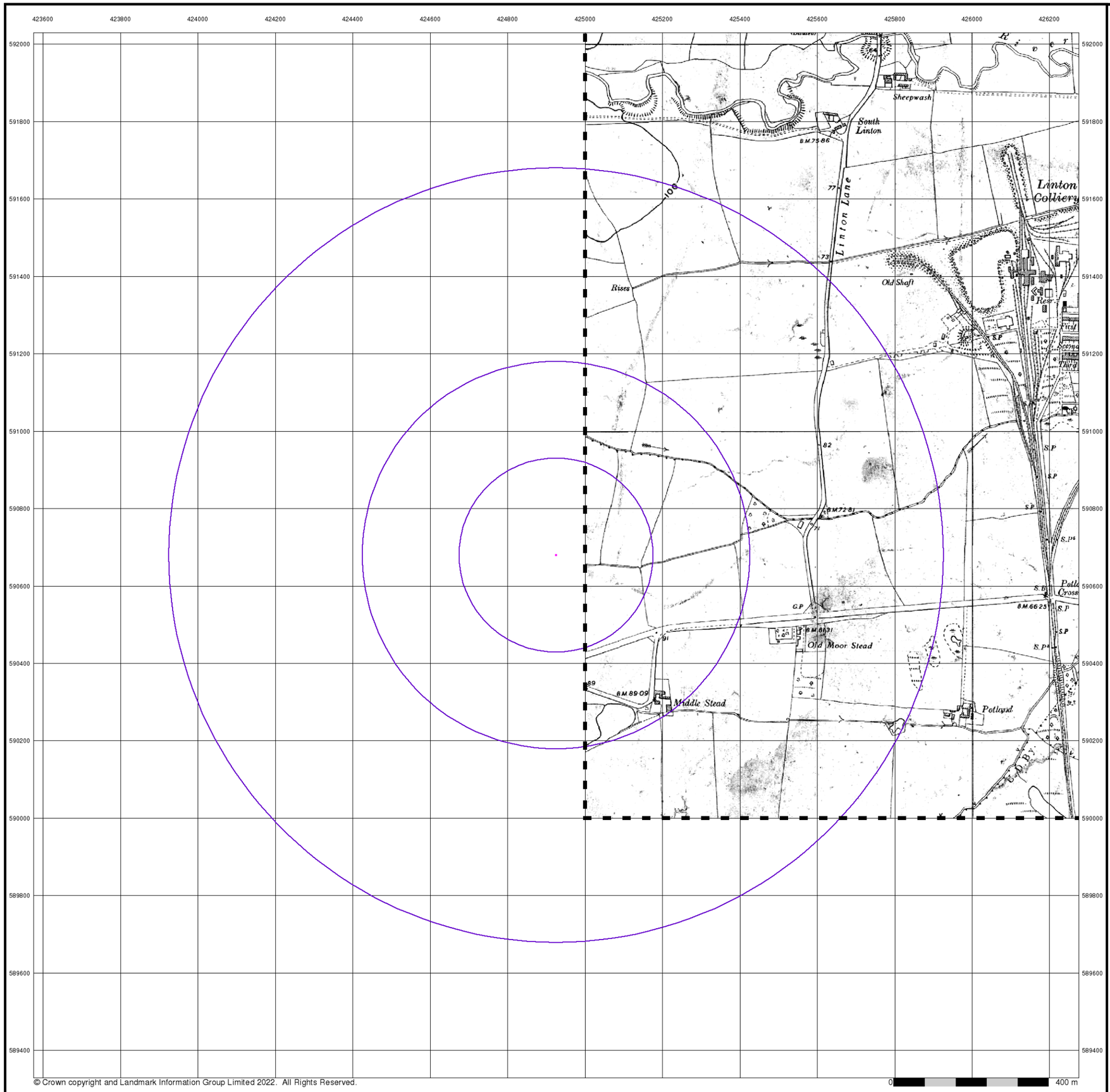
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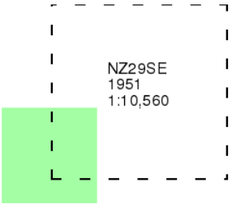
Ordnance Survey Plan

Published 1951

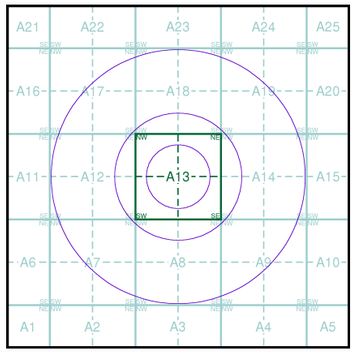
Source map scale - 1:10,000

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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

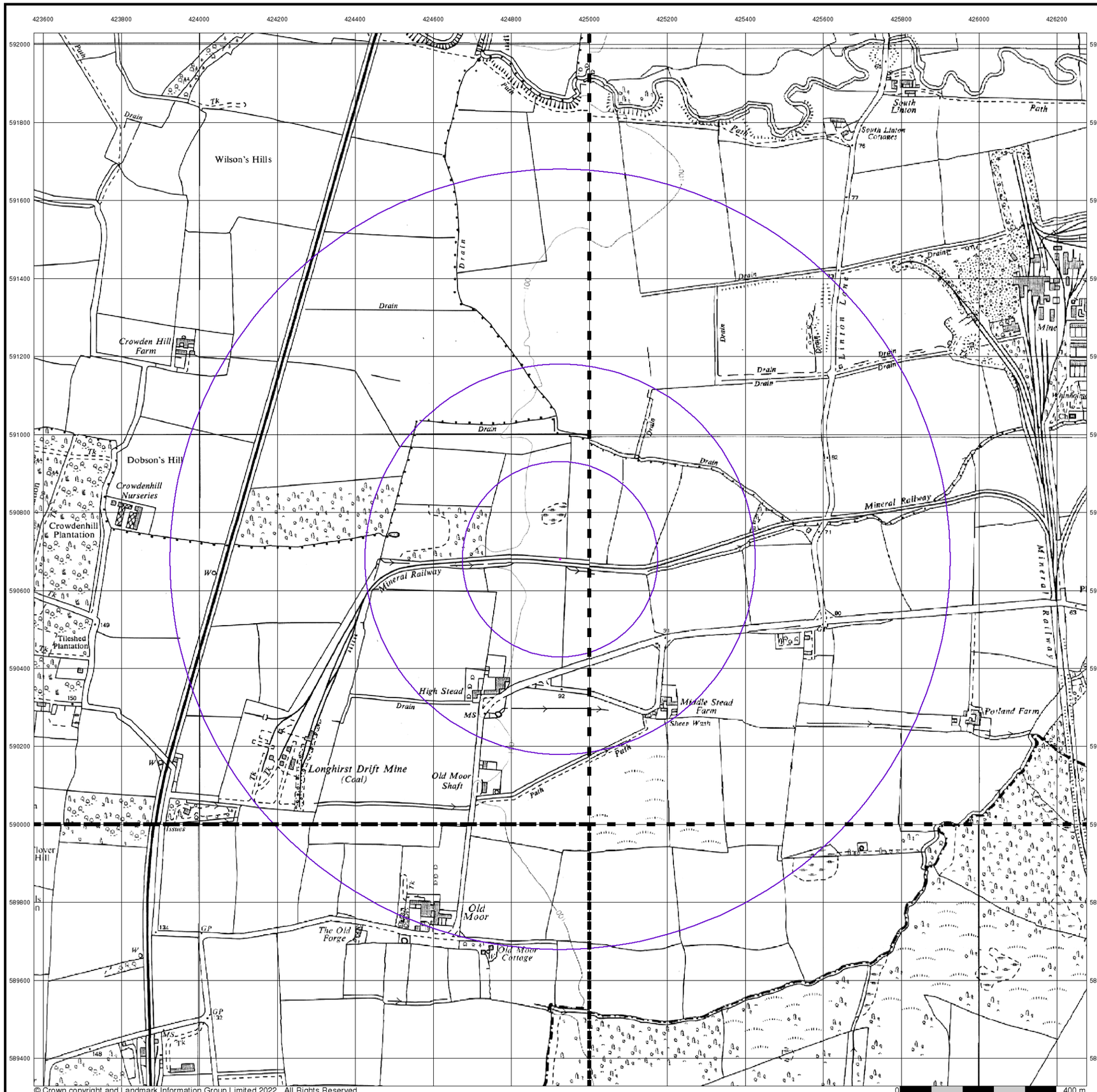
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Ordnance Survey Plan

Published 1966 - 1969

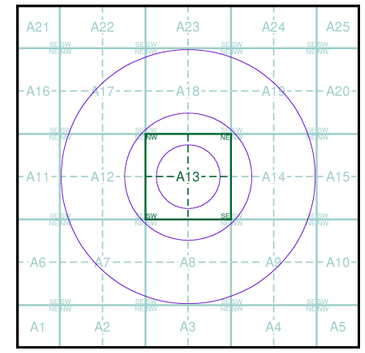
Source map scale - 1:10,000

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Map Name(s) and Date(s)

NZ29SW 1969 1:10,560	NZ29SE 1966 1:10,560
NZ28NW 1969 1:10,560	NZ28NE 1967 1:10,560

Historical Map - Slice A



Order Details

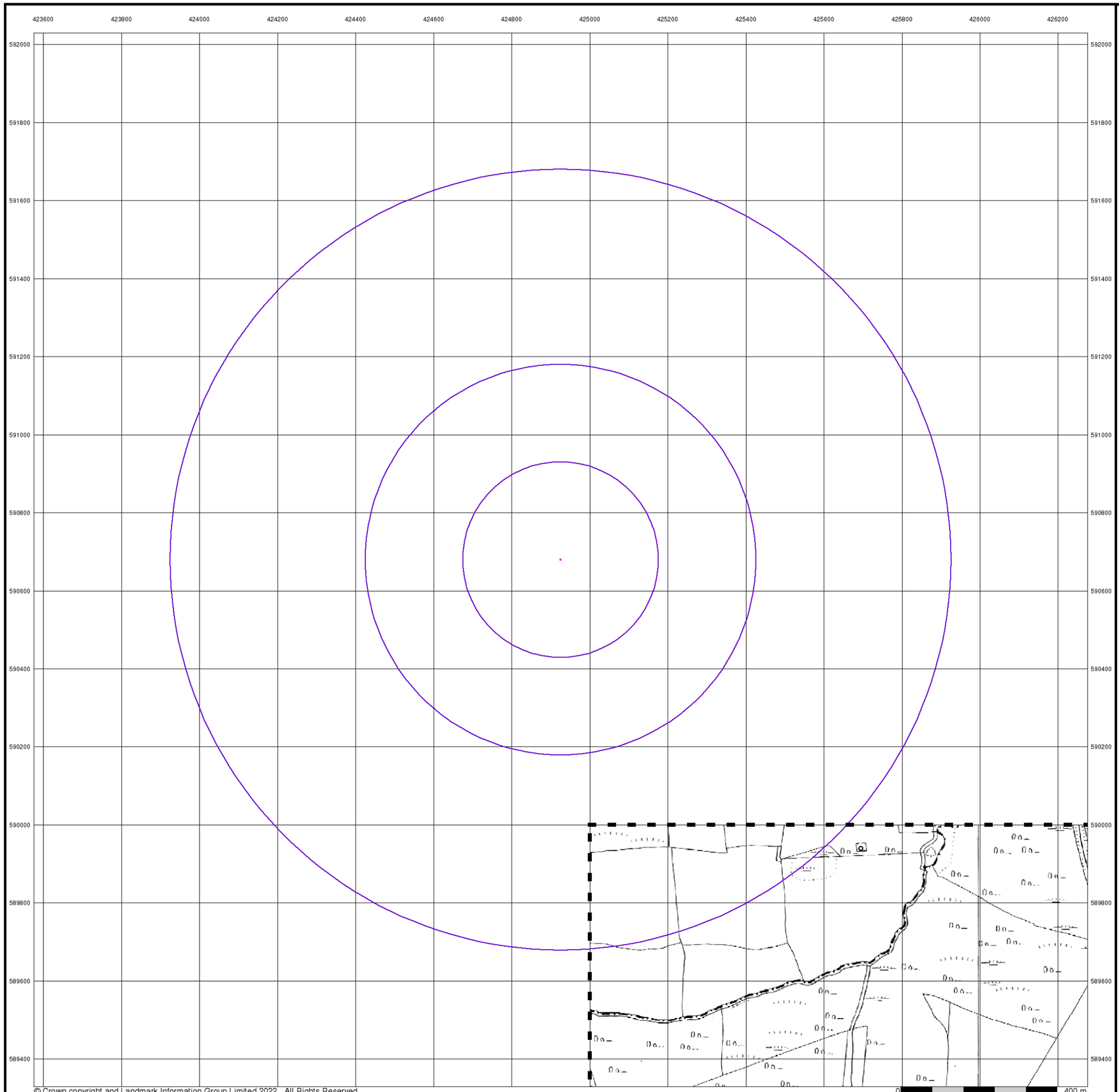
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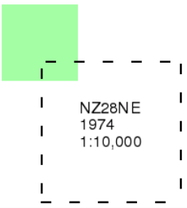
Ordnance Survey Plan

Published 1974

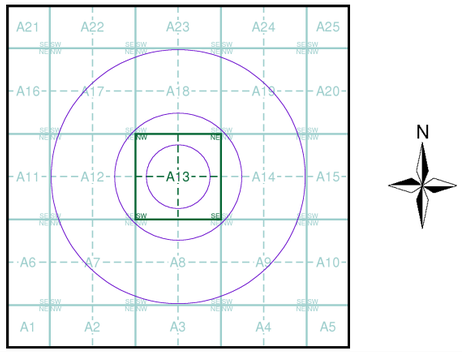
Source map scale - 1:10,000

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

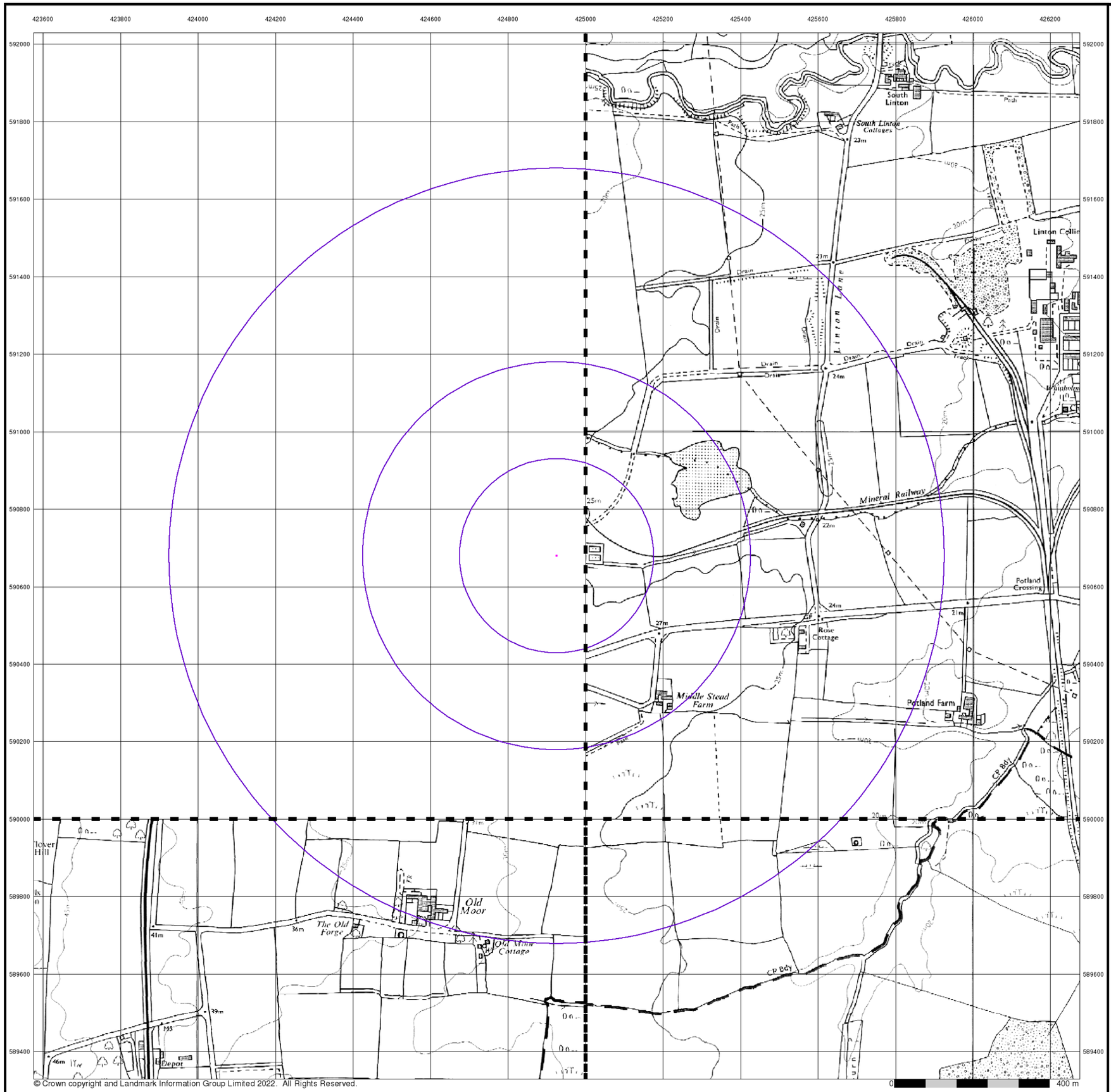
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Customer Ref:	22010
National Grid Reference:	424930, 590680
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

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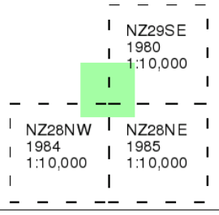
Ordnance Survey Plan

Published 1980 - 1985

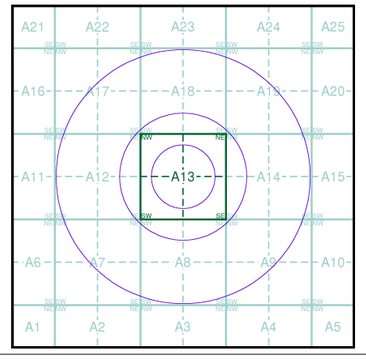
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Map Name(s) and Date(s)



Historical Map - Slice A



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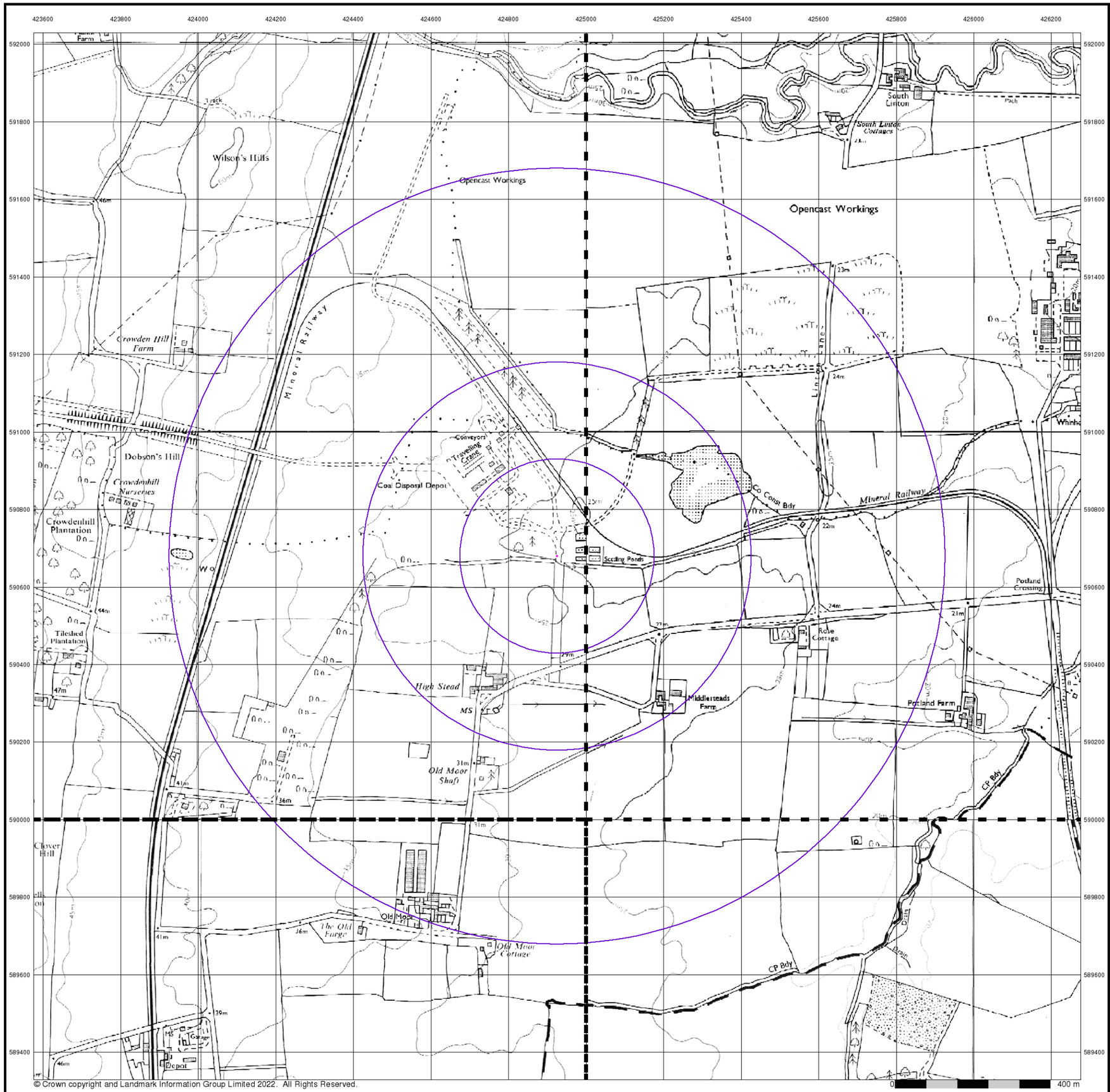
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Ordnance Survey Plan

Published 1992

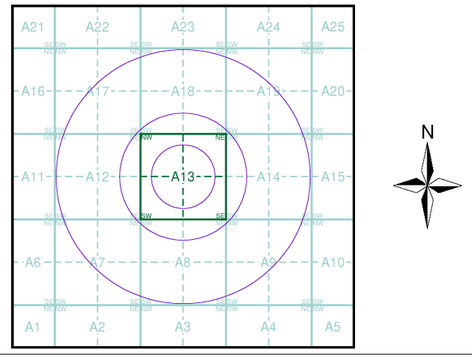
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Map Name(s) and Date(s)

