

DRAFT - Coal Mining Risk Assessment: Formagrind

Site: Formagrind, Neath

Prepared For: Formagrind Ltd.

Issue Date: November 2023

Job No: 18077

REPORT TITLE : **DRAFT - Coal Mining Risk Assessment Report:
Formagrind, Milland Road Industrial Estate,
Neath SA11 1NJ**

REPORT STATUS : **Draft**

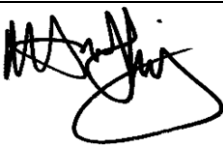
JOB NUMBER : **18077**

DATE : **November 2023**

REPORT REFERENCE : **14112023-18077-ISSUE**

Document Revision Record

Issue Number	Date	Revision Details
01	14/11/23	DRAFT

	Name	Signature
Prepared	Sam Oemering MESCi MSc FGS	
Checked	Michael Watkins MESCi FGS	
Approved	Gwyn Lake BSc (Hons). PhD, CGeol, FGS	



Executive Summary

Site Location and Proposed Development	<i>Formagrind Ltd. is proposing an extension to the current buildings on site at Formagrind, Milland Road Industrial Estate, Neath SA11 1NJ. The site locates to the west of Milland Road and east of the River Neath. The site centres on an approximate National Grid Reference of 274560, 196790 occupying a plan area of approximately 0.52 Hectares.</i>
Site History	<i>The site for much of its history was first occupied by a tramway and then buildings part of the Melin Crythan Chemical Works. Following the Works' demolition in 1982 the current site buildings were constructed in 1990 and extended in 1999. The surrounding area follows a similar history, first mostly being comprised of clay pits and a few small works before these were expanded and subsequently demolished in the 1980s. The current site configuration of a modern industrial estate was established in the late 1980s and early 1990s.</i>
Geology	<i>The geology of the site can be summarised as up to a 1m of made ground above tidal flat deposits extending to 8m depth. These sit above rocks of the Pennant Sandstone Formation. The site is bisected by a fault and there are outcrops of the Swansea Five Feet and Westernmoor Coal Seam near to the site.</i>
Preliminary Coal Mining Risks	<i>The report by the Coal Authority and geological information show that the risk to the site from Coal Mining is considered negligible. This is due to the significant thicknesses of superfcials above the site and a shallow water table, making it unlikely that the seams beneath the site were worked. The risk to the site from coal mine gas is also considered negligible for much the same reasons.</i>

TABLE OF CONTENTS

SECTION 1 Introduction and Proposed Development	4
1.1 Introduction	4
1.2 Limitations and Exceptions of Investigation	4
1.3 Quality Assurance	4
SECTION 2 Review of Existing Data	5
2.1 Physical Setting and Current Site Use	5
2.2 Site History	6
2.3 Geological Setting	7
2.3.1 Geology	7
2.3.2 BGS Borehole Information	8
2.3.3 Mining	8
SECTION 3 Preliminary Coal Mining Risk Assessment	9
3.1 Underground Mining	9
3.2 Shafts & Adits	10
3.3 Geoenvironmental Risk	10
3.3.1 Mine Gas Risk Assessment	10
3.4 Conclusion	10
SECTION 4 Preliminary Engineering Recommendations	11
4.1 Preparation of Site	11
4.2 Tentative Foundation and Floor Slab Solution	11
4.3 Excavations and Formations	11
4.4 Protection of Buried Concrete	12
4.5 Access Roads and Car Parking Areas	12
4.6 Storm Water Drainage	12
Tables	
Table 2.1 Historical Development from Map Information	6
Table 2.2 Detailed Stratigraphical Information	7
Table 2.3 Borehole SS79NW133, on site northeast	8
Table 2.4 Borehole SS79NW134, 6m northeast	8
Table 2.4 BGS Recorded Mineral Sites	8
Table 3.1 Decision Support Tool Summary – Site Specific	10
Figures	
Figure 2.1 Site Location	5
Figure 3.1 Geology and Strata Base below Ground Level in the southeast of the site	9
Figure 3.2 Geology and Strata Base below Ground Level in the northwest of the site	9
Annexes	
ANNEX A Envirocheck Report	
ANNEX B Coal Authority Report	
ANNEX C Risk Assessment Definitions	

SECTION 1 Introduction and Proposed Development

1.1 Introduction

Formagrind Ltd, (the Client) is proposing an extension to the current buildings on site at Formagrind, Milland Road Industrial Estate, Neath SA11 1NJ.

TFW Group Limited have been commissioned by the Client to undertake a coal mining risk assessment for the site.

The main objective of the assessment programme are to:

- Prepare a preliminary coal mining risk assessment for the site.

In order to achieve the above objectives, TFW Group Limited carried out a review of existing data.

1.2 Limitations and Exceptions of Investigation

The Client has requested that a Coal Mining Risk Assessment (CMRA) be undertaken to enable the outlined main objectives.

The CMRA was conducted, and this report has been prepared for the sole internal reliance of the Client and their design and construction team. This report shall not be relied upon or transferred to any other parties without the express written authorisation of TFW Group Limited. If an unauthorised third party comes into possession of this report, they rely on it at their peril and the authors owe them no duty of care and skill. The report represents the findings and opinions of experienced geoenvironmental and geotechnical consultants. TFW Group Limited does not provide legal advice and the advice of lawyers may be required.

It was beyond the scope of this report to assess the site history, potential sources of contamination, risks posed to the site from sources other than coal mining, current and previous on site and nearby industrial site use, site sensitivity, and ground conditions in the interest of providing preliminary foundation recommendations.

1.3 Quality Assurance

The quality and environmental aspects of the assessment and investigation comply with UKAS Accredited ISO 9001:2015 and ISO 14001:2015 standards.

SECTION 2 Review of Existing Data

2.1 Physical Setting and Current Site Use

The development site is irregular in shape and locates to the west of Milland Road and east of the River Neath. The site centres on an approximate National Grid Reference of 274560, 196790 occupying a plan area of approximately 0.52 Hectares.

A fifth of the site's area is taken up by the current Formagrind steel frame building in the centre of the site. To the south of the building is tarmac hardstanding that is used as a carpark. The western boundary of the site has some more hardstanding along its length to the very north of the site which comprises hardstanding and a small building. Immediately to the north and east of the main building is grassy field.

Site boundaries are defined by a brook to the east and north, the Neath Canal to the west and an access road to the south.

Offsite features include industrial units to the north, east, and south. To the west is disused land and the River Neath.

The site elevation is approximately 6m AOD and mostly flat.

The site location can be seen on **Figure 2.1**.

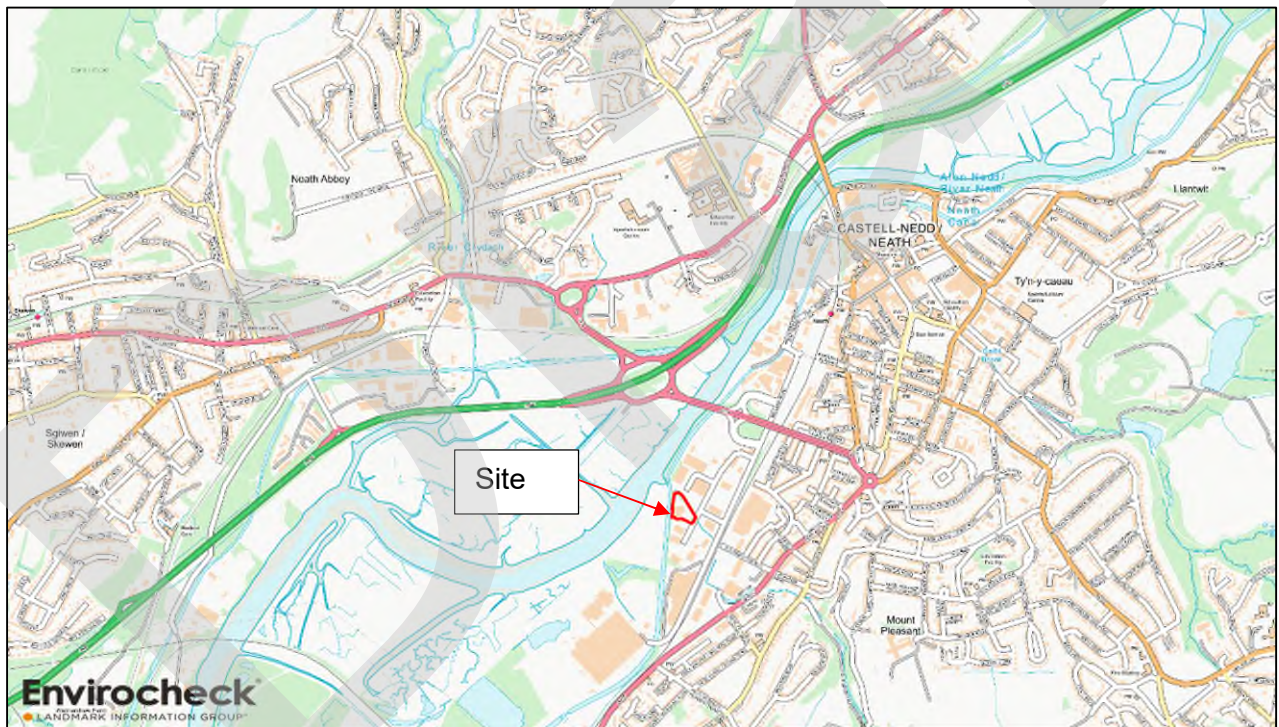


Figure 2.1 Site Location

2.2 Site History

Historical maps of the site have been obtained in an Envirocheck Report, provided by Landmark Information Group. The history plans are supplied in **Annex A** of this report, and the most relevant editions are summarised in **Table 2.1**. Distances are approximate, and any changes in-between map editions may not be recorded.

Table 2.1 Historical Development from Map Information

Map Edition & Scale	Key Features on Site	Key Features off Site
1878 1:500 1881 1:2,500	Earliest mapping shows the site to be bisected by a tramway northwest to southeast. In the south of the site there is an office which is attached to other buildings that extend off site. These buildings contained carts and horses, presumably for the tramway. The southwest of the site is taken up by a garden which extends off site southwards. In the east of the site, there are a couple of small buildings linked to the tramway by a path. At this time, the western boundary of the sites is defined by the Neath Canal. The northern and eastern boundaries are defined by the Cryddan Brook.	Offsite features include several clay pits, one immediately to the east, and another three 17m east, 127m east, and 130m to the northeast. There is a storage building 30m to the west of the site. Melin Crythan Chemical Works is located 47m to the south. New Mill-lands Brick Field is located 115m to the northeast. A building with a tank associated with it is located 93m to the west of the site. There is a gasometer 190m to the northwest. There is a railway servicing the Melin Crythan Works 111m to the west running north northeast to south southwest and a branch servicing the works 47m to the south of the site. 266m to the west of the site is residential housing.
1899 1:2,500	The site remains unchanged.	The clay pit to the north has been extended to be within 15m of the site. The eagle Tin Plate Works has been constructed 170m to the south of the site. Further residential housing has been built 200m to the east
1919 1:2,500	The tramway on site has been removed. The Melin Crythan Chemical Works have been extended and now encroach on the south of the site.	The stables to the south of the site have been demolished to accommodate the extension to the Melin Crythan Chemical Works. There is now a railway branch 43m to the south and 37m to the northwest of the site. The Neath Corporation Gas Works has been constructed 135m to the north of the site. Further residential housing has been built 190m to the west. The clay pits to the east and north of the site have been removed.
1935 1:2,500	The chemical works buildings on site have been extended and now extend over halfway up the site.	The New Mill-lands Brick Field has been removed.
1951 1:1,250	A new building has been constructed between two of the older buildings.	The Tower Aluminium Works has been built immediately to the north and northwest of the site with an associated tank 18m from the site boundary. A cardboard box factory has been built 136m to the east. A transformer station has been built 165m to the northeast. There is a refuse heap marked 186m to the southwest, however the boundaries of it are unclear
1961 1:1,250	There have been further extensions to the Melin Cryddan works on site.	A playing field has been built 55m to the southwest.
1974 1:1,250	An extension has been built to the west of the buildings.	The surrounding area remains mostly unchanged.
1982 1:1,250	The Melin Cryddan works have been demolished and the site appears empty.	The aluminium works to the north of the site have been demolished and replaced by the industrial units present today. There is an electrical substation 90m to the northwest. The railway to the west of the site is labelled as dismantled. The railway to the east has been reduced from 6 lines to 4.

1990 1:1,250	The building that currently occupies the site has been constructed.	The surrounding area appears much as it does today. the railway to the east has been reduced further to 3 lines.
1993 1:1,250	The site remains unchanged.	The railway has been reduced to its current capacity of 2 lines.
1999 1:10,000	An extension to the building has been constructed to the south.	The surrounding area remains mostly unchanged.
2006 1:10,000	The site remains unchanged.	The surrounding area remains mostly unchanged.
2016 1:10,000	The site remains unchanged.	The surrounding area remains mostly unchanged.
2023 1:10,000	The site remains unchanged.	The gas holder station 170m to the north has been removed and replaced by Crynant Plant Hire. The playing field 50m to the southwest has been removed. A bus depot has been opened 153m to the northeast of the site.

2.3 Geological Setting

2.3.1 Geology

The 1:50,000 and 1:10,560 scale British Geological Maps of the area (Sheets 247 and SS79NW) was consulted for geology underlying the site. The site is shown to be underlain by sandstone rock. Detailed stratigraphical information is provided in **Table 2.2**.

Table 2.2 Detailed Stratigraphical Information

Period	Group	Formation
Holocene	.	<u>Tidal Flat Deposits</u> – Clay, silt, and sand
Carboniferous	Warwickshire	<u>Pennant Sandstone Formation</u> – Swansea Member sandstones with thin mudstones/siltstones and thin coals. Locally containing the Swansea Five Feet, Little, and Tir Edmond within 91m of the ground level.
Carboniferous	Warwickshire	<u>Pennant Sandstone Formation</u> – Brithdir member, sandstones with conglomerates and thin mudstones/siltstones and thin coals. Locally containing the Westernmoor seam.

Strata are typically dipping approximately 15°-18° to the northeast in the local area. The local strata are offset by the Neath Disturbance Fault and Cwm Felin Fault which are downthrown on the north and southern side respectively. To the north of the Neath Disturbance Fault, the Swansea Five Foot seam encroaches onto the site. To the south of the fault, the Westernmoor Seam is present 150m to the southwest of the site.

Geological memoirs make no note of mining activity in the area. The records mostly indicate the quarrying of the Pennant Sandstone for use in various building applications.

Made ground to an unknown depth is anticipated at the site.

2.3.2 BGS Borehole Information

There are two borehole record within 10m of the site.

Table 2.3 Borehole SS79NW133, on site northeast

Depth			Thickness	Geology Description
0.00	-	2.30	1.00	TOPSOIL (100mm) over MADE GROUND comprising very loose black sand, gravel, ash, coal, and rubble with a little silt.
2.30	-	10.40	8.10	Very soft to soft grey brown organic slightly fine sandy very clayey SILT with a little wood debris. Contains mottled iron staining near the top.
10.40	-	10.50	0.10	Very dense SAND and GRAVEL of sandstone. Water struck at 10.40m, after 20 minutes risen to 3.30m

Table 2.4 Borehole SS79NW134, 6m northeast

Depth			Thickness	Geology Description
0.00	-	6.90	6.90	Very soft to soft grey brown organic, slightly fine sandy very clayey SILT with a little wood debris.
6.90	-	7.95	1.05	Dense, sub rounded to sub angular SAND and GRAVEL. Water struck at 6.90m, after 20 minutes risen to 0m.

2.3.3 Mining

Relevant BGS mineral sites as recorded in the Envirocheck Report datasheets (**Annex A**) are summaries in **Table 2.5**.

Table 2.5 BGS Recorded Mineral Sites

Site Name	Distance/ Direction from site	Type	Commodity
Eagle Tin Plate Works Clay Pit	286m southwest	Opencast	Common Clay and Shale
Eagle Tin Plate Works Clay Pit	456m south	Opencast	Common Clay and Shale

The map provided by the Coal Authority shows no mining in the vicinity of the site and places the Swansea Five Foot Seam mentioned discussed in **Section 2.3.1** 17m to the west, outside of the site boundary. The Coal Authority Consultants Coal Mining Report is appended in (**Annex B**). The report is discussed in detail in **SECTION 3**.

SECTION 3 Preliminary Coal Mining Risk Assessment

3.1 Underground Mining

Based upon geological map data, the stratigraphical sequence within 60m of the ground surface of the site is illustrated in

Figure 3.1 for the southeast of the site and **Figure 3.2** for the northwest of the site.

Figure 3.1 Geology and Strata Base below Ground Level in the southeast of the site

Holocene	Made ground	1.00m
	Tidal Flat Deposits	8.00m
South Wales Upper Coal Measures	Coal Bearing Mudstone/Siltstone with Seatearth and minor Sandstone	40.00m
	Westernmoor Coal Seam	40.30m
	Coal Bearing Mudstone/Siltstone with Seatearth and minor Sandstone	>60.00m

Figure 3.2 Geology and Strata Base below Ground Level in the northwest of the site

Holocene	Made ground	1.00m
	Tidal Flat Deposits	8.00m
South Wales Upper Coal Measures	Coal Bearing Mudstone/Siltstone with Seatearth and minor Sandstone	12.00m
	Swansea Five Foot Coal Seam	13.50m
	Coal Bearing Mudstone/Siltstone with Seatearth and minor Sandstone	>60.00m

The Coal Authority Report states that there are no records of underground mining beneath the site. Nor is there probable unrecorded shallow workings or spine roadways at shallow depths beneath the site. The report also states there are no mine entries within 100m of the site.

The report notes that there is one coal seam outcropping within the vicinity of the site 16.8m to the west. The Coal Authority Report map however shows that it is intersected by the Neath Disturbance fault so will only potentially underlie the site at shallow depth in the northwest of the site.

Geological map evidence indicates the Swansea Five Foot coal seam intersecting the site but otherwise is consistent with the Coal Authority data.

3.2 Shafts & Adits

The Coal Authority Report states there are no known mine entries within 20m of the site.

3.3 Geoenvironmental Risk

3.3.1 Mine Gas Risk Assessment

This preliminary assessment has been completed in accordance with guidance published in CL:AIRE, 2021, Good practice for risk assessment for coal mine gas emissions. In the first instance, the risk assessment process requires the screening out of 'potentially at-risk sites' utilising the decision support tool for mine gas risk assessment, provided in Figure 13.1 - CLAIRE 2021. A summary of the decision tool and site outcome is presented in **Table 3.1**.

Table 3.1 Decision Support Tool Summary – Site Specific

Step	Qualifier Question	Outcome	Comment
1	Is the site within a Coal Authority defined Coal Mining Reporting Area?	Yes	Go to step 2
2	Are all these statements true? Mine entries >50m from site boundary. Workings >150m depth. No faults or other potential pathways connecting surface to deeper unflooded workings. Outside are of past or probable shallow workings on Coal Authority Viewer.	Yes	Negligible Risk Zone

3.4 Conclusion

The overall risk to the surface stability of the site from possible unrecorded workings is considered to be negligible. The Swansea Five Foot Seam is extensively worked, however it is unlikely to have been worked beneath the site due to the very thick and wet superficial deposits overlying the bedrock making access to the seam impractical. Furthermore the risk from mine gas is considered to be negligible due to the absence of any evidence for workings beneath the site and the very high water table.

SECTION 4 Preliminary Engineering Recommendations

Recommendations given in this section are based upon the available information and need to be confirmed by a relevant intrusive investigation.

4.1 Preparation of Site

Prior to site works commencing an appropriate asbestos survey should be carried out in the existing building. Any asbestos containing materials identified should be removed and disposed of at appropriate landfill facility by a specialist contractor.

Areas of vegetation including all roots should be stripped and removed from beneath the proposed development site.

Allowances should be made for any temporary/permanent support works to any existing adjacent structure necessary as a result of the proposed works.

Contingencies should be made for the protection/diversion of any underground/overhead services present beneath/above the site brought about as a result of the proposed works.

Any reduced levels should be brought up to the required levels with suitable inert mainly granular materials. Department of Transport (DTp) type 2 sub-base or similar should be used and compacted in layers to the requirements of the Specification for Highway Works.

Allowances should also be made for the excavation of any soft spots/areas and their replacement with well compacted imported granular materials.

In accordance with EC Regulation 1272/2008 and Environment Agency Guidance WM3 soils and other materials destined for off-site disposal should be classified on the basis of their hazard phrases prior to disposal. Soils are classified as a mirror entry waste and should be classified on the basis of their specific chemical properties. Terra Firma (Wales) Ltd offer this service if required.

4.2 Tentative Foundation and Floor Slab Solution

It is preliminarily recommended that a driven piled foundation solution founded within the dense sands and gravels at a depth of approximately 7.5m to 11m below existing ground level is used.

Floor slabs may be designed as suspended. If workings are found beneath the site then, they will require reinforcement. Reinforcement should be designed to span a crown hole of 3.0m with a cantilever effect on corners of 1.5m.

4.3 Excavations and Formations

Shallow excavations will likely be possible with normal soil excavating machinery.

Excavations may encounter shallow groundwater flows. Any inflows together with rainwater infiltration should be dealt with by conventional pumping techniques.

The sides of any excavations deeper than 1.2m should be supported by planking and strutting or other proprietary means.

