terrafirma

Envirocheck® Report: Geology 1:50,000 Maps

Order Details:

Order Number:
25093116_1_1

Customer Reference:
10287

National Grid Reference:
288590, 206940

Slice:
A

Site Area (Ha):
2.67

Search Buffer (m):
1000

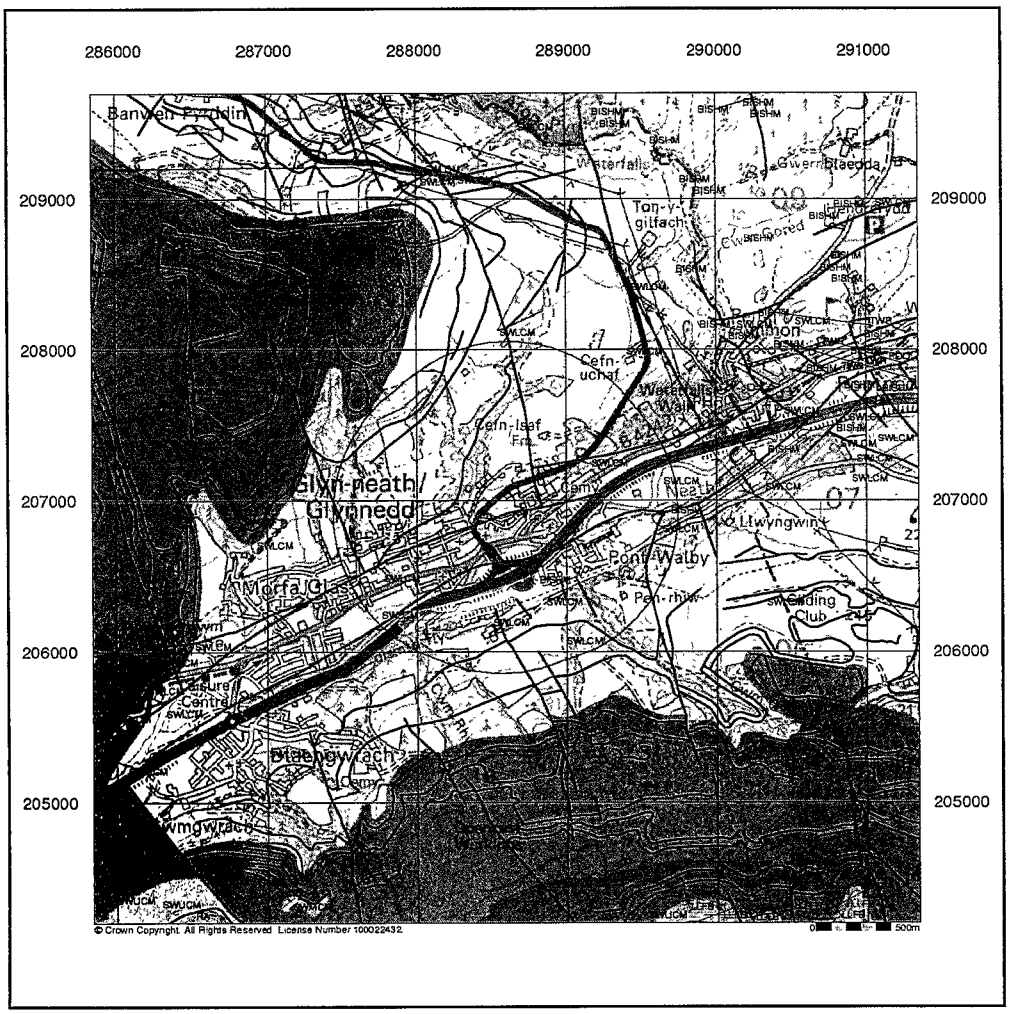
Site Details:

Site at
Glyn-neath
Neath Port Talbot

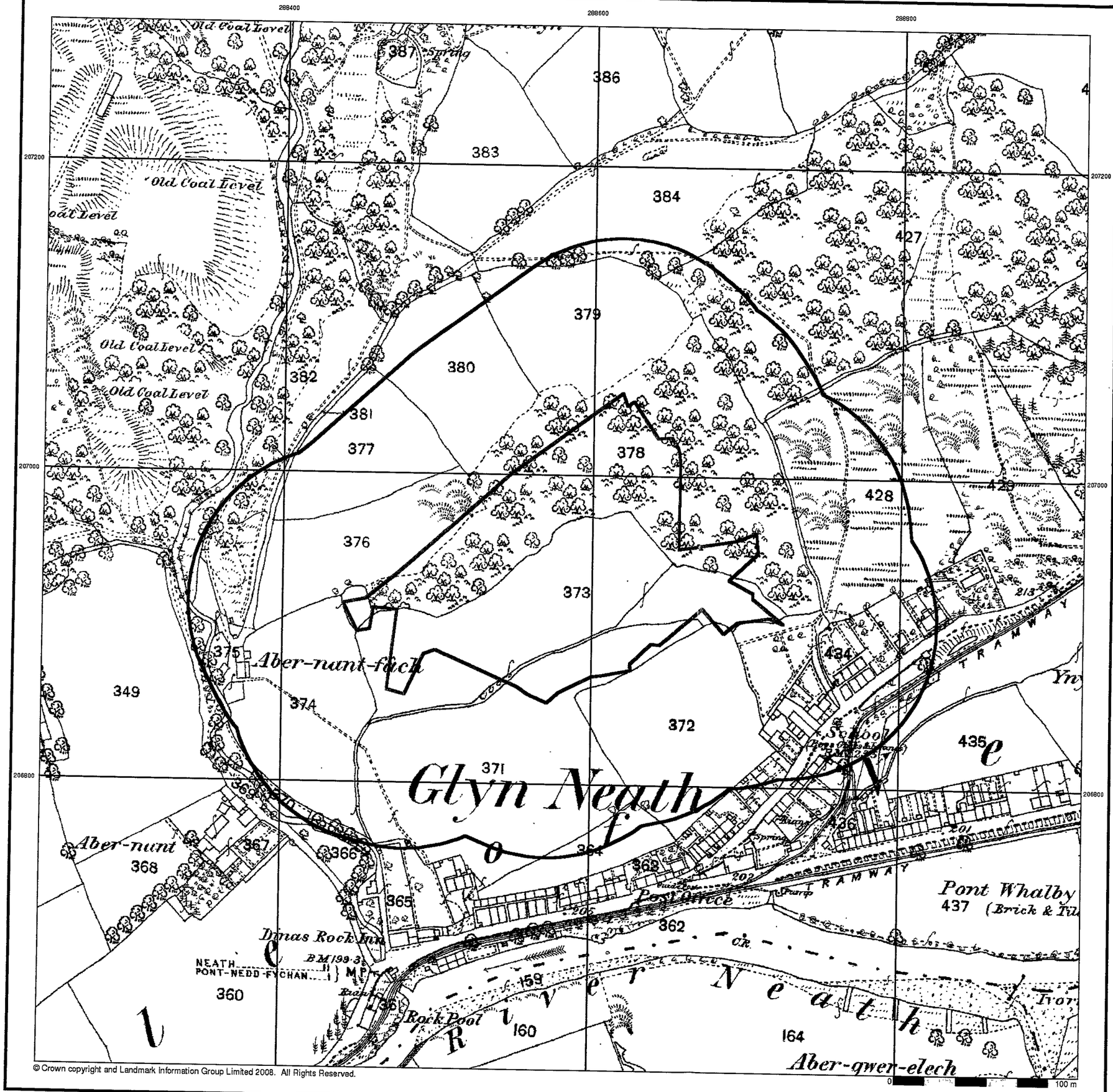
Client Details:

Ms R Liley
Terra Firma (Wales) Ltd
5 Deryn Court
Warfdale Road
Pentwyn
Cardiff
CF23 7HB

Bedrock and Faults Map



Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	RA	Rhondda Member	Sandstone	Westphalian D - Bolsovian (Westphalian C)
	LLFB	Llynfi Member	Mudstone, Siltstone and Sandstone	Bolsovian (Westphalian C) - Bolsovian (Westphalian C)
	SWUCM	South Wales Upper Coal Measures Formation	Mudstone, Siltstone and Sandstone	Westphalian D - Bolsovian (Westphalian C)
	LLFB	Llynfi Member	Sandstone	Bolsovian (Westphalian C) - Bolsovian (Westphalian C)
	SWMCM	South Wales Middle Coal Measures Formation	Mudstone, Siltstone and Sandstone	Bolsovian (Westphalian C) - Duckmantian (Westphalian B)
	SWMCM	South Wales Middle Coal Measures Formation	Sandstone	Bolsovian (Westphalian C) - Duckmantian (Westphalian B)
	SWLCM	South Wales Lower Coal Measures Formation	Mudstone, Siltstone and Sandstone	Langsettian (Westphalian A) - Langsettian (Westphalian A)



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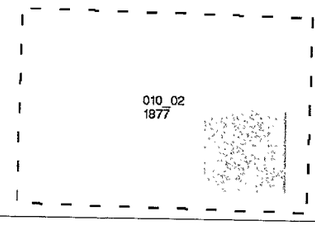
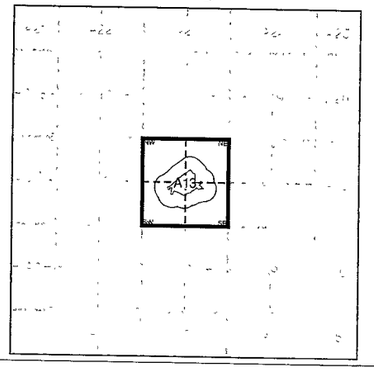
Glamorganshire
Published 1877
Source map scale - 1:2,500