NZ29SW 1992 1:10,000	NZ29SE 1992 1:10,000
NZ28NW 1992 1:10,000	NZ28NE 1992 1:10,000

Historical Map - Slice A



Order Details

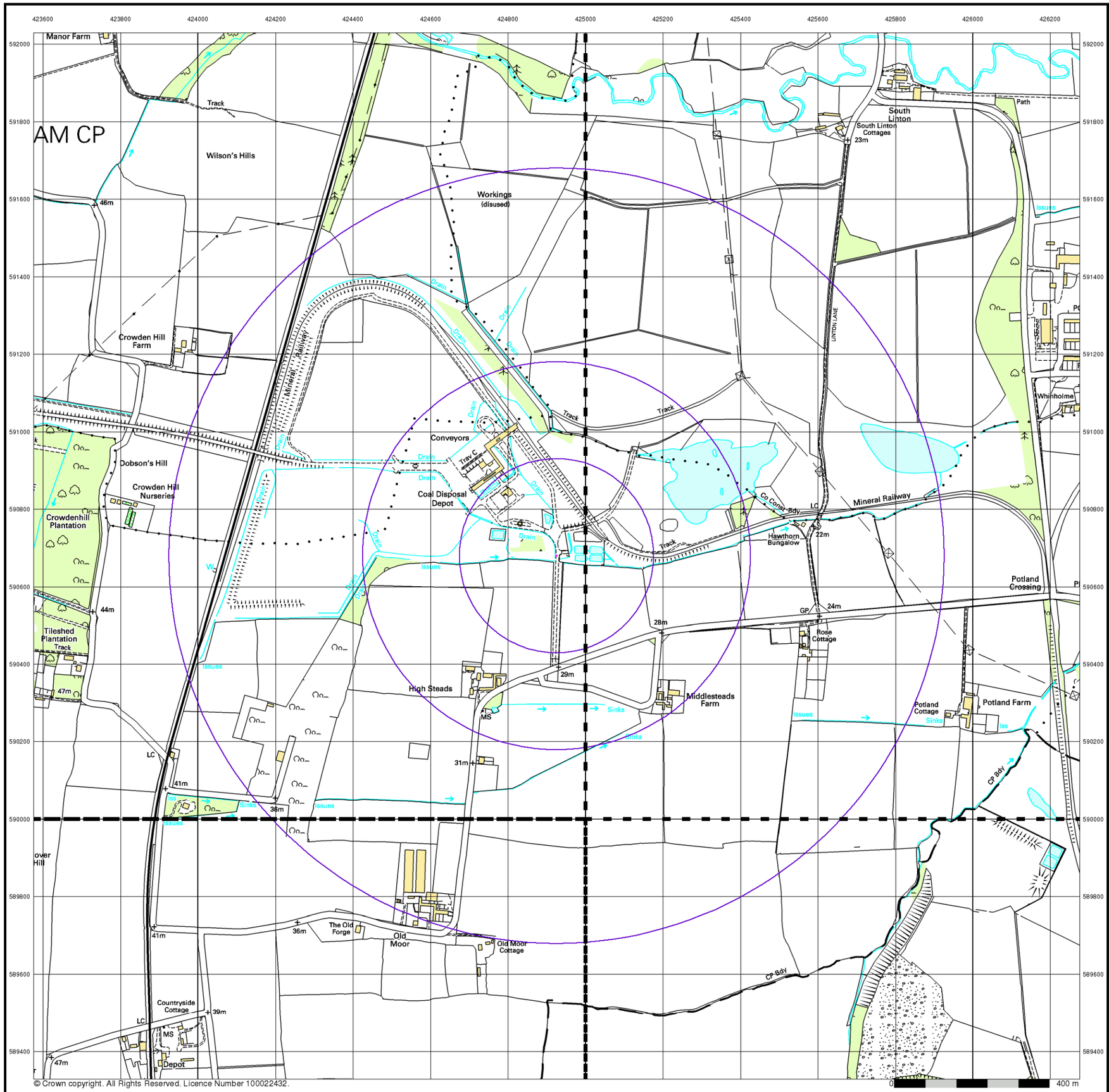
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10k Raster Mapping

Published 2000

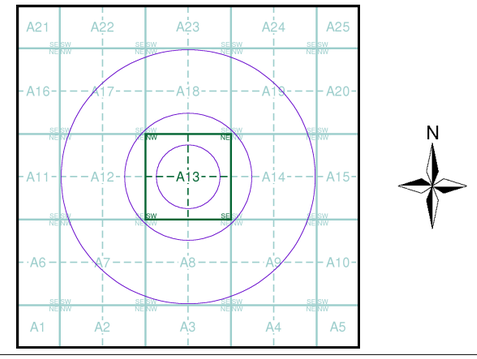
Source map scale - 1:10,000

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)

NZ29SW 2000 1:10,000	NZ29SE 2000 1:10,000
NZ28NW 2000 1:10,000	NZ28NE 2000 1:10,000

Historical Map - Slice A



Order Details

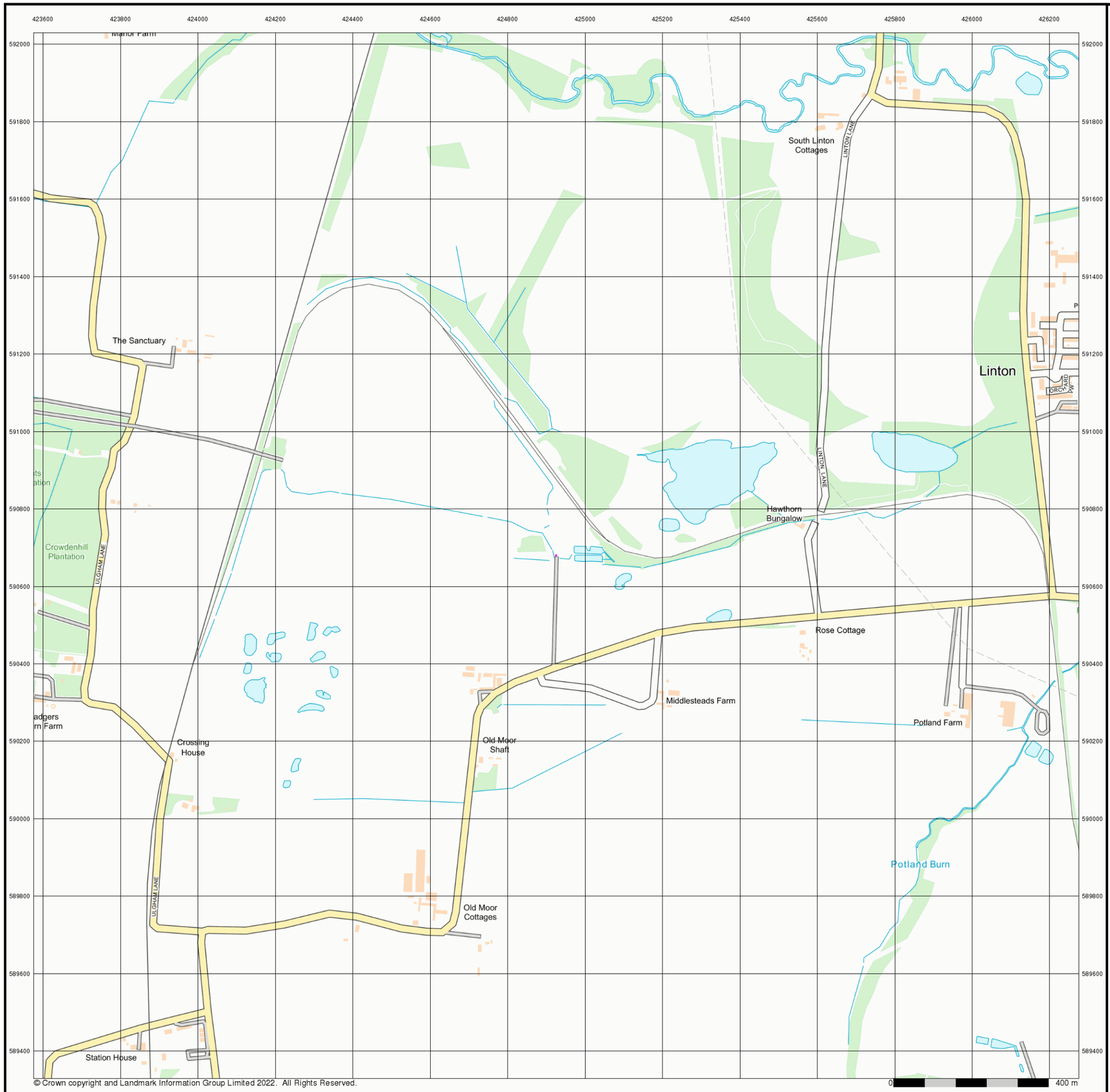
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Street View

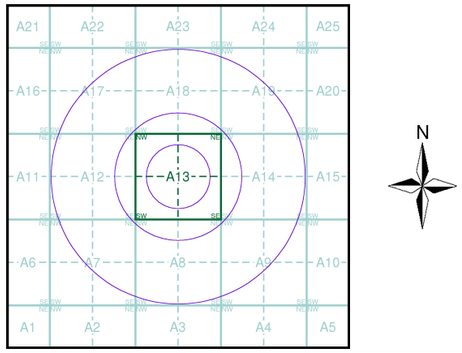
Published 2022

Source map scale - 1:10,000

Street View is a street-level map for the whole of Great Britain produced by the Ordnance Survey. These maps are provided at a nominal scale of 1:10,000

Map Name(s) and Date(s)

Street View Map - Slice A



Order Details

Order Number:	300463013_1_1
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National Grid Reference:	424930, 590680
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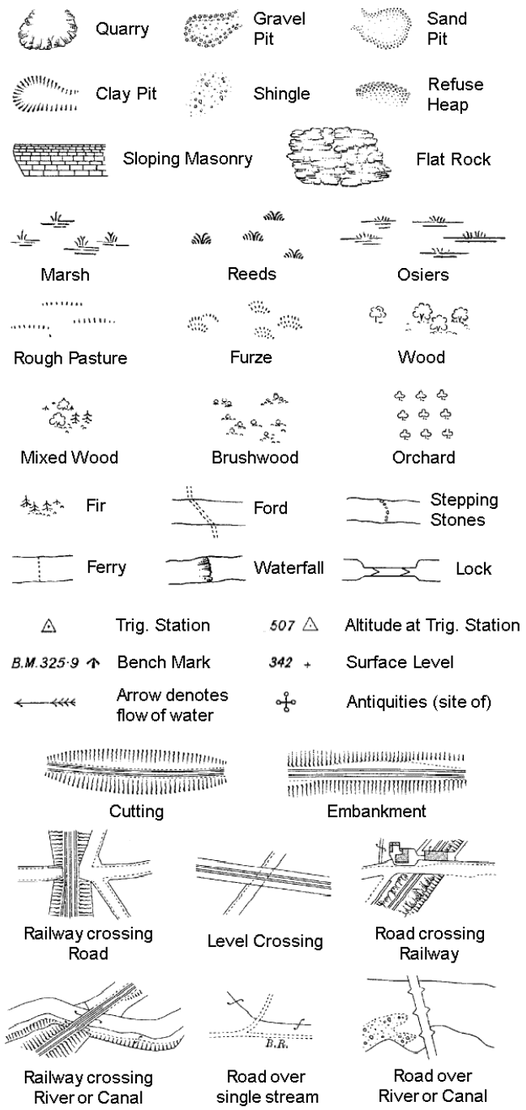
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Historical Mapping Legends

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



County Boundary (Geographical)

County & Civil Parish Boundary

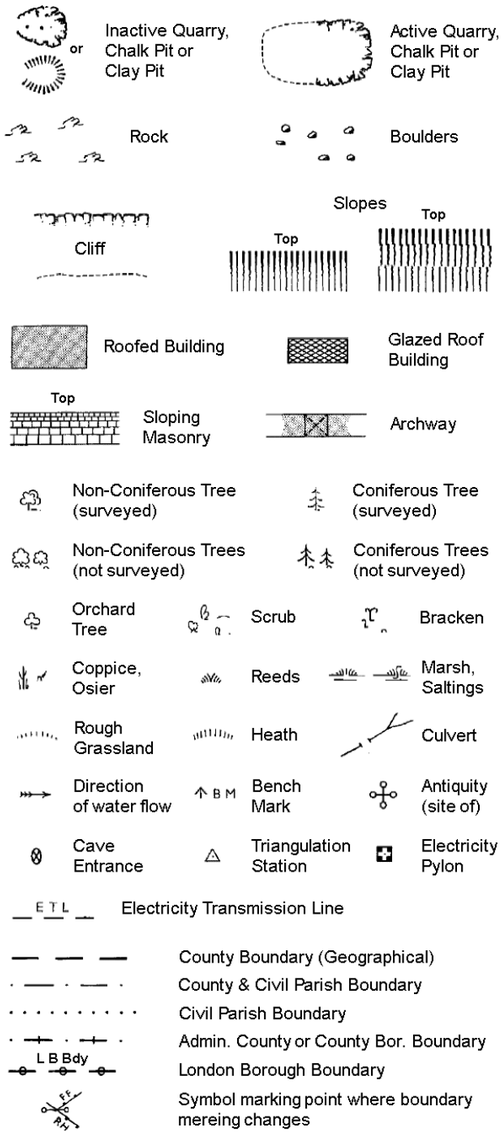
Administrative County & Civil Parish Boundary

Co. Boro. Bdy. County Borough Boundary (England)

Co. Burgh Bdy. County Burgh Boundary (Scotland)

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	St.	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



County Boundary (Geographical)

County & Civil Parish Boundary

Civil Parish Boundary

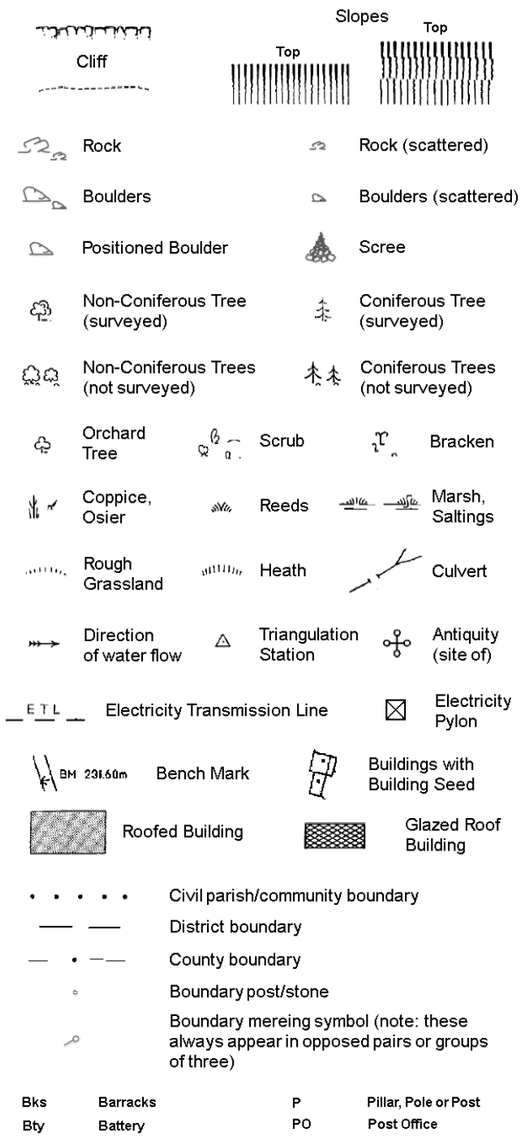
Admin. County or County Bor. Boundary

L B Bdy London Borough Boundary

Symbol marking point where boundary mereing changes

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



Civil parish/community boundary

District boundary

County boundary

Boundary post/stone

Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)

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

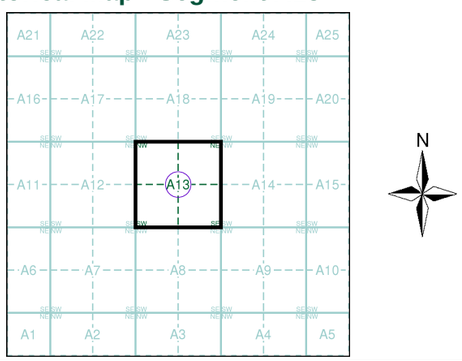
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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
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Northumberland	1:2,500	1895	3
Northumberland	1:2,500	1895	4
Northumberland	1:2,500	1897	5
Northumberland	1:2,500	1923	6
Ordnance Survey Plan	1:2,500	1957 - 1958	7
Additional SIMs	1:2,500	1957 - 1958	8
Additional SIMs	1:2,500	1978 - 1985	9
Ordnance Survey Plan	1:2,500	1990	10
Additional SIMs	1:2,500	1991	11
Large-Scale National Grid Data	1:2,500	1994	12

Historical Map - Segment A13



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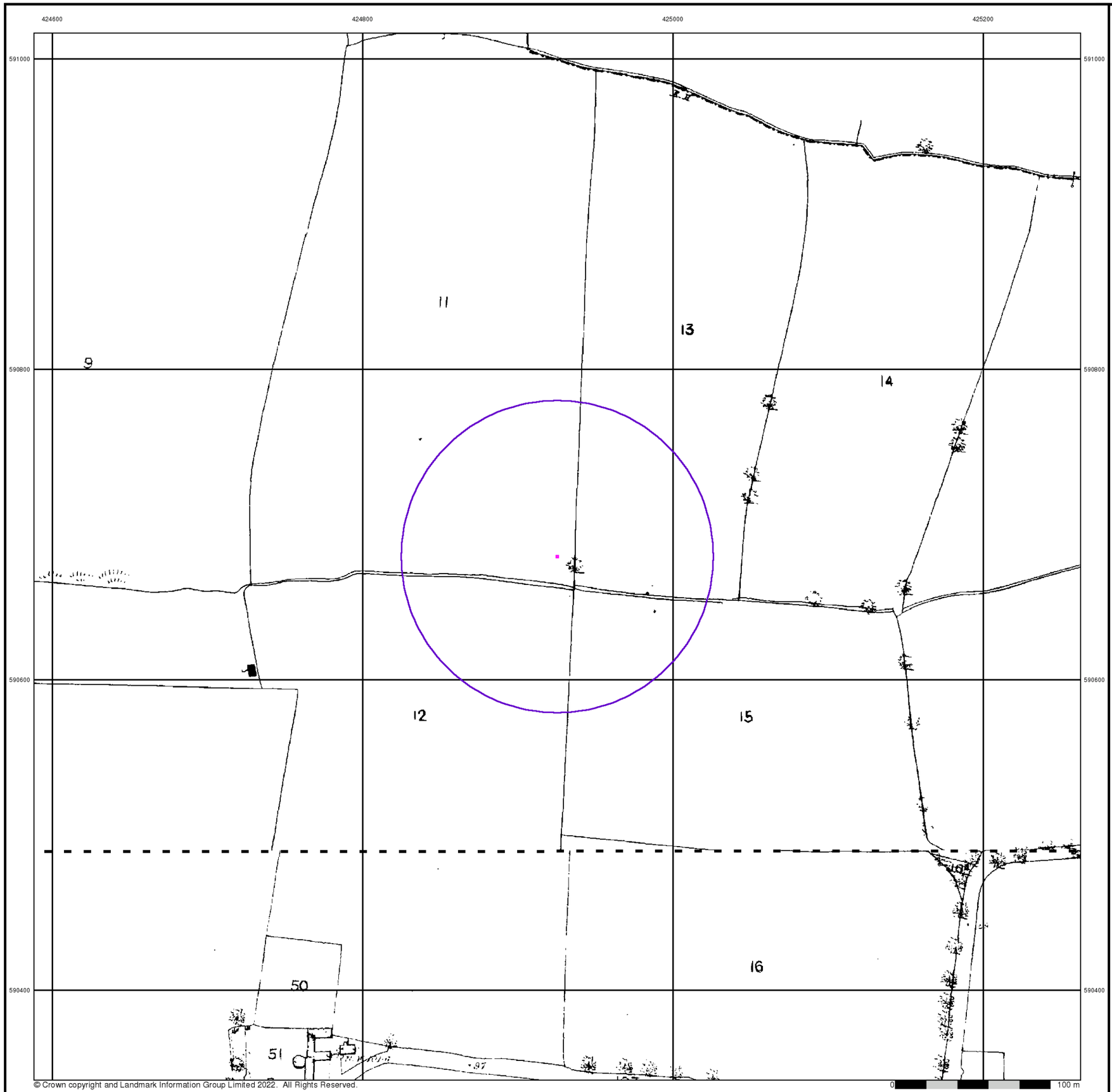
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Site Details

Site at 424550, 591100

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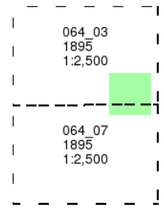
Northumberland

Published 1895

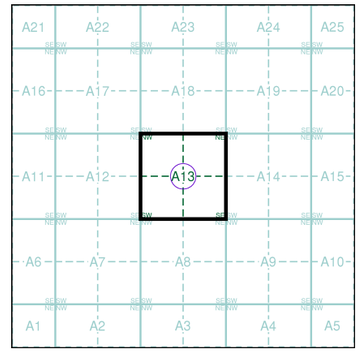
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered 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



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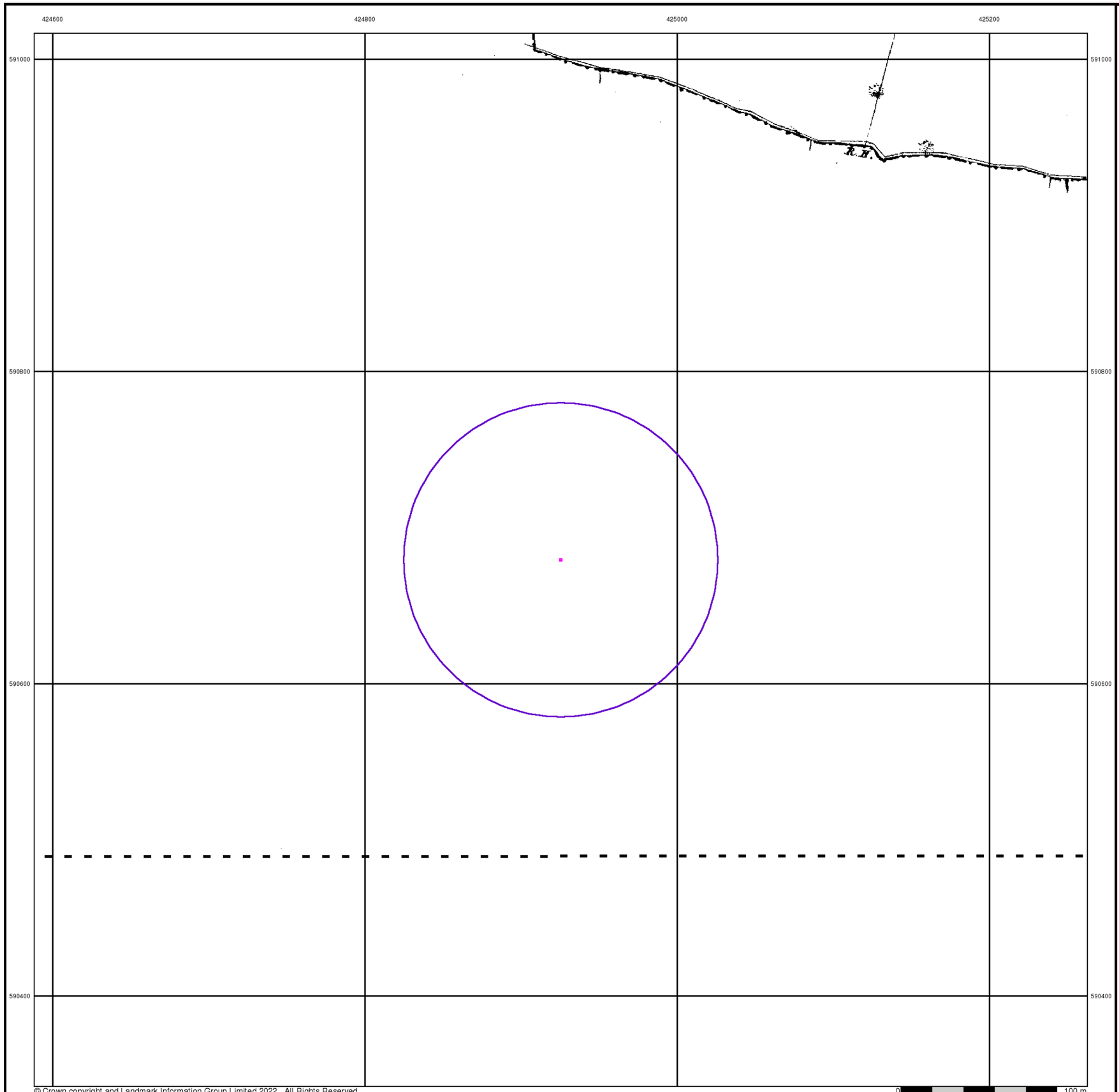
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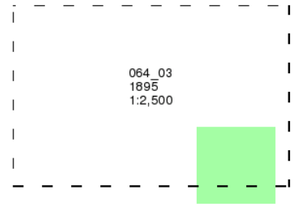
Northumberland