The sub-formations/formations will be highly susceptible to loosening, softening and deterioration by exposure to weather (rain, frost and drying conditions), the action of water (flood water or removal of groundwater) and site traffic. Formations should never be left

unprotected and continuously exposed to rain causing degradation, or left exposed/uncovered overnight, unless permitted by a qualified engineer.

Construction plant and other vehicular traffic should not be operated on unprotected formations.

4.4 Protection of Buried Concrete

Within BRE Special Digest 1 the chemical agents that aggressively attack concrete are sulphate, sulphides, magnesium ions, ammonium ions, carbon dioxide, chloride ions and phenols.

Aggressive ground conditions may be encountered at the site.

It is recommended that soils are tested to facilitate a classification.

4.5 Access Roads and Car Parking Areas

For car parking and road area formations the CBR value for shallow soils should be determined by in-situ CBR testing.

Allowances should be made for the removal of any 'soft spots/areas' and their replacement with well-compacted granular materials as previously described.

Please note that the Local Council / Highways Authority may require in-situ CBR testing to be undertaken before a road is adopted. In-situ CBR Testing should be performed following earthworks to verify the performance of the engineered fill.

4.6 Storm Water Drainage

Soakaway drainage is unlikely to be viable due to the clay rich shallow superficial deposits.

The suitability of stormwater drainage should however be confirmed by in-situ soakaway testing.

Proposed soakaways should be positioned at least 5.0m away from any structure.

SECTION 5 Recommended Site Investigation

5.1 General

An intrusive site investigation designed and justified in accordance with guidance provided in BS10175:2011+A2:2017 should be undertaken to achieve the following objectives:

- Identify the potential environmental liabilities at the site associated with any soil, gas, and vapours from past site uses, to substantiate and enhance the conceptual site model, for a residential with home grown produce scenario.
- Provide a summary of the environmental conditions at the site, together with any necessary remediation works to render the site fit for its intended use.
- Provide recommendations regarding any relevant geotechnical aspects pertaining to the development.

5.2 Intrusive Investigation

It is recommended that an intrusive investigation is undertaken to inspect the ground conditions, to take soil samples for laboratory chemical and geotechnical testing; and to install shallow ground gas and vapour monitoring wells. It is perceived a combination of trial pitting, and windowless sampled boreholes will be suitably to investigate the site.

If required CBR and soakaway testing should also be carried out during the intrusive investigation to avoid additional mobilisation costs later.

5.3 Soil Sampling Strategy

Soil sampling locations should be selected on a targeted basis to investigate suspected sources of contamination or potential contamination migration pathways.

5.4 Recommended Soil Chemical Analysis

It is recommended that soil samples be taken of the made ground and underlying natural materials and tested at an accredited laboratory for the determinants listed in **Table 5.1**.

Table 5.1 Soil Laboratory Analysis

Metals & Metalloids	In-Organics	Organics	Others
Arsenic	Cyanide	Phenols	pH (acidity)
Cadmium	Sulphate	PAH	Asbestos
Chromium III		Petroleum Hydrocarbons	
Chromium VI			
Copper			
Lead			
Mercury			
Nickel			
Selenium			
Zinc			

Soil samples exhibiting elevated levels of metal and metalloid determinants should be further schedule for leachate testing of the offending substance.

ANNEX A
Envirocheck Report

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		Minor Roads		
	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				
	County Borough Boundary (England)				
	County Burgh Boundary (Scotland)				
	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
	Bracken		Heath
	Marsh		Reeds
	Building		Glasshouse
	Sloping Masonry		Pylon
	Cutting		Embankment
	Road Under		Road Over
	Level Crossing		Foot Bridge
	Standard Gauge Multiple Track		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
	Civil Parish		
	Boundary Post or Stone		Police Station
	Church		Post Office
	Club House		Public Convenience
	Fire Engine Station		Public House
	Foot Bridge		Signal Box
	Fountain		Spring
	Guide Post		Telephone Call Box
	Mile Post		Telephone Call Post
	Mile Stone		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
	Mean high water (springs)		Mean low water (springs)
	Telephone line (where shown)		Electricity transmission line (with poles)
	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

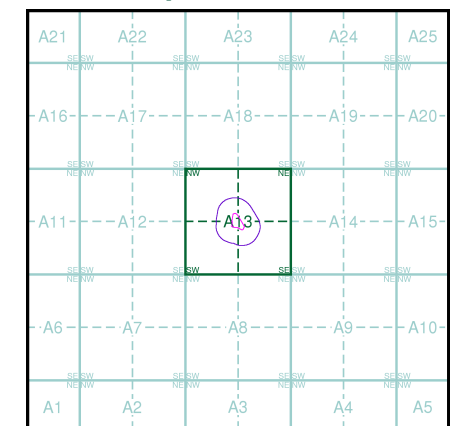


Geotechnical & Geoenvironmental Specialists

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:10,560	1884	3
Glamorganshire	1:10,560	1900	4
Glamorganshire	1:10,560	1921	5
Glamorganshire	1:10,560	1921	6
Glamorganshire	1:10,560	1936	7
Glamorganshire	1:10,560	1938 - 1951	8
Historical Aerial Photography	1:10,560	1945 - 1949	9
Glamorganshire	1:10,560	1951 - 1952	10
Ordnance Survey Plan	1:10,000	1964 - 1965	11
Ordnance Survey Plan	1:10,000	1970 - 1973	12
Swansea	1:10,000	1976	13
Ordnance Survey Plan	1:10,000	1980 - 1983	14
Ordnance Survey Plan	1:10,000	1992	15
10K Raster Mapping	1:10,000	1999	16
10K Raster Mapping	1:10,000	2006	17
VectorMap Local	1:10,000	2023	18

Historical Map - Slice A



Order Details

Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 1000

Site Details

Site at 274560, 196790

Landmark
INFORMATION GROUP

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

Russian Military Mapping Legends

1:5,000 and 1:10,000 mapping

a. Not drawn to scale b. Drawn to scale

Government and Administrative Buildings Military and Industrial Buildings

Military and Communication Areas Subway Entrance

Fireproof Building Prominent Fireproof Building

Non-fireproof Building Non-fireproof Building (non-dwelling)

Factory, mill, and flour mill, with chimneys Factory, mill, and flour mill, without chimneys

Power Station, drawn to scale Hydroelectric Power Station

Radio Station, drawn to scale Telephone Station, drawn to scale

Abandoned Open-pit Mine or Quarry Open-pit Salt Mine

Pit Oil Deposit or Well Oil Seepage

Tailings Pile Fuel Storage Tanks Natural Gas Tank

Bench Mark Drill Hole Burial Mound Triangulation Point on Burial Mound

Single-track Railroad Small Bridge Double-track Railroad and Station Building

Coniferous Forest Deciduous Forest Mixed Forest

Lawns Citrus Orchard Wet Ground Scattered Vegetation

243.8 Values for prominent elevations

186.0 Numbers for spot elevations, depth soundings, contour lines, etc.

0.2 Velocity of the current, width of river bed, depth of river

180 180 Fractional terms: length and capacity of bridges; depth of fords and condition of the river bottom; height of forest and the diameter of trees

Russian Alphabet (For reference and phonetic interpretation of map text)

А а (A)	З з (Z)	П п (P)	Ч ч (CH)
Б б (B)	И и (I)	Р р (R)	Ш ш (SH)
В в (V)	Й й (Y)	С с (S)	Щ щ (SHCH)
Г г (G)	К к (K)	Т т (T)	Ъ (-)
Д д (D)	Л л (L)	У у (U)	Ы (Y)
Е е (E)	М м (M)	Ф ф (F)	Ь (')
Ё ё (YO)	Н н (N)	Х х (KH)	Э э (E)
Ж ж (ZH)	О о (O)	Ц ц (TS)	Ю ю (YU or IU)
			Я я (YA or IA)

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale

Government and Administrative Buildings Military and Industrial Buildings

Military and Communication Areas Subway Entrance

Partly Demolished Buildings Demolished Buildings

Built-Up Area with Fireproof Buildings Predominant Built-Up Area with Non-Fireproof Buildings Predominant

Individual Fireproof Building Prominent Industrial Building

Individual Dwelling, Fireproof Ruins of an Individual Dwelling

Factory or Mill Chimney Factory or Mill with Chimney Factory or Mill without Chimney Mine or Open Pit Mine

Operating Shaft or Mine Non-Operating Shaft or Mine Salt Mine Tailings Pile

Pit Stone Quarry Gas Pump or Service Station Fuel Storage or Natural Gas Tank

Oil or Natural Gas Derrick Small Hydroelectric Power Station Power Station Transformer Station

Cemetery Burial Mound (height in metres) Triangulation Point on Burial Mound Triangulation Point

Bench Mark Bench Mark (monumented) Telegraph Office Telephone Station

Radio Station Radio Tower Airfield or Seaplane Base Landing Strip

Cut Fill Km Post Plantings Width of Road Steep Grade

Telegraph/Telephone Lines Main Highway Highway under Construction Improved Dirt Road (former truck road)

Small Bridge Pipe (Culvert) Tunnel Dismantled Railroad

Double-track Railroad with First Class Station Railroad Under Construction

Shore Embankment River or Ditch with Embankment Direction and velocity of current Water Gauge Water Level Mark

Well Water Reservoir or Rain Water Pit Spring Isobath with value

Heavy (Index) Contour Line Contour Line and Value Half Contour Line Spot Elevation Value

Coniferous Deciduous Mixed Scrub

Key to Numbers on Mapping

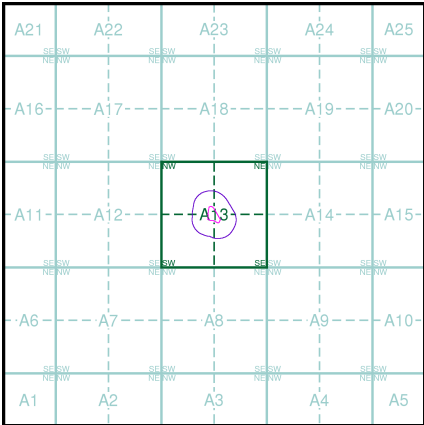


Geotechnical & Geoenvironmental Specialists

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:10,560	1884	3
Glamorganshire	1:10,560	1900	4
Glamorganshire	1:10,560	1921	5
Glamorganshire	1:10,560	1921	6
Glamorganshire	1:10,560	1936	7
Glamorganshire	1:10,560	1938 - 1951	8
Historical Aerial Photography	1:10,560	1945 - 1949	9
Glamorganshire	1:10,560	1951 - 1952	10
Ordnance Survey Plan	1:10,000	1964 - 1965	11
Ordnance Survey Plan	1:10,000	1970 - 1973	12
Swansea	1:10,000	1976	13
Ordnance Survey Plan	1:10,000	1980 - 1983	14
Ordnance Survey Plan	1:10,000	1992	15
10K Raster Mapping	1:10,000	1999	16
10K Raster Mapping	1:10,000	2006	17
VectorMap Local	1:10,000	2023	18

Russian Map - Slice A



Order Details

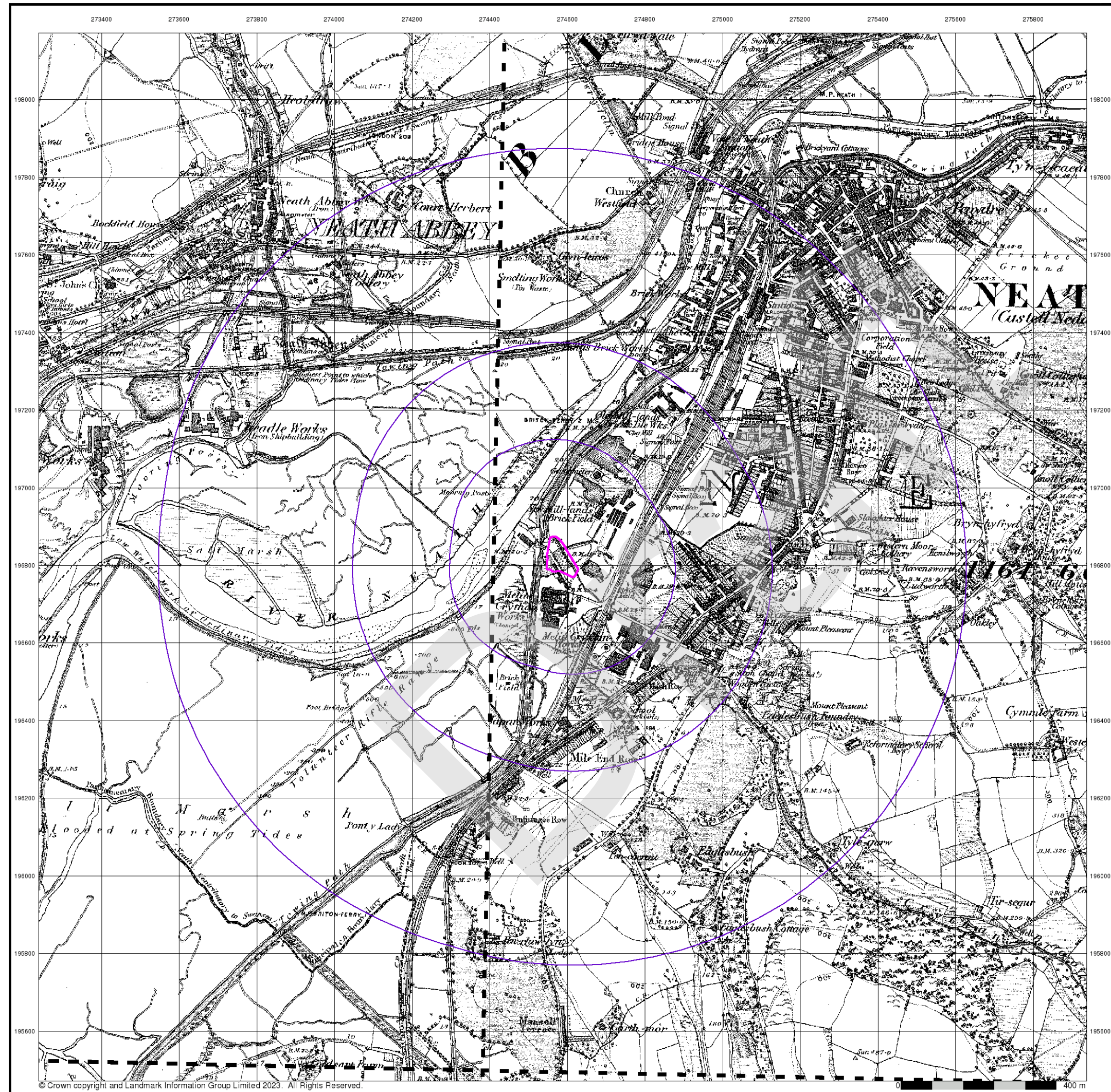
Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 1000

Site Details

Site at 274560, 196790



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



Geotechnical & Geoenvironmental Specialists

Glamorganshire

Published 1884

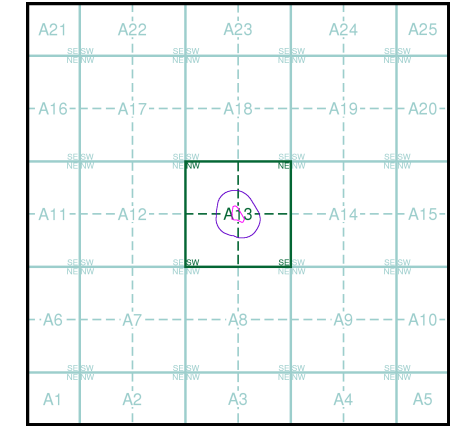
Source map scale - 1:10,560

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)

01500 1884 1:10,560	01600 1884 1:10,560
02400 1884 1:10,560	02500 1884 1:10,560

Historical Map - Slice A



Order Details

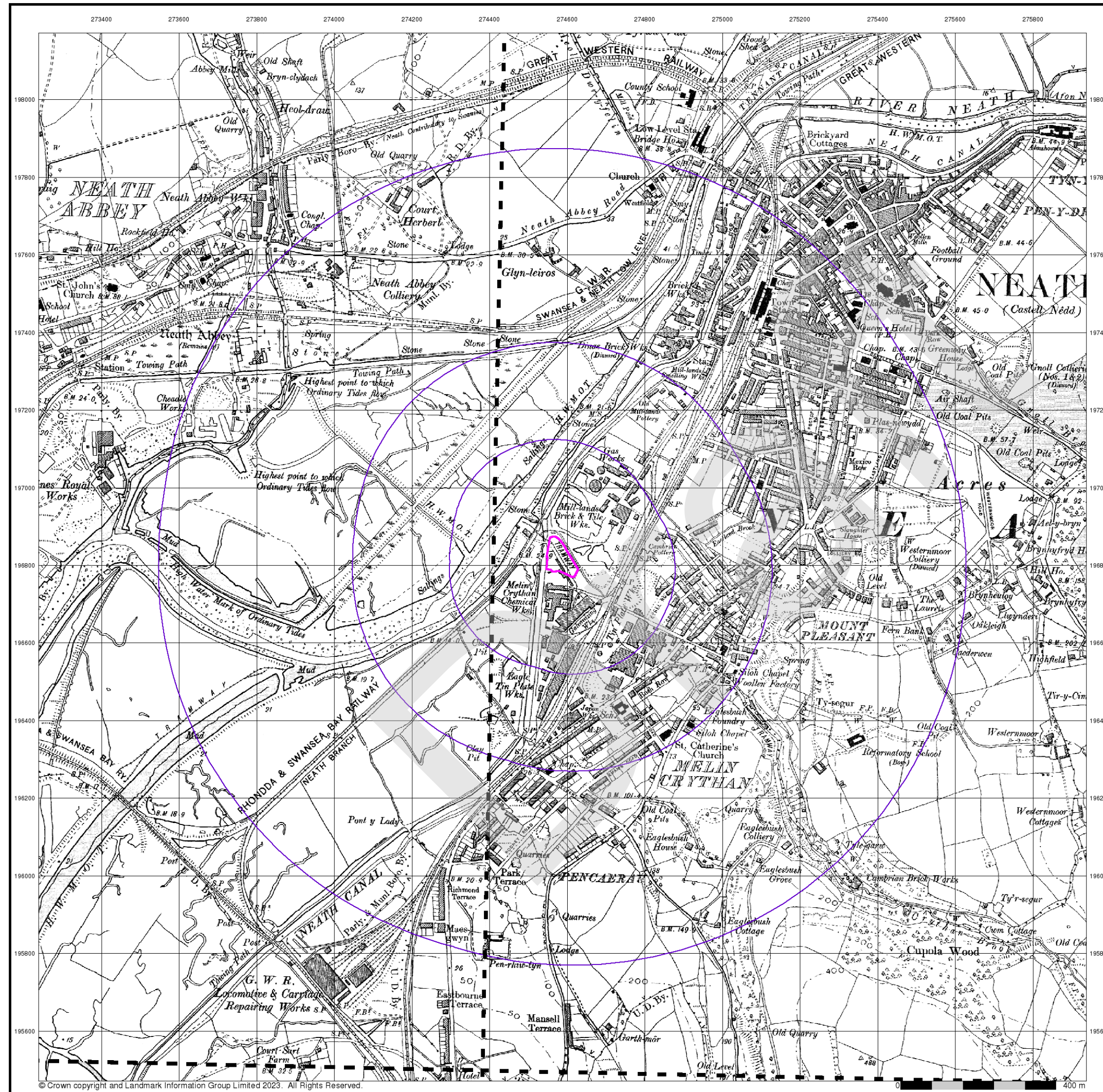
Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 1000

Site Details

Site at 274560, 196790



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



© Crown copyright and Landmark Information Group Limited 2023. All Rights Reserved.