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



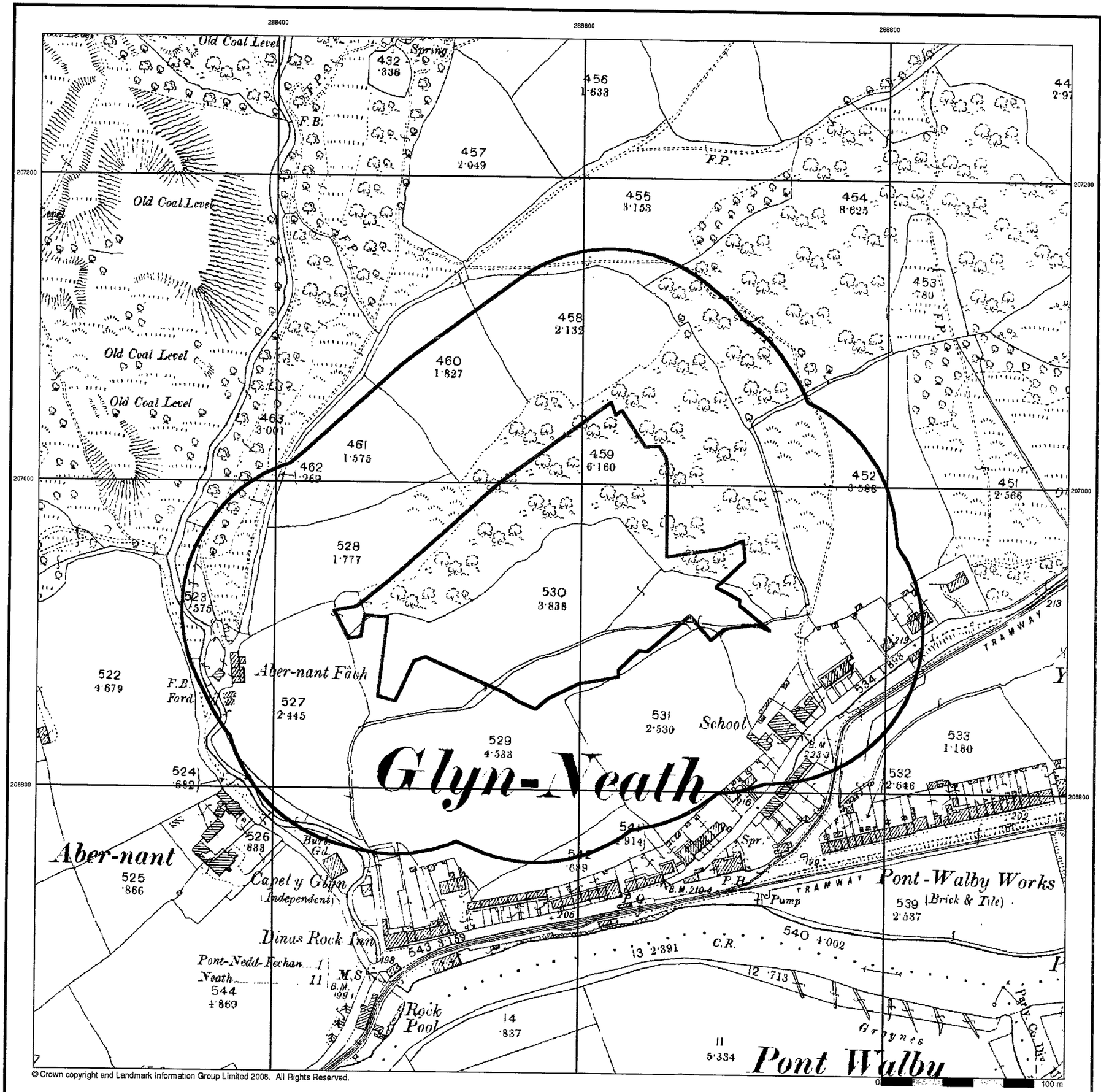
Order Details

Order Number:	24537603_1_1
Customer Ref:	10287
National Grid Reference:	288580, 206940
Slice:	A
Site Area (Ha):	2.71
Search Buffer (m):	100

Site Details

Intervalley Road, Glynneath, Neath, SA11 5TU

LANDMARK Information Group
Tel: 0870 850 6670
Fax: 0870 850 6671
Web: www envirocheck co.uk



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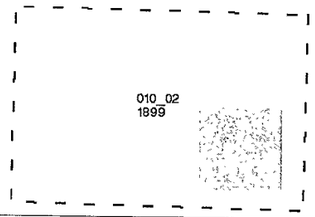
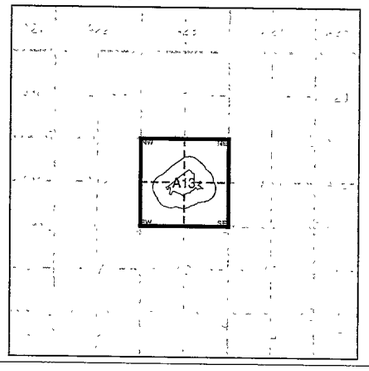
Glamorganshire
Published 1899
Source map scale - 1:2,500

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)



Historical Map - Segment A13



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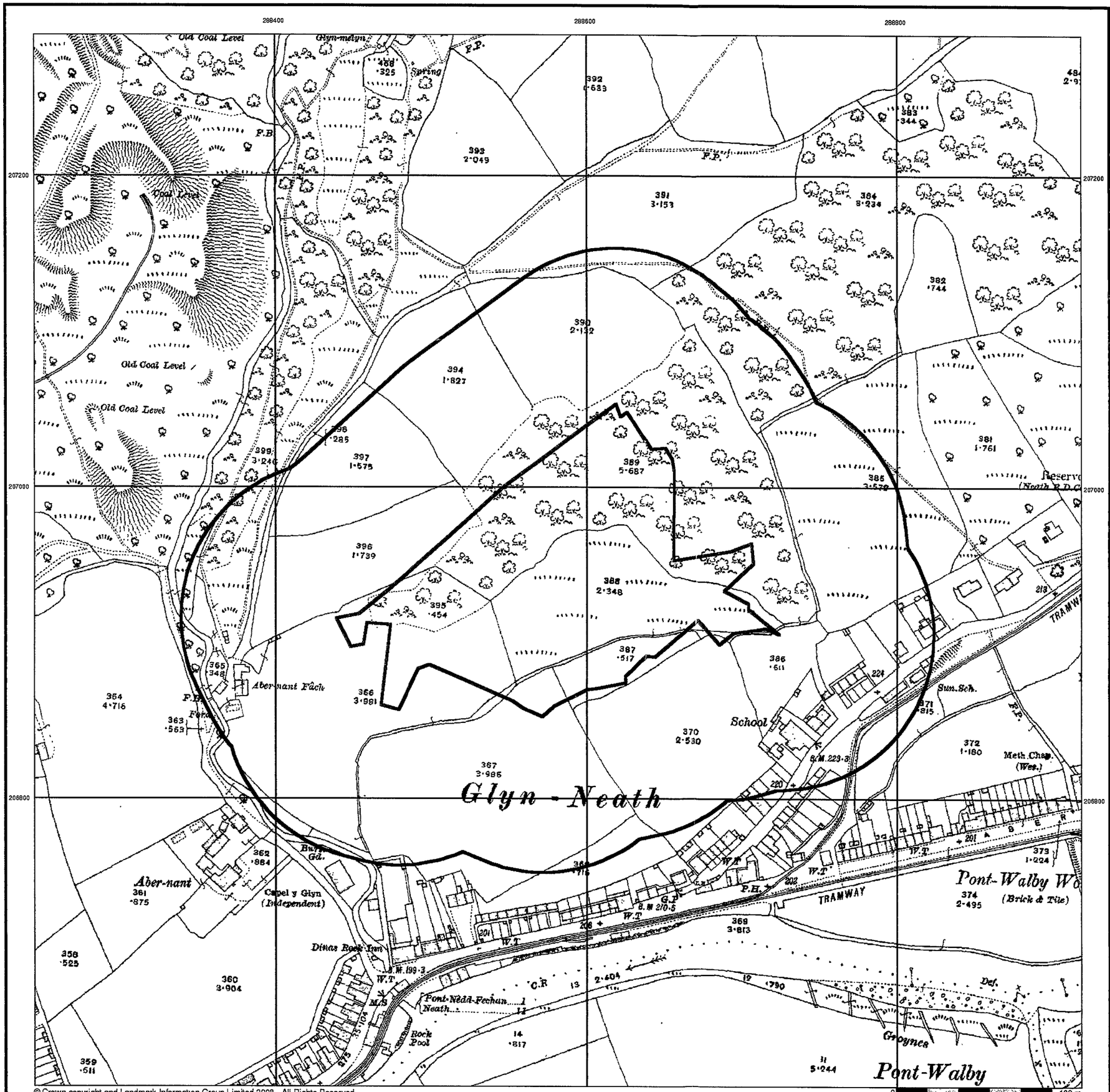

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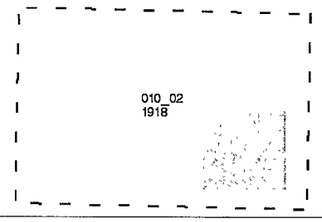
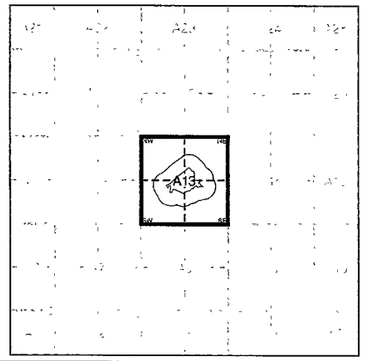
Glamorganshire
Published 1918
Source map scale - 1:2,500

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



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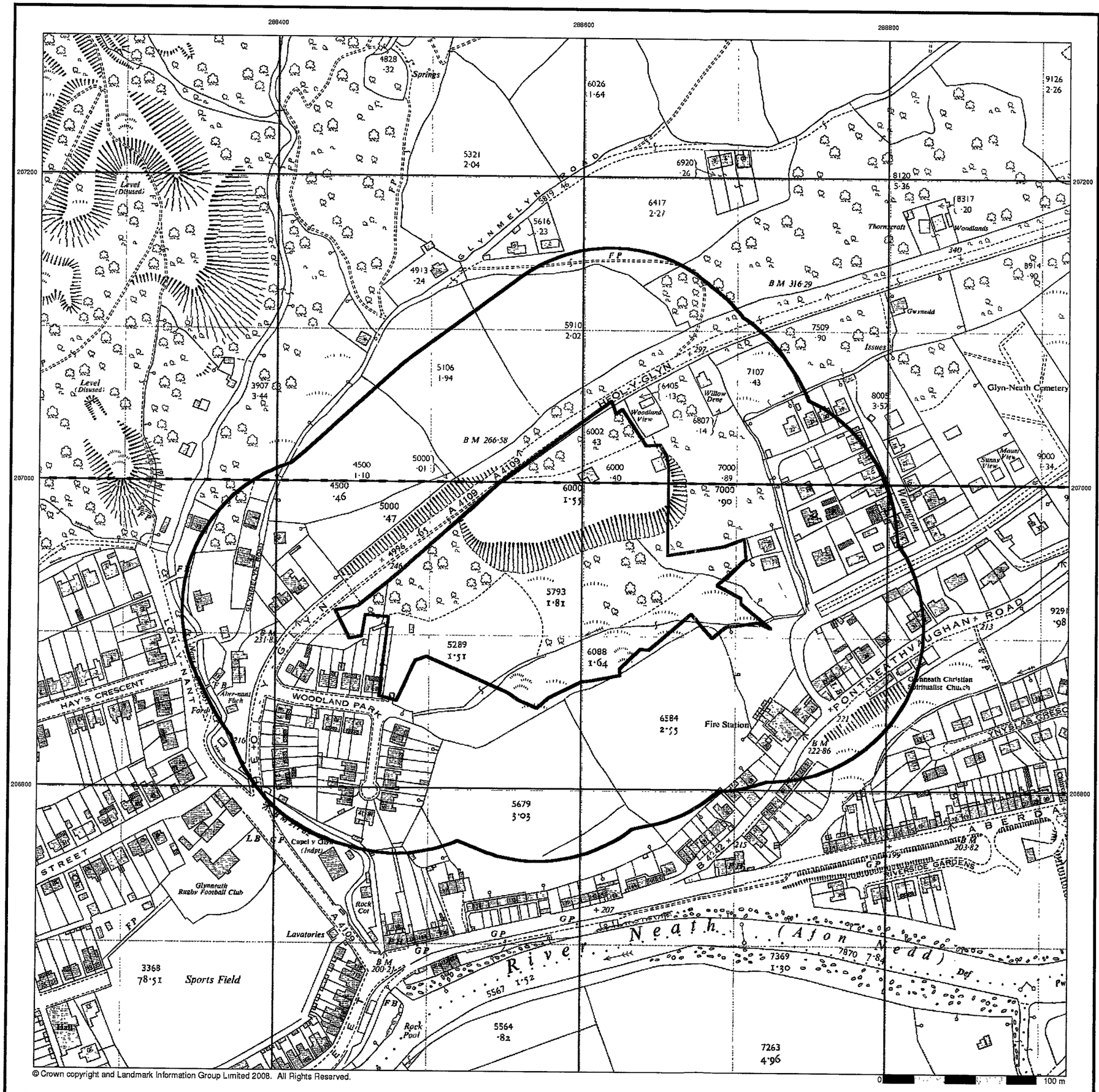

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Ordnance Survey Plan
Published 1962 - 1964
Source map scale - 1:2,500

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.