Published 1895

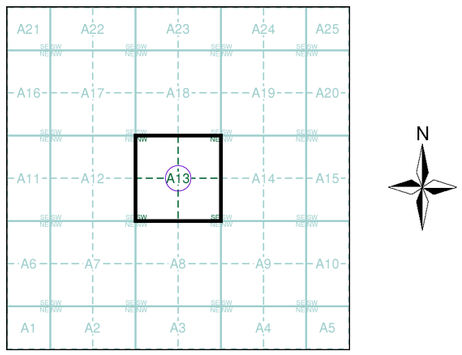
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Historical Map - Segment A13



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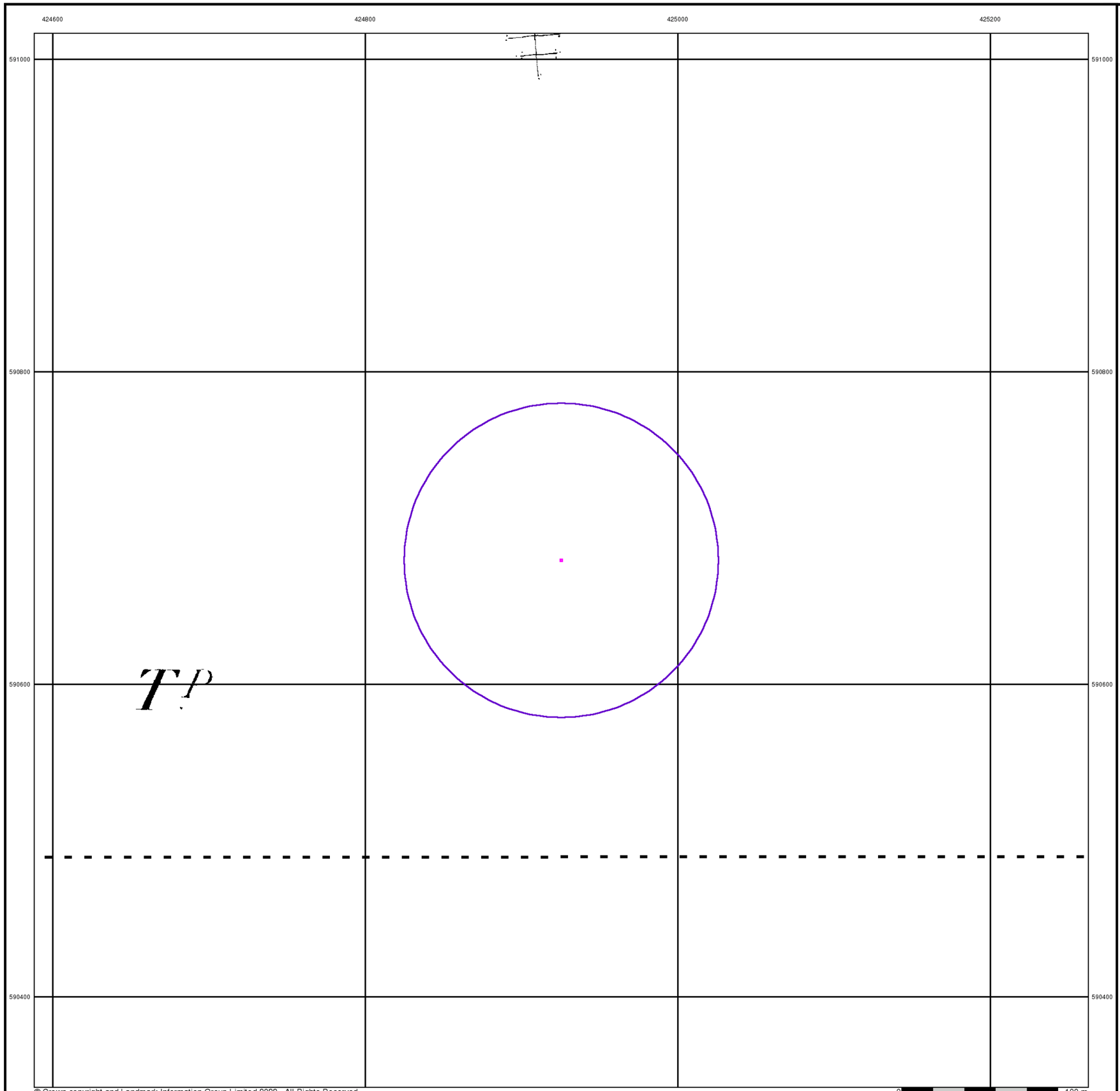
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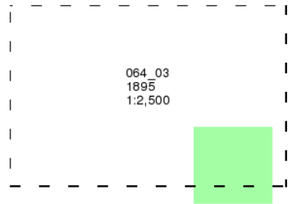
Northumberland

Published 1895

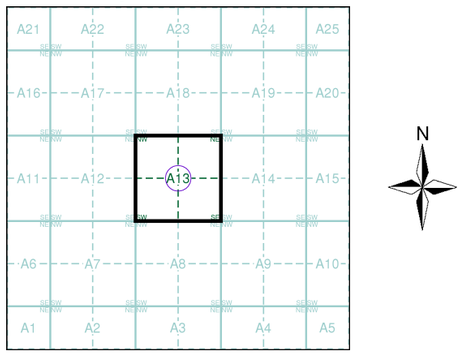
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Map Name(s) and Date(s)



Historical Map - Segment A13



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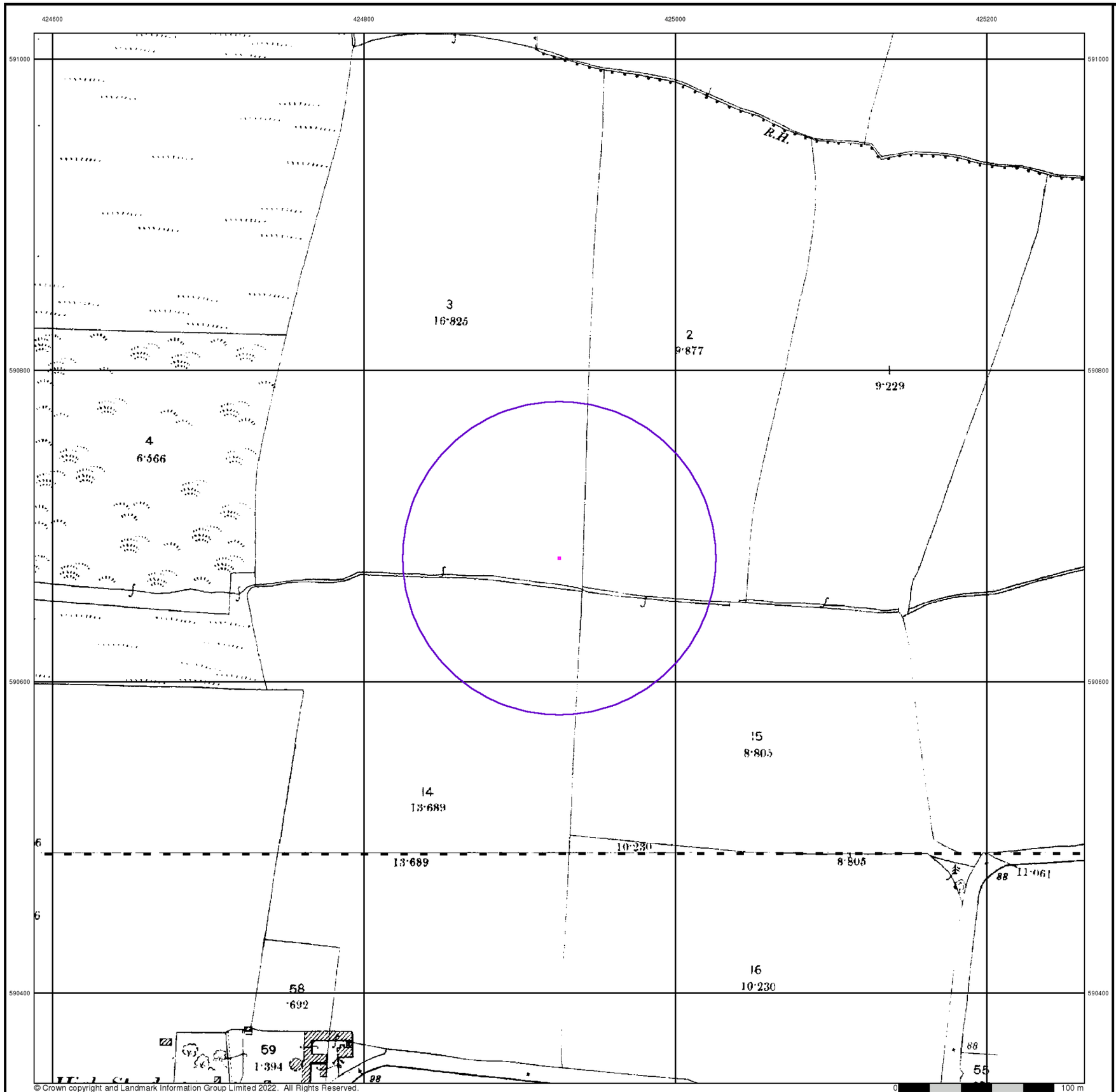
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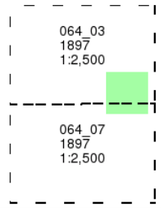
Northumberland

Published 1897

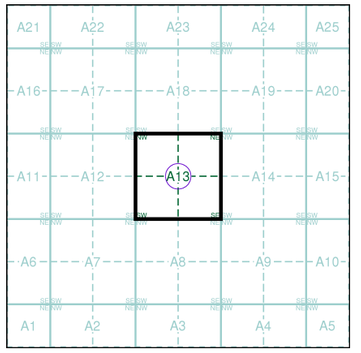
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Map Name(s) and Date(s)



Historical Map - Segment A13



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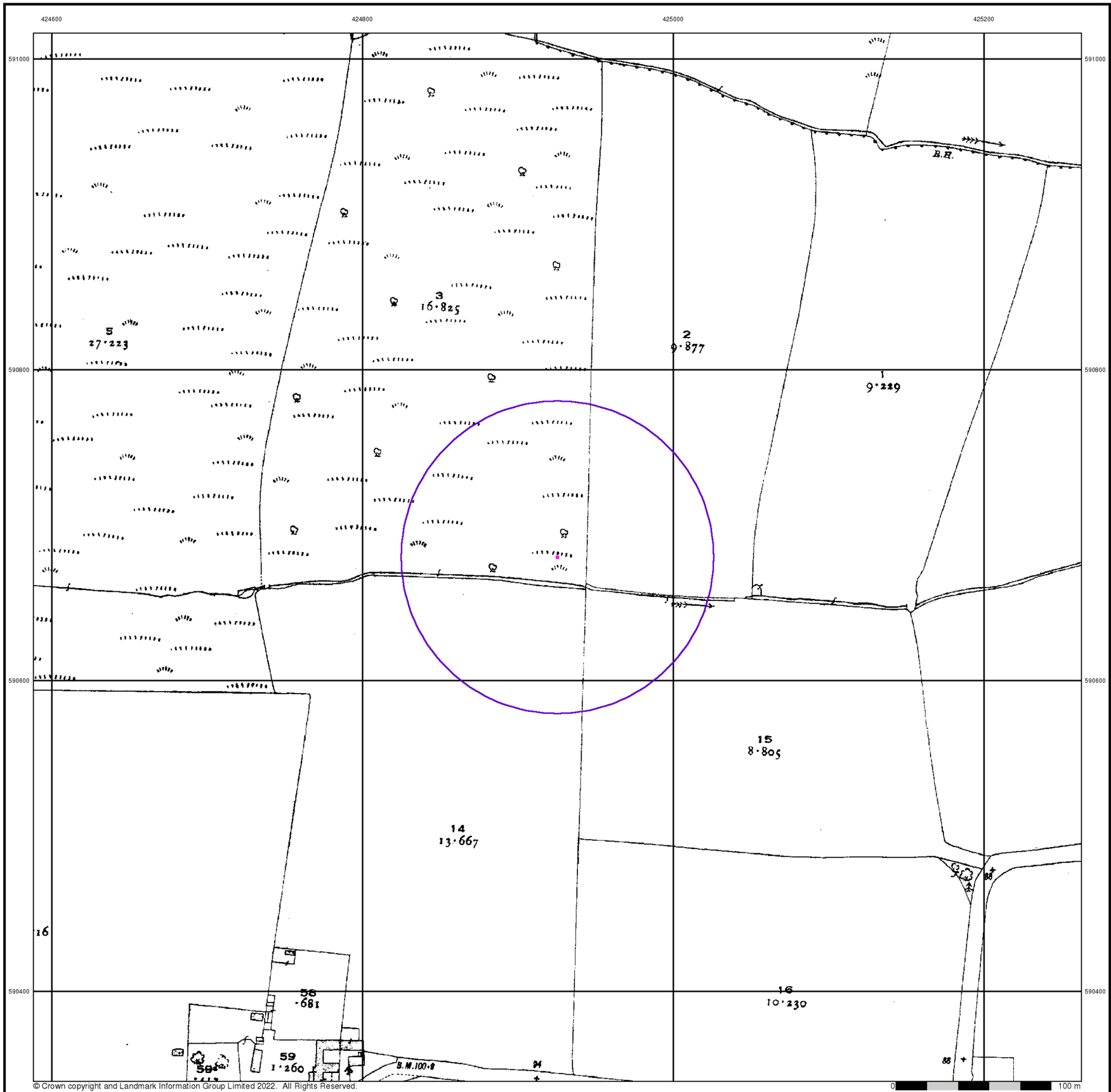
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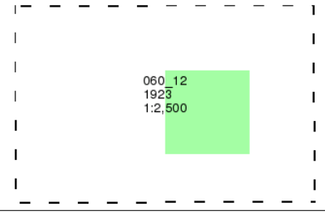
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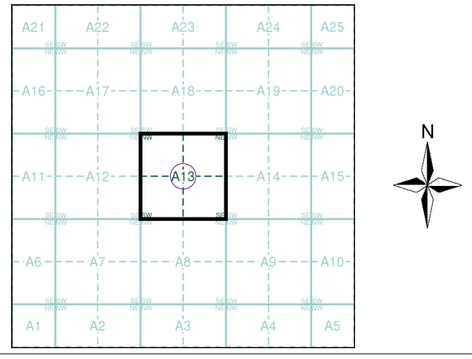
Source map scale - 1:2,500

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

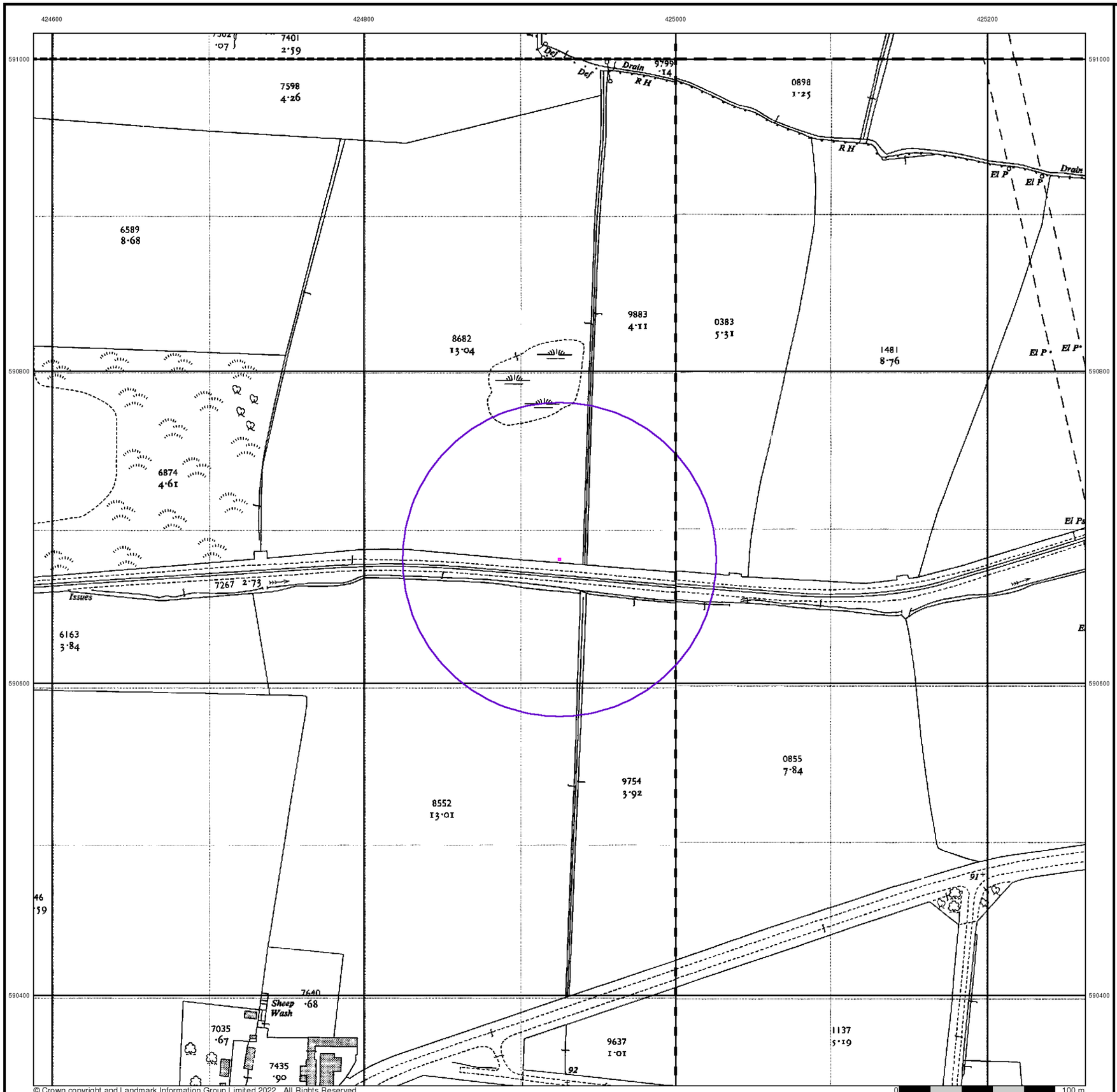
Order Number:	300463013_1_1
Customer Ref:	22010
National Grid Reference:	424930, 590680
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	100

Site Details

Site at 424550, 591100

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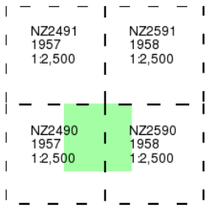
Ordnance Survey Plan

Published 1957 - 1958

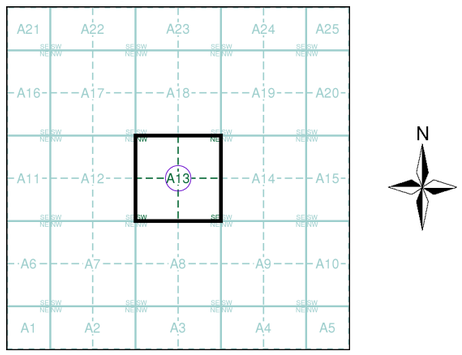
Source map scale - 1:2,500

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

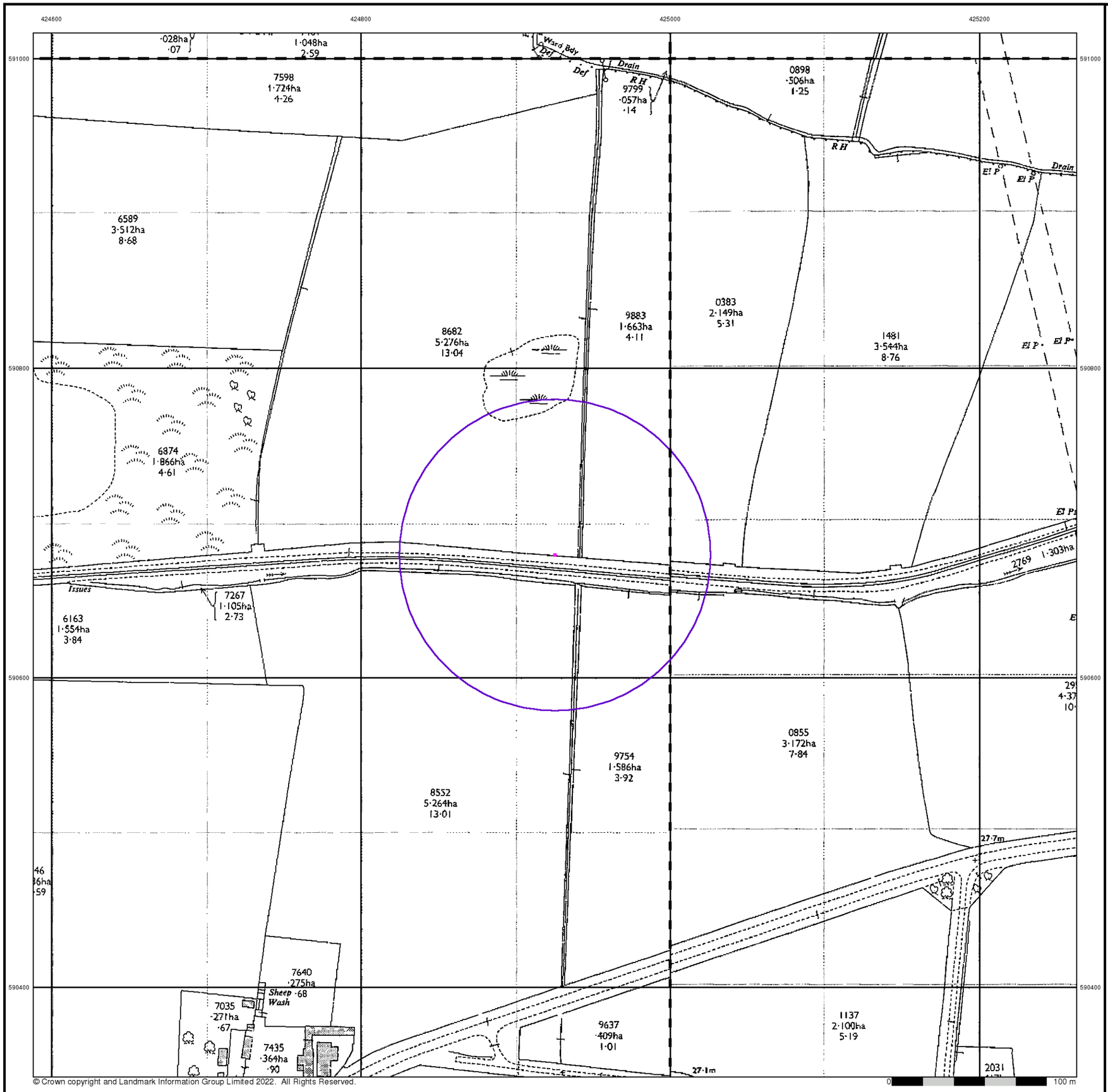
Order Number:	300463013_1_1
Customer Ref:	22010
National Grid Reference:	424930, 590680
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	100