Geotechnical & Geoenvironmental Specialists

Glamorganshire

Published 1900

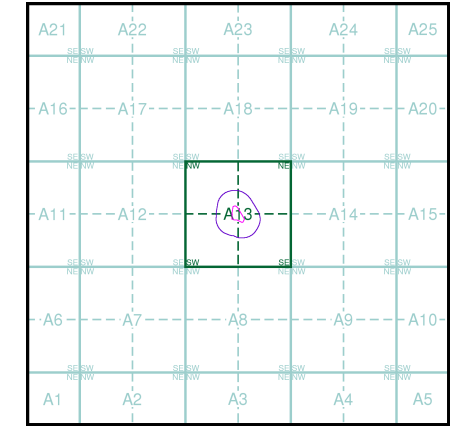
Source map scale - 1:10,560

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)

015SE 1900 1:10,560	016SW 1900 1:10,560
024NE 1900 1:10,560	025NW 1900 1:10,560

Historical Map - Slice A



Order Details

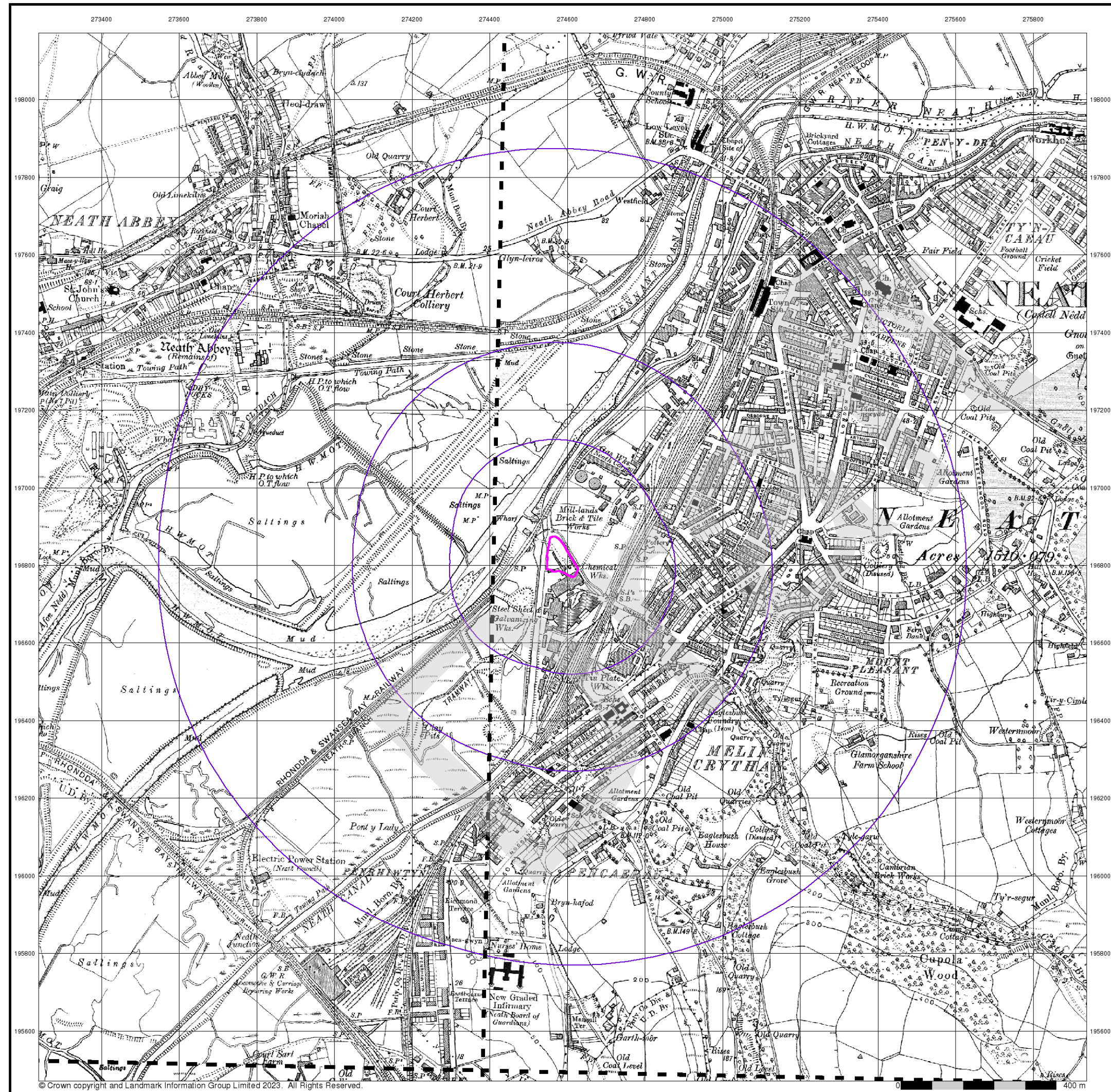
Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 1000

Site Details

Site at 274560, 196790



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



Geotechnical & Geoenvironmental Specialists

Glamorganshire

Published 1921

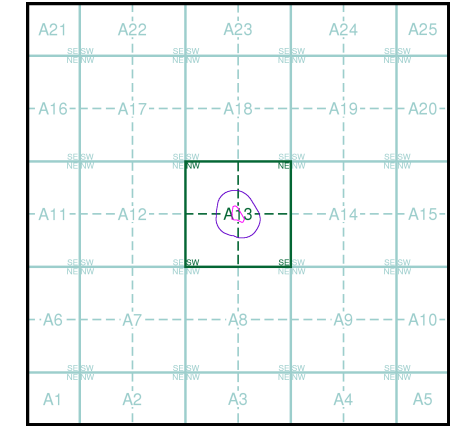
Source map scale - 1:10,560

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)

015SE 1921 1:10,560	016SW 1921 1:10,560
024NE 1921 1:10,560	025NW 1921 1:10,560

Historical Map - Slice A



Order Details

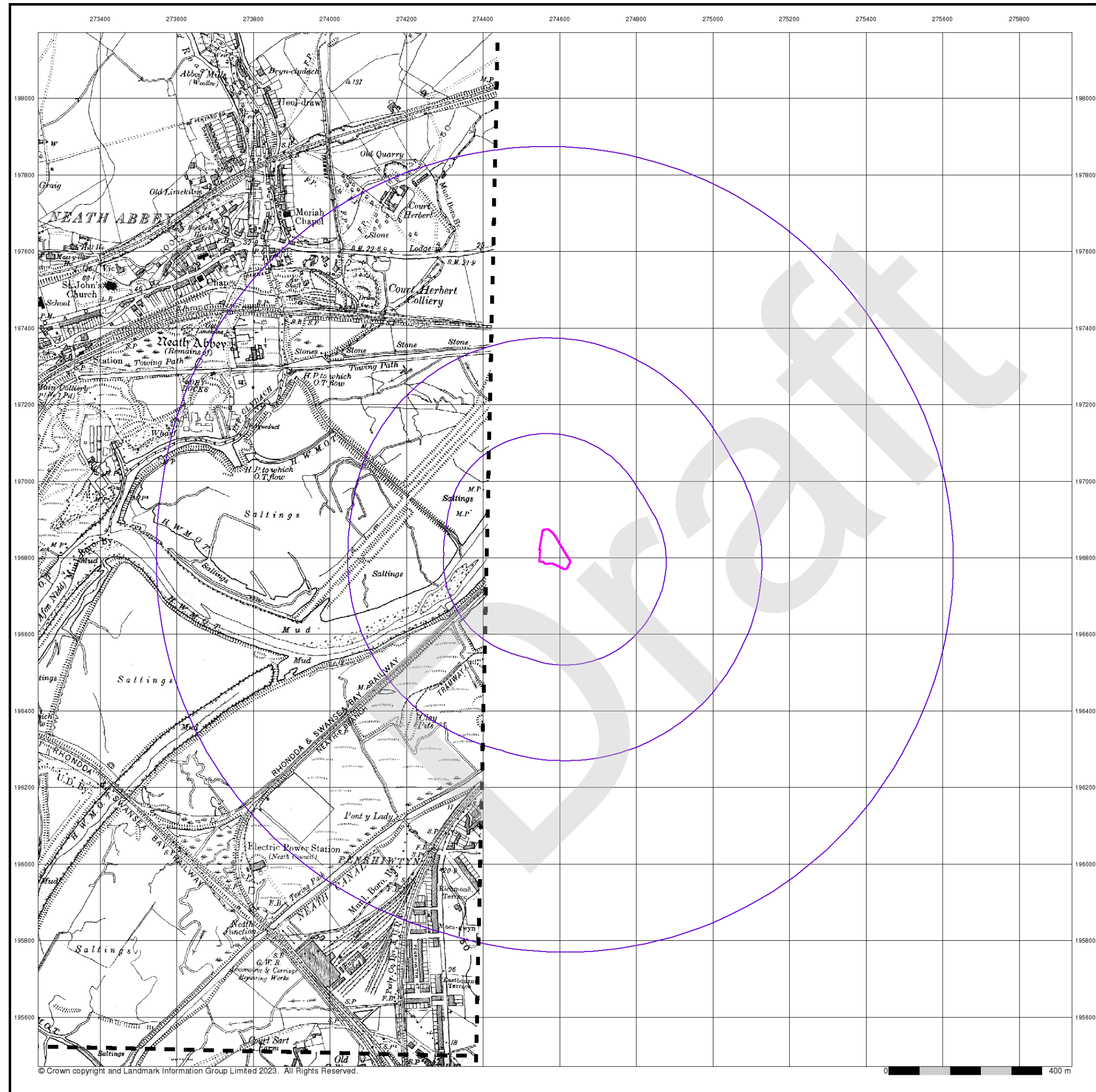
Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 1000

Site Details

Site at 274560, 196790



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



Geotechnical & Geoenvironmental Specialists

Glamorganshire

Published 1921

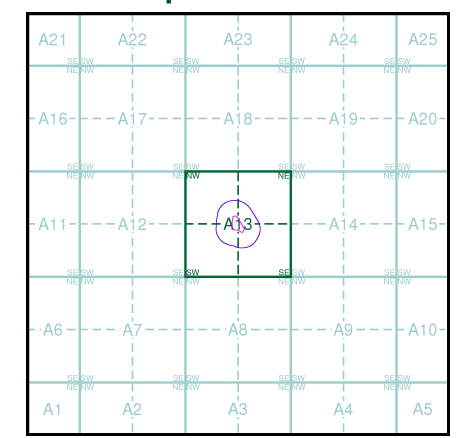
Source map scale - 1:10,560

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)

015SE	1921	1:10,560
024NE	1921	1:10,560

Historical Map - Slice A



Order Details

Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 1000

Site Details

Site at 274560, 196790



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





Geotechnical & Geoenvironmental Specialists

Glamorganshire

Published 1936

Source map scale - 1:10,560

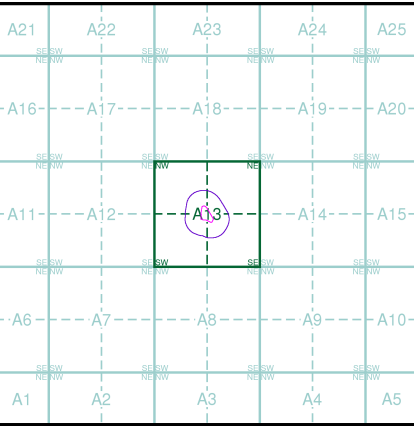
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some 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)

016SW
1936
1:10,560

025NW
1936
1:10,560

Historical Map - Slice A



Order Details

Order Number:	323025305_1_1
Customer Ref:	18077JR
National Grid Reference:	274580, 196820
Slice:	A
Site Area (Ha):	0.52
Search Buffer (m):	1000

Site Details

Site at 274560, 196790

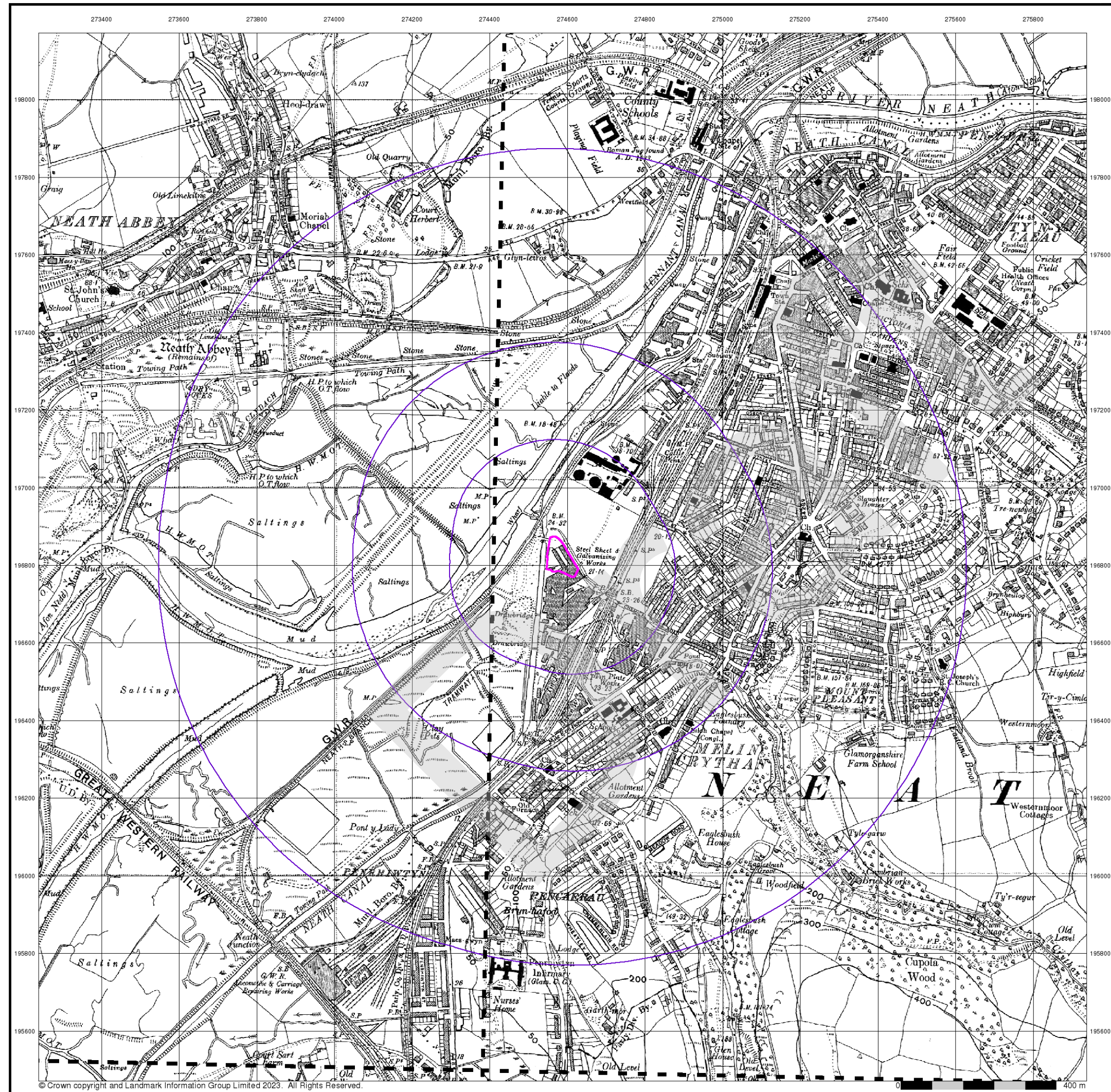


INFORMATION GROUP

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

© Crown copyright and Landmark Information Group Limited 2023. All Rights Reserved.

A Landmark Information Group Service v50.0 01-Nov-2023 Page 7 of 18



Geotechnical & Geoenvironmental Specialists

Glamorganshire

Published 1938 - 1951

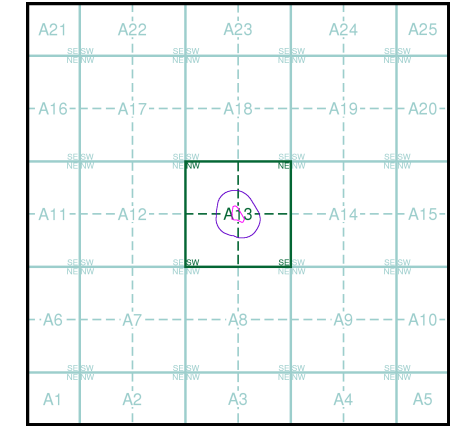
Source map scale - 1:10,560

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)

015SE 1940 1:10,560	016SW 1938 1:10,560
024NE 1938 1:10,560	025NW 1951 1:10,560

Historical Map - Slice A



Order Details

Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 1000

Site Details

Site at 274560, 196790



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





Geotechnical & Geoenvironmental Specialists

Historical Aerial Photography

Published 1945 - 1949

Source map scale - 1:10,560

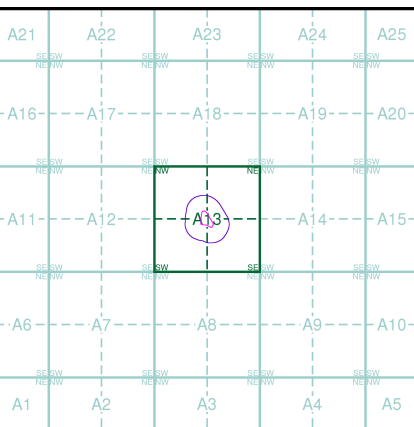
The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were produced between 1944 and 1951 as an interim measure, pending preparation of conventional mapping, due to post war resource shortages. New security measures in the 1950's meant that every photograph was re-checked for potentially unsafe information with security sites replaced by fake fields or clouds. The original editions were withdrawn and only later made available after a period of fifty years although due to the accuracy of the editing, without viewing both revisions it is not easy to spot the edits. Where available Landmark have included both revisions.

© Landmark Information Group and/or Data Suppliers 2010.

Map Name(s) and Date(s)

SS79NW 1945 1:10,560	SS79NE 1949 1:10,560
----------------------------	----------------------------

Historical Aerial Photography - Slice A



Order Details

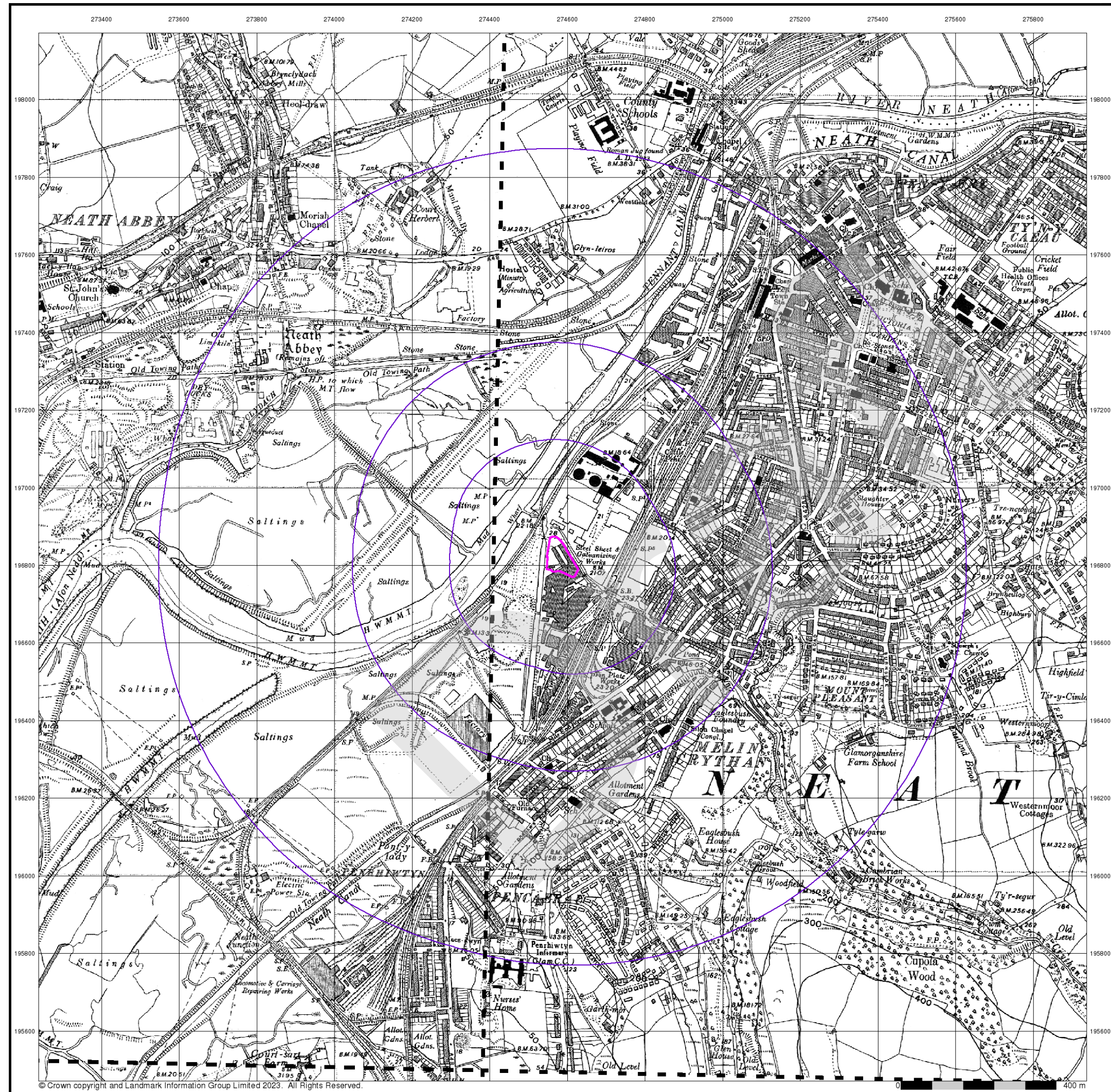
Order Number:	323025305_1_1
Customer Ref:	18077JR
National Grid Reference:	274580, 196820
Slice:	A
Site Area (Ha):	0.52
Search Buffer (m):	1000

Site Details

Site at 274560, 196790



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



Geotechnical & Geoenvironmental Specialists

Glamorganshire

Published 1951 - 1952

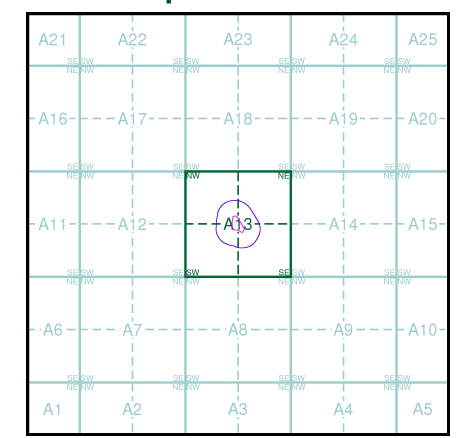
Source map scale - 1:10,560

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)