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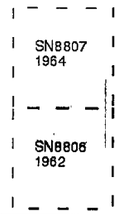
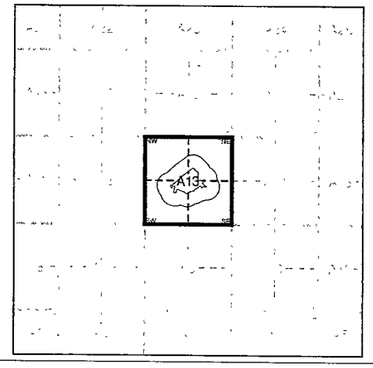


Historical Map - Segment A13



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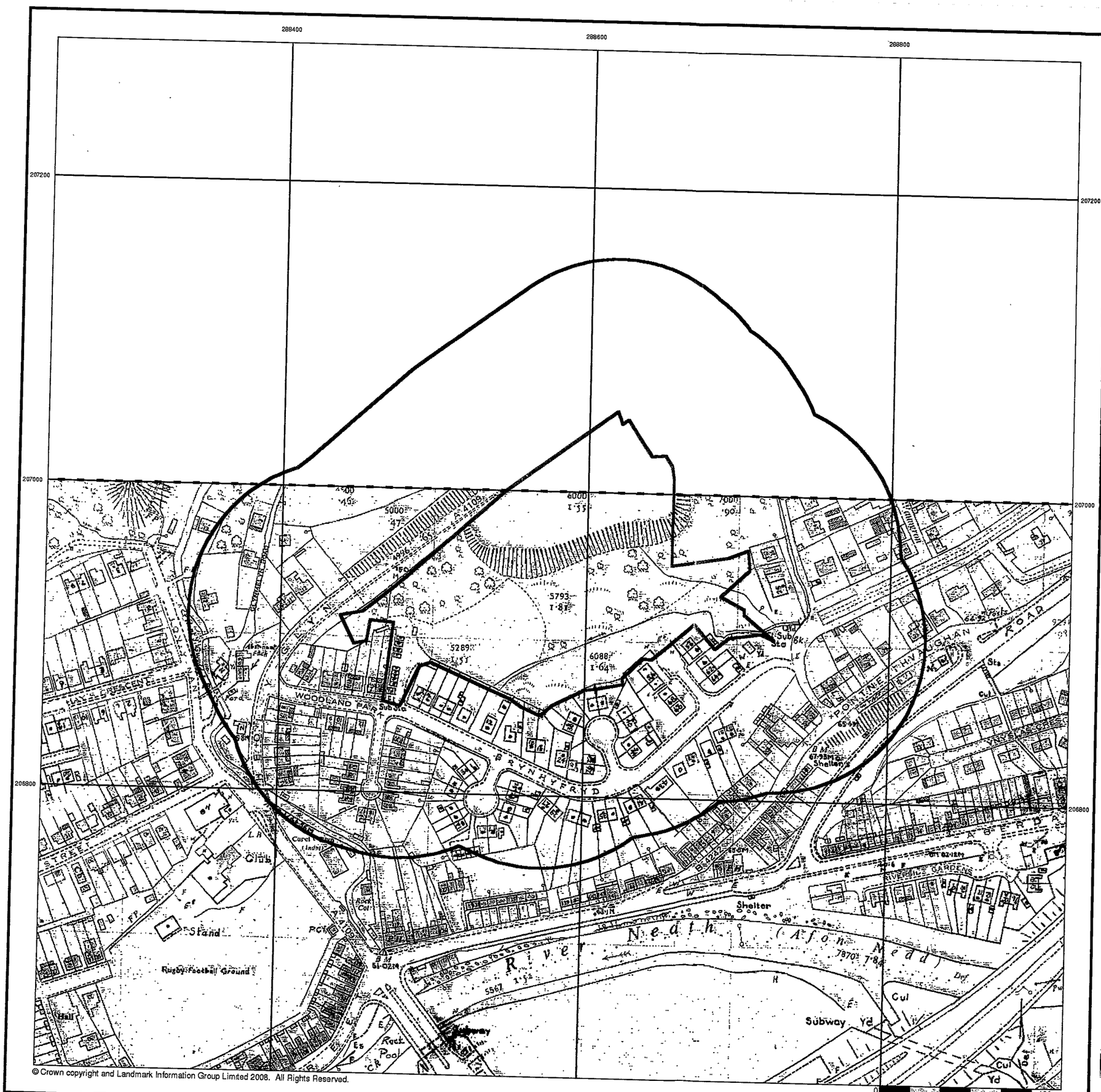

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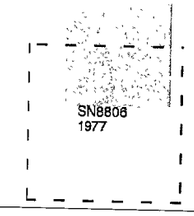
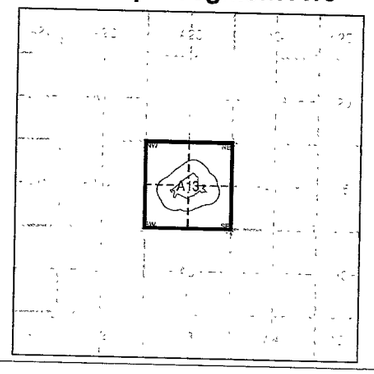
Additional SIMs
Published 1977
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



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Ordnance Survey Plan
Published 1981
Source map scale - 1:2,500

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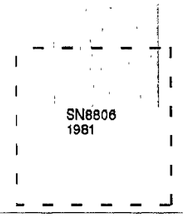
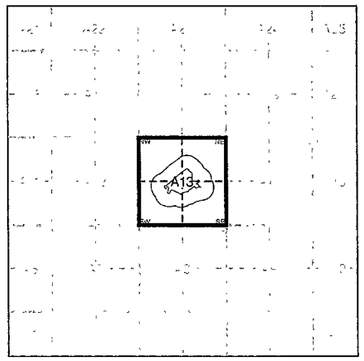
Map Name(s) and Date(s)



Historical Map - Segment A13



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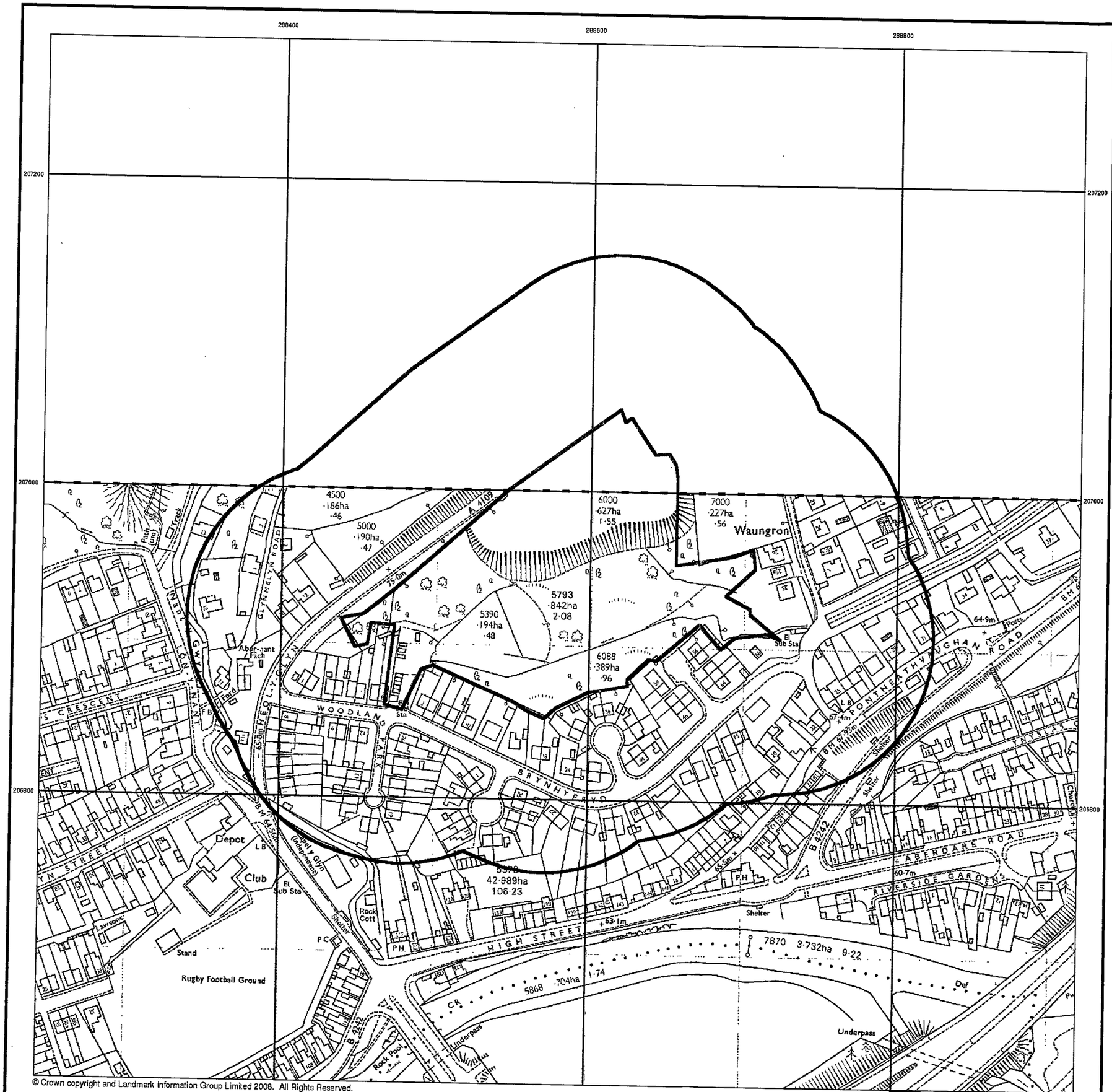

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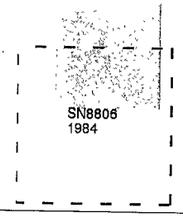
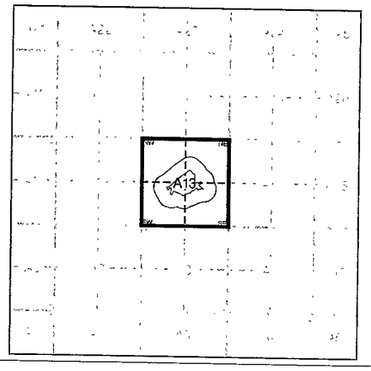
Ordnance Survey Plan
Published 1984
Source map scale - 1:2,500

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

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Large-Scale National Grid Data
Published 1993
Source map scale - 1:2,500

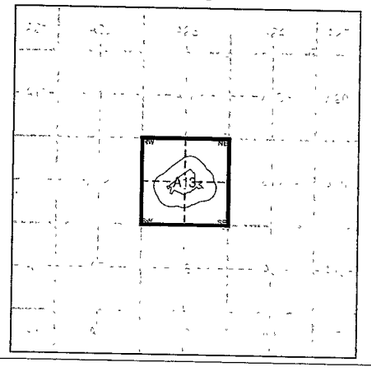
'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic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

Map Name(s) and Date(s)

SN8807
1993

SN8806
1993

Historical Map - Segment A13



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Site Details

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Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:10,560

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

Ordnance Survey Plan 1:10,000

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

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

1:10,000 Raster Mapping

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

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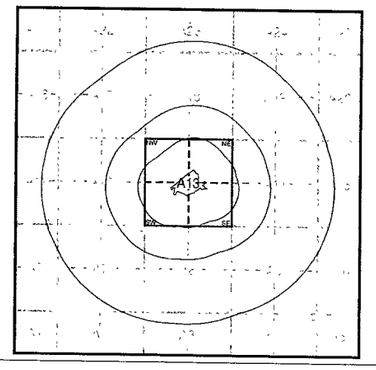
Ordnance Survey mapping included:

Mapping Type	Scale	Date	Pg
Glamorganshire	1:10,560	1883 - 1884	2
Brecknockshire	1:10,560	1891	3
Glamorganshire	1:10,560	1900 - 1901	4
Brecknockshire	1:10,560	1905 - 1906	5
Brecknockshire	1:10,560	1921	6
Glamorganshire	1:10,560	1921	7
Glamorganshire	1:10,560	1938 - 1953	8
Brecknockshire	1:10,560	1953	9
Ordnance Survey Plan	1:10,560	1964	10
Ordnance Survey Plan	1:10,560	1980	11
Ordnance Survey Plan	1:10,000	1983	12
10K Raster Mapping	1:10,000	2000	13
10K Raster Mapping	1:10,000	2007	14

Historical Map - Slice A



Order Details

Order Number: 24537603_1_1
Customer Ref: 10287
National Grid Reference: 288580, 206940
Slice: A
Site Area (Ha): 2.71
Search Buffer (m): 1000

Site Details

Intervalley Road, Glynneath, Neath, SA11 5TU

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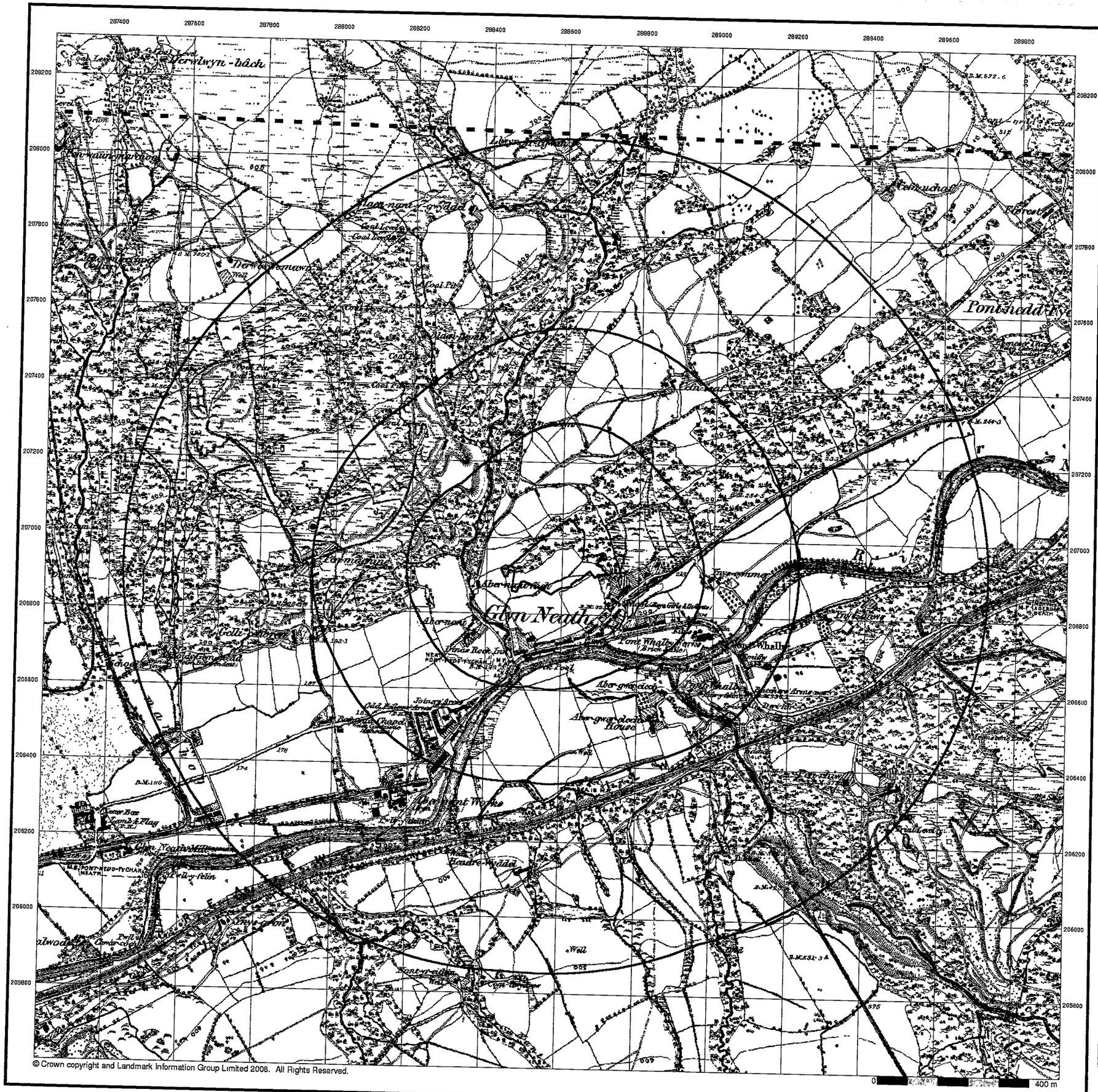

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Glamorganshire
Published 1883 - 1884
Source map scale - 1:10,560

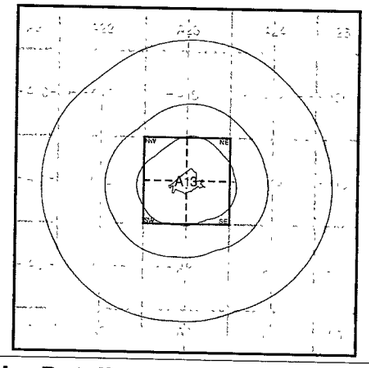
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some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

004_00
1883

010_00
1884

Historical Map - Slice A



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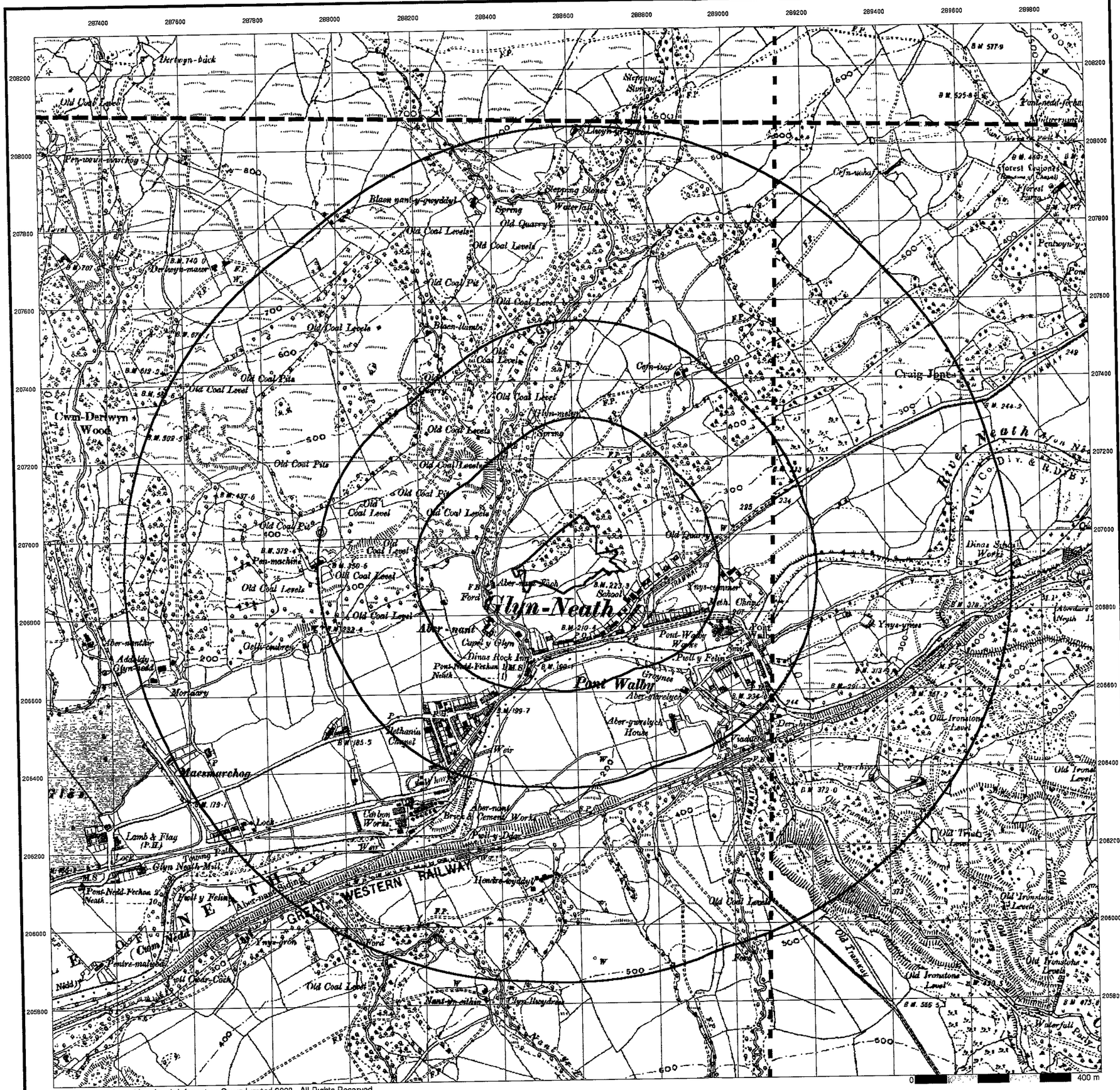


Envirocheck®

A Landmark service

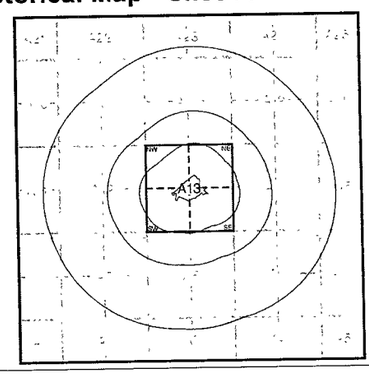
Glamorganshire
Published 1900 - 1901
Source map scale - 1:10,560

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)

004_SW 1900	004_SE 1901
010_NW 1900	010_NE 1900

Historical Map - Slice A



Order Details

Order Number:	24537603_1_1
Customer Ref:	10287
National Grid Reference:	288580, 206940
Slice:	A
Site Area (Ha):	2.71
Search Buffer (m):	1000