Site Details

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Additional SIMs

Published 1957 - 1958

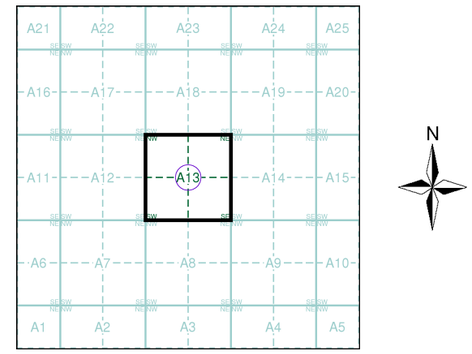
Source map scale - 1:2,500

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)

NZ2491 1957 1:2,500	NZ2591 1958 1:2,500
NZ2490 1957 1:2,500	NZ2590 1958 1:2,500

Historical Map - Segment A13



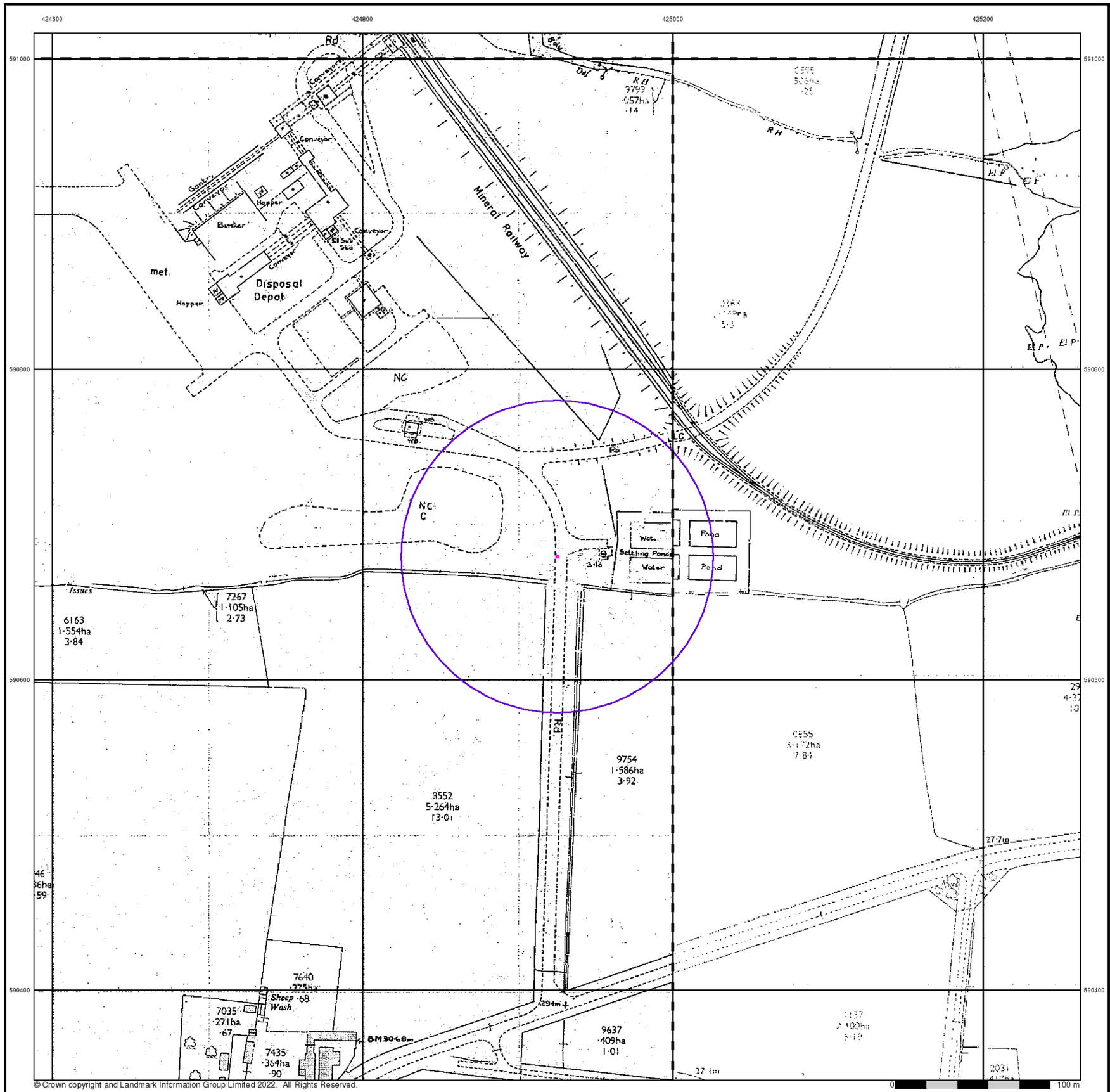
Order Details

Order Number:	300463013_1_1
Customer Ref:	22010
National Grid Reference:	424930, 590680
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	100

Site Details

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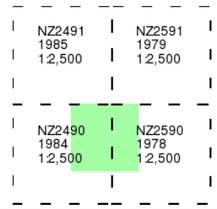
Additional SIMs

Published 1978 - 1985

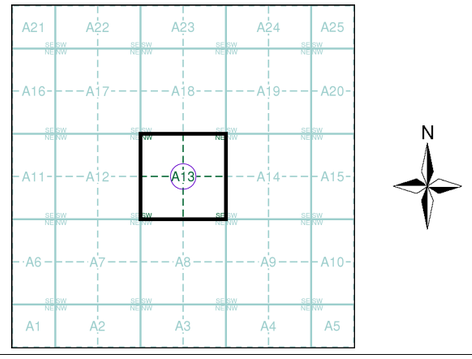
Source map scale - 1:2,500

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)



Historical Map - Segment A13



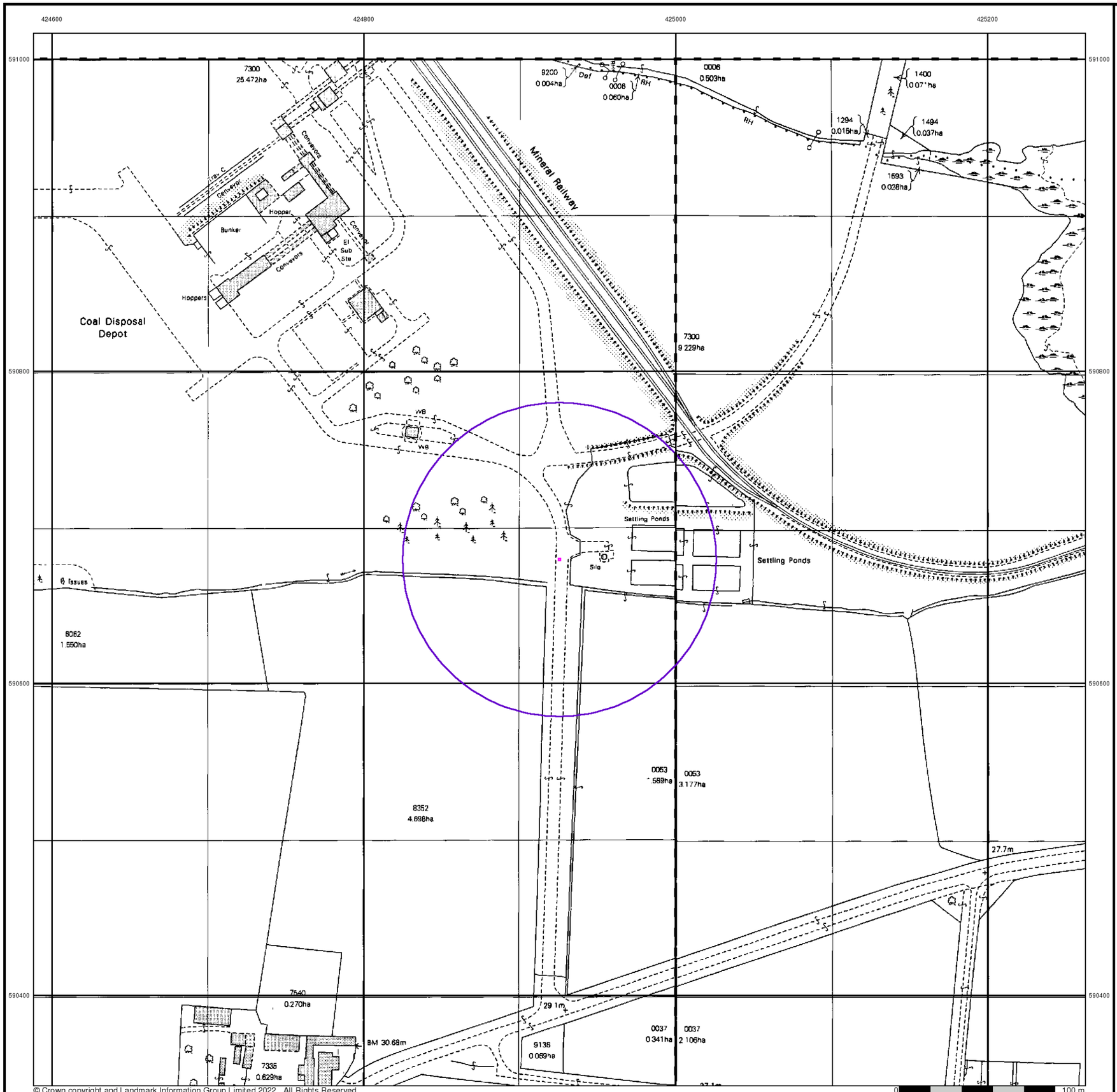
Order Details

Order Number:	300463013_1_1
Customer Ref:	22010
National Grid Reference:	424930, 590680
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	100

Site Details

Site at 424550, 591100

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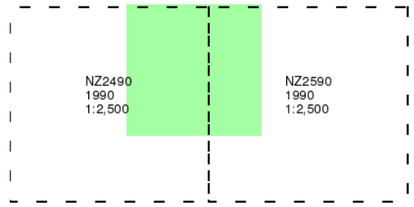
Ordnance Survey Plan

Published 1990

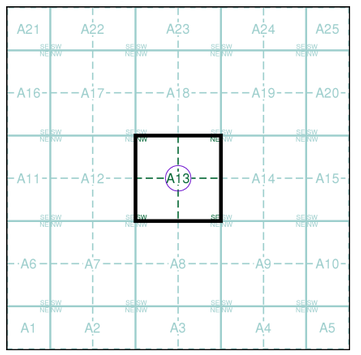
Source map scale - 1:2,500

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

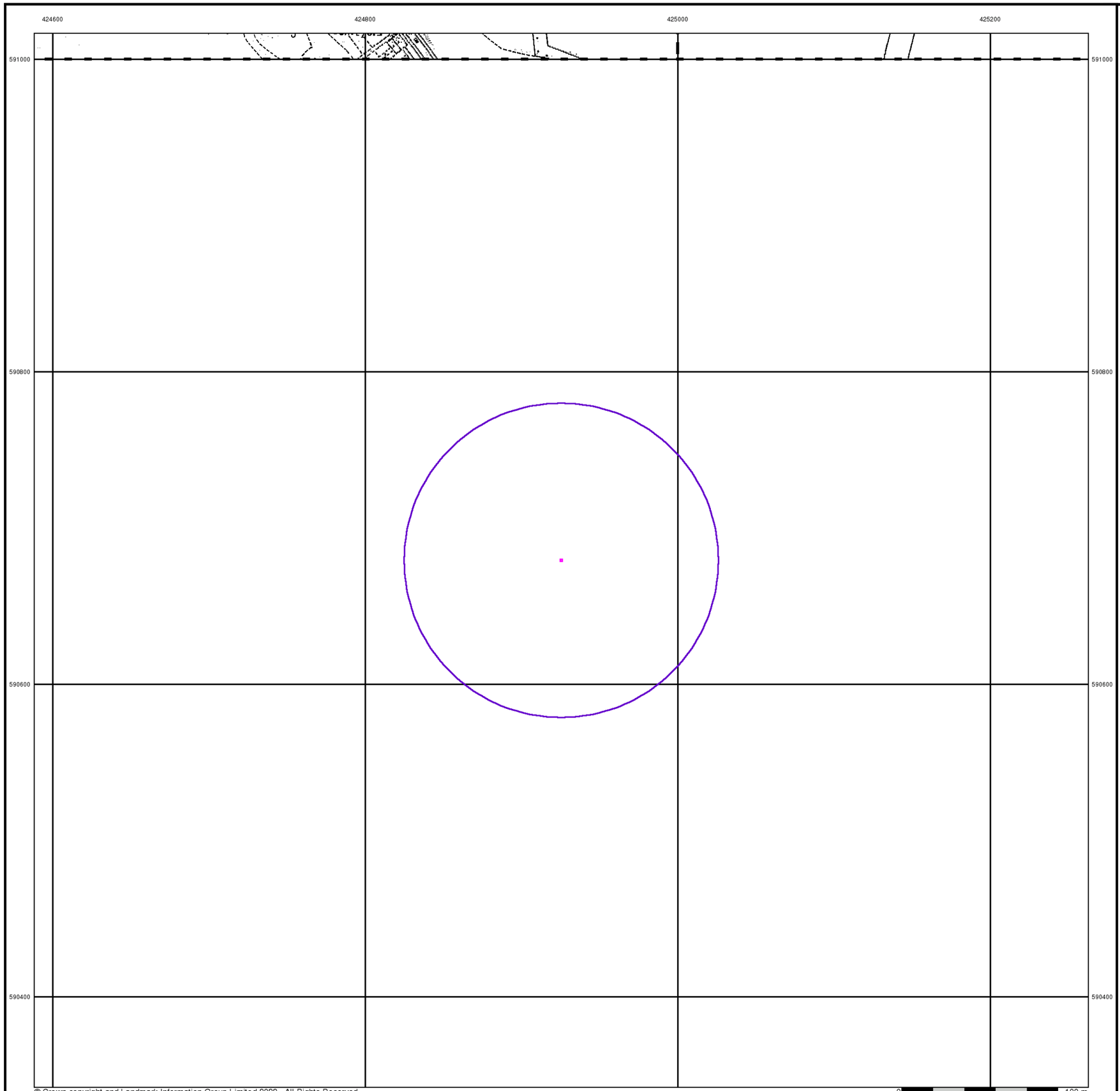
Order Number:	300463013_1_1
Customer Ref:	22010
National Grid Reference:	424930, 590680
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	100

Site Details

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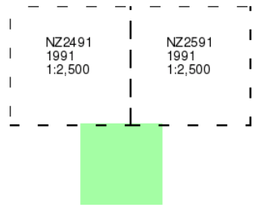
Additional SIMs

Published 1991

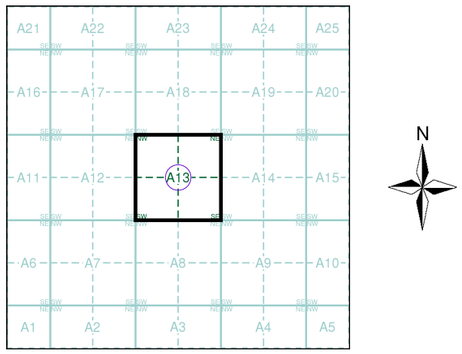
Source map scale - 1:2,500

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)



Historical Map - Segment A13



Order Details

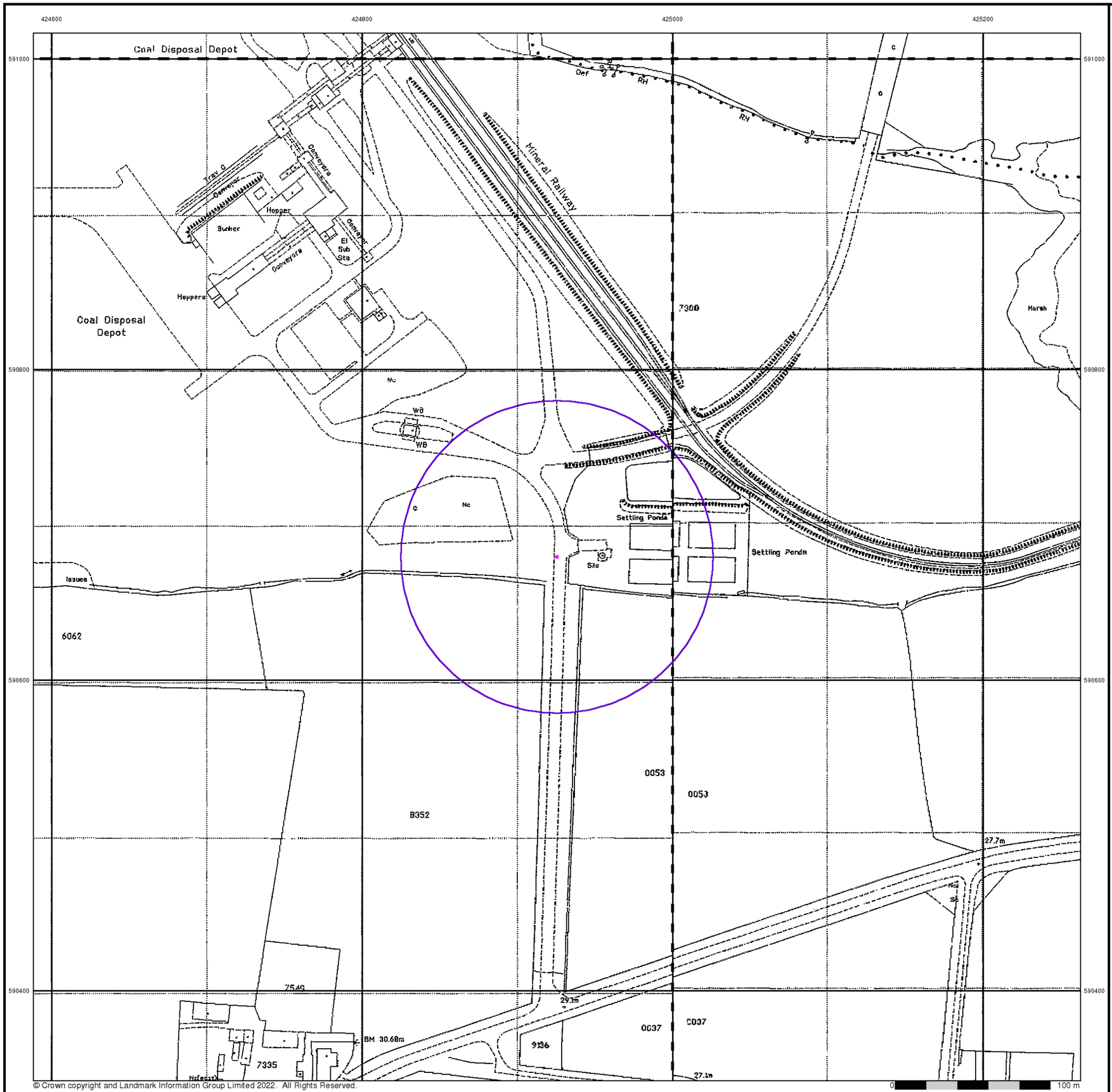
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Customer Ref:	22010
National Grid Reference:	424930, 590680
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	100

Site Details

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Large-Scale National Grid Data

Published 1994

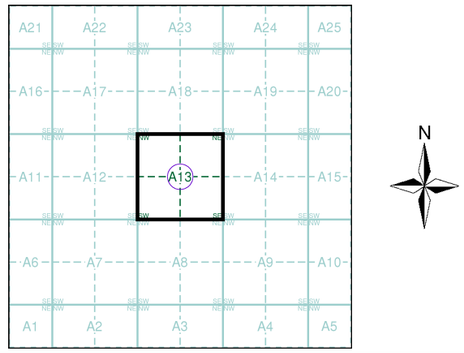
Source map scale - 1:2,500

'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)

NZ2491 1994 1:2,500	NZ2591 1994 1:2,500
NZ2490 1994 1:2,500	NZ2590 1994 1:2,500

Historical Map - Segment A13



Order Details

Order Number:	300463013_1_1
Customer Ref:	22010
National Grid Reference:	424930, 590680
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	100

Site Details

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APPENDIX B

Envirocheck Report

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Envirocheck® Report:

Datasheet

Order Details:

Order Number:
300463013_1_1

Customer Reference:
22010

National Grid Reference:
424930, 590680

Slice:
A

Site Area (Ha):
0.01

Search Buffer (m):
1000

Site Details:

Site at 424550, 591100

Client Details:

Dr D A Blythe,
DAB Geotechnics Ltd.,
Ellington,
MORPETH,
Northumberland,
NE61 5ES.

Prepared For:

N B Clark Morpeth Ltd.,
Unit 20B,
Coopies Haugh Lane,
Coopies Lane Industrial Estate,
MORPETH,
Northumberland, NE61 6JN.