015SE 1952 1:10,560	016SW 1951 1:10,560
024NE 1951 1:10,560	

Historical Map - Slice A



Order Details

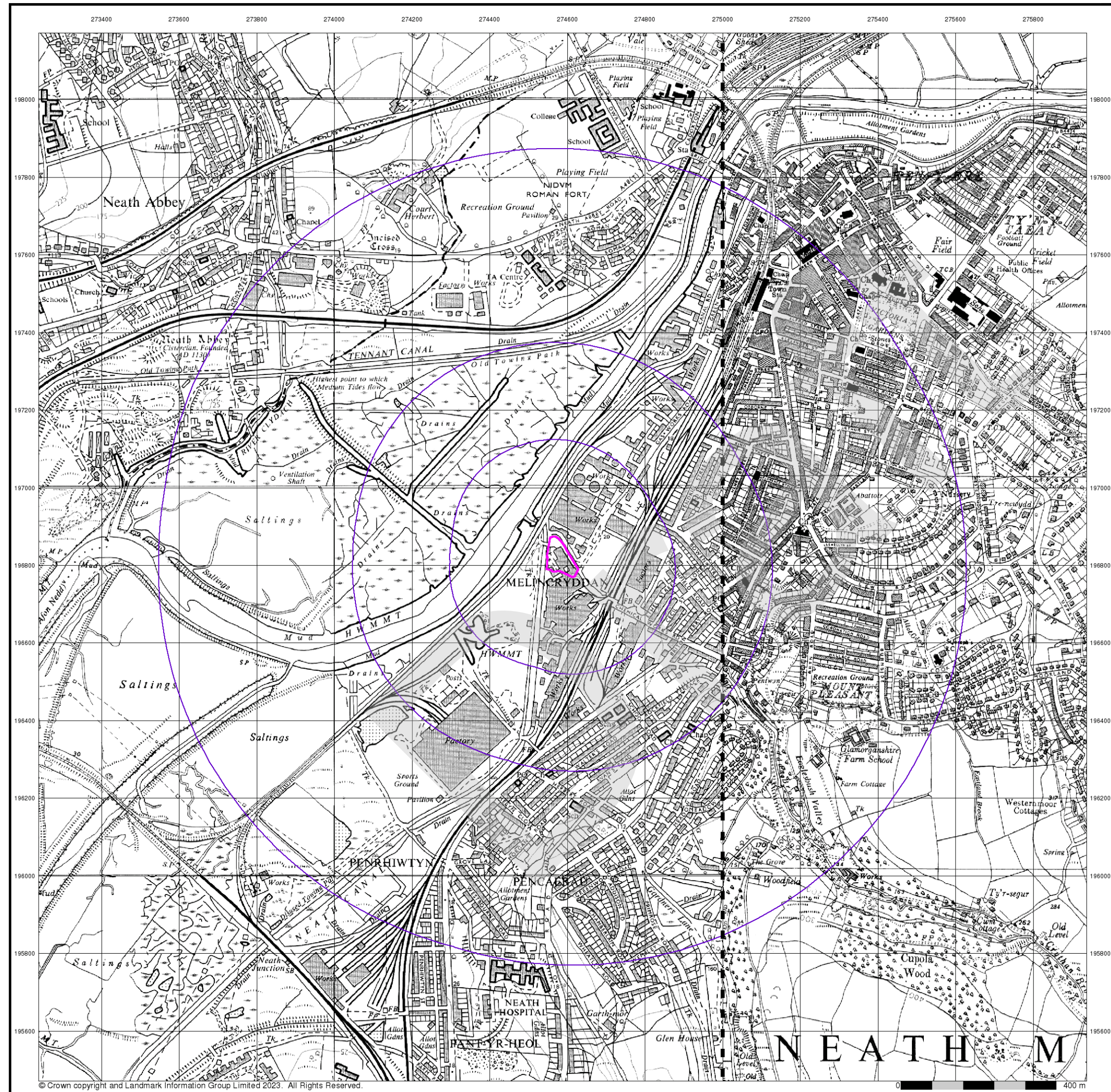
Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 1000

Site Details

Site at 274560, 196790



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



Geotechnical & Geoenvironmental Specialists

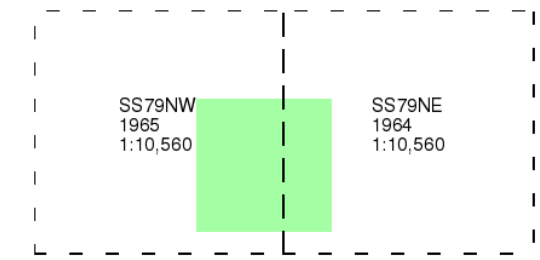
Ordnance Survey Plan

Published 1964 - 1965

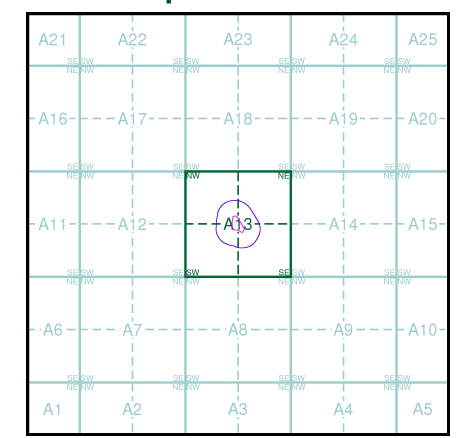
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

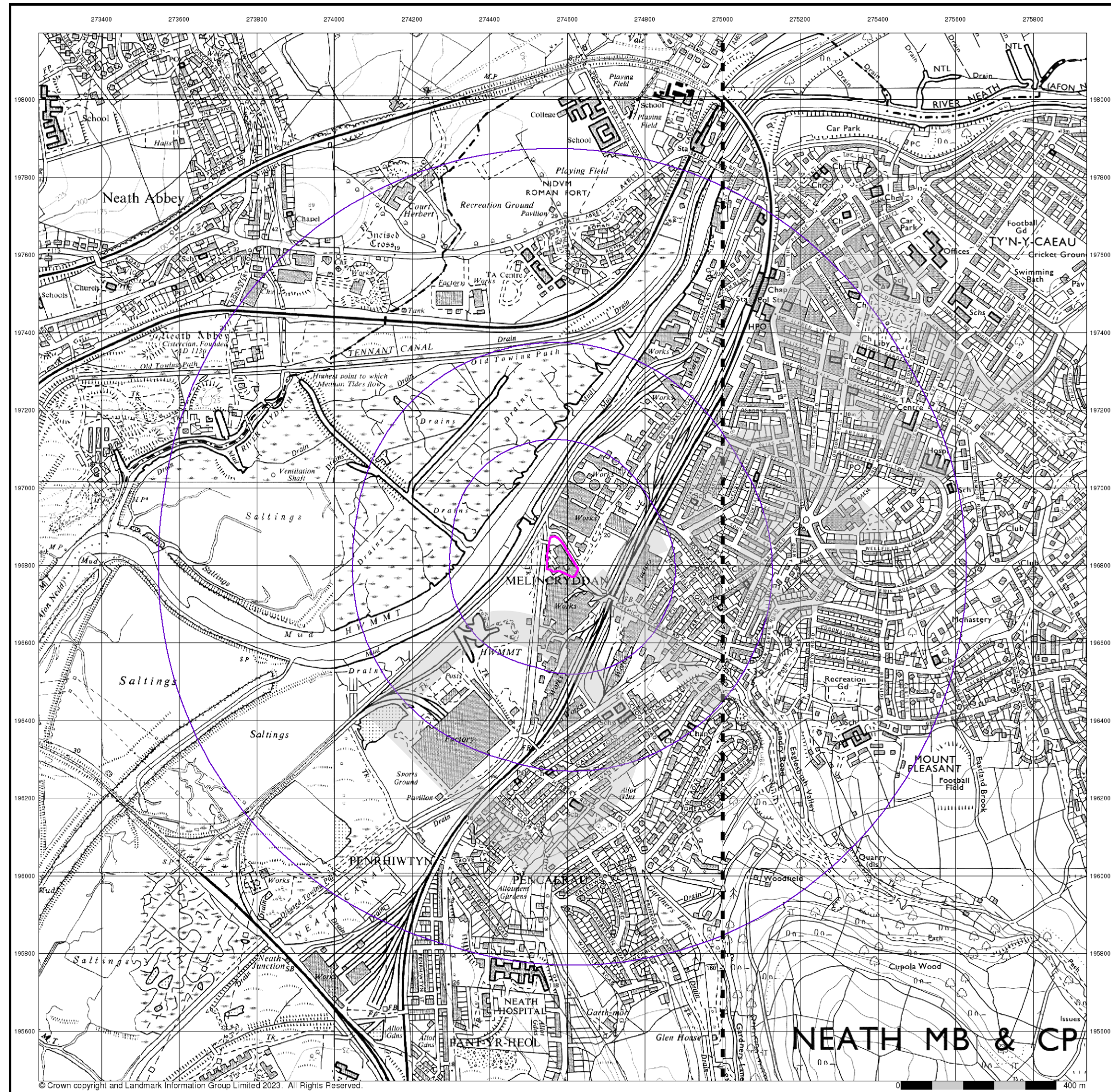
Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 1000

Site Details

Site at 274560, 196790



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





Geotechnical & Geoenvironmental Specialists

Ordnance Survey Plan

Published 1970 - 1973

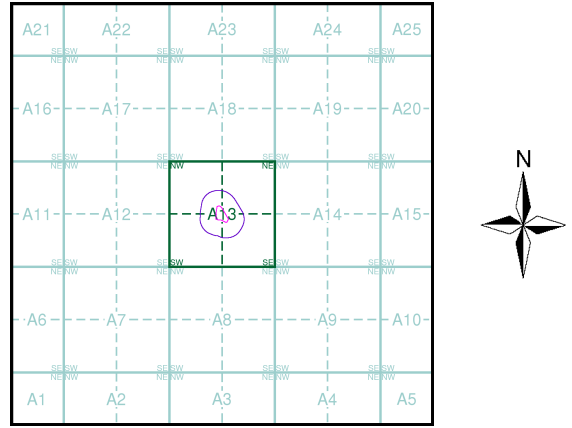
Source map scale - 1:10,000

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)

Map Name	Date	Scale
SS79NW	1970	1:10,560
SS79NE	1973	1:10,000

Historical Map - Slice A



Order Details

Order Number:	323025305_1_1
Customer Ref:	18077JR
National Grid Reference:	274580, 196820
Slice:	A
Site Area (Ha):	0.52
Search Buffer (m):	1000

Site Details

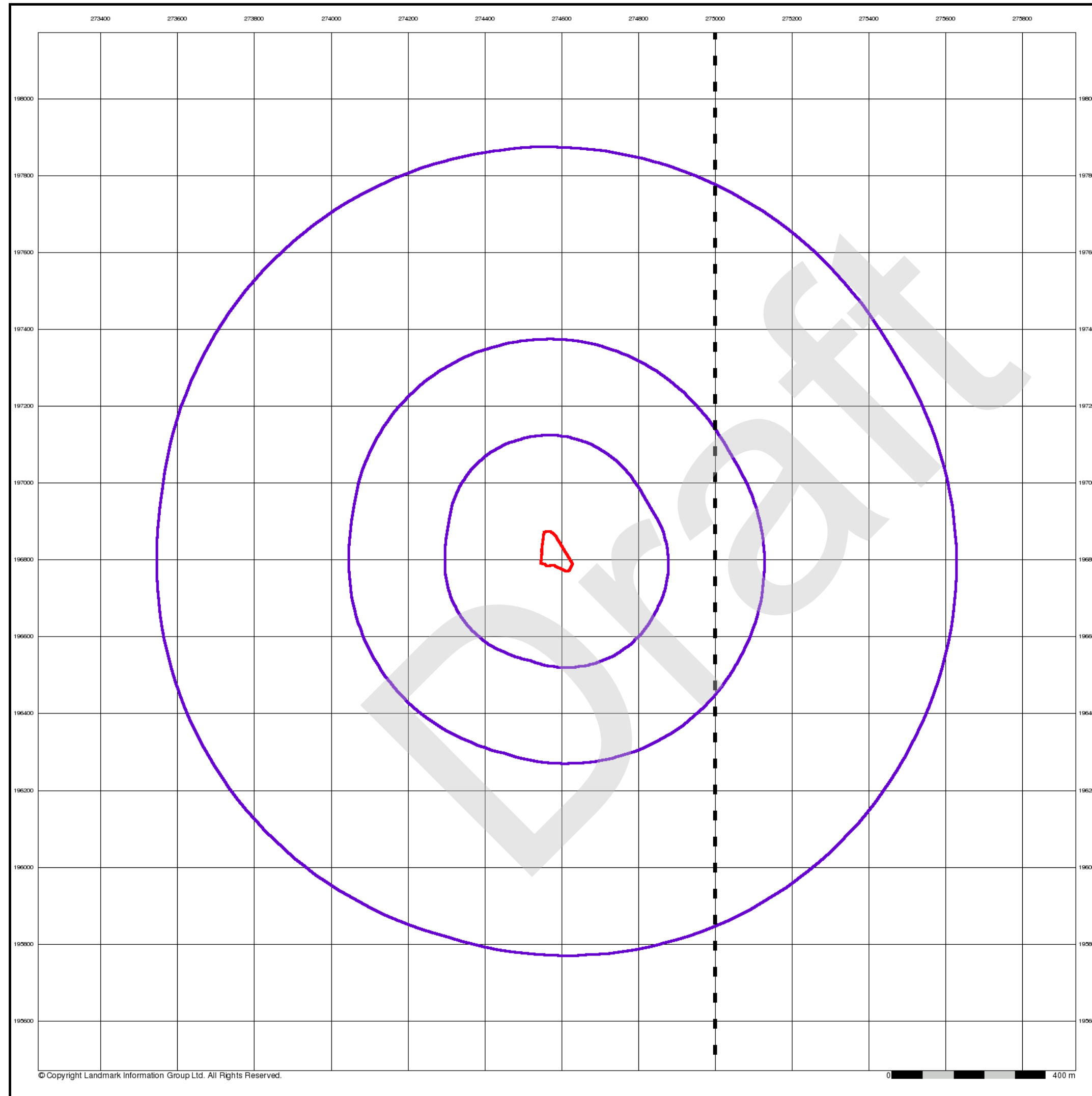
Site at 274560, 196790



INFORMATION GROUP

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

A Landmark Information Group Service v50.0 01-Nov-2023 Page 12 of 18



© Copyright Landmark Information Group Ltd. All Rights Reserved.



Geotechnical & Geoenvironmental Specialists

Swansea

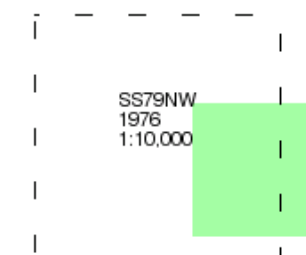
Published 1976

Source map scale - 1:10,000

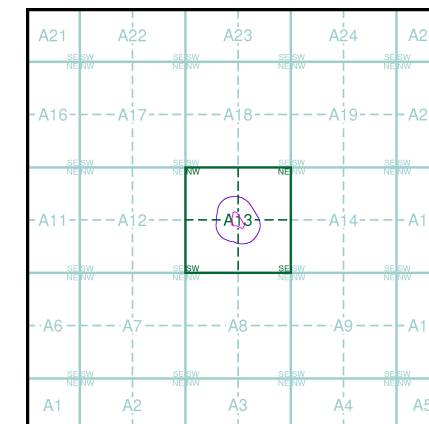
These maps were produced by the Russian military during the Cold War between 1950 and 1997, and cover 103 towns and cities throughout the U.K. The maps are produced at 1:25,000, 1:10,000 and 1:5,000 scale, and show detailed land use, with colour-coded areas for development, green areas, and non-developed areas. Buildings are coloured black and important building uses (such as hospitals, post offices, factories etc.) are numbered, with a numbered key describing their use.

They were produced by the Russians for the benefit of navigation, as well as strategic military sites and transport hubs, for use if they were to have invaded the U.K. The detailed information provided indicates that the areas were surveyed using land-based personnel, on the ground, in the cities that are mapped.

Map Name(s) and Date(s)



Russian Map - Slice A



Order Details

Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 1000

Site Details

Site at 274560, 196790



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



© Crown copyright and Landmark Information Group Limited 2023. All Rights Reserved.



Geotechnical & Geoenvironmental Specialists

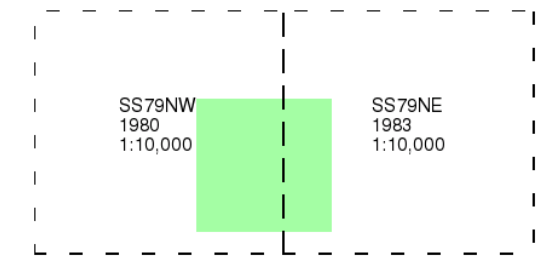
Ordnance Survey Plan

Published 1980 - 1983

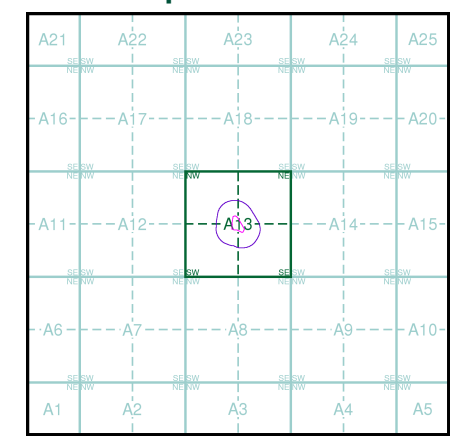
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 1000

Site Details

Site at 274560, 196790



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



Geotechnical & Geoenvironmental Specialists

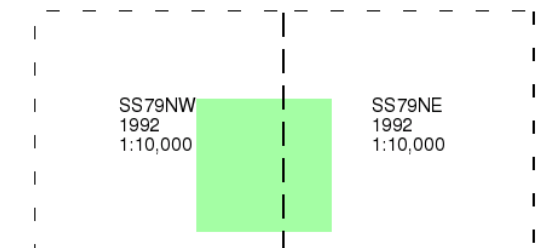
Ordnance Survey Plan

Published 1992

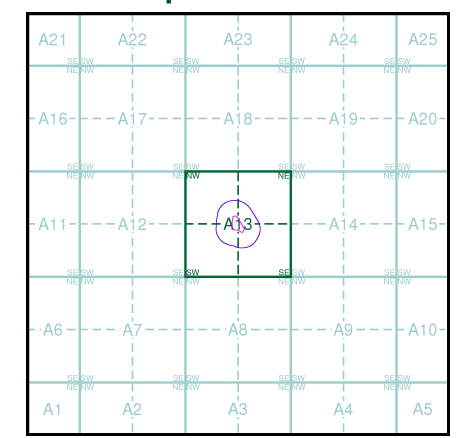
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

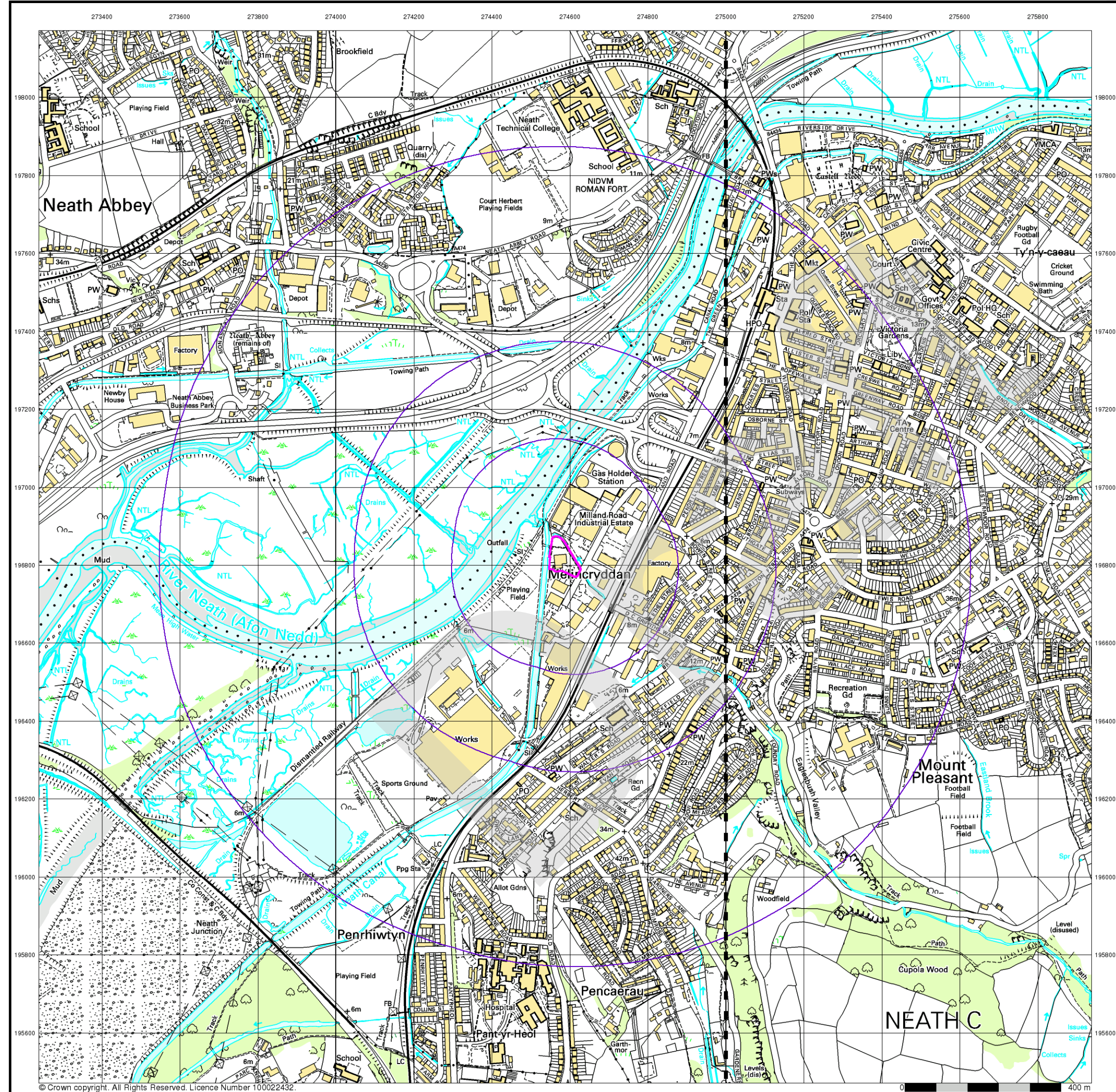
Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 1000