Site Details

Intervalley Road, Glynneath, Neath, SA11 5TU

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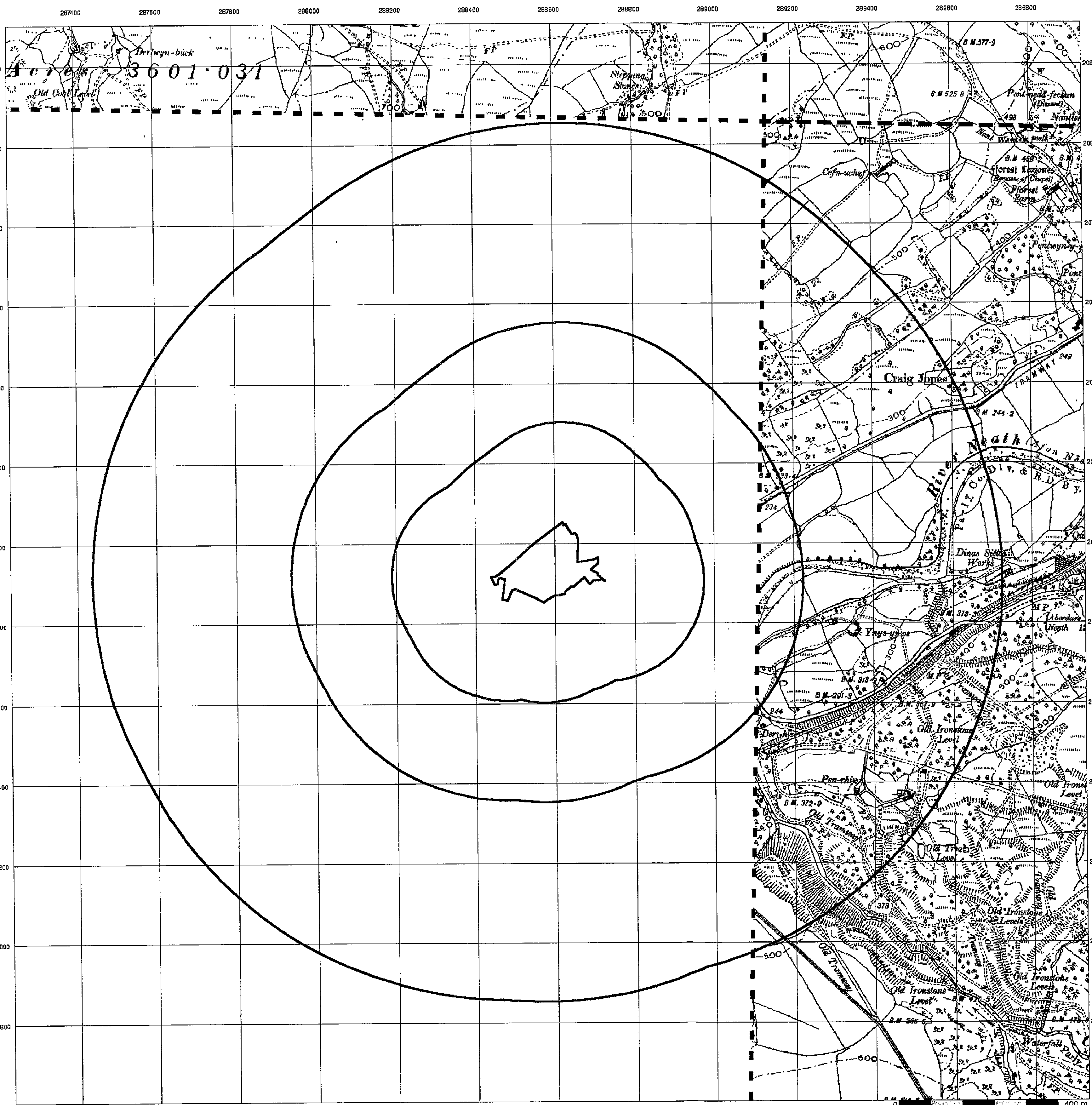
Tel: 0870 850 6670
Fax: 0870 850 6671
Web. www.envirocheck co.uk



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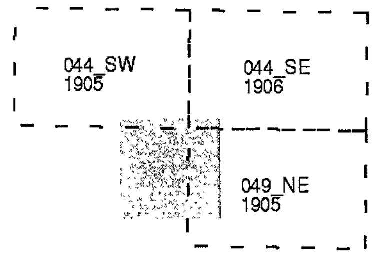
Brecknockshire

Published 1905 - 1906

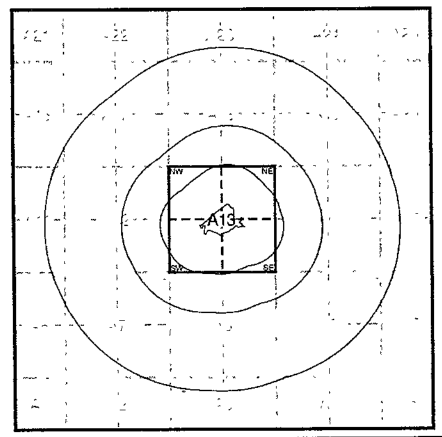
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



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Order Details

Order Number: 24537603_1_1
Customer Ref: 10287
National Grid Reference: 288580, 206940
Slice: A
Site Area (Ha): 2.71
Search Buffer (m): 1000

Site Details

Intervalley Road, Glynneath, Neath, SA11 5TU

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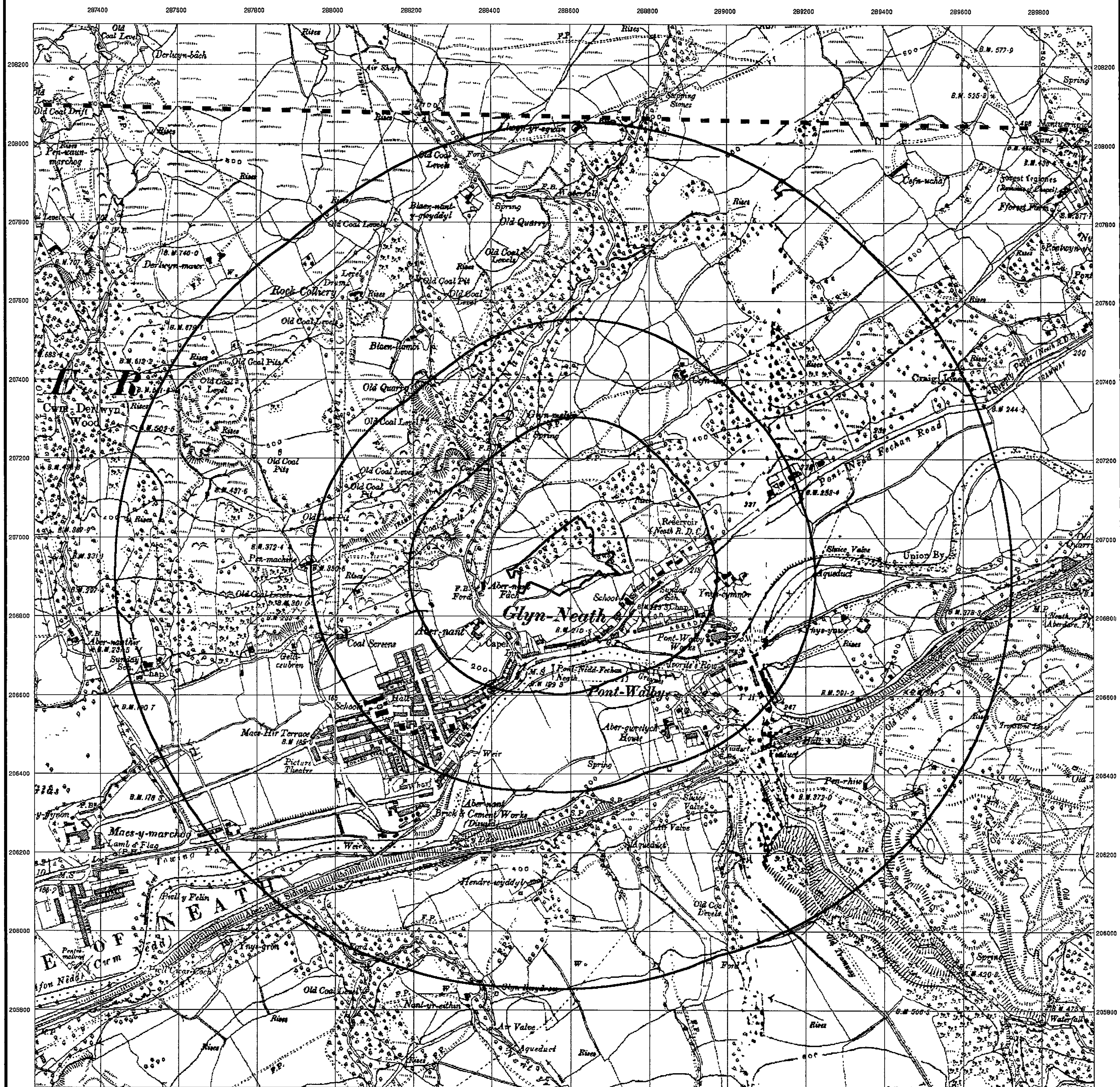

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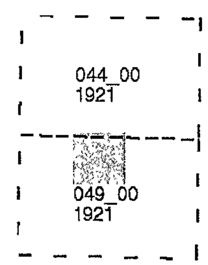
Brecknockshire

Published 1921

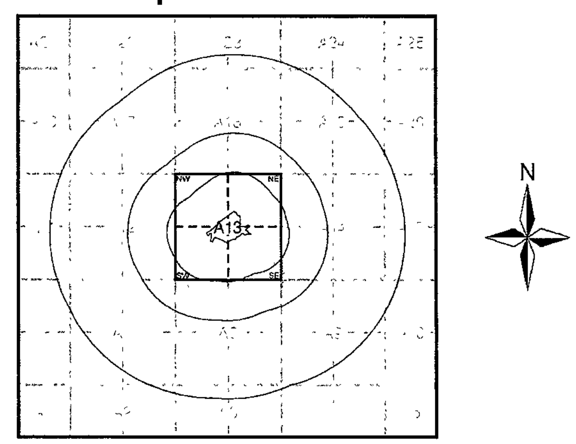
Source map scale - 1:10,560

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)



Historical Map - Slice A



Order Details

Order Number: 24537603_1_1
Customer Ref: 10287
National Grid Reference: 288580, 206940
Slice: A
Site Area (Ha): 2.71
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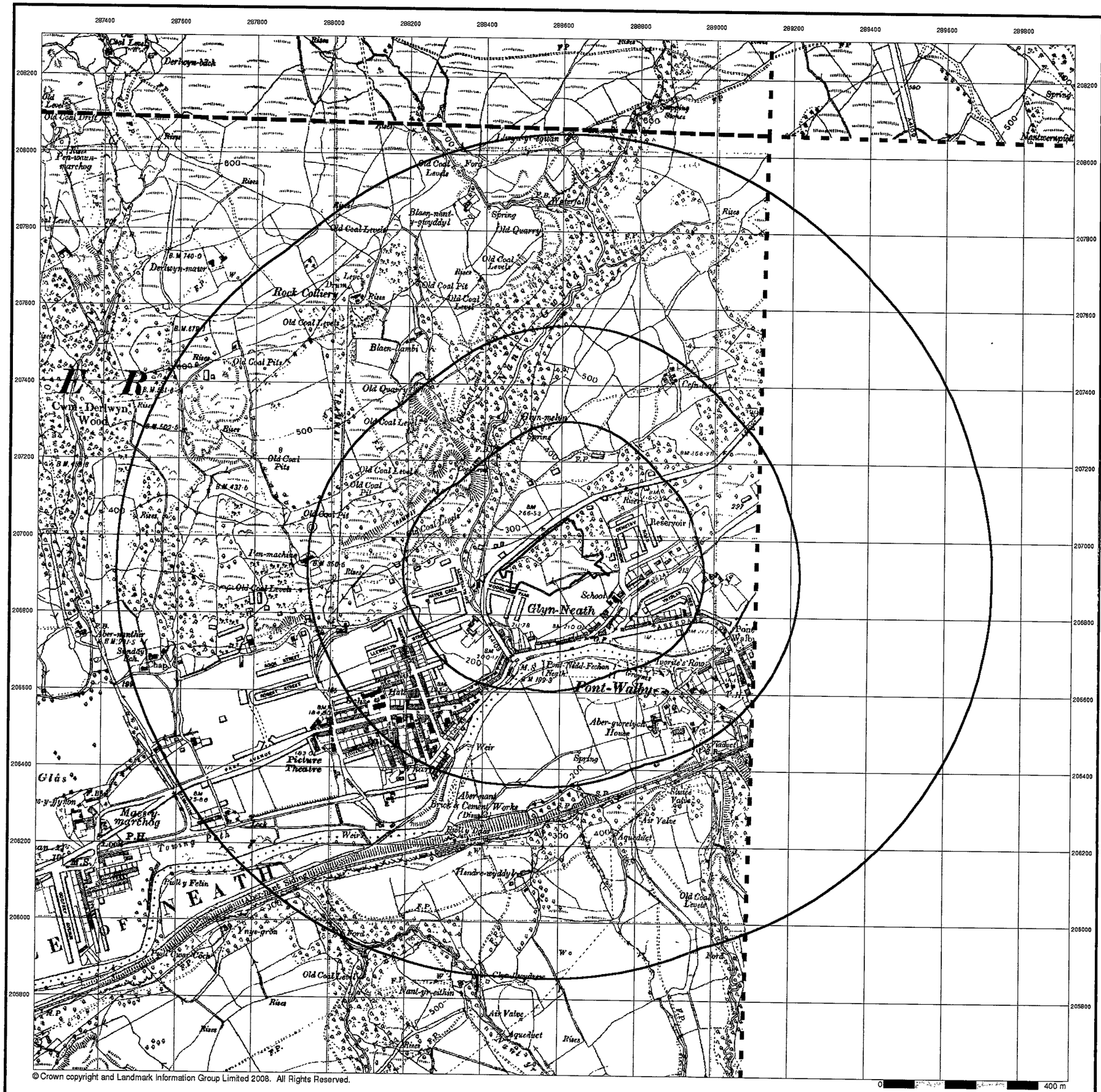