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Contents

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	12
Hazardous Substances	-
Geological	13
Industrial Land Use	-
Sensitive Land Use	-
Data Currency	15
Data Suppliers	20
Useful Contacts	21

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.
For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.
In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v53.0

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1		Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1		2		
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 1			2	
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 2		Yes		
Pollution Incidents to Controlled Waters					
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 2			1	
Water Abstractions	pg 2				(*6)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 3	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 3	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 3	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 4		26	19	19

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 12				1
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 12	2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites	pg 12				2
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					
Geological					
BGS 1:625,000 Solid Geology	pg 13	Yes	n/a	n/a	n/a
BGS Recorded Mineral Sites	pg 13			1	3
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 13	Yes	n/a	n/a	n/a
Mining Instability	pg 13	Yes	n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 13	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 13		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 14	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 14	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 14	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a

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Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Industrial Land Use					
Contemporary Trade Directory Entries					
Fuel Station Entries					
Gas Pipelines					
Underground Electrical Cables					
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NW (W)	227	1	424700 590700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (NE)	298	1	425050 590950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (N)	322	1	424950 591000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	379	1	425000 591050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	422	1	424950 591100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	457	1	424600 591000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	459	1	424500 590850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	481	1	424450 590750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SW (N)	488	1	424800 591150
1	**Discharge Consents** Operator: Johnsons (Chopwell) Ltd Property Type: MINING OF COAL + LIGNITE Location: Butterwell Disposal Point, Coal Sto, Longhirst, Nr Morpeth, Northumberland Authority: Environment Agency, North East Region Catchment Area: South Northumberland Reference: 224/0637 Permit Version: 1 Effective Date: 6th March 1989 Issued Date: 6th March 1989 Revocation Date: 13th June 2013 Discharge Type: Trade Discharge - Process Water Discharge Environment: Freshwater Stream/River Receiving Water: Potland Burn, Tributary Of **Status: Revoked under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A13SE (E)	156	2	425080 590660
1	**Discharge Consents** Operator: Harworth Estates Mines Property Limited Property Type: MINING OF COAL + LIGNITE Location: Buterwell D. P. Surface Mine, Linton, Morpeth, Northumberland, Ne61 5sg Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: Eprkp3825gb Permit Version: 1 Effective Date: 8th September 2011 Issued Date: 8th September 2011 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Site Drainage Discharge Environment: Freshwater Stream/River Receiving Water: Trib Of Potland Burn **Status: New issued under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A13SE (E)	168	2	425088 590639
2	**Local Authority Pollution Prevention and Controls** Name: Butterwell Disposal Point Surface Mine Scheme Occs Location: Linton, Morpeth, NE61 1JW Authority: Northumberland Council, Environmental Health Department Permit Reference: EPSE13/020 Dated: 22nd March 2004 Process Type: Local Authority Pollution Prevention and Control Description: PG3/5 Coal, coke and coal product processes **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	269	3	424746 590879

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	**Local Authority Pollution Prevention and Controls** Name: Johnsons (Chopwell) Ltd Location: Butterwell Disposal Point, Linton, MORPETH, Northumberland, NE61 Authority: Northumberland Council, Environmental Health Department Permit Reference: PPC(B)001 Dated: 19th December 1991 Process Type: Local Authority Pollution Prevention and Control Description: PG3/16 Mobile screening and crushing processes **Status: Permitted** Positional Accuracy: Manually positioned to the address or location	A13NW (NW)	269	3	424776 590903
	Nearest Surface Water Feature	A13NW (W)	5	-	424921 590680
3	**Substantiated Pollution Incident Register** Authority: Environment Agency - North East Region, North East Area Incident Date: 29th November 2001 Incident Reference: 45712 Water Impact: Category 4 - No Impact Air Impact: Category 3 - Minor Incident Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Specific Waste Materials: Commercial Waste Pollutant: Specific Waste Materials: Household Waste	A7NE (SW)	492	2	424580 590330
	Water Abstractions Operator: Dungait Farms Licence Number: 1/22/04/025/R01 Permit Version: 1 Location: Borehole - Coal Measures - Ulgham Authority: Environment Agency, North East Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Manor Farm, Ulgham, Morpeth, Northumberland Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 1st April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A21SE (NW)	1568	2	423897 591862
	Water Abstractions Operator: Dungait Farms Licence Number: 1/22/04/025 Permit Version: 2 Location: Borehole - Coal Measures - Ulgham Authority: Environment Agency, North East Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Manor Farm, Ulgham, Morpeth, Northumberland Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 10th August 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A21SE (NW)	1571	2	423890 591860
	Water Abstractions Operator: Dungait Farms Licence Number: 1/22/04/025 Permit Version: 2 Location: Borehole - Coal Measures - Ulgham Authority: Environment Agency, North East Region Abstraction: General Agriculture: Transfer Between Sources Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Manor Farm, Ulgham, Hebron, Morpeth Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 10th August 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A21SE (NW)	1571	2	423890 591860

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: M Dungait & Sons Licence Number: 1/22/04/025 Permit Version: 1 Location: Borehole - Coal Measures - Ulgham Authority: Environment Agency, North East Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Manor Farm, Ulgham, Morpeth, Northumberland Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 1st April 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A21SE (NW)	1571	2	423890 591860
	Water Abstractions Operator: M Dungait & Sons Licence Number: 1/22/04/025 Permit Version: 1 Location: Borehole - Coal Measures - Ulgham Authority: Environment Agency, North East Region Abstraction: General Agriculture: Transfer Between Sources Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Manor Farm, Ulgham, Hebron, Morpeth Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 1st April 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A21SE (NW)	1571	2	423890 591860
	Water Abstractions Operator: M Dungait & Sons Licence Number: 1/22/04/022 Permit Version: 100 Location: River Lyne Authority: Environment Agency, North East Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): 192 Yearly Rate (m3): 9000 Details: Ulgham Manor Farm, Northumberland Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 24th April 1996 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A22NE (N)	1738	2	424300 592300
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability Combined Vulnerability: Medium Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: <40% Superficial Patchiness: >90% Superficial Thickness: >10m Superficial Recharge: Low	A13NE (NE)	0	4	424925 590679
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13NE (NE)	0	4	424925 590679
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A13NE (NE)	0	4	424925 590679
	Extreme Flooding from Rivers or Sea without Defences None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
4	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 73.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13NW (W)	5	5	424921 590680
5	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 13.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13SW (S)	8	5	424925 590672
6	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 8.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13SW (SW)	9	5	424921 590673
7	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 41.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13SE (SE)	12	5	424934 590672
8	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 124.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13SW (S)	16	5	424923 590664
9	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 8.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13SW (S)	16	5	424921 590665
10	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13SW (SW)	20	5	424912 590665
11	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 92.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13SW (SW)	22	5	424909 590666

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 13.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13NW (NW)	68	5	424891 590737
13	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 149.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13NW (NW)	68	5	424891 590737
14	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 15.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13NW (NW)	77	5	424895 590750
15	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 26.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13NW (N)	80	5	424909 590757
16	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 38.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13NE (E)	89	5	425014 590688
17	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 15.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13SE (E)	106	5	425030 590671
18	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 17.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13NW (N)	106	5	424907 590783
19	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 23.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13SE (E)	121	5	425045 590669
20	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 41.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13SE (E)	122	5	425044 590655

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
21	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13NW (N)	123	5	424903 590800
22	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 25.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13NE (E)	127	5	425051 590687
23	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 223.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13NW (N)	132	5	424902 590809
24	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13SE (E)	145	5	425069 590669
25	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13SE (E)	152	5	425076 590663
26	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13SE (E)	156	5	425079 590660
27	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 467.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13SE (E)	163	5	425086 590653
28	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 12.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13NW (NW)	203	5	424748 590778
29	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 371.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13NW (NW)	215	5	424736 590780

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
30	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 203.2 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13NE (N)	309	5	425015 590975
31	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 171.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13NW (N)	316	5	424883 590992
32	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 27.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13NE (N)	319	5	424941 590997
33	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 275.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13NW (N)	328	5	424915 591006
34	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13NW (N)	334	5	424818 590995
35	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 296.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13NE (NE)	334	5	425135 590939
36	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 95.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A13NW (N)	339	5	424815 591000
37	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 264.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A8NW (S)	385	5	424925 590295
38	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 143.3 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A8NE (S)	408	5	425054 590293

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
39	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A8NW (S)	409	5	424790 590294
40	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 16.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A8NW (S)	410	5	424786 590294
41	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 8.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A8NW (S)	423	5	424774 590285
42	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A18SW (N)	429	5	424792 591086
43	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A18SW (N)	431	5	424789 591088
44	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A18SW (N)	436	5	424781 591090
45	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 658.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A18SW (N)	438	5	424784 591093
46	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 118.2 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A8NE (SE)	481	5	425175 590269
47	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 363.8 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A8NE (SE)	482	5	425197 590282

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
48	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 852.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A8NE (S)	490	5	425096 590221
49	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 127.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A14NW (E)	531	5	425430 590843
50	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 36.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A14NW (E)	531	5	425430 590843
51	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 115.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A14NW (E)	536	5	425423 590878
52	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 163.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A18SW (N)	573	5	424765 591230
53	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 125.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A18SW (N)	573	5	424765 591230
54	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A12NE (W)	579	5	424370 590839
55	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 194.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A12NE (W)	583	5	424366 590840
56	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 460.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A14NW (E)	611	5	425530 590765

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
57	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 173.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A18SW (N)	692	5	424695 591331
58	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 149.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A18SW (N)	692	5	424695 591331
59	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 24.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A12NW (W)	745	5	424215 590902
60	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 318.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A9NW (SE)	764	5	425560 590255
61	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 293.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A12NW (W)	769	5	424190 590901
62	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A12SW (W)	839	5	424088 590639
63	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 117.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A12SW (W)	840	5	424087 590632
64	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 169.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A14NE (E)	868	5	425751 590947
65	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 194.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A7NE (SW)	889	5	424299 590049

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
66	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 8.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A12SW (W)	893	5	424046 590523
67	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 108.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Lyne and Druridge Bay Coast Primacy: 1	A12SW (W)	898	5	424044 590515

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
68	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Longhirst, Northumberland Name: Rear Rose Cottage Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD06475 First Input Date: Not Supplied Last Input Date: 31st December 1962 Specified Waste Type: Deposited Waste included Commercial and Household Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 2900/0212 BGS Ref: Not Supplied Other Ref: PD 023	A14SE (E)	770	2	425675 590504
	Local Authority Landfill Coverage Name: Castle Morpeth Borough Council - Has supplied landfill data		0	7	424925 590679
	Local Authority Landfill Coverage Name: Northumberland County Council - Has supplied landfill data		0	6	424925 590679
69	**Local Authority Recorded Landfill Sites** Location: Rear Rose Cottage, Longhirst Reference: PD23 Authority: Northumberland County Council (now part of Northumberland Council) **Last Reported Status:** **Closed** Types of Waste: Household Date of Closure: Not Supplied Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Applicable	A14SE (E)	796	6	425700 590500
69	**Local Authority Recorded Landfill Sites** Location: Rear Rose Cottage, Longhirst Reference: PD23 Authority: Castle Morpeth Borough Council (now part of Northumberland Council), Environmental Health Department **Last Reported Status:** **Closed** Types of Waste: Household Date of Closure: 31/12/1960 Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Applicable	A14SE (E)	796	7	425701 590501

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Pennine Middle Coal Measures Formation And South Wales Middle Coal Measures Formation (Undifferentiated)	A13NE (NE)	0	1	424925 590679
70	**BGS Recorded Mineral Sites** Site Name: Butterwell Disposal Point Surface Mine Location: Ashington, Northumberland Source: British Geological Survey, National Geoscience Information Service Reference: 165384 Type: Opencast **Status: Ceased** Operator: Ukcsmr Ltd. Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Middle Coal Measures Formation Commodity: Coal - Opencast Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	252	1	424710 590550
71	**BGS Recorded Mineral Sites** Site Name: Linton Occs Location: Linton, Morpeth, Northumberland Source: British Geological Survey, National Geoscience Information Service Reference: 5231 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Middle Coal Measures Formation Commodity: Coal - Opencast Positional Accuracy: Located by supplier to within 10m	A18NE (N)	802	1	425025 591475
72	**BGS Recorded Mineral Sites** Site Name: Linton Tile Works Location: Linton, Morpeth, Northumberland Source: British Geological Survey, National Geoscience Information Service Reference: 115519 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary, Devensian Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	874	1	425564 591275
73	**BGS Recorded Mineral Sites** Site Name: Longhirst Drift Mine Location: Longhirst, Ashington, Northumberland Source: British Geological Survey, National Geoscience Information Service Reference: 5151 Type: Underground **Status: Ceased** Operator: Individual'S Name Withheld Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Middle Coal Measures Formation Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	887	1	424215 590150
	Coal Mining Affected Areas Description: 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 of this report.	A13NE (NE)	0	8	424925 590679
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13NE (NE)	0	-	424925 590679
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	424925 590679
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	75	1	425000 590679
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	424925 590679

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	75	1	425000 590679
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	219	1	424728 590773
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	424925 590679
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	75	1	425000 590679
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	424925 590679
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	75	1	425000 590679
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	424925 590679
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	75	1	425000 590679
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	424925 590679
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	75	1	425000 590679
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	424925 590679
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	424925 590679

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Northumberland Council - Environmental Health Department	January 2020	Annually
Environment Agency - Head Office	June 2020	Annually
Wansbeck District Council (now part of Northumberland Council) - Environmental Health Department	September 2017	Not Applicable
Castle Morpeth Borough Council (now part of Northumberland Council) - Environmental Health Department	September 2017	
Discharge Consents		
Environment Agency - North East Region	April 2022	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - North East Region	March 2013	
Integrated Pollution Controls		
Environment Agency - North East Region	January 2009	
Integrated Pollution Prevention And Control		
Environment Agency - North East Region	April 2022	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Wansbeck District Council (now part of Northumberland Council) - Economic and Environment Services	May 2009	Not Applicable
Northumberland Council - Environmental Health Department	May 2014	Variable
Castle Morpeth Borough Council (now part of Northumberland Council) - Environmental Health Department	September 2008	Not Applicable
Local Authority Pollution Prevention and Controls		
Wansbeck District Council (now part of Northumberland Council) - Economic and Environment Services	May 2009	Not Applicable
Northumberland Council - Environmental Health Department	May 2014	Annually
Castle Morpeth Borough Council (now part of Northumberland Council) - Environmental Health Department	September 2008	Not Applicable
Local Authority Pollution Prevention and Control Enforcements		
Wansbeck District Council (now part of Northumberland Council) - Economic and Environment Services	May 2009	Not Applicable
Northumberland Council - Environmental Health Department	May 2014	Variable
Castle Morpeth Borough Council (now part of Northumberland Council) - Environmental Health Department	September 2008	Not Applicable
Nearest Surface Water Feature		
Ordnance Survey	June 2022	
Pollution Incidents to Controlled Waters		
Environment Agency - North East Region	December 1998	
Prosecutions Relating to Authorised Processes		
Environment Agency - North East Region	July 2015	
Prosecutions Relating to Controlled Waters		
Environment Agency - North East Region	March 2013	
Registered Radioactive Substances		
Environment Agency - North East Region	June 2016	As notified
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	April 2012	
River Quality Chemistry Sampling Points		
Environment Agency - Head Office	April 2012	
Substantiated Pollution Incident Register		
Environment Agency - North East Region - North East Area	April 2022	Quarterly
Environment Agency - North East Region - Northumbria Area	April 2022	Quarterly
Water Abstractions		
Environment Agency - North East Region	July 2022	Quarterly

Data Currency

Agency & Hydrological	Version	Update Cycle
Water Industry Act Referrals Environment Agency - North East Region	October 2017	
Groundwater Vulnerability Map Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Source Protection Zones Environment Agency - Head Office	July 2022	Bi-Annually
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	August 2022	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	August 2022	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	August 2022	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	August 2022	Quarterly
Flood Defences Environment Agency - Head Office	August 2022	Quarterly
OS Water Network Lines Ordnance Survey	July 2022	Quarterly
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	As notified

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	November 2002	As notified
Historical Landfill Sites		
Environment Agency - Head Office	April 2022	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - North East Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - North East Region - North East Area	April 2022	Quarterly
Environment Agency - North East Region - Northumbria Area	April 2022	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - North East Region - North East Area	April 2022	Quarterly
Environment Agency - North East Region - Northumbria Area	April 2022	Quarterly
Local Authority Landfill Coverage		
Castle Morpeth Borough Council (now part of Northumberland Council) - Environmental Health Department	February 2003	Not Applicable
Northumberland County Council (now part of Northumberland Council)	February 2003	Not Applicable
Wansbeck District Council (now part of Northumberland Council) - Economic and Environment Services	February 2003	Not Applicable
Local Authority Recorded Landfill Sites		
Castle Morpeth Borough Council (now part of Northumberland Council) - Environmental Health Department	October 2018	
Northumberland County Council (now part of Northumberland Council)	October 2018	
Wansbeck District Council (now part of Northumberland Council) - Economic and Environment Services	October 2018	
Registered Landfill Sites		
Environment Agency - North East Region - North East Area	March 2006	Not Applicable
Environment Agency - North East Region - Northumbria Area	March 2006	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - North East Region - North East Area	April 2018	
Environment Agency - North East Region - Northumbria Area	April 2018	
Registered Waste Treatment or Disposal Sites		
Environment Agency - North East Region - North East Area	June 2015	
Environment Agency - North East Region - Northumbria Area	June 2015	

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	January 2022	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	August 2001	
Planning Hazardous Substance Enforcements		
Castle Morpeth Borough Council (now part of Northumberland Council) - Planning Department	August 2009	Not Applicable
Wansbeck District Council (now part of Northumberland Council)	February 2009	Not Applicable
Northumberland County Council (now part of Northumberland Council) - Minerals Waste and Development Control	October 2008	Annual Rolling Update
Northumberland Council - Planning Department	October 2015	Variable
Planning Hazardous Substance Consents		
Castle Morpeth Borough Council (now part of Northumberland Council) - Planning Department	August 2009	Not Applicable
Wansbeck District Council (now part of Northumberland Council)	February 2009	Not Applicable
Northumberland County Council (now part of Northumberland Council) - Minerals Waste and Development Control	October 2008	Annual Rolling Update
Northumberland Council - Planning Department	October 2015	Variable

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	As notified
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	May 2022	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 November 2020	As notified
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	June 1998	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	As notified
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually
Industrial Land Use	**Version**	**Update Cycle**
Contemporary Trade Directory Entries Thomson Directories	July 2022	Quarterly
Fuel Station Entries Catalist Ltd - Experian	June 2022	Quarterly
Gas Pipelines National Grid	October 2021	Bi-Annually
Underground Electrical Cables National Grid	May 2021	Bi-Annually

Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural England	February 2021	Bi-Annually
Areas of Adopted Green Belt		
Castle Morpeth Borough Council (now part of Northumberland Council) - Planning Department	July 2022	Quarterly
Northumberland Council - Planning Department	July 2022	Quarterly
Wansbeck District Council (now part of Northumberland Council)	July 2022	Quarterly
Areas of Unadopted Green Belt		
Castle Morpeth Borough Council (now part of Northumberland Council) - Planning Department	July 2022	Quarterly
Northumberland Council - Planning Department	July 2022	Quarterly
Wansbeck District Council (now part of Northumberland Council)	July 2022	Quarterly
Areas of Outstanding Natural Beauty		
Natural England	August 2022	Bi-Annually
Environmentally Sensitive Areas		
Natural England	January 2017	
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
Natural England	February 2021	Bi-Annually
Marine Nature Reserves		
Natural England	July 2019	Bi-Annually
National Nature Reserves		
Natural England	January 2021	Bi-Annually
National Parks		
Natural England	February 2018	Bi-Annually
Nitrate Sensitive Areas		
Natural England	April 2016	Not Applicable
Nitrate Vulnerable Zones		
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	April 2016	
Environment Agency - Head Office	June 2017	Bi-Annually
Ramsar Sites		
Natural England	August 2020	Bi-Annually
Sites of Special Scientific Interest		
Natural England	February 2021	Bi-Annually
Special Areas of Conservation		
Natural England	July 2020	Bi-Annually
Special Protection Areas		
Natural England	February 2021	Bi-Annually

Data Suppliers

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	
Centre for Ecology and Hydrology	
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Stantec UK Ltd	

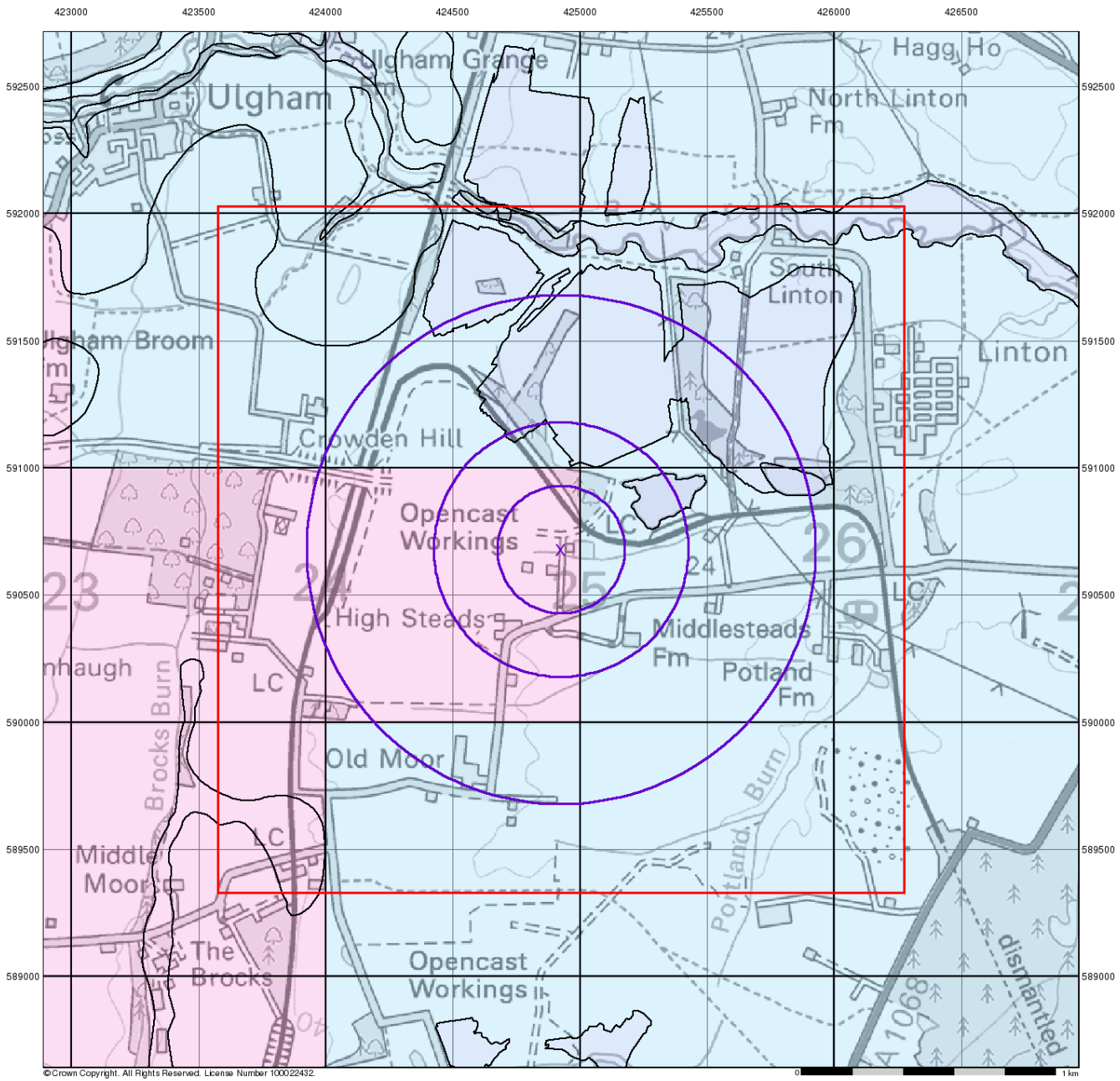
Useful Contacts

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	**Northumberland Council - Environmental Health Department** County Hall, Morpeth, Northumberland, NE61 2EF	Telephone: 0845 600 6400 Email: ask@northumberland.gov.uk Website: www.northumberland.gov.uk
4	**Environment Agency - Head Office** Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
5	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	**Northumberland County Council (now part of Northumberland Council)** County Hall, Morpeth , Northumberland, NE61 2EF	Telephone: 01670 533000 Fax: 01670 534160 Website: www.northumberland.gov.uk
7	**Castle Morpeth Borough Council (now part of Northumberland Council) - Environmental Health Department** County Hall, Morpeth, Northumberland, NE61 2EF	Telephone: 0845 600 6400 Website: www.northumberland.gov.uk
8	**The Coal Authority - Property Searches** 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
9	**Wansbeck District Council (now part of Northumberland Council)** County Hall, Morpeth, Northumberland, NE61 2EF	Telephone: 0845 600 6400 Website: www.northumberland.gov.uk
10	**Natural England** County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