Site Details

Site at 274560, 196790



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



Geotechnical & Geoenvironmental Specialists

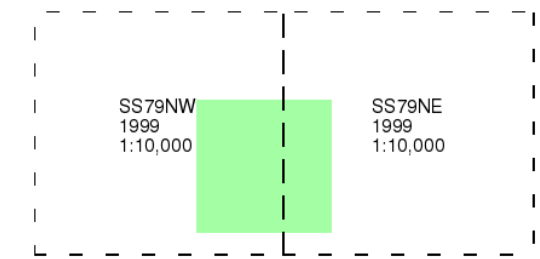
10k Raster Mapping

Published 1999

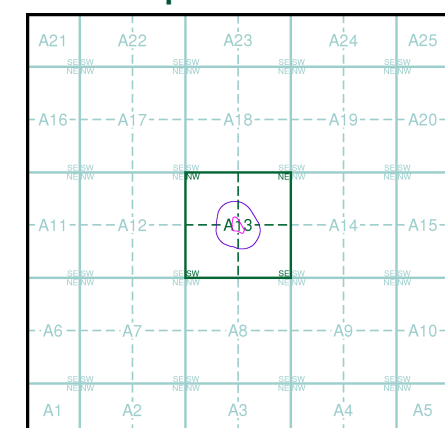
Source map scale - 1:10,000

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)



Historical Map - Slice A



Order Details

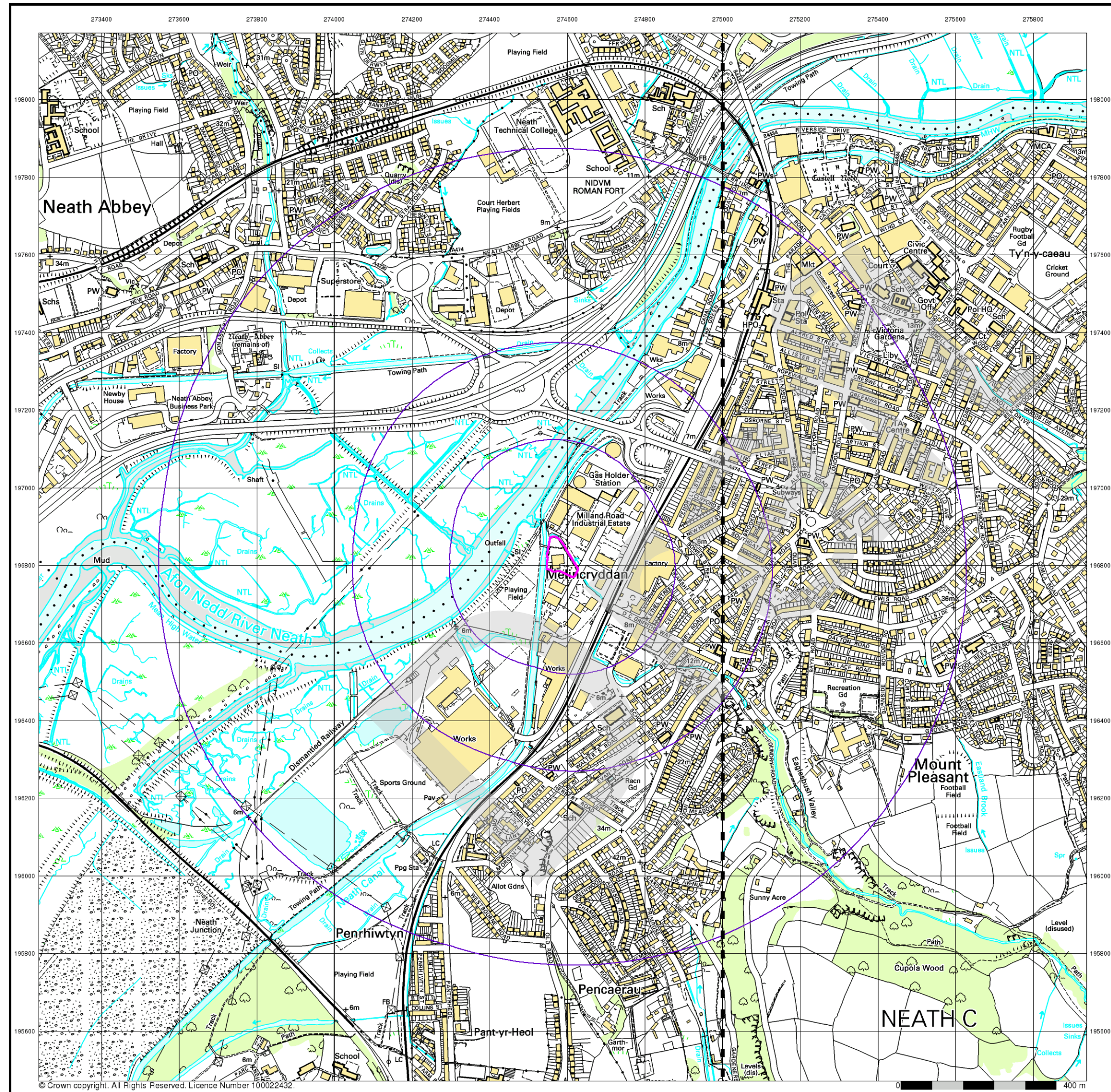
Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 1000

Site Details

Site at 274560, 196790



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



Geotechnical & Geoenvironmental Specialists

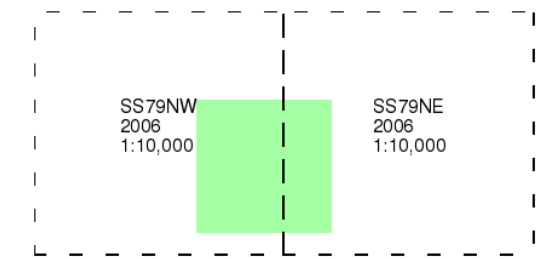
10k Raster Mapping

Published 2006

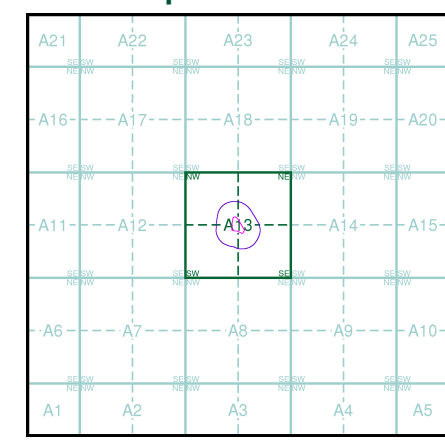
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

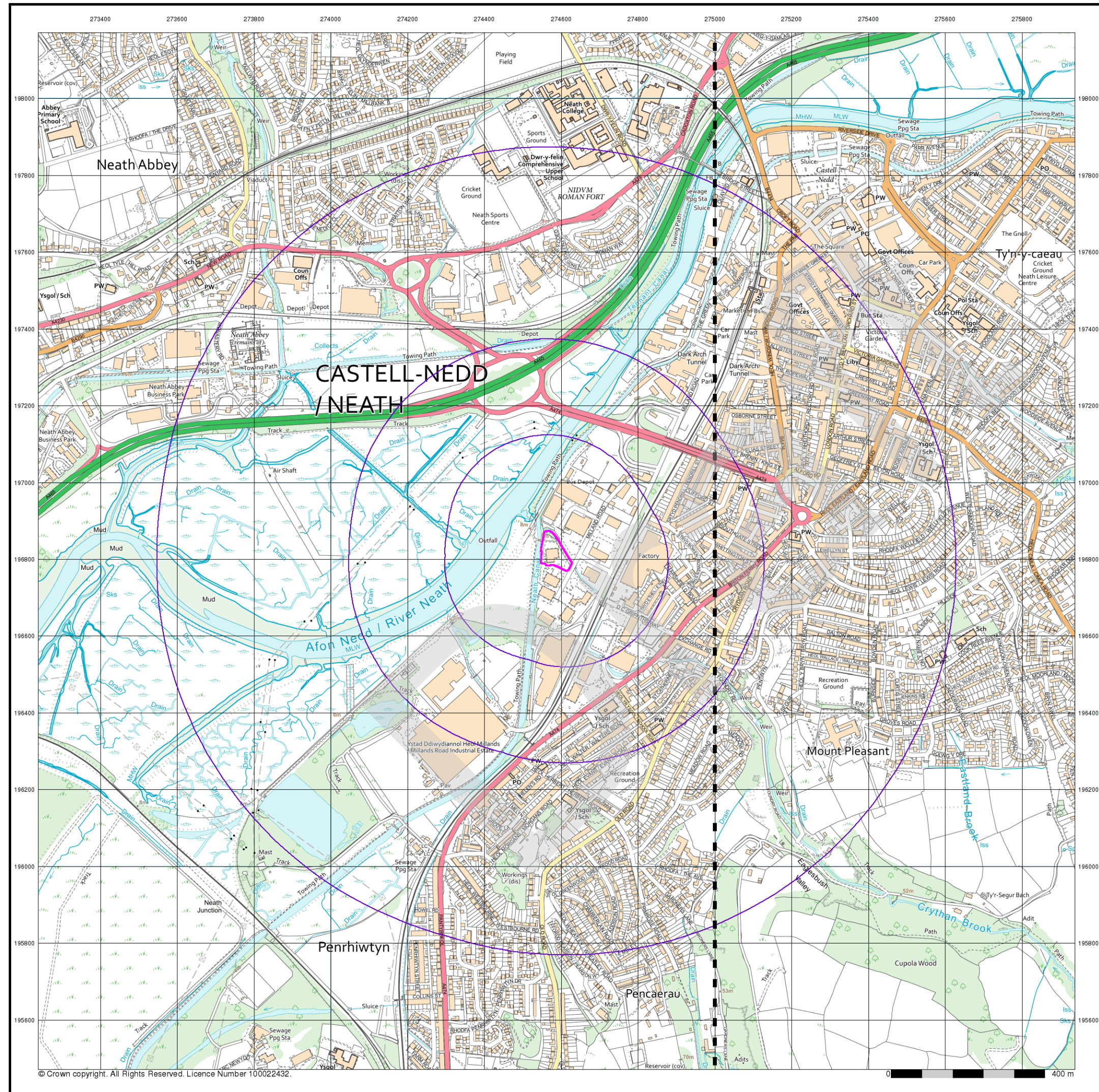
Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 1000

Site Details

Site at 274560, 196790



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



Geotechnical & Geoenvironmental Specialists

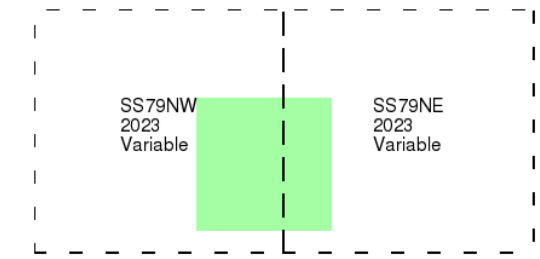
VectorMap Local

Published 2023

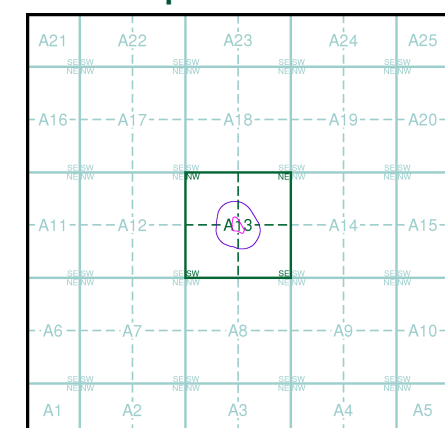
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities), 1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 1000

Site Details

Site at 274560, 196790



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



Geotechnical & Geoenvironmental Specialists

Glamorganshire

Published 1877 - 1878

Source map scale - 1:500

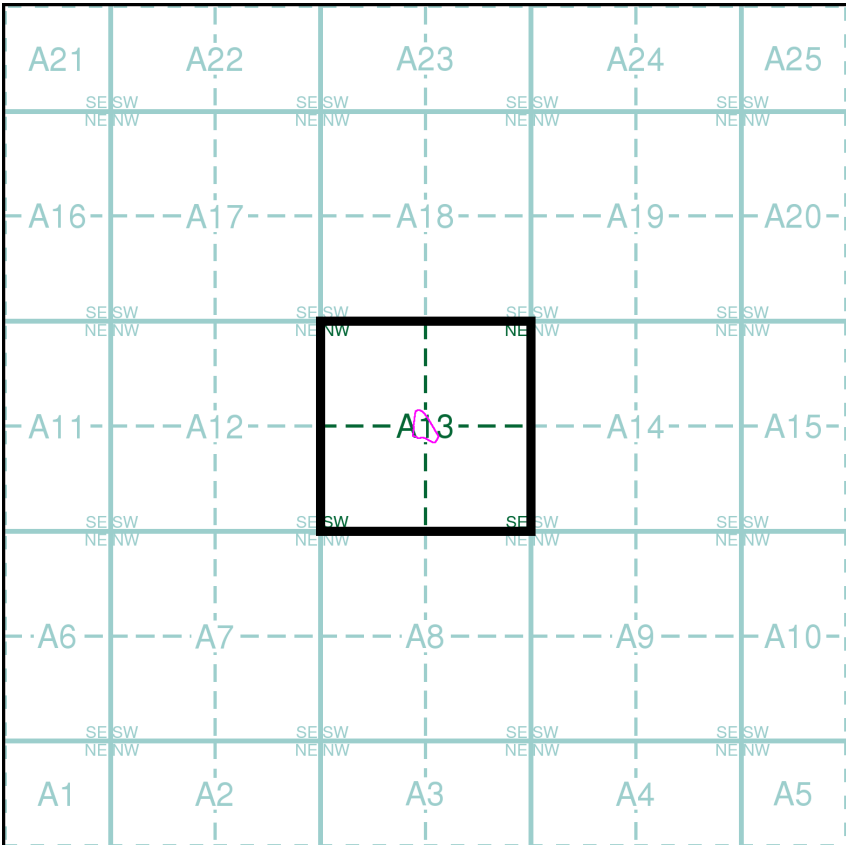
The 1:500 scale Ordnance Survey mapping was introduced in 1855 as a replacement for the 1:528 scale and to complement the 1:2500 scale that had been implemented in 1853. By 1895, the 1:500 scale covered most towns over a population of about 4000 at the time of survey, although very few towns were mapped more than once at this scale, and none have been since 1910. The 1:500 scale gives particular emphasis to such features as lamp posts, man holes, arched passages and minor building projections. Also often featured are divisions between tenements, interior ground floor layouts of public buildings, and on earlier plans, the functions of the various parts of larger industrial premises are also indicated. Content of the plans does vary however, from one town to the next in terms of, for example, the completeness of railway tracks and the coverage of public buildings.

Please note: Due to the partial coverage of Historical Town Plans, it is possible that not all segments within an order will contain mapping. Only the segments that have Town Plan coverage will be generated.

Map Name(s) and Date(s)

016_09_021	016_09_022
1877	1878
1:500	1:500
016_13_001	016_13_002
1878	1878
1:500	1:500
016_13_006	016_13_007
1878	1878
1:500	1:500

Historical Town Plan - Segment A13



Order Details

Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 0

Site Details

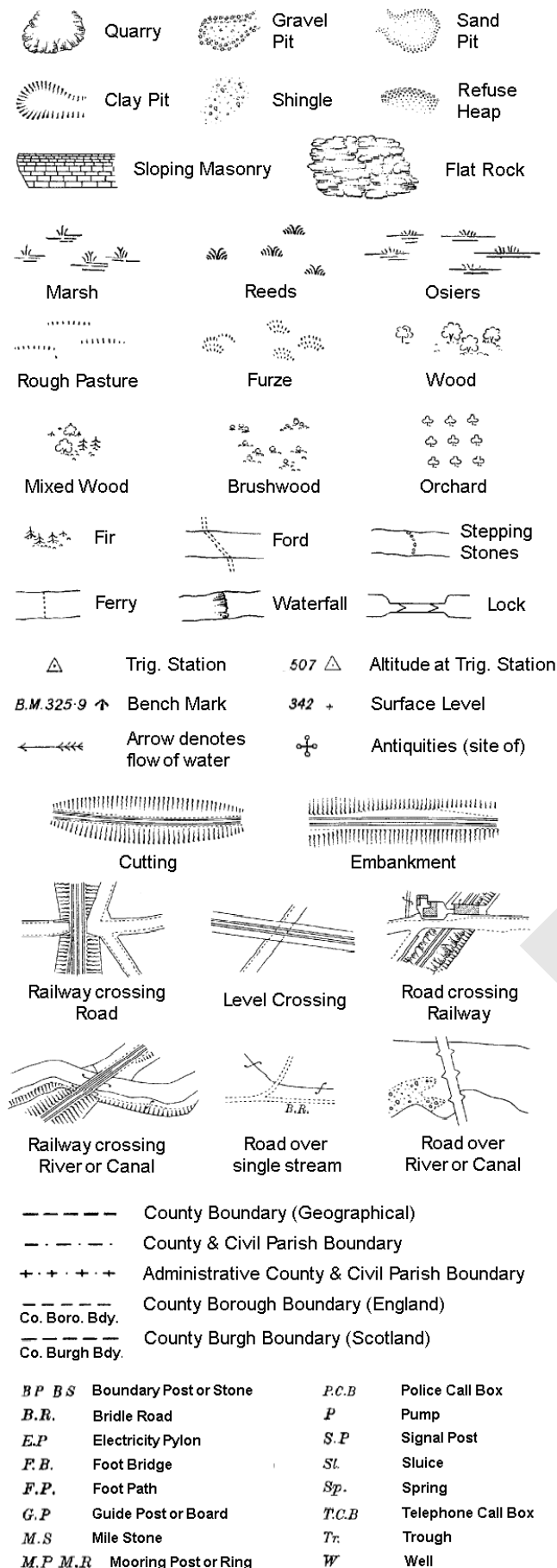
Site at 274560, 196790



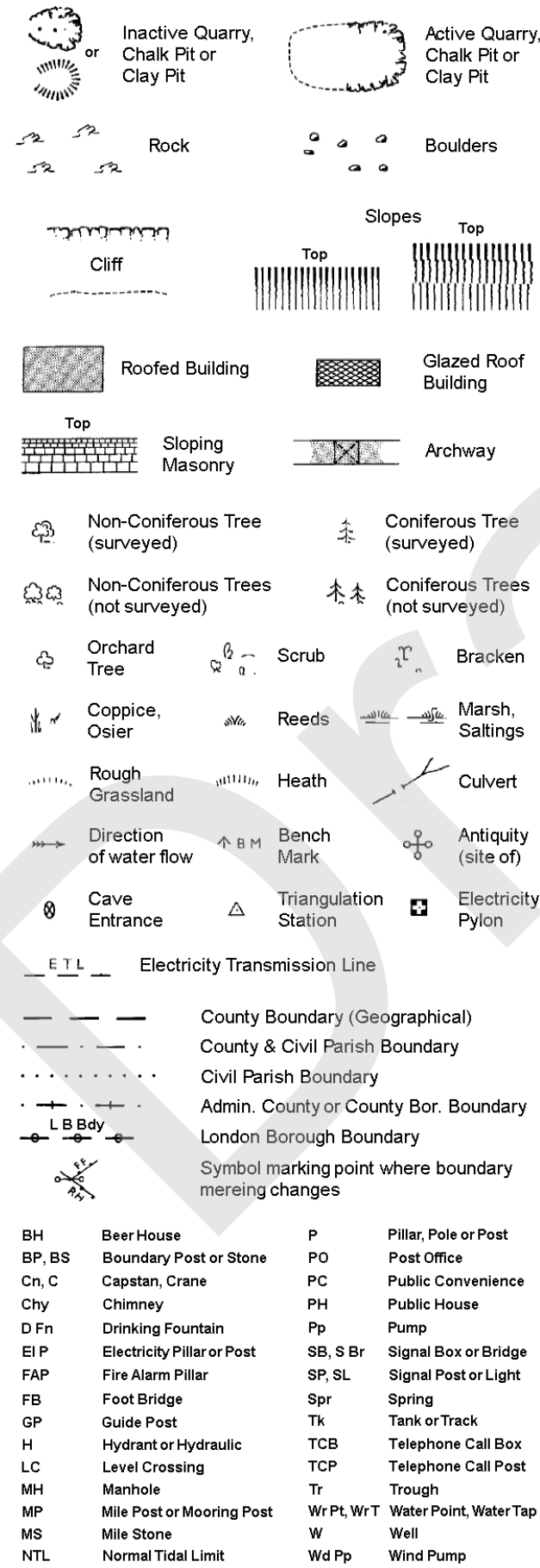
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Historical Mapping Legends