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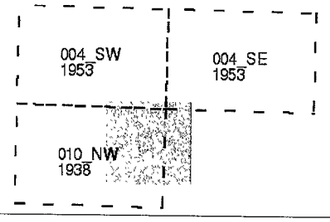
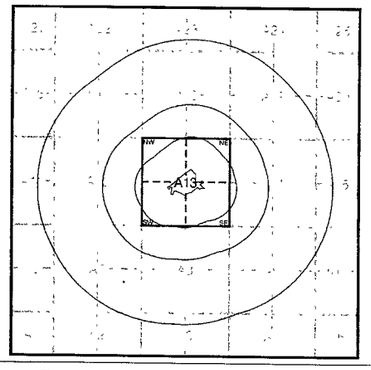
Glamorganshire
Published 1938 - 1953
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

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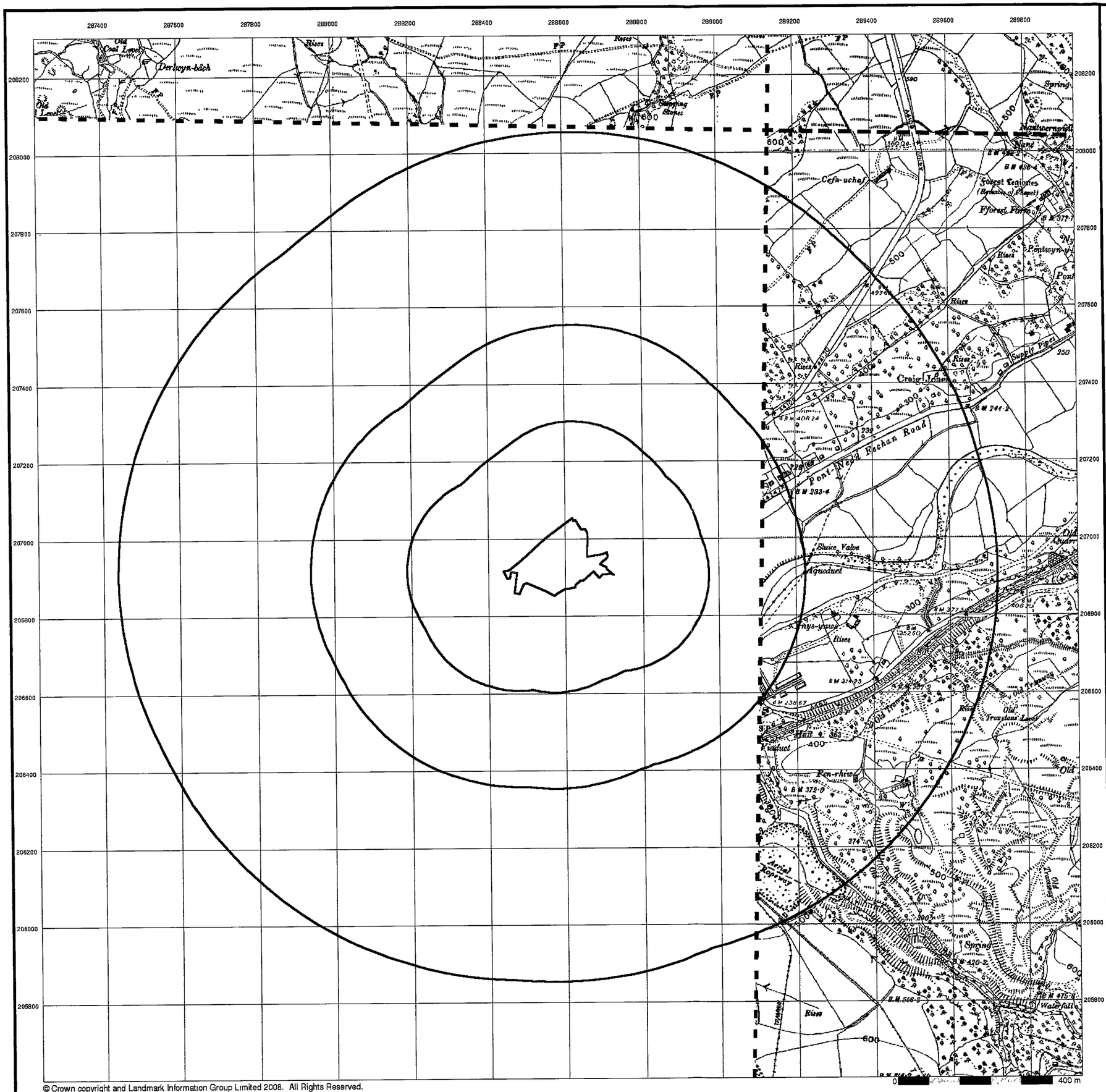

Envirocheck®
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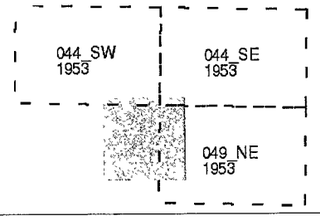
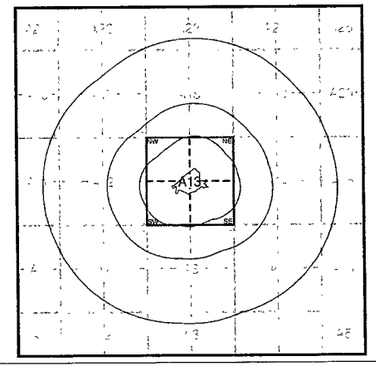
Brecknockshire
Published 1953
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	24537603_1_1
Customer Ref:	10287
National Grid Reference:	288580, 206940
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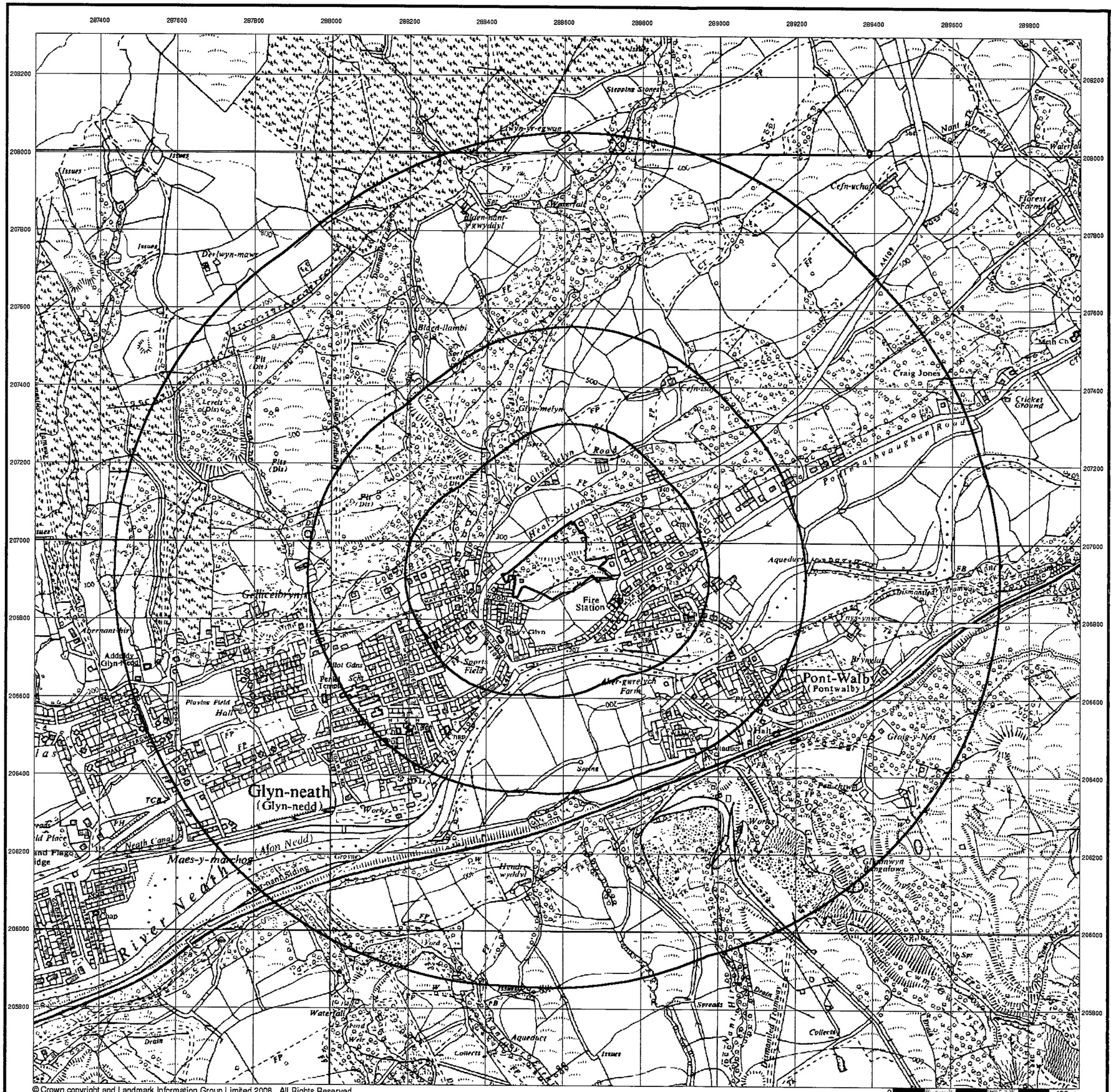

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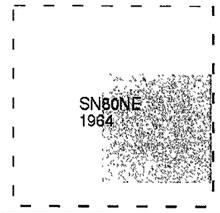
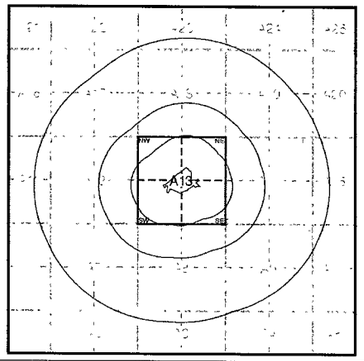
Ordnance Survey Plan
Published 1964
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