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

Order Number: 300463013
Customer Ref: 22010
National Grid Reference: 424930 590680

Map ID	Easting	Northing	Distance	Quadrant Reference	Quadrant Reference	Bearing Reference	BGS Reference	Drilled Length (m)	Borehole Name
74	424930	590690	12	A13	NE	NE	NZ29SW13890/D002	4	Buterwell Disposal Point D002
75	424957	590681	32	A13	NE	E	NZ29SW13890/D001	13	Buterwell Disposal Point D001
76	425061	590701	138	A13	NE	E	NZ29SE124	49.83	Linton Colliery U/G Bh
77	425043	590602	141	A13	SE	SE	NZ29SE113	9.81	Linton U/G 4
78	424676	590636	254	A13	SW	W	NZ29SW77	642.82	Longhurst Drift 1a
79	425160	590570	259	A13	SE	SE	NZ29SE115	55	Old Longhirst Junction Acc No.136 U/G Bh
80	424662	590638	267	A13	SW	W	NZ29SW76	22.86	Longhurst Drift 1
81	425291	590782	380	A14	NW	E	NZ29SE125	98.3	Linton Colliery U/G Bh
82	425096	591025	386	A18	SE	NE	NZ29SE112/A	68.91	Linton Colliery 2 U/G Bh
82	425096	591025	386	A18	SE	NE	NZ29SE112/B	188.09	Linton Colliery 2 U/G Bh
83	424561	590910	432	A12	NE	NW	NZ29SW83	39.62	Longhurst Drift 7
84	424740	590277	444	A8	NW	SW	NZ29SW27	152.4	High Steads Fame
85	424461	590586	474	A12	SE	W	NZ29SW49	45.72	Linton Ii Opencast 69
86	425425	590822	520	A14	NW	E	NZ29SE128	80.01	Borehole Near Linton
87	425342	591005	529	A14	NW	NE	NZ29SE121	12.6	Linton Coll Beaumont Seam U/G
87	425335	591023	535	A19	SW	NE	NZ29SE122	12.34	Linton Coll Beaumont Seam U/G
88	424459	590986	559	A12	NE	NW	NZ29SW111	215.8	Longhurst Drift No 103
89	424378	590549	563	A12	SE	W	NZ29SW82	72.54	Longhurst Drift 2
89	424365	590545	577	A12	SE	W	NZ29SW112	252.07	Longhurst Drift No 101
89	424352	590528	594	A12	SE	W	NZ29SW108	113.39	Longhurst Mine No 100
90	424352	590608	578	A12	SE	W	NZ29SW100	20.73	Longhurst Mine S/Bh No 952
91	424720	590122	595	A8	NW	S	NZ29SW28	99.67	Old Moor Shaft
92	424275	590731	653	A12	NE	W	NZ29SW48	36.58	Linton Ii Opencast 50
93	424790	591330	665	A18	SW	N	NZ29SW13920/A30	Not Supplied	West Linton O.C.C.S. A30
94	425060	591340	675	A18	SE	N	NZ29SE13920/A31	Not Supplied	West Linton O.C.C.S. A31
95	425619	590778	701	A14	NE	E	NZ29SE114	9.91	Linton U/G 7
96	425451	591186	730	A19	SW	NE	NZ29SE130	57.81	Borehole 3 Near Linton
97	424805	591425	756	A18	NW	N	NZ29SW13920/A29	Not Supplied	West Linton O.C.C.S. A29
98	425320	591332	763	A19	SW	NE	NZ29SE157	38.79	Longhirst Drift
99	424870	589910	772	A8	SW	S	NZ28NW7	17.78	Linton Colliery West Drift
100	425320	591346	775	A19	SW	NE	NZ29SE158	29.57	Longhirst Drift
101	425090	589910	787	A8	SE	S	NZ28NE381	8.22	Pegswood Colliery 45/28 U/G 169d
102	424144	590533	796	A12	SW	W	NZ29SW50	57.91	Linton Ii Opencast 74
103	424100	590693	826	A12	NW	W	NZ29SW2	89	Crowden Hill Farm
104	424830	589840	845	A8	SW	S	NZ28NW46	34.92	Acc No 135 U/G Upover
105	424911	591560	881	A18	NW	N	NZ29SW96	166.73	Linton U/G 17/50
105	424916	591561	882	A18	NW	N	NZ29SW81	68.58	Linton Colliery U/G 4
106	424920	589790	890	A8	SW	S	NZ28NW111	26.11	Pegswood Colliery U/G 194d
107	424194	591233	918	A17	SW	NW	NZ29SW3	32.31	Crowden Hill
108	424002	590481	945	A12	SW	W	NZ29SW80	50.6	Longhurst Drift 5
109	424920	589730	950	A8	SW	S	NZ28NW11	20.34	Linton Colliery West Drift
110	425580	591370	952	A19	NW	NE	NZ29SE111	70	Linton Colliery 3
111	423966	590748	962	A12	NW	W	NZ29SW79	30.48	Longhurst Drift 4
112	425210	589760	963	A8	SE	S	NZ28NE382	7.92	Pegswood Colliery 45/28 170d
113	425898	590812	982	A14	NE	E	NZ29SE102/A	24.11	Acc. No. 69 U/G Up Bh
114	425898	590812	982	A14	NE	E	NZ29SE102/B	31.41	Acc. No. 69 U/G Bh
115	424990	591664	987	A18	NE	N	NZ29SW13920/A28	Not Supplied	West Linton O.C.C.S. A28



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Groundwater Vulnerability

General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

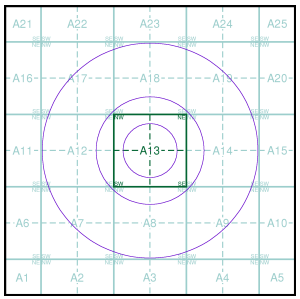
Agency and Hydrological

Bedrock Aquifers	Superficial Aquifers
High Vulnerability, Principal Aquifer	High Vulnerability, Principal Aquifer
High Vulnerability, Secondary Aquifer	High Vulnerability, Secondary Aquifer
Medium Vulnerability, Principal Aquifer	Medium Vulnerability, Principal Aquifer
Medium Vulnerability, Secondary Aquifer	Medium Vulnerability, Secondary Aquifer
Low Vulnerability, Principal Aquifer	Low Vulnerability, Principal Aquifer
Low Vulnerability, Secondary Aquifer	Low Vulnerability, Secondary Aquifer

Unproductive Aquifer

Soluble Rock

Site Sensitivity Context Map - Slice A



Order Details

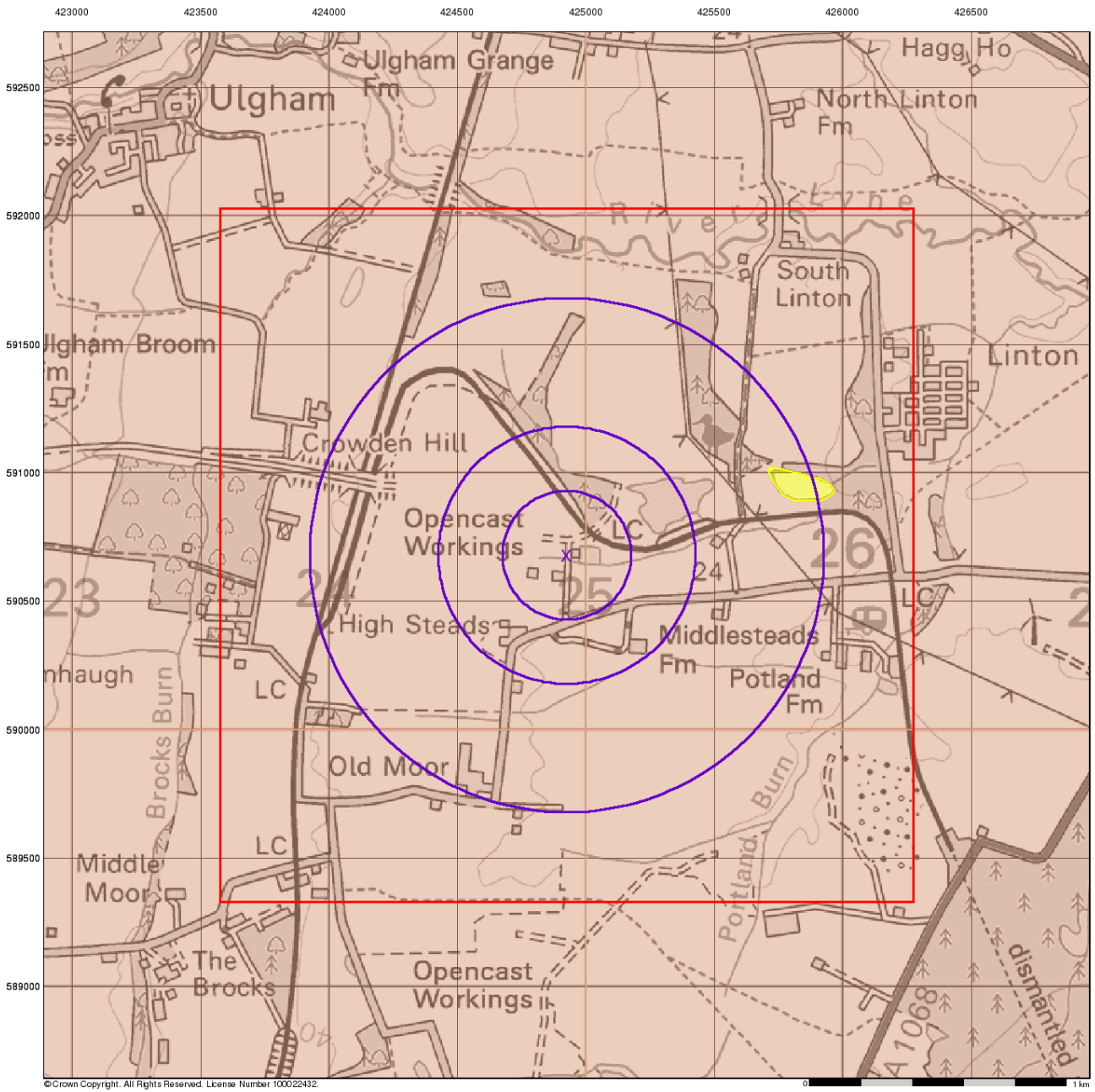
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Customer Ref:	22010
National Grid Reference:	424930, 590680
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

Site at 424550, 591100

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Web: www.envirocheck.co.uk



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Bedrock Aquifer Designation

General

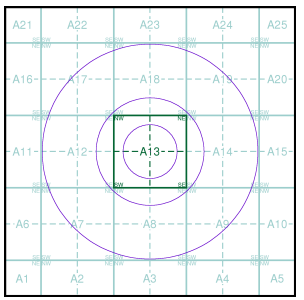
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



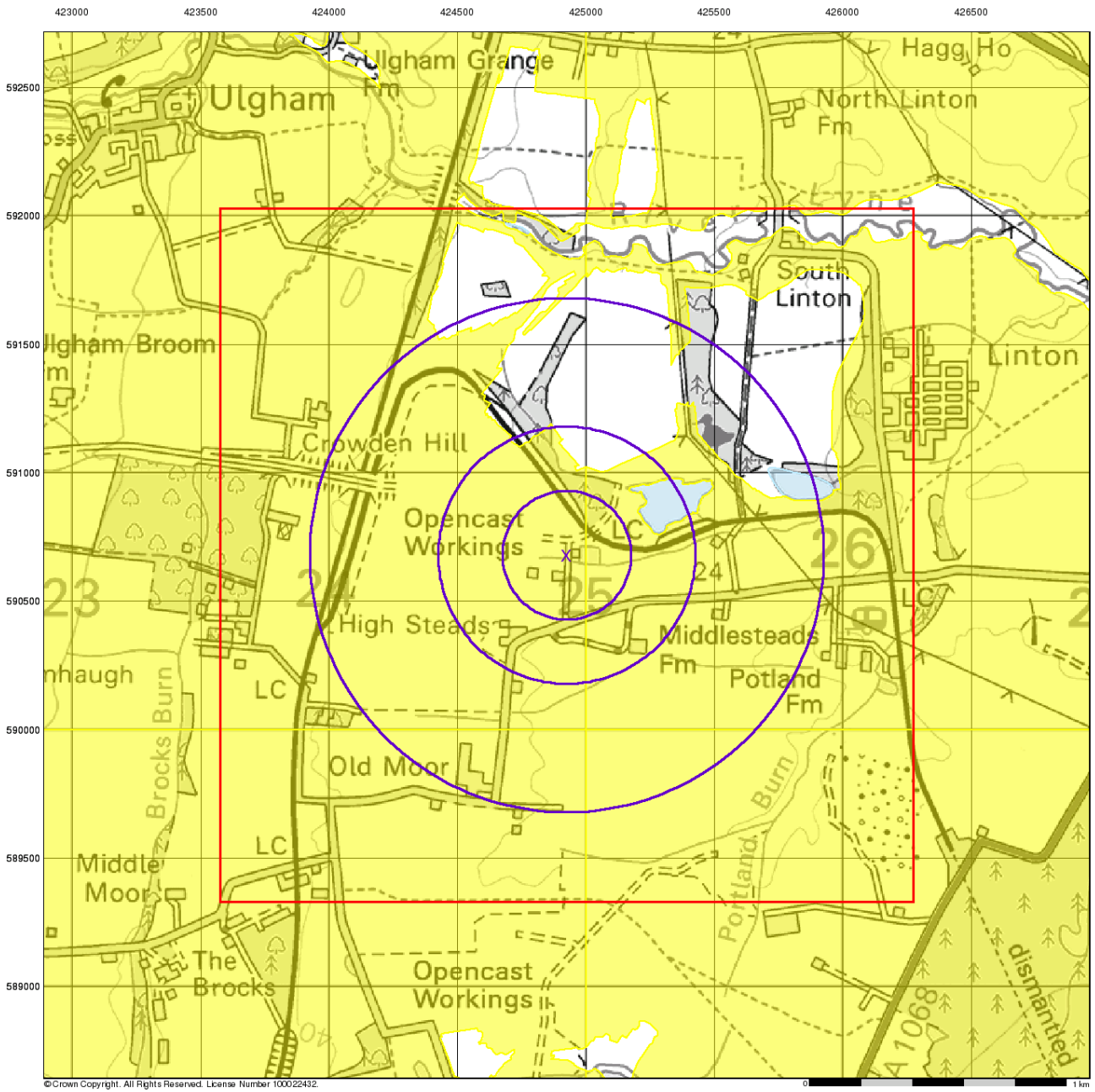
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Order Number:	300463013_1_1
Customer Ref:	22010
National Grid Reference:	424930, 590680
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

Site at 424550, 591100

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Web: www.envirocheck.co.uk



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Superficial Aquifer Designation

General

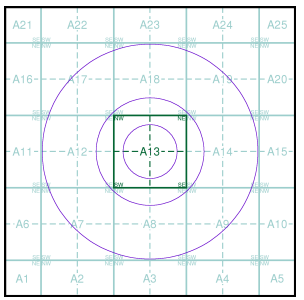
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

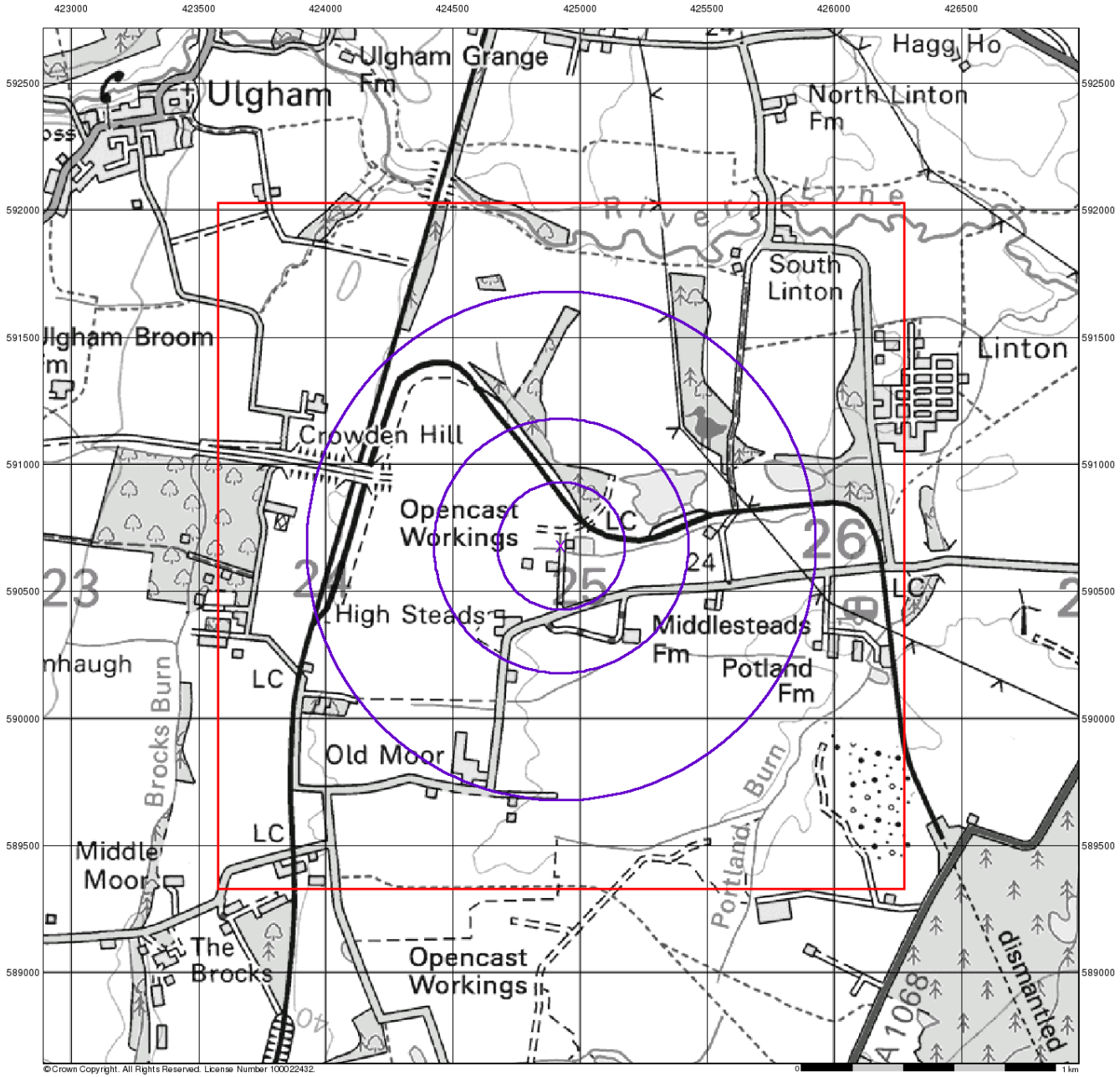
Order Number:	300463013_1_1
Customer Ref:	22010
National Grid Reference:	424930, 590680
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

Site at 424550, 591100

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Web: www.envirocheck.co.uk



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Source Protection Zones

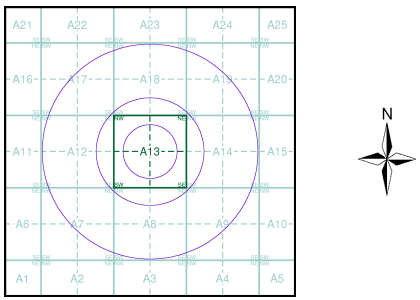
General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)

Site Sensitivity Context Map - Slice A



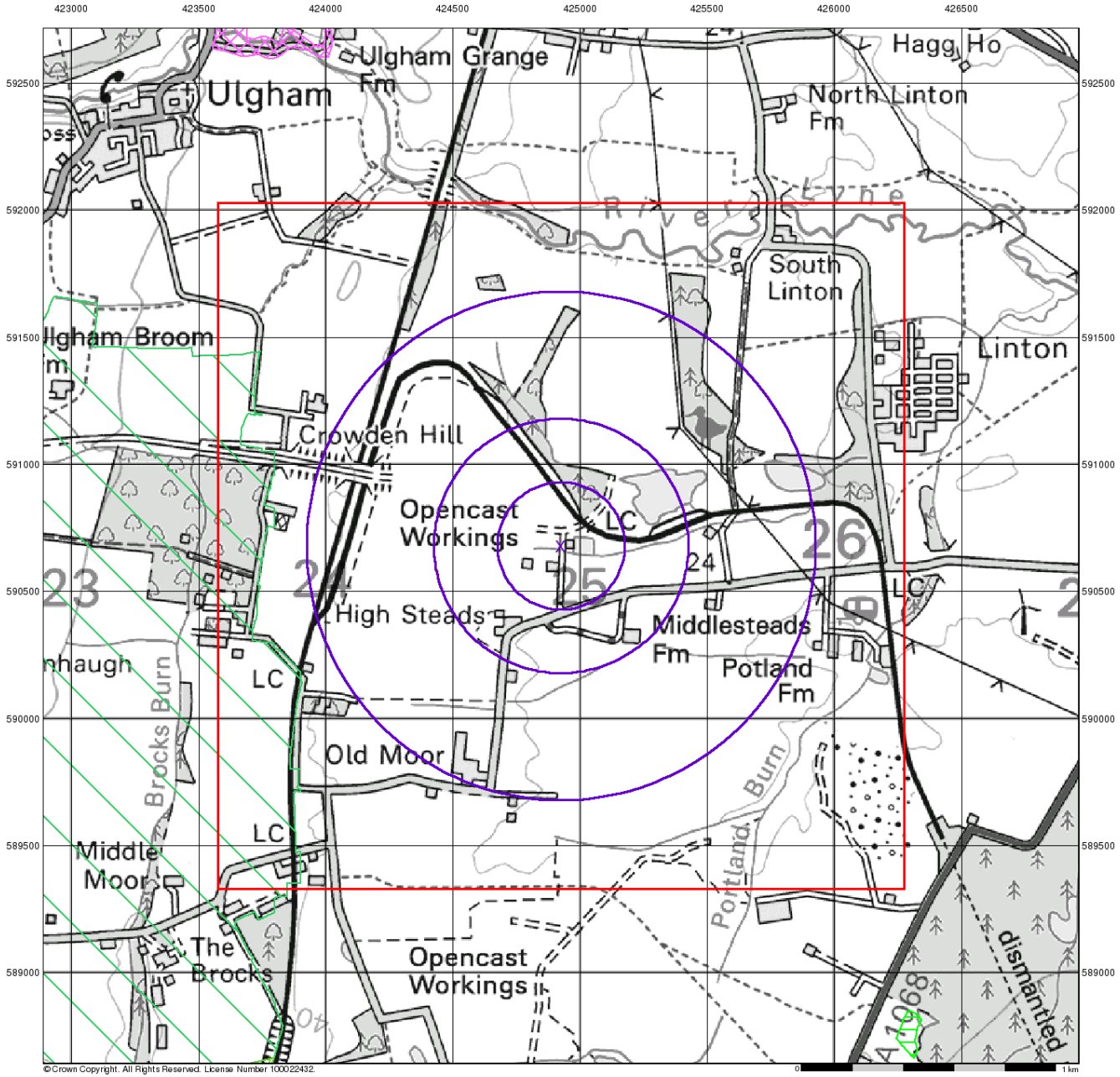
Order Details

Order Number:	300463013_1_1
Customer Ref:	22010
National Grid Reference:	424930, 590680
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