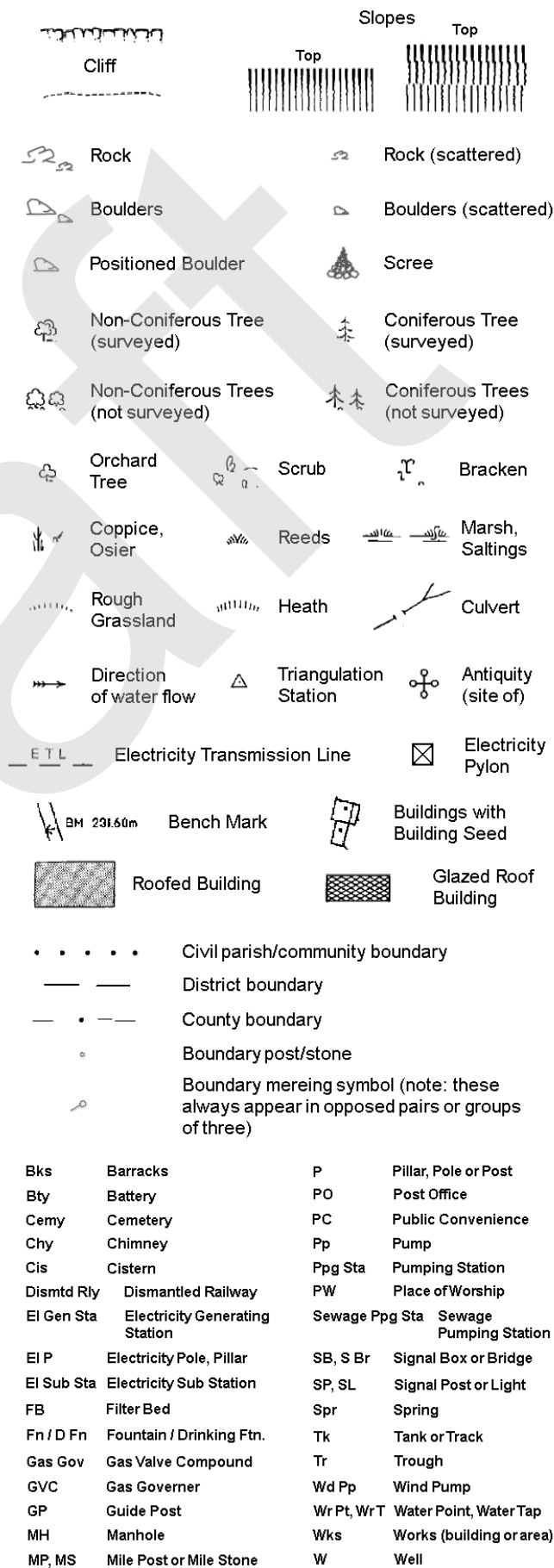
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



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



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

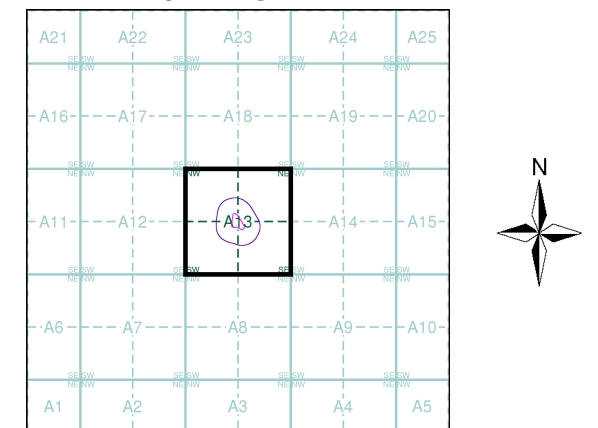


Geotechnical & Geoenvironmental Specialists

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:2,500	1876 - 1881	2
Glamorganshire	1:2,500	1899	3
Glamorganshire	1:2,500	1918 - 1919	4
Glamorganshire	1:2,500	1935 - 1940	5
Ordnance Survey Plan	1:1,250	1951	6
Ordnance Survey Plan	1:2,500	1952	7
Ordnance Survey Plan	1:1,250	1958 - 1967	8
Ordnance Survey Plan	1:2,500	1964 - 1965	9
Ordnance Survey Plan	1:1,250	1967 - 1978	10
Ordnance Survey Plan	1:2,500	1970	11
Ordnance Survey Plan	1:1,250	1971 - 1974	12
Additional SIMs	1:1,250	1982 - 1989	13
Additional SIMs	1:1,250	1989	14
Ordnance Survey Plan	1:1,250	1990	15
Large-Scale National Grid Data	1:1,250	1993	16
Large-Scale National Grid Data	1:1,250	1995	17
Historical Aerial Photography	1:2,500	2000	18

Historical Map - Segment A13



Order Details

Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 100

Site Details

Site at 274560, 196790



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



Geotechnical & Geoenvironmental Specialists

Glamorganshire

Published 1876 - 1881

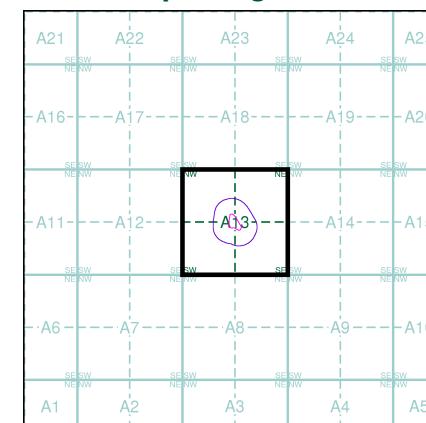
Source map scale - 1:2,500

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)

015_12 1876 1:2,500	016_09 1877 1:2,500
015_16 1881 1:2,500	016_13 1881 1:2,500

Historical Map - Segment A13



Order Details

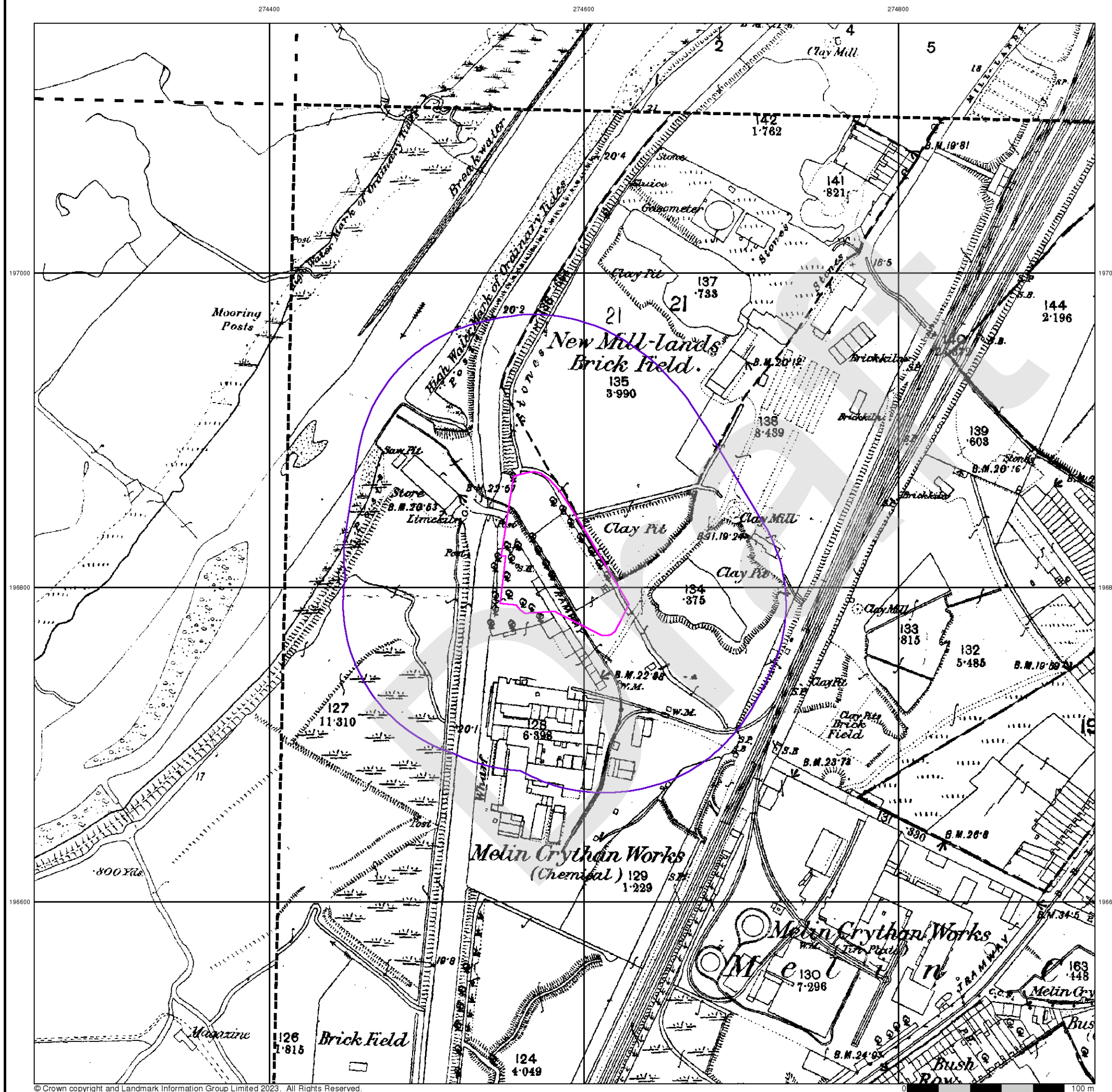
Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 100

Site Details

Site at 274560, 196790

Landmark
INFORMATION GROUP

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





Geotechnical & Geoenvironmental Specialists

Glamorganshire

Published 1899

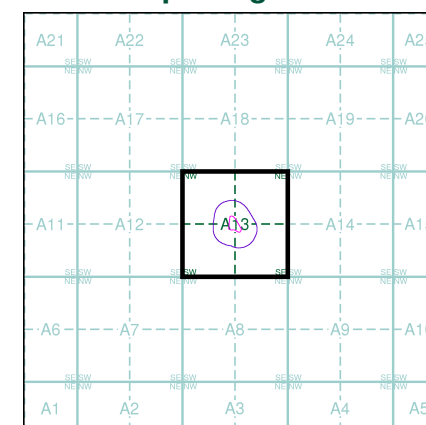
Source map scale - 1:2,500

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)

015_12 1899 1:2,500	016_09 1899 1:2,500
015_16 1899 1:2,500	016_13 1899 1:2,500

Historical Map - Segment A13



Order Details

Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 100

Site Details

Site at 274560, 196790

Landmark
INFORMATION GROUP

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



Geotechnical & Geoenvironmental Specialists

Glamorganshire

Published 1918 - 1919

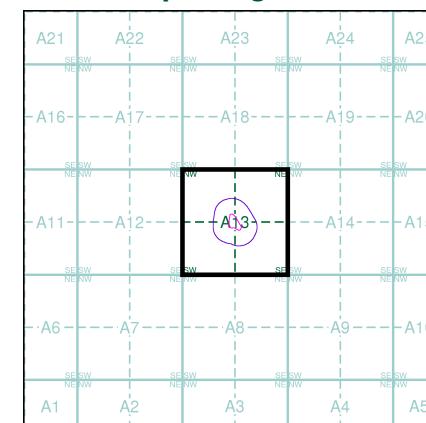
Source map scale - 1:2,500

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)

015_12 1918 1:2,500	016_09 1919 1:2,500
015_16 1918 1:2,500	016_13 1919 1:2,500

Historical Map - Segment A13



Order Details

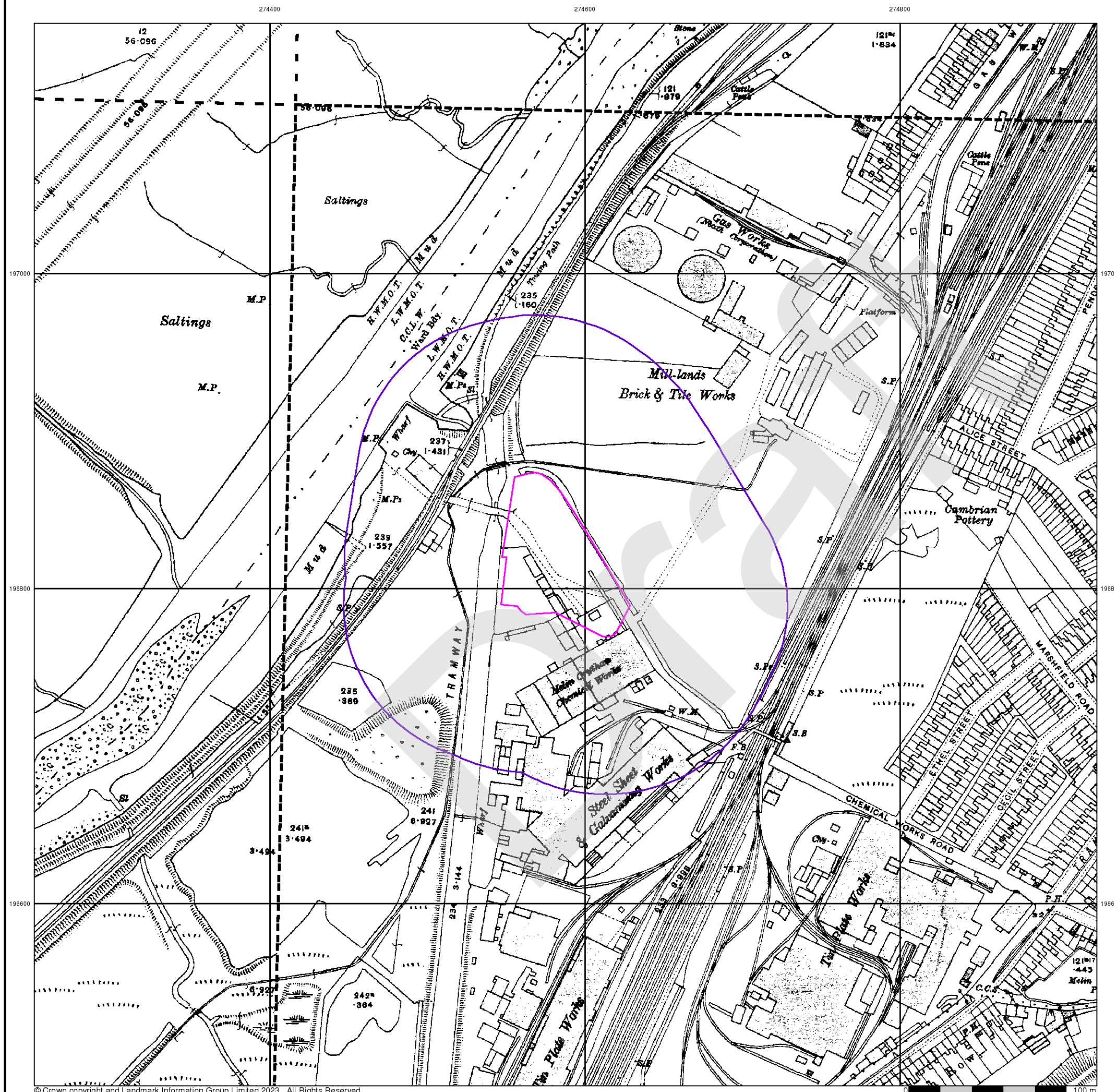
Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 100

Site Details

Site at 274560, 196790

Landmark
INFORMATION GROUP

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





Geotechnical & Geoenvironmental Specialists

Glamorganshire

Published 1935 - 1940

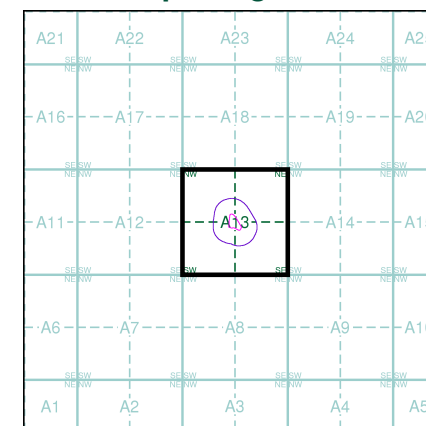
Source map scale - 1:2,500

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)

015_12 1940 1:2,500	016_09 1935 1:2,500
015_16 1940 1:2,500	016_13 1935 1:2,500

Historical Map - Segment A13



Order Details

Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 100

Site Details

Site at 274560, 196790

Landmark
INFORMATION GROUP

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



Geotechnical & Geoenvironmental Specialists

Ordnance Survey Plan

Published 1951

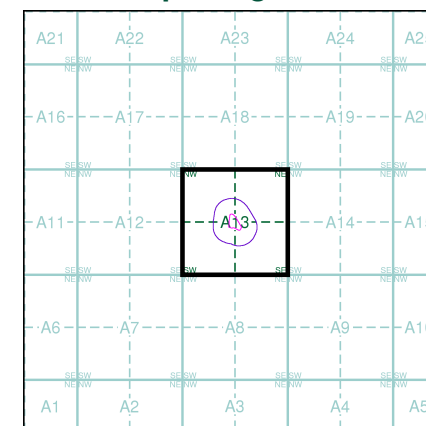
Source map scale - 1:1,250

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

Map Name(s) and Date(s)

S7497SW	S7497SE
951	951
1:1,250	1:1,250
S7496NW	S7496NE
951	951
1:1,250	1:1,250
S7496SW	S7496SE
951	951
1:1,250	1:1,250

Historical Map - Segment A13



Order Details

Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 100

Site Details

Site at 274560, 196790



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



Geotechnical & Geoenvironmental Specialists

Ordnance Survey Plan

Published 1952

Source map scale - 1:2,500

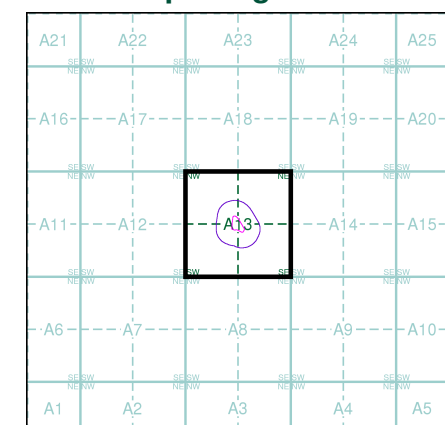
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain.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

SS7497
1952
1:2,500

SS7496
1952
1:2,500

Historical Map - Segment A13



Order Details

Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 100

Site Details

Site at 274560, 196790

Landmark
INFORMATION GROUP

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



Geotechnical & Geoenvironmental Specialists

Ordnance Survey Plan

Published 1958 - 1967

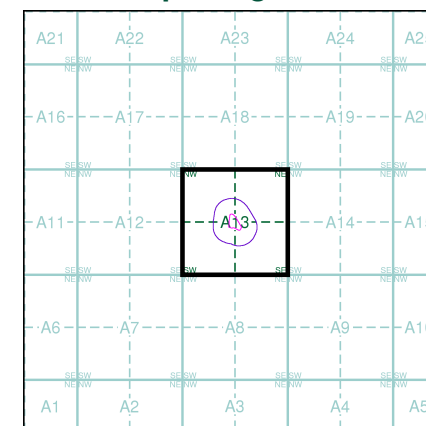
Source map scale - 1:1,250

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

Map Name(s) and Date(s)

S7497SWSS7497SE	
965	1965
1:1,250	1:1,250
S7496NWSS7496NE	
967	1961
1:1,250	1:1,250
S7496SWSS7496SE	
961	1958
1:1,250	1:1,250