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National Grid Reference:	288580, 206940
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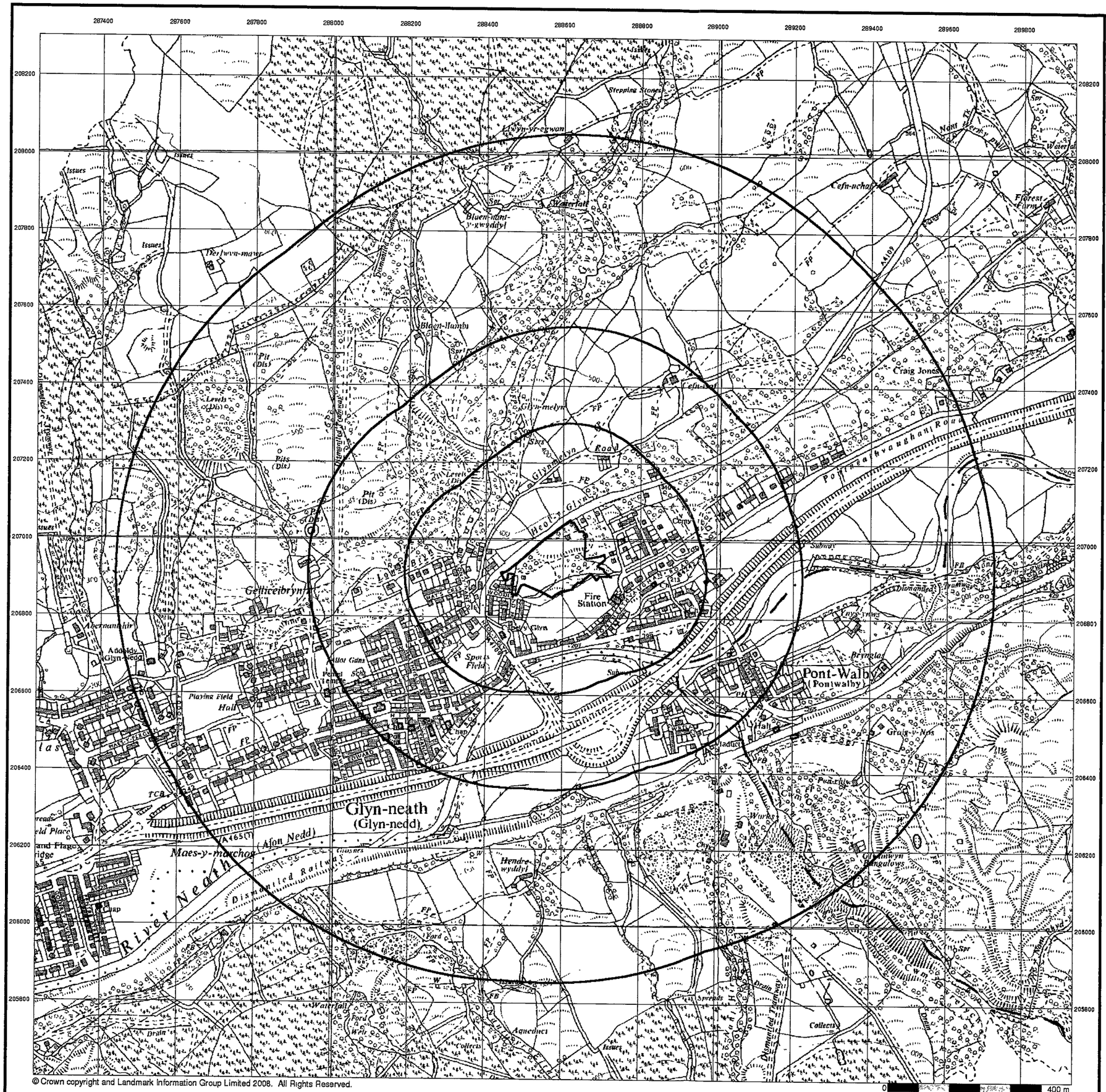

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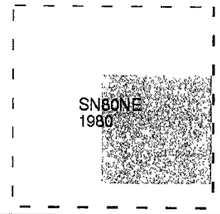
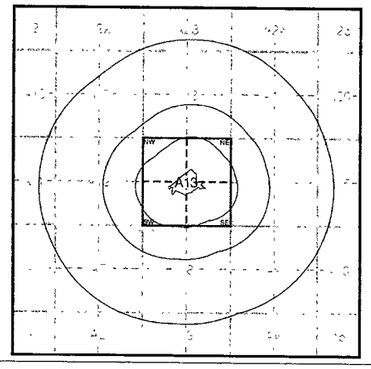
Ordnance Survey Plan
Published 1980
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	24537603_1_1
Customer Ref:	10287
National Grid Reference:	288580, 206940
Slice:	A
Site Area (Ha):	2.71
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Site Details

Intervalley Road, Glynneath, Neath, SA11 5TU

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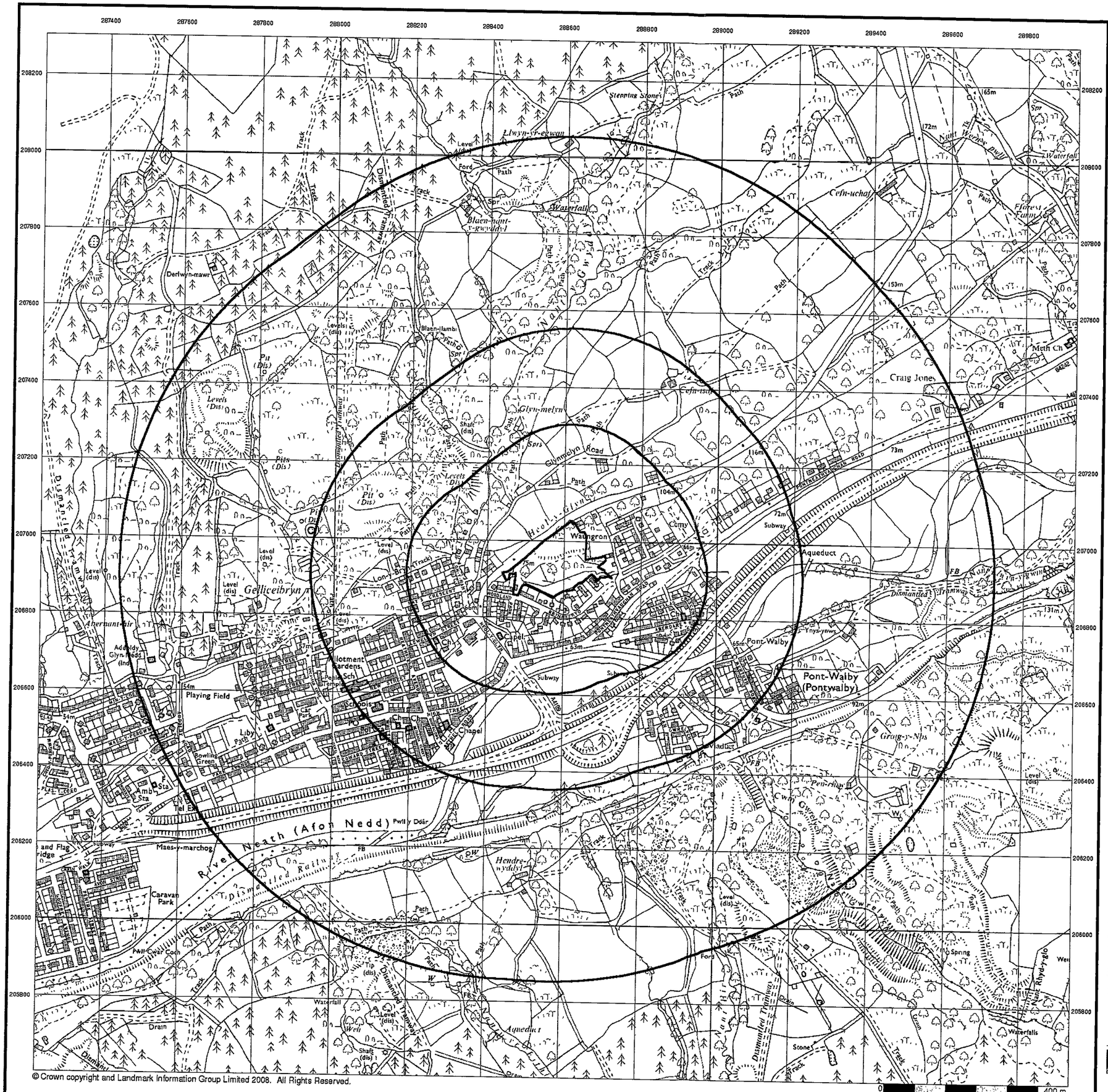

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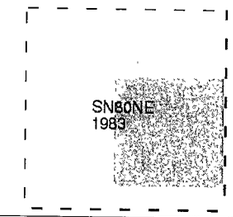
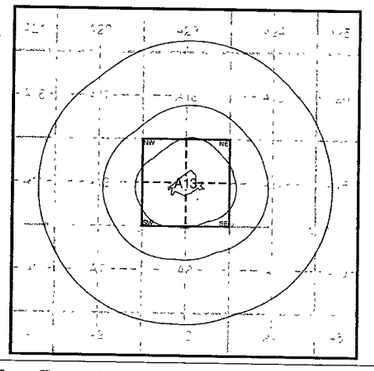
Ordnance Survey Plan
Published 1983
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	24537603_1_1
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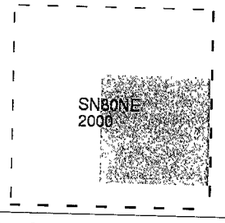
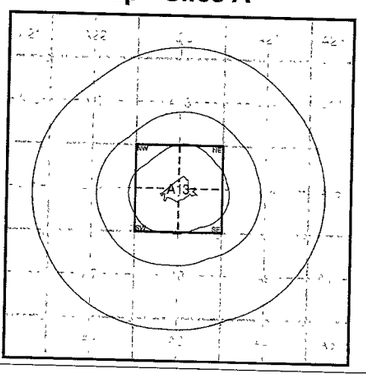
10K Raster Mapping
Published 2000
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



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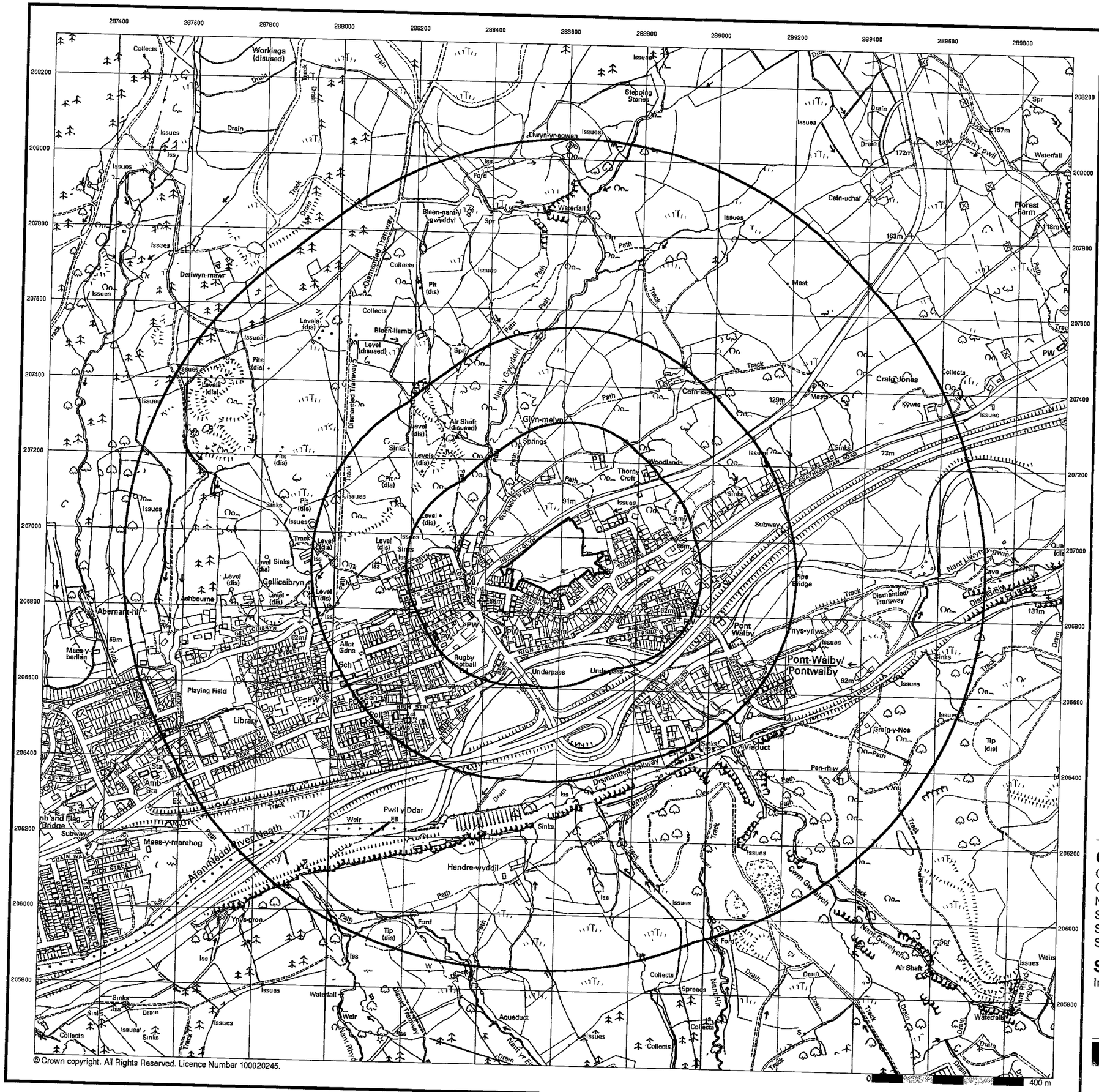