Site at 424550, 591100

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Web: www.envirocheck.co.uk



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Sensitive Land Uses

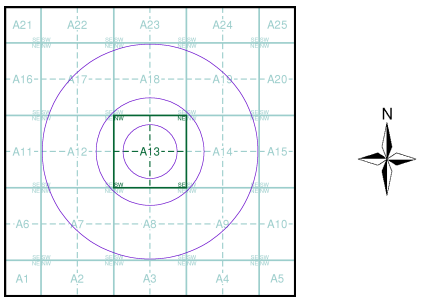
General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Sensitive Land Uses

- Ancient Woodland
- Area of Adopted Green Belt
- Area of Unadopted Green Belt
- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area
- World Heritage Sites

Site Sensitivity Context Map - Slice A



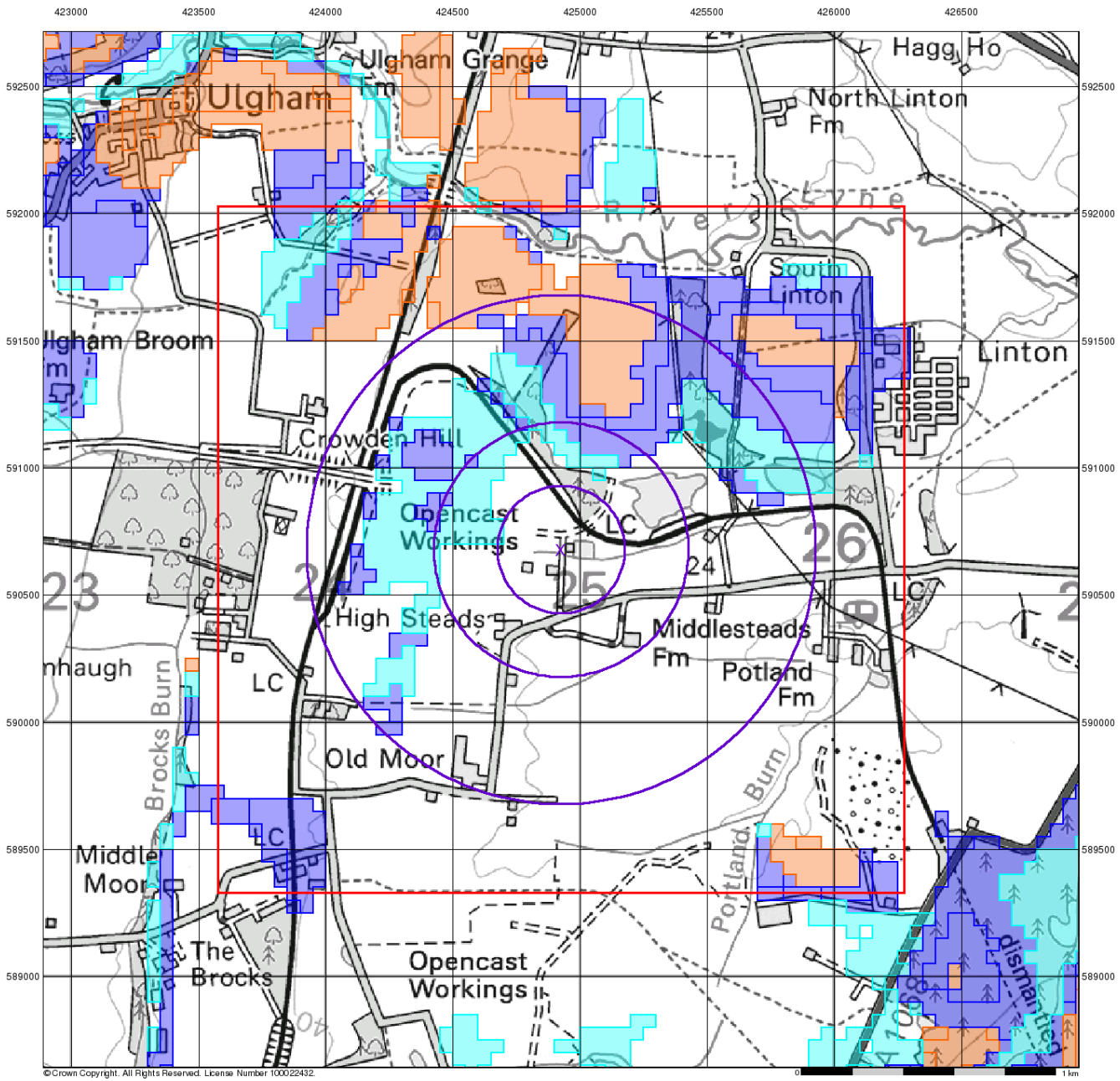
Order Details

Order Number:	300463013_1_1
Customer Ref:	22010
National Grid Reference:	424930, 590680
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

Site at 424550, 591100

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BGS Flood GFS Data

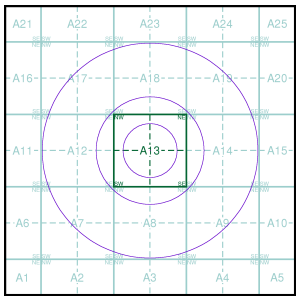
General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



Order Details

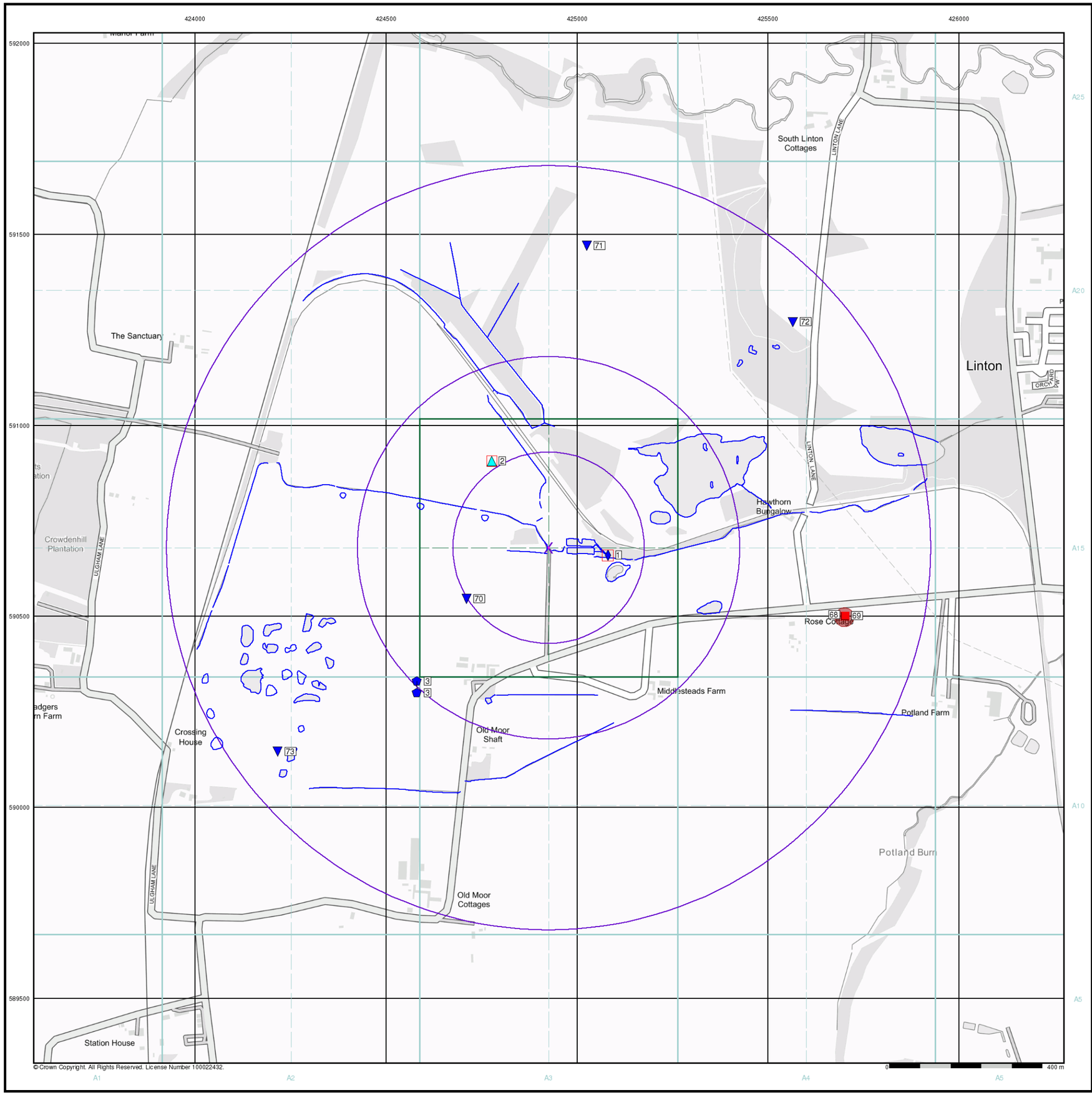
Order Number:	300463013_1_1
Customer Ref:	22010
National Grid Reference:	424930, 590680
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

Site at 424550, 591100

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General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Geological

- BGS Recorded Mineral Site

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry

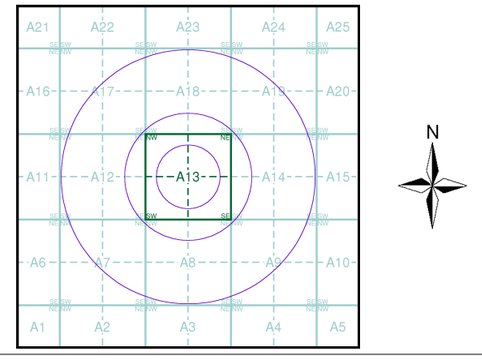
Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Hazardous Substances

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

Site Sensitivity Map - Slice A



Order Details

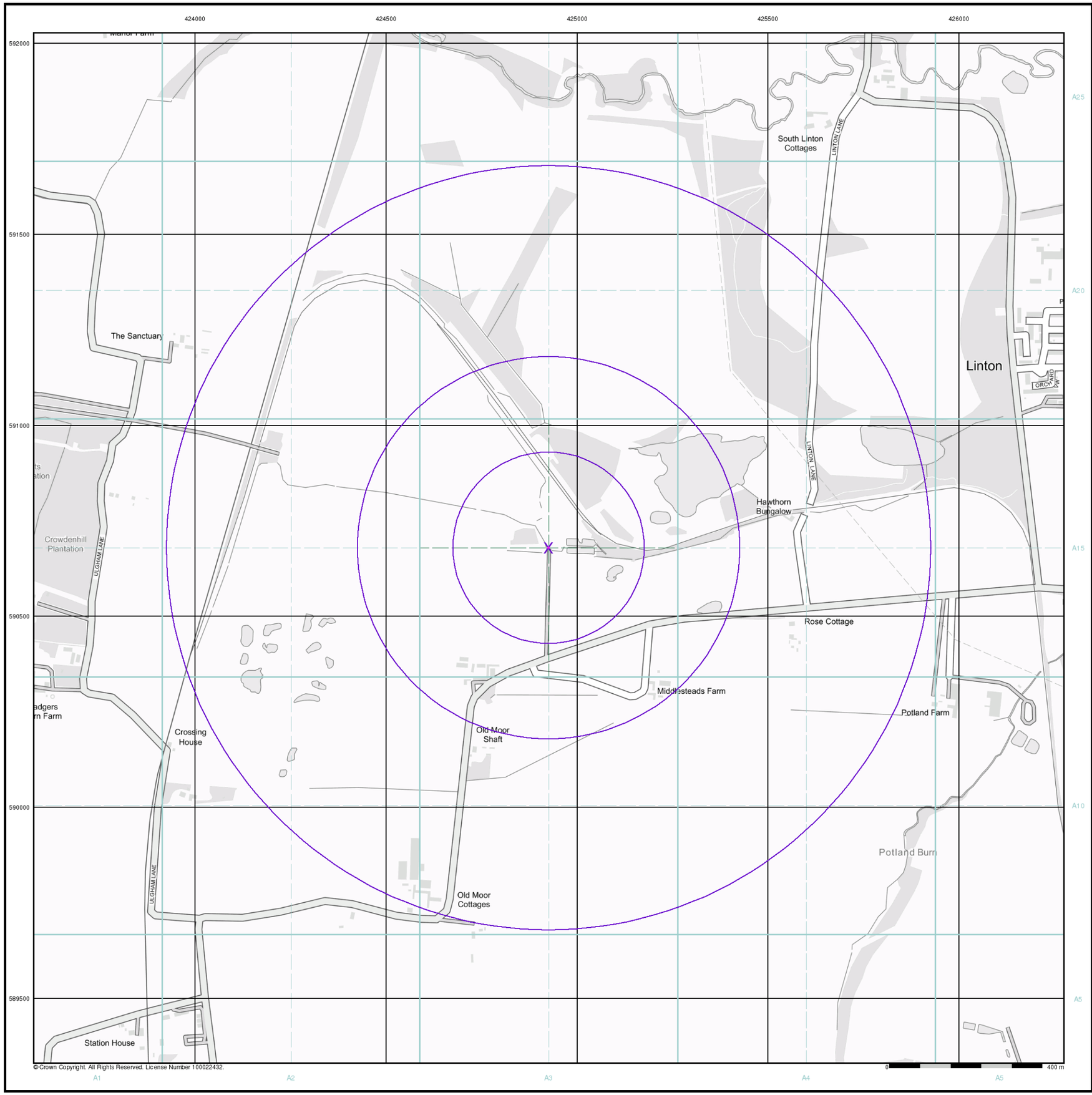
Order Number:	300463013_1_1
Customer Ref:	22010
National Grid Reference:	424930, 590680
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

Site at 424550, 591100

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Industrial Land Use Map

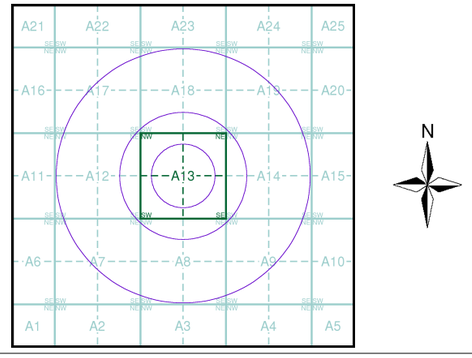
General

Specified Site
Specified Buffer(s)
Bearing Reference Point
Slice
Map ID

Industrial Land Use

Contemporary Trade Directory Entry
Fuel Station Entry
Gas Pipeline
Underground Electrical Cables

Industrial Land Use Map - Slice A



Order Details

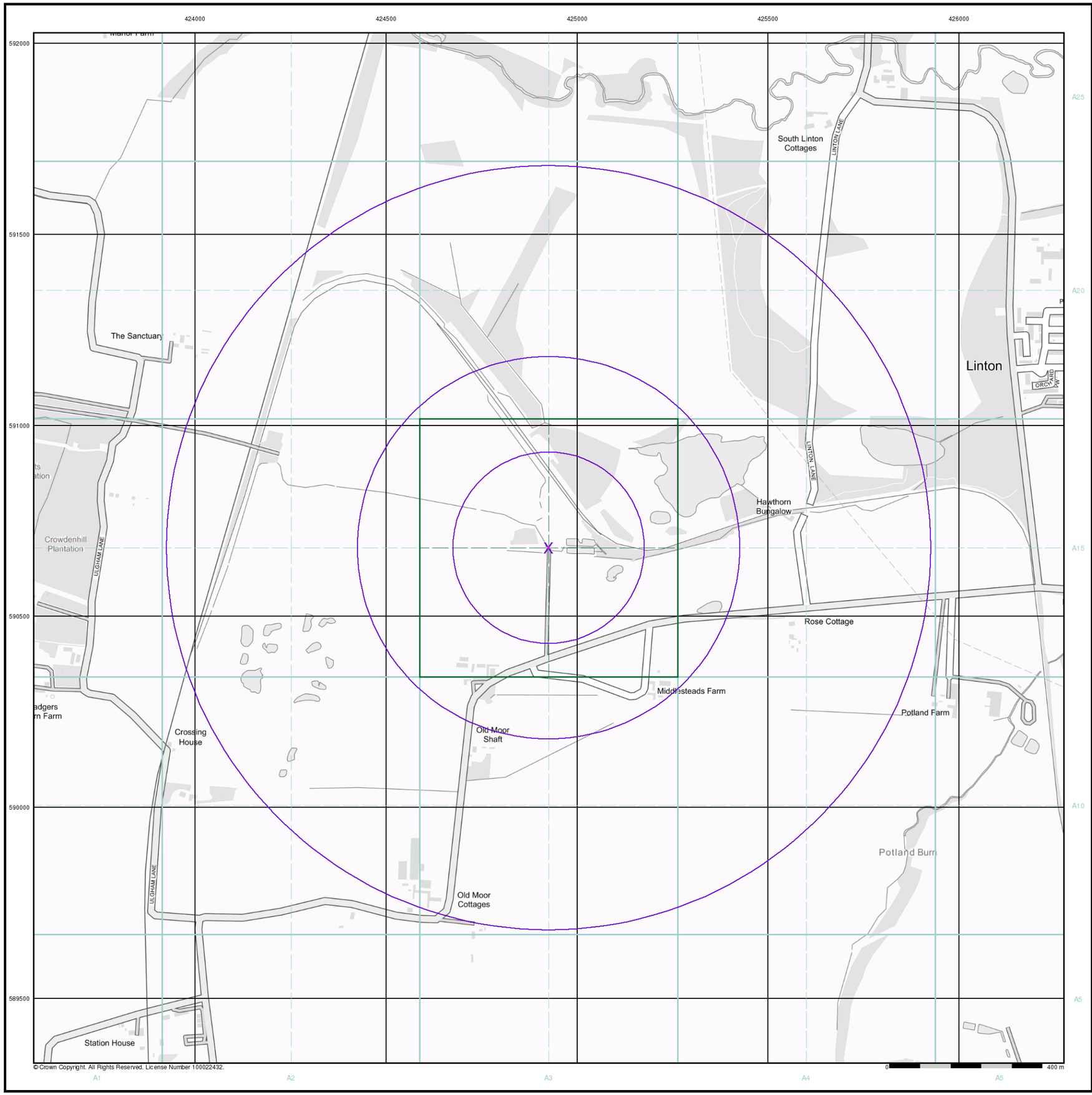
Order Number:	300463013_1_1
Customer Ref:	22010
National Grid Reference:	424930, 590680
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

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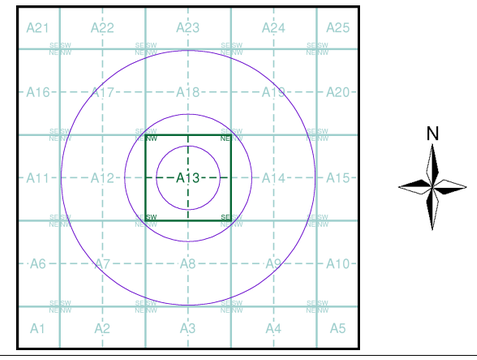
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Agency and Hydrological (Flood)

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

Flood Map - Slice A



Order Details

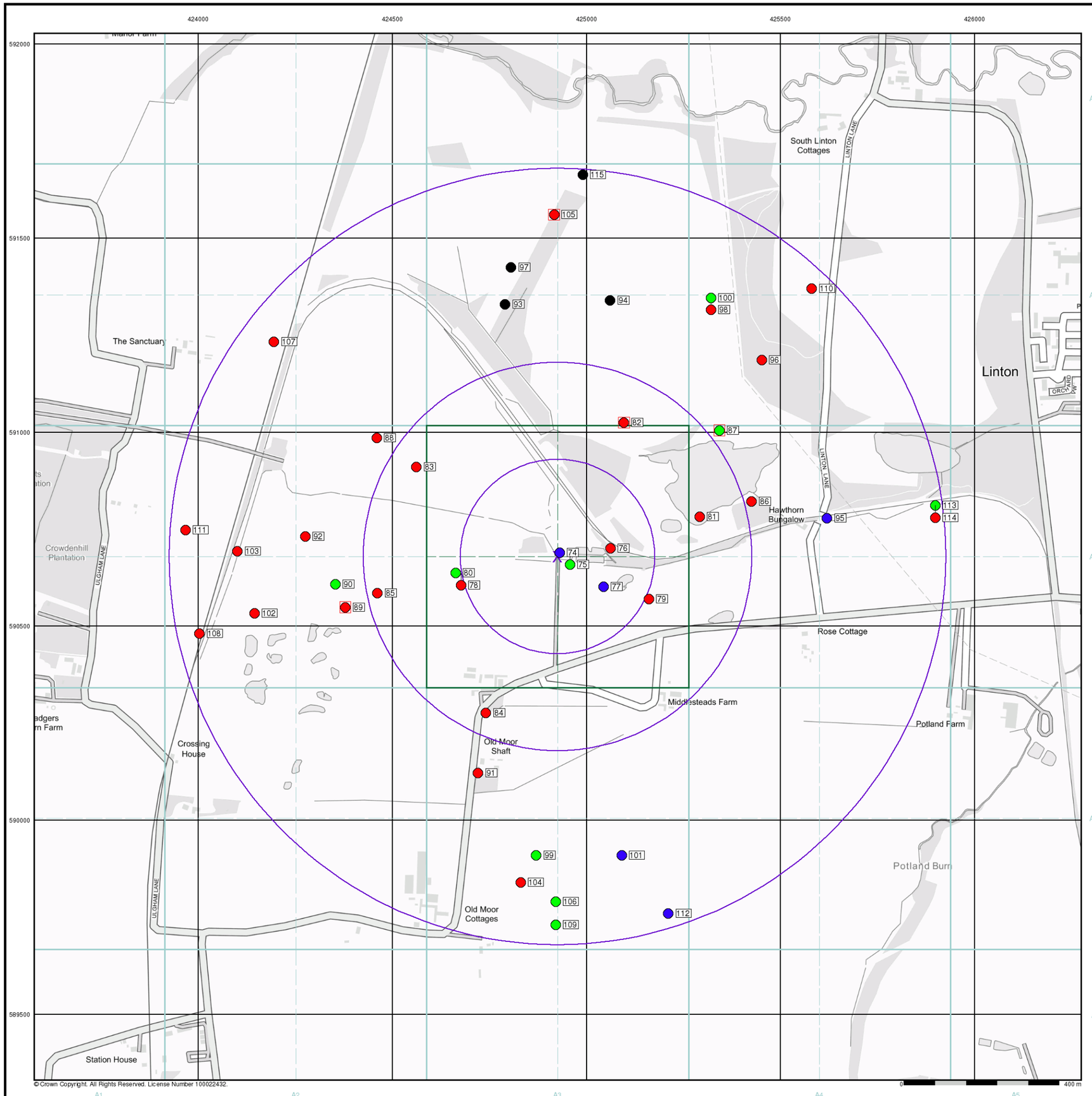
Order Number:	300463013_1_1
Customer Ref:	22010
National Grid Reference:	424930, 590680
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