Historical Map - Segment A13



Order Details

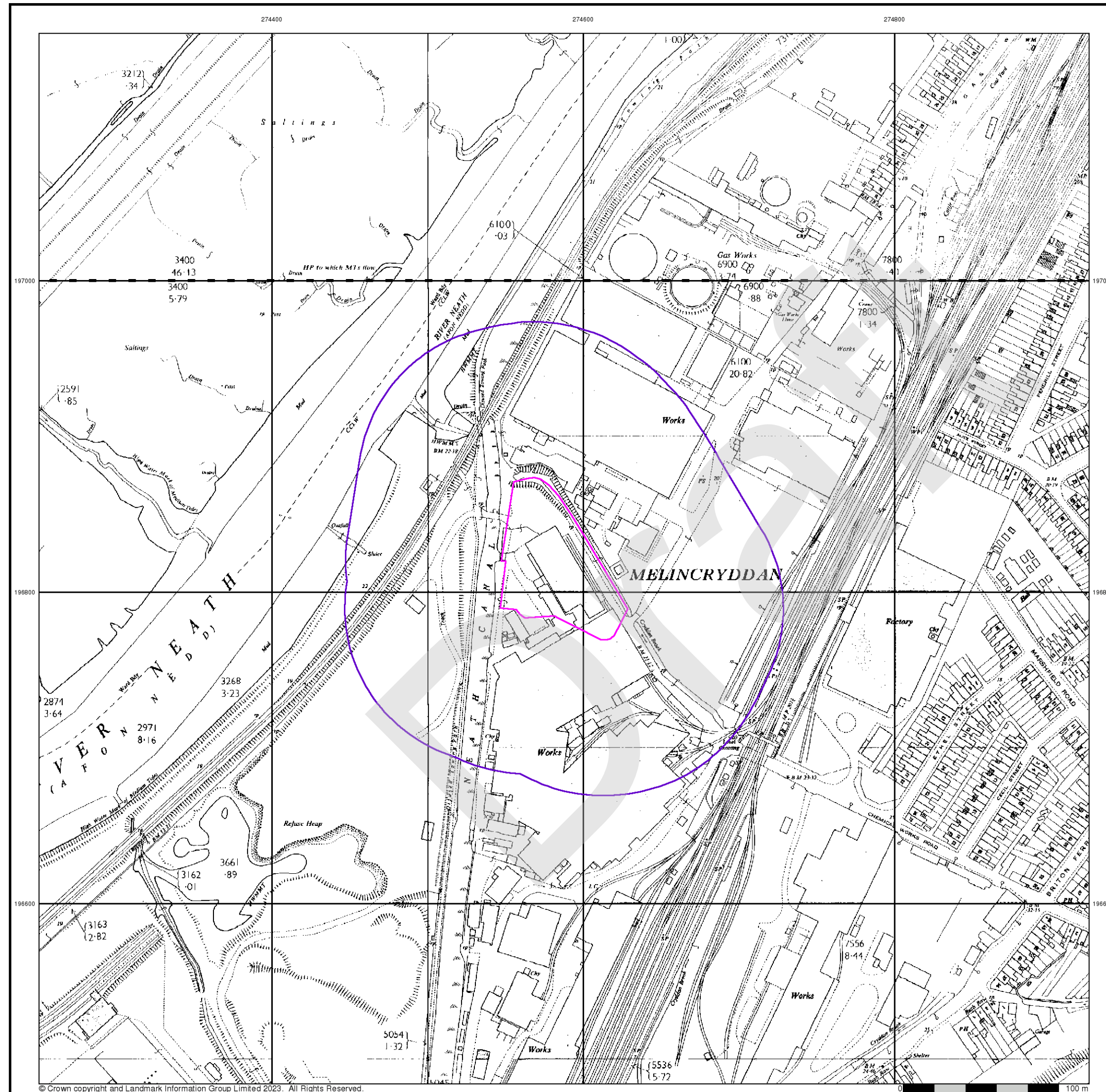
Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 100

Site Details

Site at 274560, 196790

Landmark
INFORMATION GROUP

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



Ordnance Survey Plan

Source map scale - 1:2,500

Map Name(s) and Date(s)

Historical Map - Segment A13



Order Details

Site Details





Geotechnical & Geoenvironmental Specialists

Ordnance Survey Plan

Published 1967 - 1978

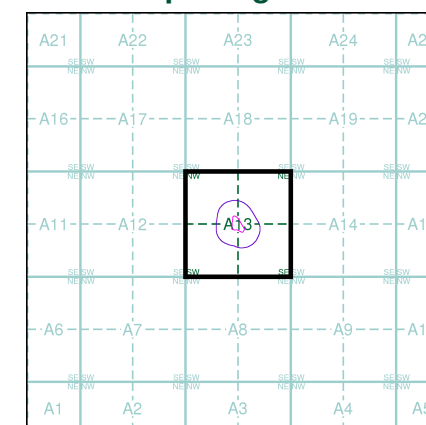
Source map scale - 1:1,250

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

Map Name(s) and Date(s)

S7497SW S7497SE
1978 1978
1:1,250 1:1,250
SS7496NE
1967
1:1,250
S7496SW S7496SE
1967 1967
1:1,250 1:1,250

Historical Map - Segment A13



Order Details

Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 100

Site Details

Site at 274560, 196790

Landmark
INFORMATION GROUP

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



Geotechnical & Geoenvironmental Specialists

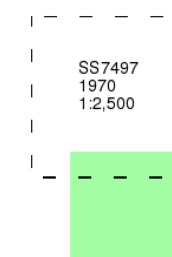
Ordnance Survey Plan

Published 1970

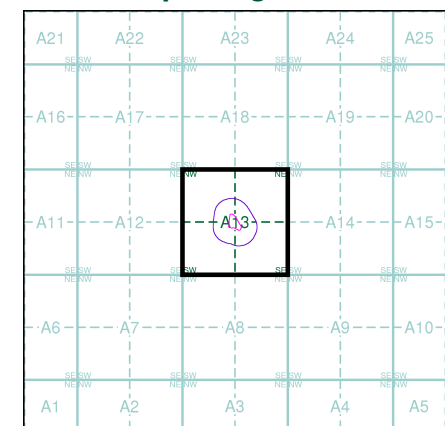
Source map scale - 1:2,500

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

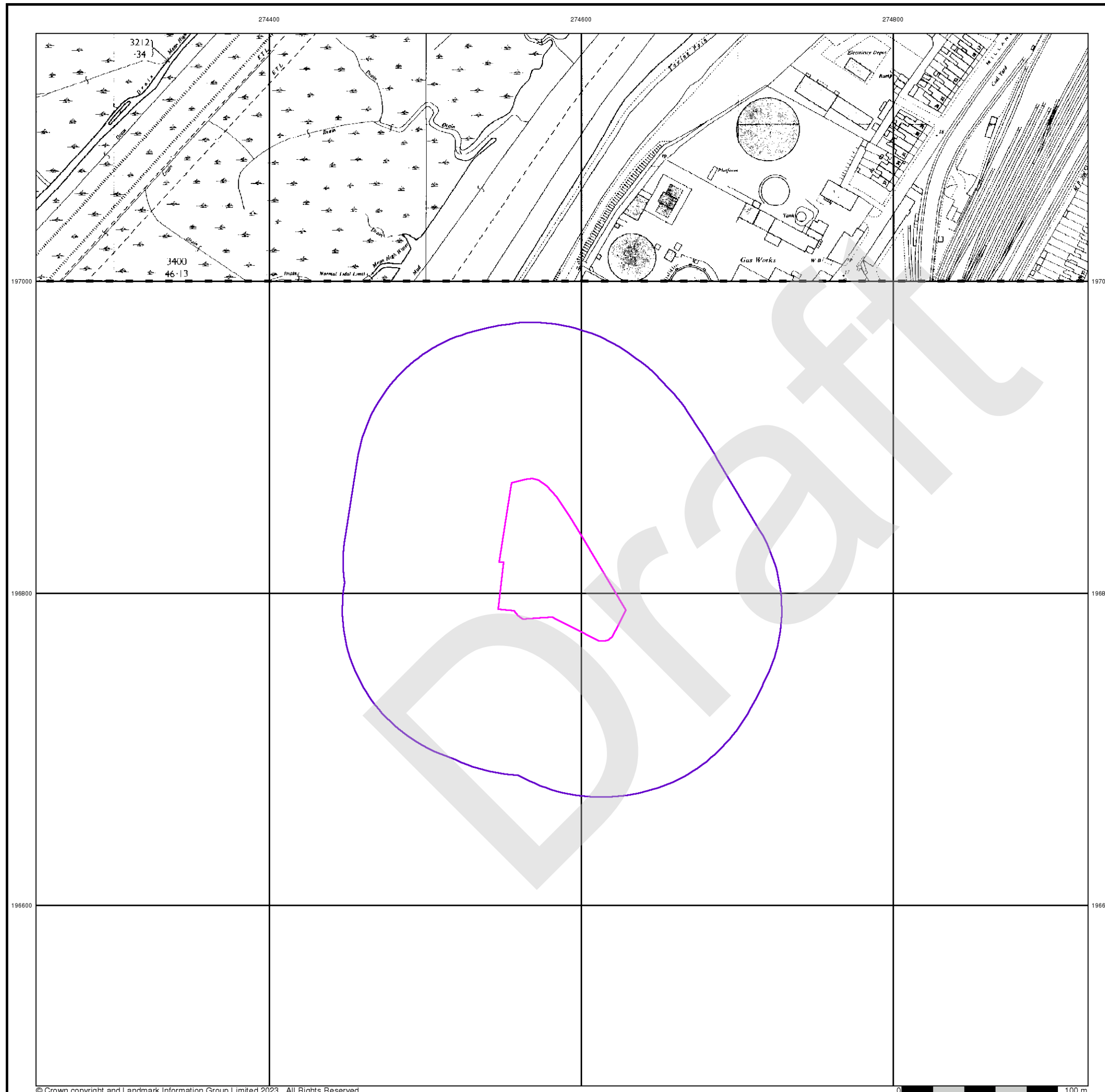
Order Number: 323025305_1_1
Customer Ref: 180777JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 100

Site Details

Site at 274560, 196790



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





Geotechnical & Geoenvironmental Specialists

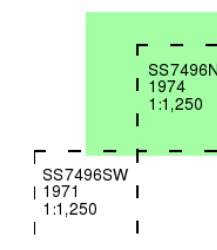
Ordnance Survey Plan

Published 1971 - 1974

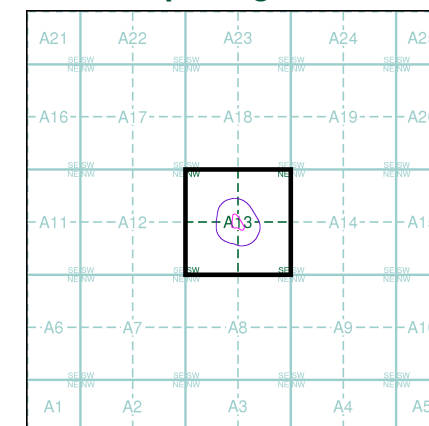
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 100

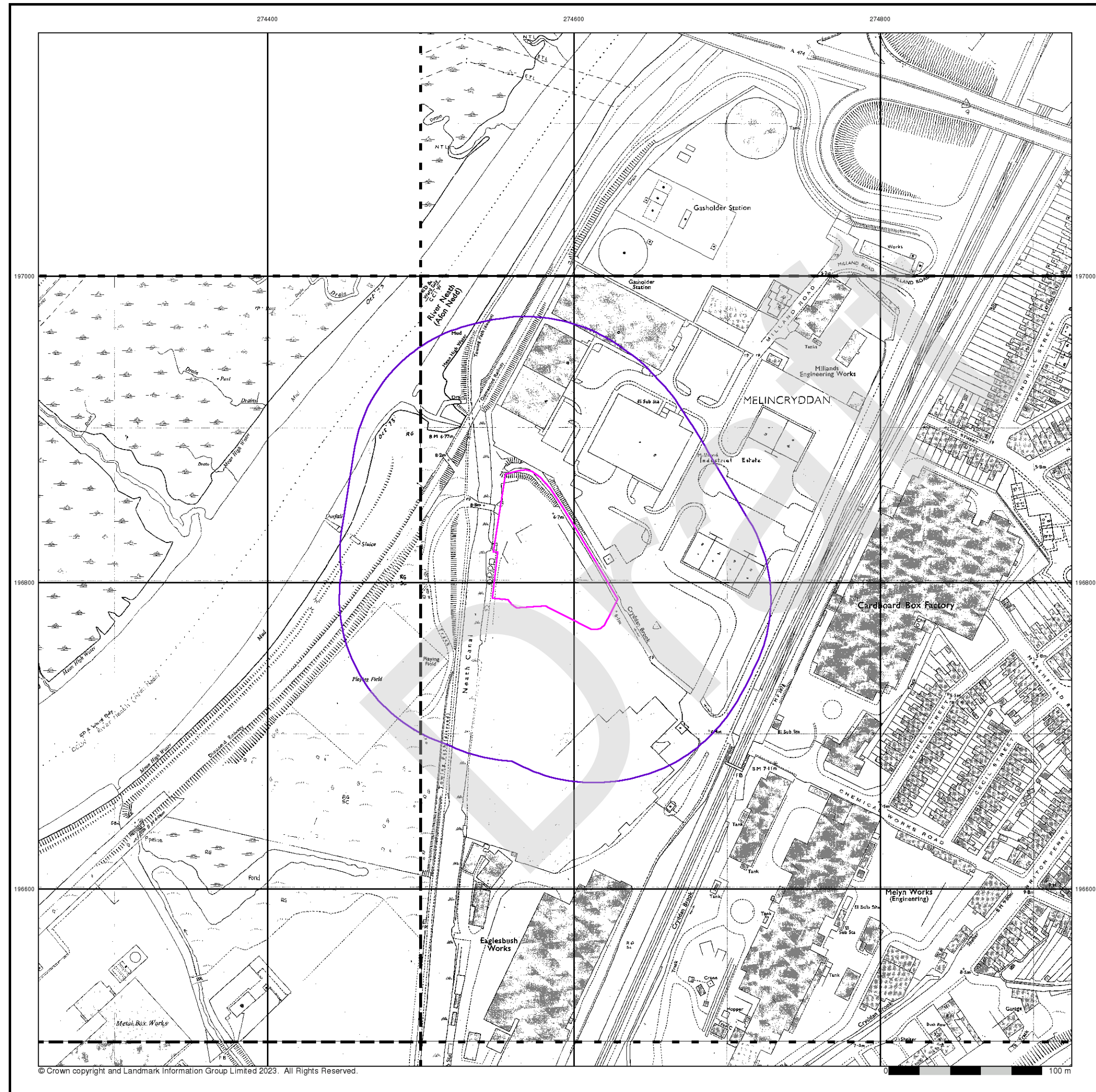
Site Details

Site at 274560, 196790



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





Geotechnical & Geoenvironmental Specialists

Additional SIMs

Published 1982 - 1989

Source map scale - 1:1,250

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

Map Name(s) and Date(s)

BS7497SE	1989	1:1,250
IS7496NW	1982	1:1,250
IS7496SW	1987	1:1,250

Historical Map - Segment A13

Order Details

Order Number:	323025305_1_1
Customer Ref:	18077JR
National Grid Reference:	274580, 196820
Slice:	A
Site Area (Ha):	0.52
Search Buffer (m):	100

Site Details

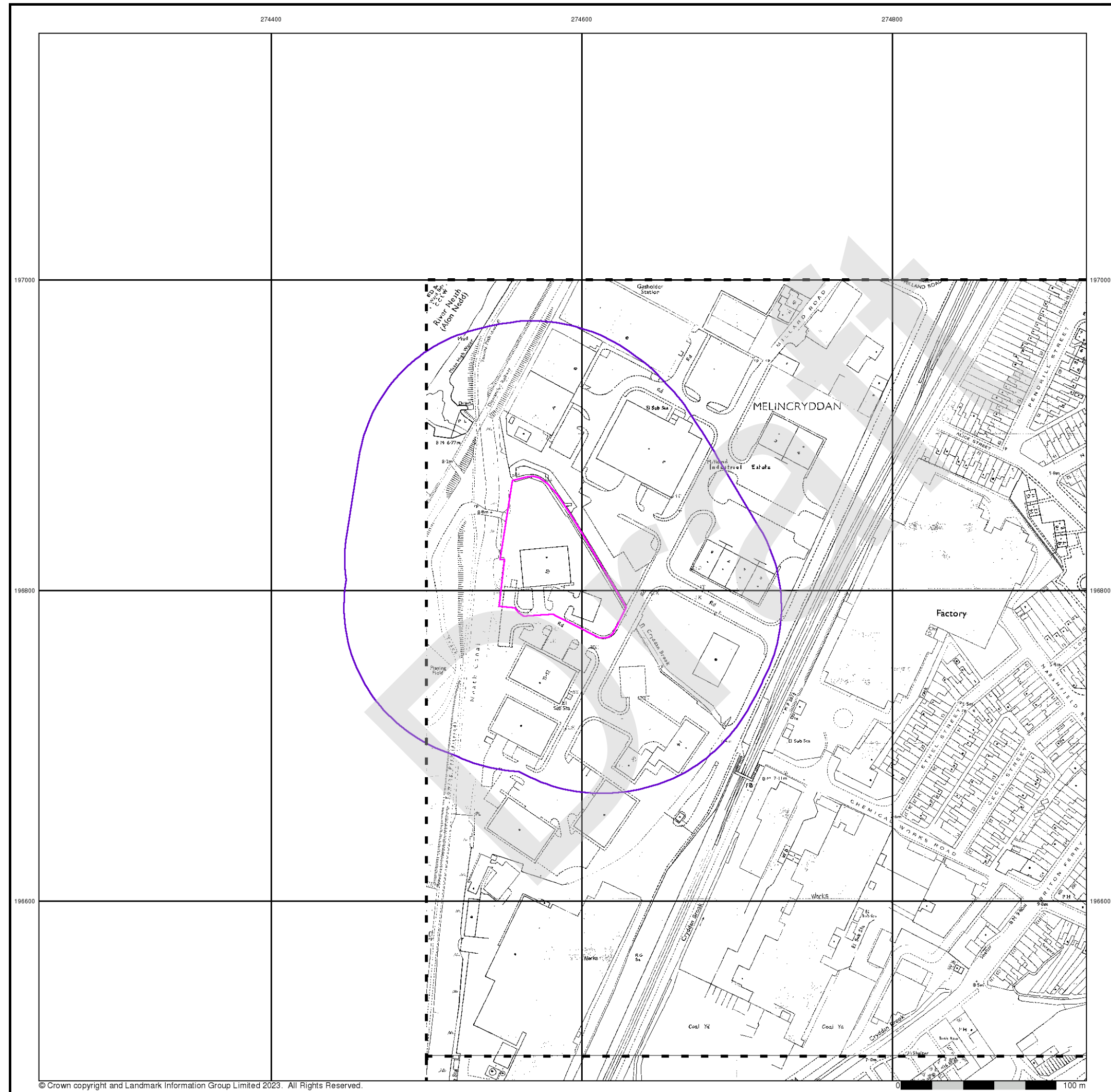
Site at 274560, 196790

INFORMATION GROUP

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

© Crown copyright and Landmark Information Group Limited 2023. All Rights Reserved.

A Landmark Information Group Service v50.0 01-Nov-2023 Page 13 of 18



Geotechnical & Geoenvironmental Specialists

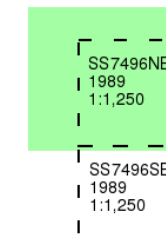
Additional SIMs

Published 1989

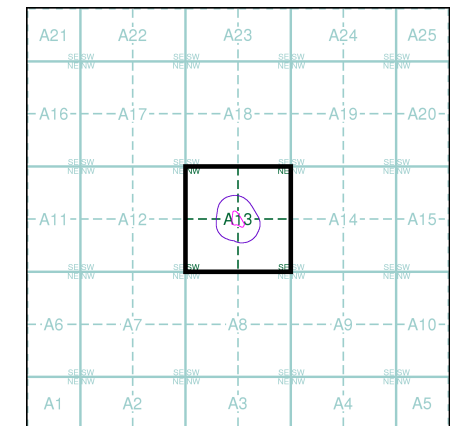
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 100

Site Details

Site at 274560, 196790



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



Published 1990

Source map scale - 1:1,250

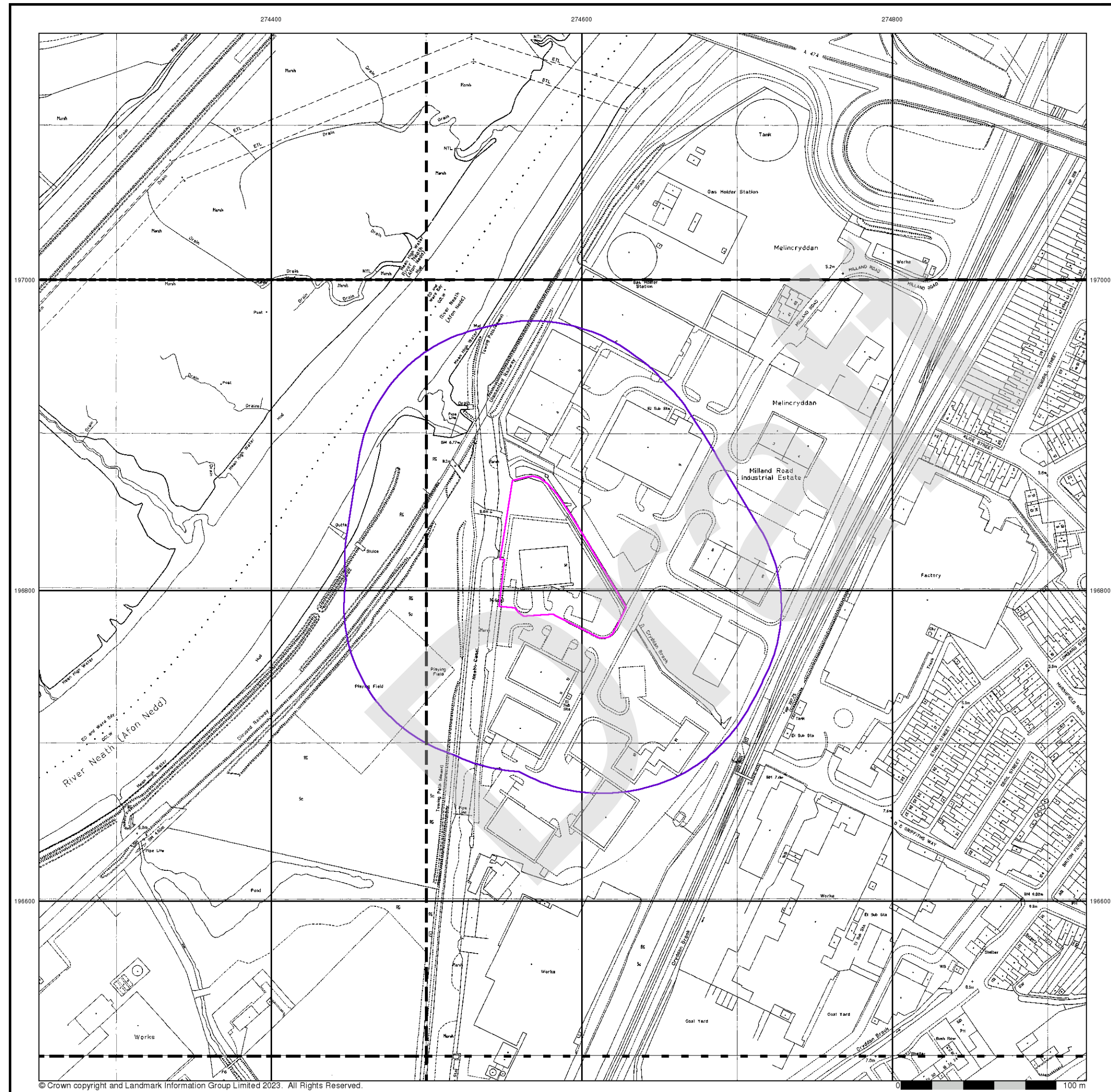
Map Name(s) and Date(s)



Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 100

Site at 274560, 196790





Geotechnical & Geoenvironmental Specialists

Large-Scale National Grid Data

Published 1993

Source map scale - 1:1,250

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

Map Name(s) and Date(s)

IS7497SW	IS7497SE
993	1993
1:1,250	1:1,250

IS7496NW	IS7496NE
993	1993
1:1,250	1:1,250

IS7496SW	IS7496SE
993	1993
1:1,250	1:1,250

Historical Map - Segment A13

Order Details

Order Number:	323025305_1_1
Customer Ref:	18077JR
National Grid Reference:	274580, 196820
Slice:	A
Site Area (Ha):	0.52
Search Buffer (m):	100

Site Details

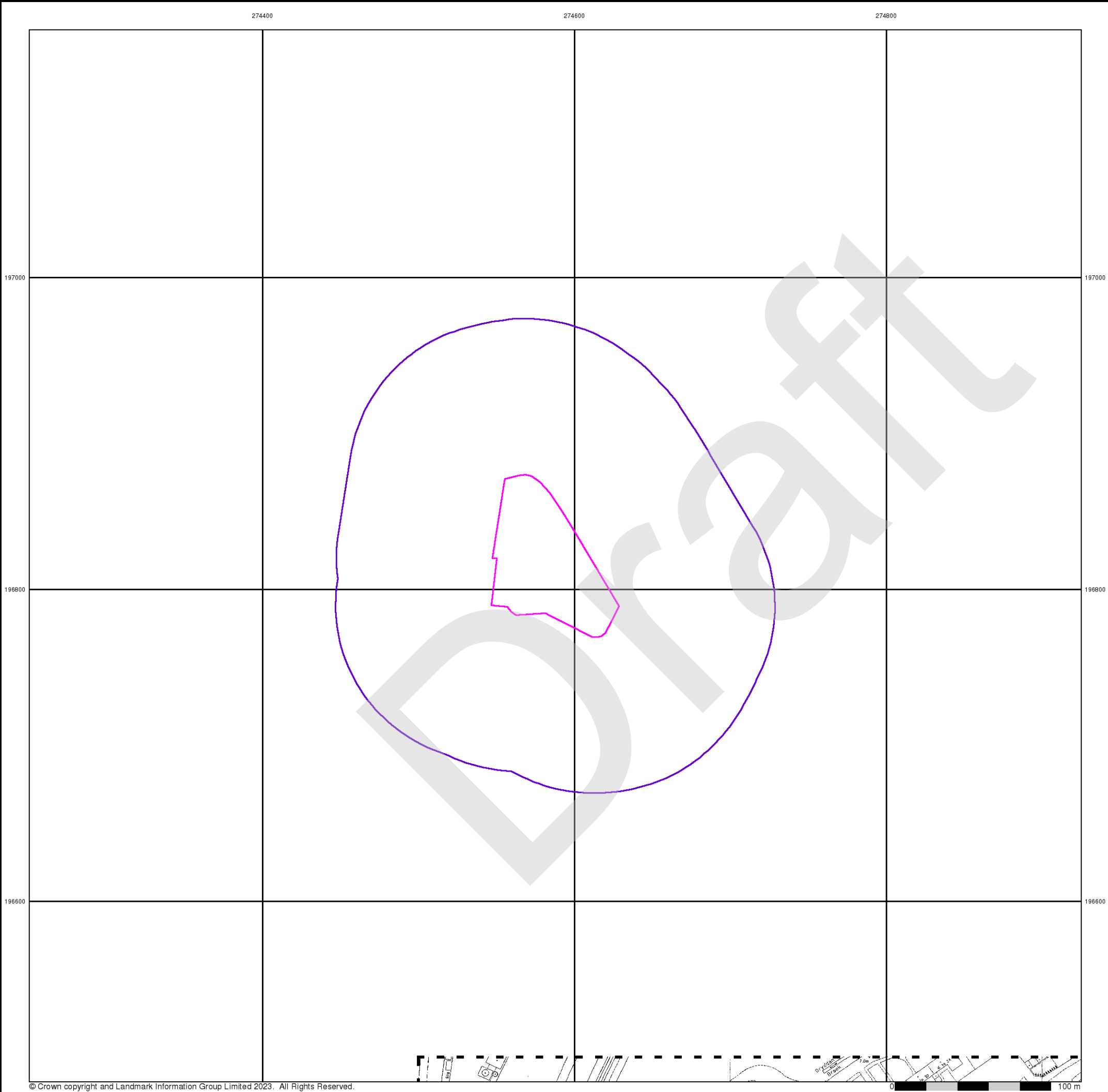
Site at 274560, 196790

INFORMATION GROUP

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

© Crown copyright and Landmark Information Group Limited 2023. All Rights Reserved.

A Landmark Information Group Service v50.0 01-Nov-2023 Page 16 of 18



Geotechnical & Geoenvironmental Specialists

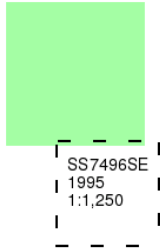
Large-Scale National Grid Data

Published 1995

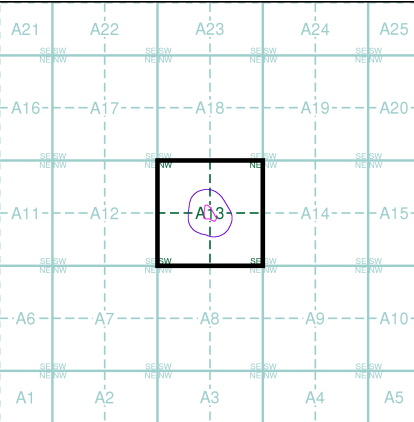
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 100

Site Details

Site at 274560, 196790



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



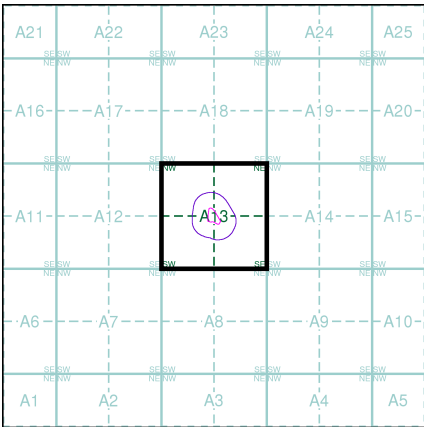
Geotechnical & Geoenvironmental Specialists

Historical Aerial Photography

Published 2000

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13



Order Details

Order Number: 323025305_1_1
Customer Ref: 18077JR
National Grid Reference: 274580, 196820
Slice: A
Site Area (Ha): 0.52
Search Buffer (m): 100

Site Details

Site at 274560, 196790



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

ANNEX B
Coal Authority Report

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

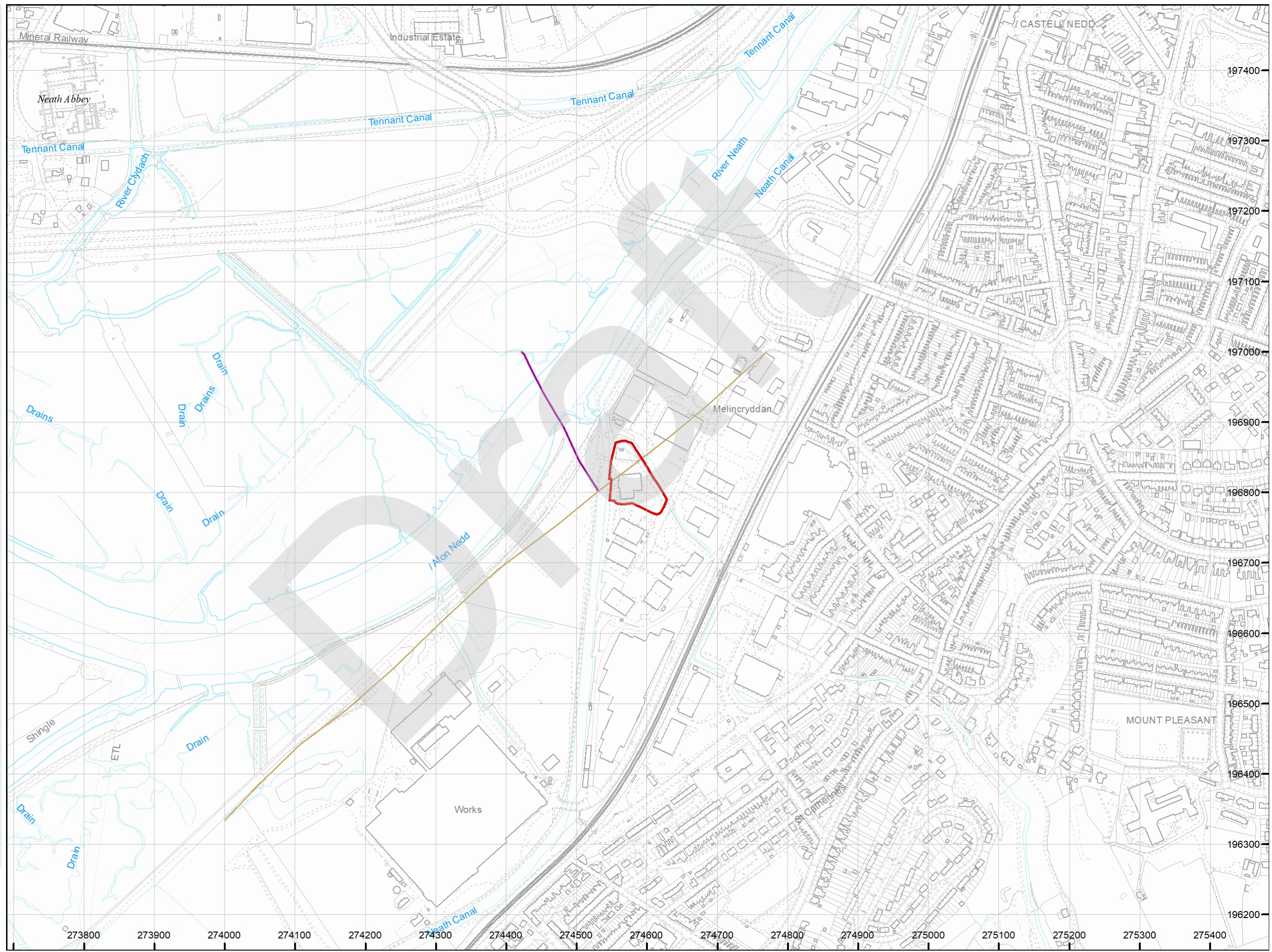
Key

Approximate position of the enquiry boundary shown 

Outcrop (Proven) 

Geological faults 

How to contact us
0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com





The Coal
Authority

Consultants Coal Mining Report

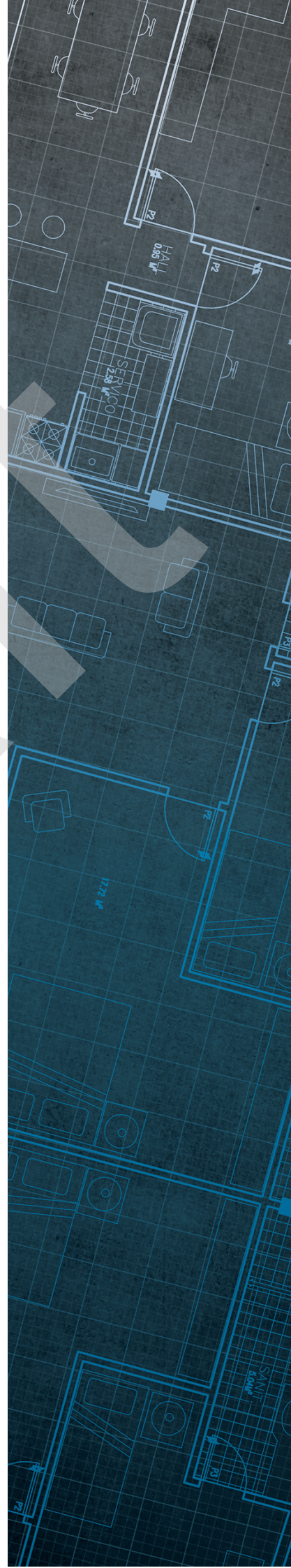
Milland Road,
Cimla
Neath
Neath Port Talbot
SA11 1AS

Date of enquiry:
Date enquiry received:
Issue date:

1 November 2023
1 November 2023
1 November 2023

Our reference:
Your reference:

51003386924001
323025305



Consultants

Coal Mining Report

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

Client name

NLIS Hub

Enquiry address

Milland Road,
Cimla
Neath
Neath Port Talbot
SA11 1AS

How to contact us

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

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

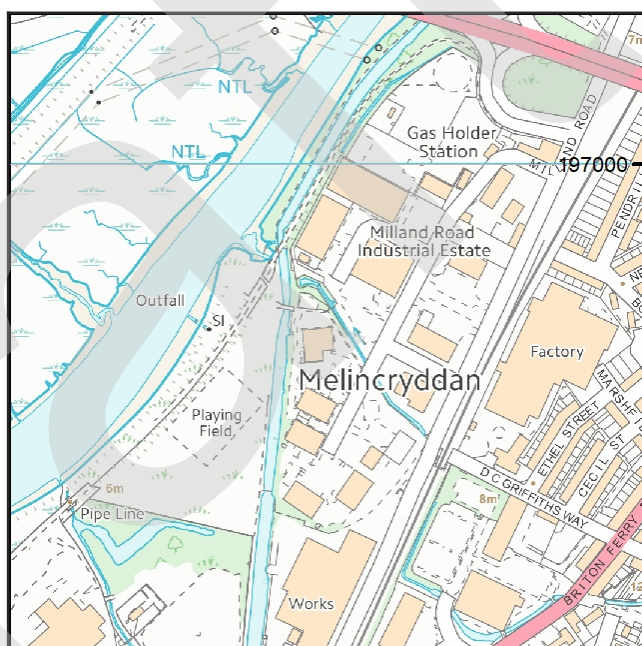
www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2018. All rights reserved.

Ordnance Survey Licence number: 100020315

Section 1 – Mining activity and geology

Past underground mining

No past mining recorded.

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers

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

SWR1671	SWR2654	SW1916
---------	---------	--------

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

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
UNNAMED	Coal	Yes	16.8	West	147

Geological faults, fissures and breaklines

Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Fault under or close to the property recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

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

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

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

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

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

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

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

Withdrawal of support notices

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

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

Payments to owners of former copyhold land

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

Section 4 – Further information

Based on the responses in this report, no further information has been highlighted.

Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority.

MINE GAS: Please note, if there are no recorded instances of mine gas within 500m of the enquiry boundary, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed. In these instances, the Coal Authority recommends that a more detailed Gas Risk Assessment is undertaken by a competent assessor.

Section 5 – Data definitions

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

Past underground coal mining

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

Probable unrecorded shallow workings

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

Spine roadways at shallow depth

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

Mine entries

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

Abandoned mine plan catalogue numbers

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

Outcrops

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

Geological faults, fissures and breaklines

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

Opencast mines

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

Coal Authority managed tips

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

Site investigations

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

Remediated sites

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

Coal mining subsidence

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

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

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

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission. Please note, if there are no recorded instances of mine gas reported, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded.

Mine water treatment schemes

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

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

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

Future underground mining

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

Coal mining licensing

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

Court orders

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

Section 46 notices

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

Withdrawal of support notices

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

Payment to owners of former copyhold land

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

ANNEX C
Risk Assessment Definitions

The contaminated land regime is set out in Part 2A of the Environmental Protection Act (EPA) 1990 and was introduced on the 1st April 2000 in England and 1st July 2001 in Wales. A similar regime was introduced in Scotland on 14th July 2000.

Part 2A was introduced to achieve three overarching objectives:

- (a) To identify and remove unacceptable risks to human health and the environment.
- (b) To seek to ensure that contaminated land is made suitable for its current use.
- (c) To ensure that the burdens faced by individuals, companies and society as a whole are proportionate, manageable and compatible with the principles of sustainable development.

Under Part 2A the statutory definition of 'contaminated land' is:

"any land which appears to the local authority in whose area it is situated, to be in such a condition, by reason of substances in, on, or under the land, that:

- (a) Significant harm is being caused or there is a significant possibility of such harm being caused; or
- (b) Pollution of controlled waters is being, or is likely to be, caused."

Under Part 2A, for land to be classified as 'Contaminated Land' there must be one or more contaminant, pathway, receptor linkages, known as the '**Pollutant Linkage**'. A pollutant linkage requires three essential elements:

- (a) A **CONTAMINANT** (SOURCE) – a substance that is in, on or under the land and has the potential to cause harm or to cause pollution of controlled waters.
- (b) A **RECEPTOR** – something which could be adversely affected by a contaminant.
- (c) A **PATHWAY** – a route by which a receptor is or might be exposed to or affected by a contaminant.

The term 'Risk' is widely used in different contexts and situations, but a prescriptive definition is given by the Guidelines for Environmental Risk Assessment and Management (DEFRA *et al*, 2000):

'Risk is a combination of the probability, or frequency, of occurrence of a defined hazard and the magnitude of the consequences of the occurrence'.

Model Procedures for the Management of Land Contamination – Contamination Land Report 11 (2004) defines a 'Hazard' as

'a property or situation that in particular circumstances could lead to harm'.

A framework for qualitative risk assessment is provided in CIRIA publication C552 Contaminated Land Risk Assessment – A Guide to Good Practice (2001). The method requires an assessment of the magnitude of the probability of the risk occurring and the magnitude of the potential consequence. Classifications of consequences and probability, levels and descriptions of risk have been devised from the above publication and are defined in the following sections.

Classification of Consequence

Table A Classification of Consequence	
Classification	Definition
Severe	• Short term (acute) risk to human health likely to result in significant harm • Short term risk to controlled waters • Catastrophic damage to buildings/structures • Short term risk to an ecosystem or organism within the particular ecosystem
Medium	• Chronic damage to human health (long term risk) • Pollution of a sensitive water resource • A significant change in an ecosystem or organism within the ecosystem
Mild	• Pollution of non-sensitive water resources • Significant damage to buildings/structures • Damage to sensitive buildings/structure/services or the environment
Negligible	• Harm (not necessarily significant) which may result in financial loss • Non-permanent health effects to humans (easily prevented by PPE for example) • Easily repairable effects of structural (building) damage

Classification of Probability

Table B Classification of Probability	
Classification	Definition
High Likelihood	• There is a complete pollution linkage and an event appears very likely to occur in the short term and is inevitable in the long term. • Evidence of harm to the receptor
Likely	• There is a complete pollution linkage which means that it is probable that an event will occur • The event is not inevitable but possible in short term and likely in the long term
Low Likelihood	• There is a complete pollution linkage and circumstances are possible under which an event could occur • It is not certain that an event will occur in the long term, and it is less likely to occur in the short term
Unlikely	• There is a complete pollution linkage but circumstances are such that it is improbable that an event would occur even in the long term

Risk Assessment Matrix

By comparing the consequences of a risk and the probability of the risk of a pollution linkage, the likely risk category can be determined as shown in **Table C** below.

Table C Risk Assessment Matrix					
Increasing acceptability ↘		Consequence			
		Severe	Medium	Mild	Negligible
Probability	High Likelihood	High risk	High risk	Medium risk	Low risk
	Likely	High risk	Medium risk	Low risk	Near zero risk
	Low Likelihood	Medium risk	Low risk	Low risk	Near zero risk
	Unlikely	Low risk	Near zero risk	Near zero risk	Near zero risk

Description of Risks and Likely Actions

High Risk

There is a high probability that severe harm could arise to a receptor, or there is evidence that a receptor is currently being severely harmed. The risk if realised is likely to result in liability, and urgent investigation or remediation will be required.

Medium Risk

It is probable that harm will arise to a receptor. However, it is relatively unlikely that such harm would be severe, or if harm does occur the harm is likely to be relatively mild. Investigation will be required to determine the liability, and some remedial works may be required in the long term.

Low Risk

It is possible that harm may arise to a receptor, but it is likely that the harm would be mild.

Near Zero Risk

There is a very low risk of harm to the receptor. In the event of harm being realised the harm is not likely to be severe.



Terra Firma (Wales) Ltd. 5 Deryn Court, Wharfedale Road, Pentwyn, Cardiff CF23 7HA
Tel: 029 2073 5354 **Fax:** 029 2073 5433 **Email:** info@terrafirmawales.co.uk www.terrafirmawales.co.uk