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General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

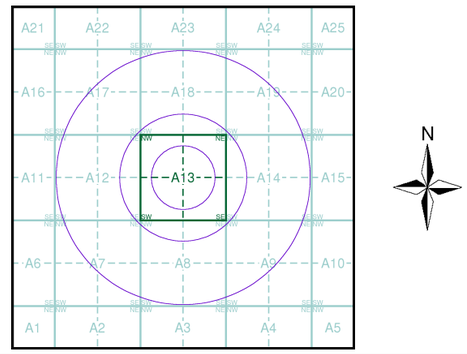
Agency and Hydrological (Boreholes)

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- BGS Borehole Depth 30m +
- Confidential
- Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A



Order Details

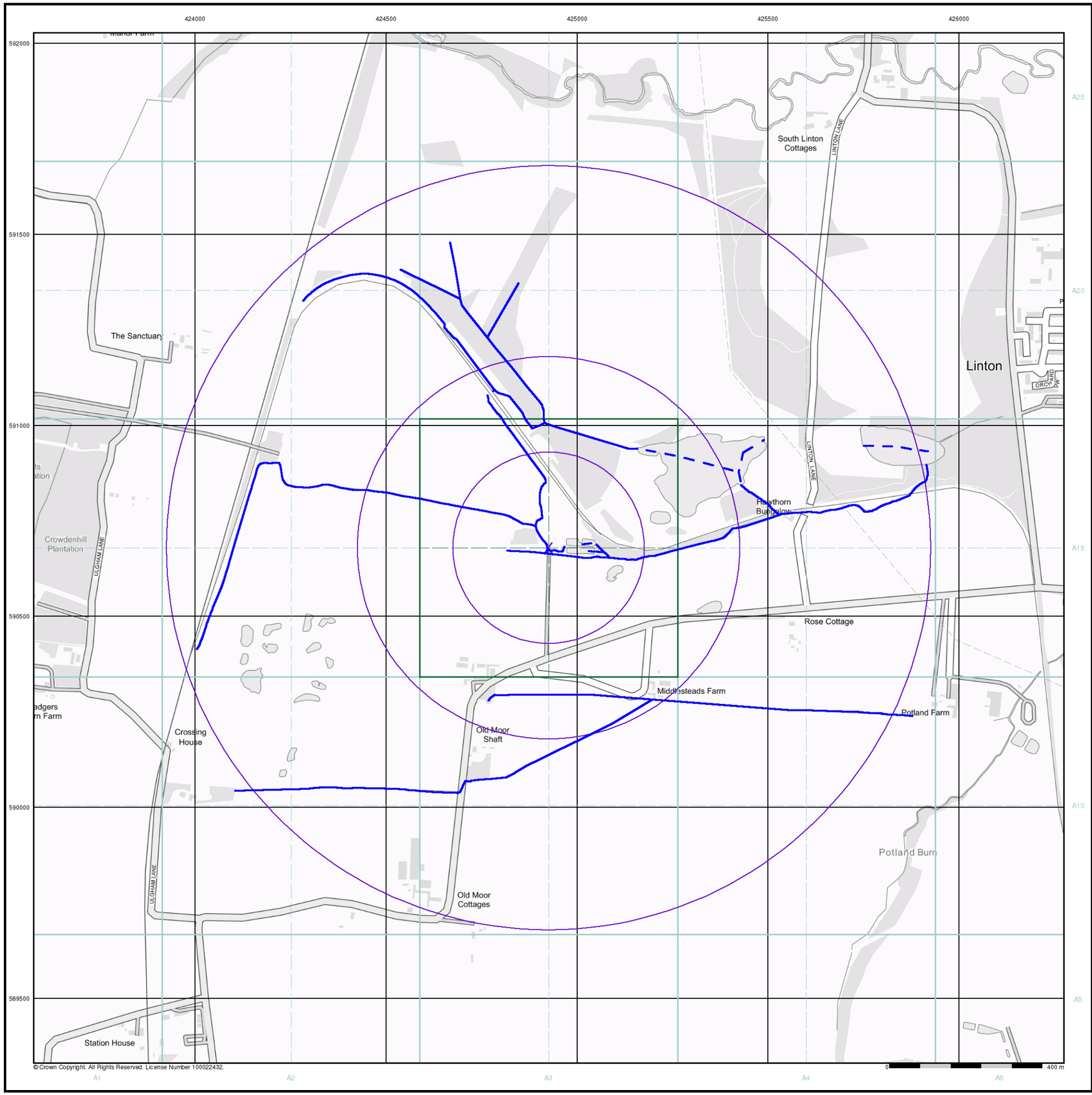
Order Number:	300463013_1_1
Customer Ref:	22010
National Grid Reference:	424930, 590680
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

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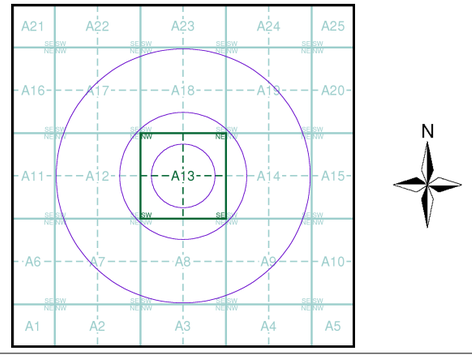
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

OS Water Network Data

- Canal
- Reservoir
- Foreshore
- Marsh
- Tidal River
- Inland River
- Drain
- Other
- Lake
- Transfer
- Lock Or Flight Of Locks
- Sea

OS Water Network Map - Slice A



Order Details

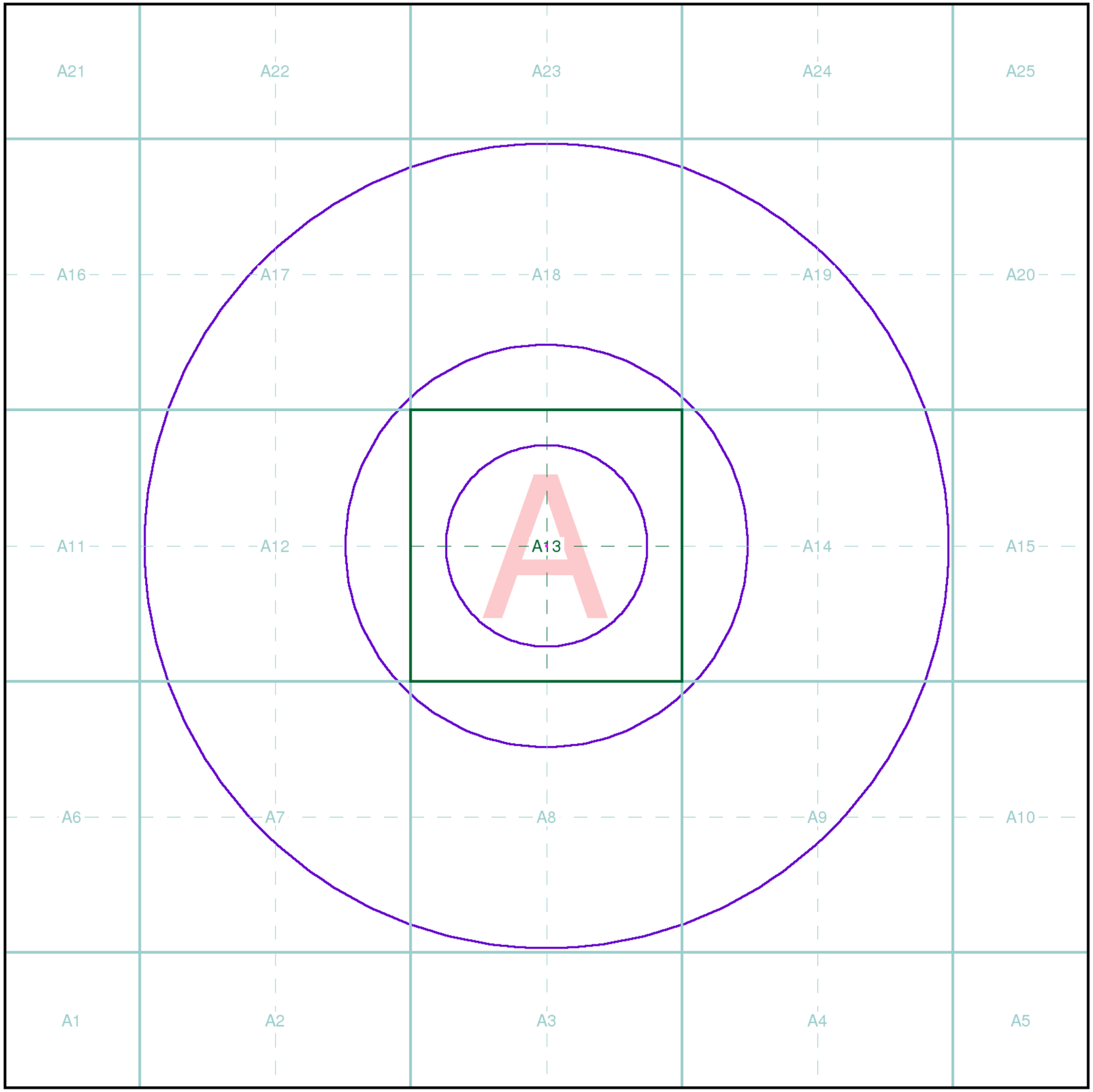
Order Number:	300463013_1_1
Customer Ref:	22010
National Grid Reference:	424930, 590680
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

Site at 424550, 591100

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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:

Map data

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Environment Agency

NATURAL ENGLAND

Envirocheck reports are compiled from 136 different sources of data.

Prepared For

N B Clark Morpeth Ltd.,
Unit 20B,
Coopies Haugh Lane,
Coopies Lane Industrial Estate,
MORPETH,
Northumberland, NE61 6JN.

Client Details

Dr D A Blythe, DAB Geotechnics Ltd.,
Ellington, MORPETH, Northumberland, NE61 5ES

Order Details

Order Number:	300463013_1_1
Customer Ref:	22010
National Grid Reference:	424930, 590680
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

Site at 424550, 591100

Full Terms and Conditions can be found on the following link:
http://www.landmarkinfo.co.uk/Terms/Show/515

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APPENDIX C

Chemical Analysis Certificates

2531

ANALYTICAL TEST REPORT

Contract no: 118389

Contract name: Butterwell D.P.

Client reference: 22010

Clients name: Olive Consulting

Clients address: 3 Tweed Avenue
Ellington, Morpeth
Northumberland
NE61 5ES

Samples received: 27 January 2023

Analysis started: 27 January 2023

Analysis completed: 06 February 2023

Report issued: 06 February 2023

Key

U	UKAS accredited test
M	MCERTS & UKAS accredited test
$	Test carried out by an approved subcontractor
I/S	Insufficient sample to carry out test
N/S	Sample not suitable for testing

Approved by:

Will Fardon

Technical Director

Unit 6 Parkhead, Greencroft Industrial Park, Stanley, County Durham, DH9 7YB
Tel 01207 528578 Email customerservices@chemtech-env.co.uk
Vat Reg No. 772 5703 18 Registered in England number 4284013

Chemtech Environmental Limited

GROUNDWATERS

Lab number			118389-1	118389-2	118389-3	118389-4	118389-5
Sample id			Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
Depth (m)			-	-	-	-	-
Date sampled			26/01/2023	26/01/2023	26/01/2023	26/01/2023	26/01/2023
Time sampled			15:00	14:45	14:30	14:15	15:20
Test	**Method**	**Units**					
Antimony (total)	CE218	µg/l Sb	0.3	0.5	0.4	0.4	0.4
Arsenic (total)	CE218	µg/l As	0.62	0.85	0.74	0.75	0.64
Boron (total)	CE218	µg/l B	30	27	26	25	33
Cadmium (total)	CE218	µg/l Cd	<0.07	0.10	<0.07	<0.07	<0.07
Calcium (total)	CE218	mg/l Ca	1142	1283	913	909	1181
Chromium (total)	CE218	µg/l Cr	1.3	1.4	2.1	2.1	1.6
Copper (total)	CE218	µg/l Cu	2.4	3.6	3.3	2.9	2.7
Iron (total)	CE218	µg/l Fe	350	512	1834	2072	145
Lead (total)	CE218	µg/l Pb	3.6	5.8	4.5	4.6	3.3
Magnesium (total)	CE218	mg/l Mg	288	287	219	221	284
Manganese (total)	CE218	µg/l Mn	12.0	10.7	12.9	12.4	3.8
Mercury (total)	CE218	µg/l Hg	<0.008	<0.008	<0.008	<0.008	<0.008
Nickel (total)	CE218	µg/l Ni	1.5	2.0	2.3	2.2	1.7
Potassium (total)	CE218	mg/l K	24.7	26.8	26.9	26.5	25.1
Sodium (total)	CE218	mg/l Na	254	524	227	222	389
Zinc (total)	CE218	µg/l Zn	12	11	13	12	4
Hardness (by calculation)	CE121	mg/l $CaCO_3$	3429	2959	2542	2415	3388
pH	CE213 [U]	units	8.0	8.1	8.1	8.1	8.3
Electrical conductivity	CE214 [U]	µS/cm	686	608	536	519	746
Chloride	CE049 [U]	mg/l Cl	39	36	27	26	45
Nitrate	CE049 [U]	mg/l NO_3	<0.3	<0.3	<0.3	<0.3	<0.3
Sulphate	CE049 [U]	mg/l SO_4	111	98	84	78	109
Alkalinity (settled)	CE035 [U]	mg/l $CaCO_3$	186	162	148	144	216
Suspended solids	CE038 [U]	mg/l	8.5	18	35	29	35.5
Chemical Oxygen Demand (total)	CE037	mg/l O_2	18	19	29	27	41
Dissolved Oxygen	CE040	mg/l O_2	10.7	10.8	10.9	11.1	12.7

Chemtech Environmental Limited

METHOD DETAILS

METHOD	GROUNDWATERS	METHOD SUMMARY	STATUS	LOD	UNITS
CE218	Antimony (total)	Acid digestion, ICP-MS		0.1	µg/l Sb
CE218	Arsenic (total)	Acid digestion, ICP-MS		0.06	µg/l As
CE218	Boron (total)	Acid digestion, ICP-MS		8	µg/l B
CE218	Cadmium (total)	Acid digestion, ICP-MS		0.07	µg/l Cd
CE218	Calcium (total)	Acid digestion, ICP-MS		0.04	mg/l Ca
CE218	Chromium (total)	Acid digestion, ICP-MS		0.2	µg/l Cr
CE218	Copper (total)	Acid digestion, ICP-MS		0.4	µg/l Cu
CE218	Iron (total)	Acid digestion, ICP-MS		3	µg/l Fe
CE218	Lead (total)	Acid digestion, ICP-MS		0.2	µg/l Pb
CE218	Magnesium (total)	Acid digestion, ICP-MS		0.01	mg/l Mg
CE218	Manganese (total)	Acid digestion, ICP-MS		0.4	µg/l Mn
CE218	Mercury (total)	Acid digestion, ICP-MS		0.008	µg/l Hg
CE218	Nickel (total)	Acid digestion, ICP-MS		0.5	µg/l Ni
CE218	Potassium (total)	Acid digestion, ICP-MS		0.03	mg/l K
CE218	Sodium (total)	Acid digestion, ICP-MS		0.6	mg/l Na
CE218	Zinc (total)	Acid digestion, ICP-MS		1	µg/l Zn
CE213	pH	Based on BS 1377, pH Meter	U	-	units
CE214	Electrical conductivity	Conductivity Meter	U	10	µS/cm
CE049	Chloride	Ion Chromatography	U	0.5	mg/l Cl
CE049	Nitrate	Ion Chromatography	U	0.2	mg/l NO_3
CE049	Sulphate	Ion Chromatography	U	1.7	mg/l SO_4
CE035	Alkalinity (settled)	Titrimetry	U	2	mg/l $CaCO_3$
CE038	Suspended solids	Gravimetry	U	2	mg/l
CE037	Chemical Oxygen Demand (total)	Colorimetry		10	mg/l O_2
CE040	Dissolved Oxygen	DO meter		1	mg/l O_2

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DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.

For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.

Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
118389-1	Sample 1	-	Y	Dissolved Oxygen (EHT)
118389-2	Sample 2	-	Y	Dissolved Oxygen (EHT)
118389-3	Sample 3	-	Y	Dissolved Oxygen (EHT)
118389-4	Sample 4	-	Y	Dissolved Oxygen (EHT)
118389-5	Sample 5	-	Y	Dissolved Oxygen (EHT)

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ADDITIONAL INFORMATION

Notes

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

This report shall not be reproduced except in full, without prior written approval.

Samples will be disposed of 4 weeks from initial receipt unless otherwise instructed.

2531

ANALYTICAL TEST REPORT

Contract no: 120556

Contract name: Butterwell D.P.

Client reference: 22010

Clients name: Olive Consulting

Clients address: 19 Main Street
Ponteland
Newcastle upon Tyne
NE20 9NH

Samples received: 17 March 2023

Analysis started: 17 March 2023

Analysis completed: 29 March 2023

Report issued: 29 March 2023

Key

U	UKAS accredited test
M	MCERTS & UKAS accredited test
$	Test carried out by an approved subcontractor
I/S	Insufficient sample to carry out test
N/S	Sample not suitable for testing
NAD	No Asbestos Detected

Approved by:

Abbie Neasham-Bourn
Senior Reporting Administrator

Chemtech Environmental Limited

GROUNDWATERS

Lab number			120556-1	120556-2	120556-3	120556-4	120556-5
Sample id			Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
Depth (m)			-	-	-	-	-
Date sampled			16/03/2023	16/03/2023	16/03/2023	16/03/2023	16/03/2023
Time sampled			12:26	12:36	12:48	12:45	12:40
Test	**Method**	**Units**					
Antimony (dissolved)	CE128 U	µg/l Sb	0.3	0.3	0.4	0.3	0.5
Arsenic (dissolved)	CE128 U	µg/l As	0.51	0.57	0.67	0.51	0.46
Boron (dissolved)	CE128 U	µg/l B	33	24	54	39	54
Cadmium (dissolved)	CE128 U	µg/l Cd	<0.07	<0.07	<0.07	<0.07	<0.07
Calcium (dissolved)	CE128 U	mg/l Ca	84.36	81.84	115.80	81.37	75.45
Chromium (dissolved)	CE128 U	µg/l Cr	<0.2	<0.2	0.2	<0.2	<0.2
Copper (dissolved)	CE128 U	µg/l Cu	2.2	2.5	2.7	1.9	2.3
Iron (dissolved)	CE128 U	µg/l Fe	37.2	26.0	35.0	27.3	9.2
Lead (dissolved)	CE128 U	µg/l Pb	<0.2	<0.2	<0.2	<0.2	<0.2
Magnesium (dissolved)	CE128 U	mg/l Mg	23.63	23.25	31.74	20.34	17.68
Manganese (dissolved)	CE128 U	µg/l Mn	10.3	5.9	14.3	8.3	20.3
Mercury (dissolved)	CE128 U	µg/l Hg	<0.008	<0.008	<0.008	<0.008	<0.008
Nickel (dissolved)	CE128 U	µg/l Ni	1.3	1.6	1.7	1.3	1.5
Potassium (dissolved)	CE128 U	mg/l K	4.21	4.31	5.69	3.81	3.07
Sodium (dissolved)	CE128 U	mg/l Na	15.9	19.0	22.6	17.2	20.7
Zinc (dissolved)	CE128 U	µg/l Zn	1	<1	<1	<1	2
pH	CE213 U	units	8.2	8.2	8.3	8.3	8.4
Electrical conductivity	CE214 U	µS/cm	612	589	626	595	567
Chloride	CE049 U	mg/l Cl	43	43	45	47	31
Nitrate	CE049 U	mg/l NO_3	13	5.2	14	21	0.6
Sulphate	CE049 U	mg/l SO_4	114	109	107	81	66
Alkalinity (settled)	CE035 U	mg/l $CaCO_3$	138	128	134	140	190
Suspended solids	CE038 U	mg/l	11	35	15	25	12
Chemical Oxygen Demand (total)	CE037	mg/l O_2	19	22	19	12	18
Dissolved Organic Carbon	CE247	mg/l C	39	35	38	37	50

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METHOD DETAILS

METHOD	GROUNDWATERS	METHOD SUMMARY	STATUS	LOD	UNITS
CE128	Antimony (dissolved)	ICP-MS	U	0.1	µg/l Sb
CE128	Arsenic (dissolved)	ICP-MS	U	0.06	µg/l As
CE128	Boron (dissolved)	ICP-MS	U	8	µg/l B
CE128	Cadmium (dissolved)	ICP-MS	U	0.07	µg/l Cd
CE128	Calcium (dissolved)	ICP-MS	U	0.04	mg/l Ca
CE128	Chromium (dissolved)	ICP-MS	U	0.2	µg/l Cr
CE128	Copper (dissolved)	ICP-MS	U	0.4	µg/l Cu
CE128	Iron (dissolved)	ICP-MS	U	3	µg/l Fe
CE128	Lead (dissolved)	ICP-MS	U	0.2	µg/l Pb
CE128	Magnesium (dissolved)	ICP-MS	U	0.01	mg/l Mg
CE128	Manganese (dissolved)	ICP-MS	U	0.4	µg/l Mn
CE128	Mercury (dissolved)	ICP-MS	U	0.008	µg/l Hg
CE128	Nickel (dissolved)	ICP-MS	U	0.5	µg/l Ni
CE128	Potassium (dissolved)	ICP-MS	U	0.03	mg/l K
CE128	Sodium (dissolved)	ICP-MS	U	0.6	mg/l Na
CE128	Zinc (dissolved)	ICP-MS	U	1	µg/l Zn
CE213	pH	Based on BS 1377, pH Meter	U	-	units
CE214	Electrical conductivity	Conductivity Meter	U	10	µS/cm
CE049	Chloride	Ion Chromatography	U	0.5	mg/l Cl
CE049	Nitrate	Ion Chromatography	U	0.2	mg/l NO_3
CE049	Sulphate	Ion Chromatography	U	1.7	mg/l SO_4
CE035	Alkalinity (settled)	Titrimetry	U	2	mg/l $CaCO_3$
CE038	Suspended solids	Gravimetry	U	2	mg/l
CE037	Chemical Oxygen Demand (total)	Colorimetry		10	mg/l O_2
CE247	Dissolved Organic Carbon	Filtration, Combustion TOC analyser		5	mg/l C

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DEVIATING SAMPLE INFORMATION

Comments
Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.
For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.
Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
120556-1	Sample 1	-	N	
120556-2	Sample 2	-	N	
120556-3	Sample 3	-	N	
120556-4	Sample 4	-	N	
120556-5	Sample 5	-	N	

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ADDITIONAL INFORMATION

Notes

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

This report shall not be reproduced except in full, without prior written approval.

Samples will be disposed of 4 weeks from initial receipt unless otherwise instructed.