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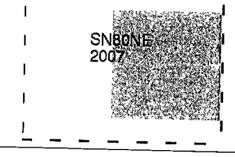
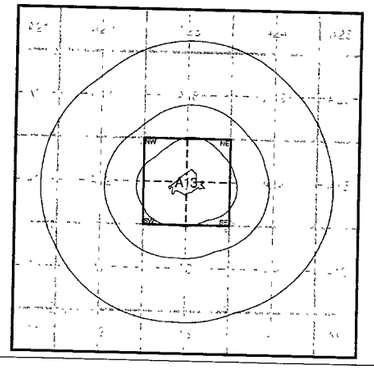
10K Raster Mapping
Published 2007
Source map scale - 1:10,000

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



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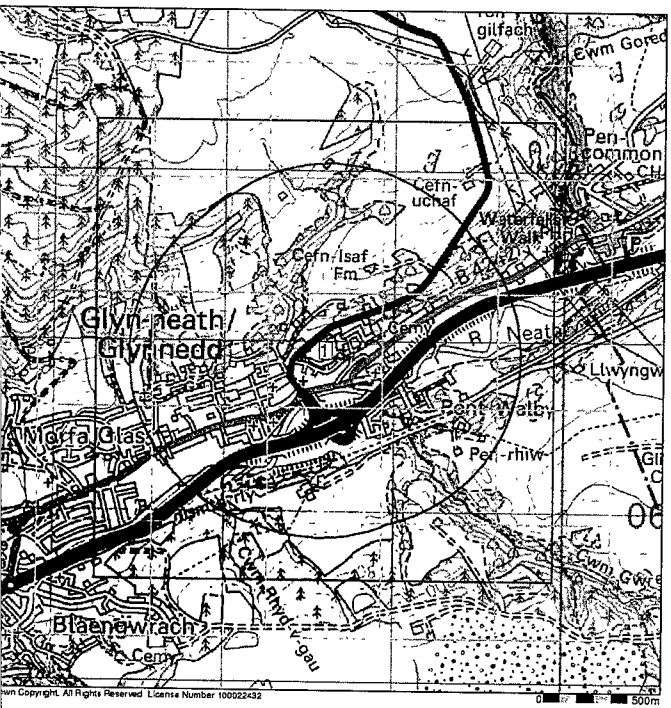
Geological Coverage Map

This report is designed for users carrying out preliminary site assessments who require geological maps for the area around a site. The report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial (man-made) and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps. The final map, that of 'Combined Surface Geology', superimposes all these distinct layers into one, producing a map that shows the rocks that occur at the surface just beneath the soil. NOTE: The legend is in chronological order in accordance with the BGS geological age index.

Not all of the layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.



Legend	
8	Map ID
	Specified Site
	Specified Buffer
	Slice
	Segment within a Slice

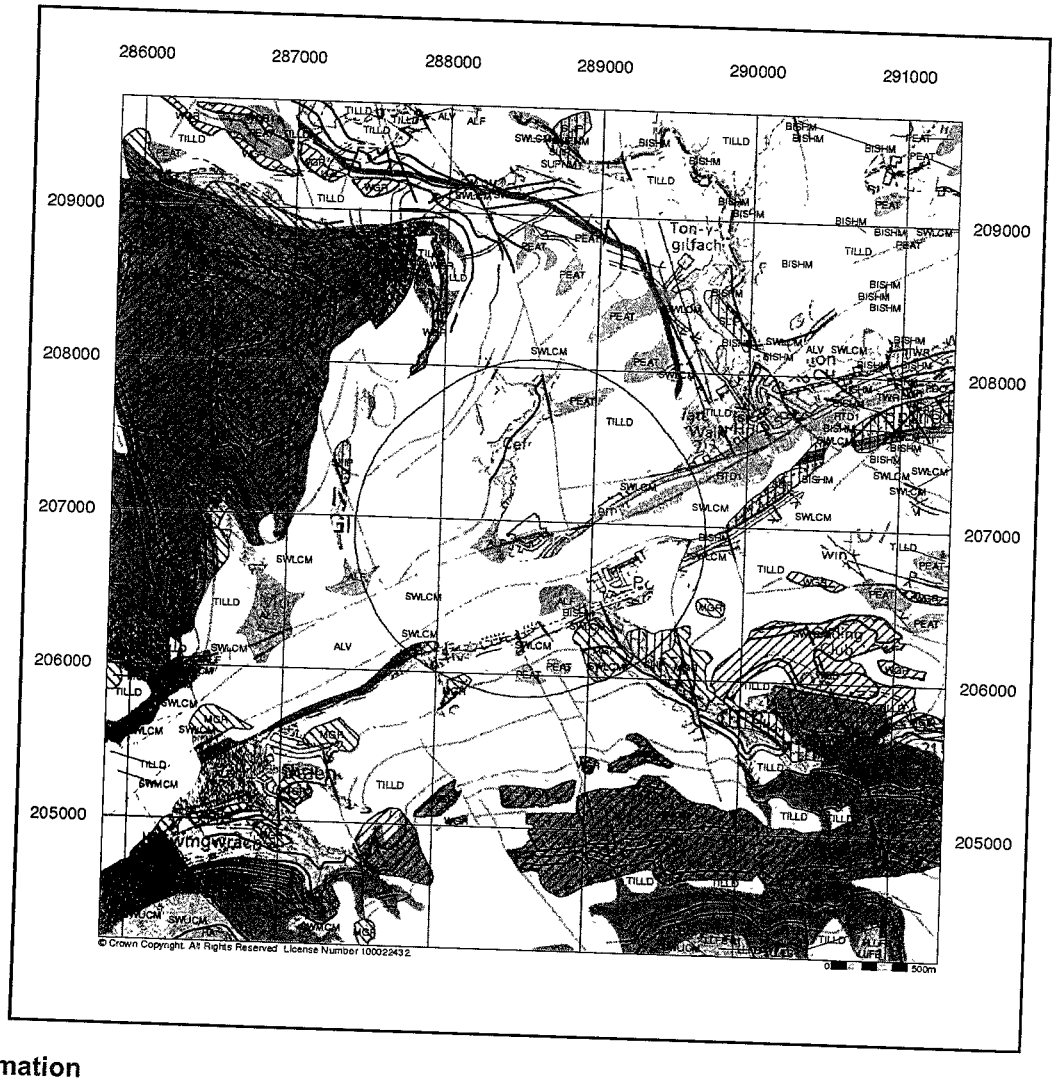
BGS 1:50,000 Geological Mapping Coverage	
Map ID:	1
Map Sheet No:	231
Map Name:	Merthyr Tydfil
Map Date:	1979
Bedrock Geology:	Available
Superficial Geology:	Available
Artificial Geology:	Available
Faults:	Available
Landslip:	Available
Rock Segments:	Available

terrafirma

Bedrock and Faults Map

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	SWLCM	South Wales Lower Coal Measures Formation	Sandstone	Langsettian (Westphalian A) - Langsettian (Westphalian A)
	BISHM	Bishopstone Mudstone Formation	Mudstone, Siltstone and Sandstone	Yeadonian - Pendleian
	BISHM	Bishopstone Mudstone Formation	Sandstone	Yeadonian - Pendleian
	TWR	Twrch Sandstone Formation	Sandstone and Conglomerate, Interbedded	Marsdenian - Pendleian
	PDO	Penderyn Oolite Member	Limestone, Ooidal	Asbian - Asbian
		Rock Segments		
		Faults		

Combined "Surface Geology" Map



ditional Information

e information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock s'. This database can be accessed by following the 'Information and Data' link on the BGS website.

tact

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2 5GG
hone: 0115 936 3143
0115 936 3276
: enquiries@bgs.ac.uk
ite: www.bgs.ac.uk

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Annex C
Coal Mining Report

ıe Coal
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NATURAL ENVIRONMENT RESEARCH COUNCIL

ued by:

)und Stability Report Office, 200 LICHFIELD LANE, BERRY HILL, MANSFIELD, NOTTINGHAMSHIRE, NG18 4RG
bsite: www.coalminingreports.co.uk - Phone: 0845 762 6848 - DX 716176 MANSFIELD 5

R GWYN LAKE,
ERRA FIRMA (WALES) LTD,
DERYN COURT,
HARFEDALE ROAD,
ARDIFF,
OUTH GLAMORGAN,
F23 7HA

Person dealing with this matter:	**Paul Heap**
Our reference:	**00016611-08**
Your reference:	GLYN-NEATH
Electronic Ref:	EME_00008935650001_005
RRUID:	005.00008935650001
Date of your enquiry:	**29 February 2008**
Date we received your enquiry:	**29 February 2008**
Date of issue:	**03 March 2008**

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

Ground Stability Report
Land Off, Heol-Y-Glyn, Woodland Park, Glyn-Neath, Neath Port Talbot

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

Coal mining	Yes
Shrinkable clay	Yes
Running sand	Yes
Compressible deposits	No
Collapsible deposits	No
Landslide potential	Yes
Soluble rocks	No
Brine extraction	No

Information from the Coal Authority

Underground Coal Mining

Past

According to the records in our possession, the property is not within the zone of likely physical influence on the surface from past underground workings.

However the property is in an area where the Coal Authority believe there is coal at or close to the surface. This coal may have been worked at some time in the past.

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

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

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

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

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

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

Mine entries
There are no known coal mine entries within, or within 20 metres of, the boundary of the property.

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

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

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

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

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

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

The Coal Authority has not received a request to carry out preventive work before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

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

Hazards related to coal mining
The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

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

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

Working Facilities Orders

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

Payments to Owners of Former Copyhold Land

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

Comments on Coal Authority information

Where development proposals are being considered, technical advice should be obtained before beginning work on site. All proposals should apply good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. This is necessary due to the Public Safety implications of any development in these circumstances.

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

Shrinkable Clay

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

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

Running sand

The property is in an area underlain by sand. Some sands, if voids are present, may flow if they come into contact with water.

However, the sand deposits in this area are unlikely to cause ground movement.

Deposits which could compress

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

Deposits which could collapse

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

Natural landslide activity

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

However, landslide activity is unlikely to occur.

Soluble rocks

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

Comments on the British Geological Survey information

These features should not necessarily give cause for concern.

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

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

However, you should consider the possible consequences before you:

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

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

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

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

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

Information from the Cheshire Brine Subsidence Compensation Board

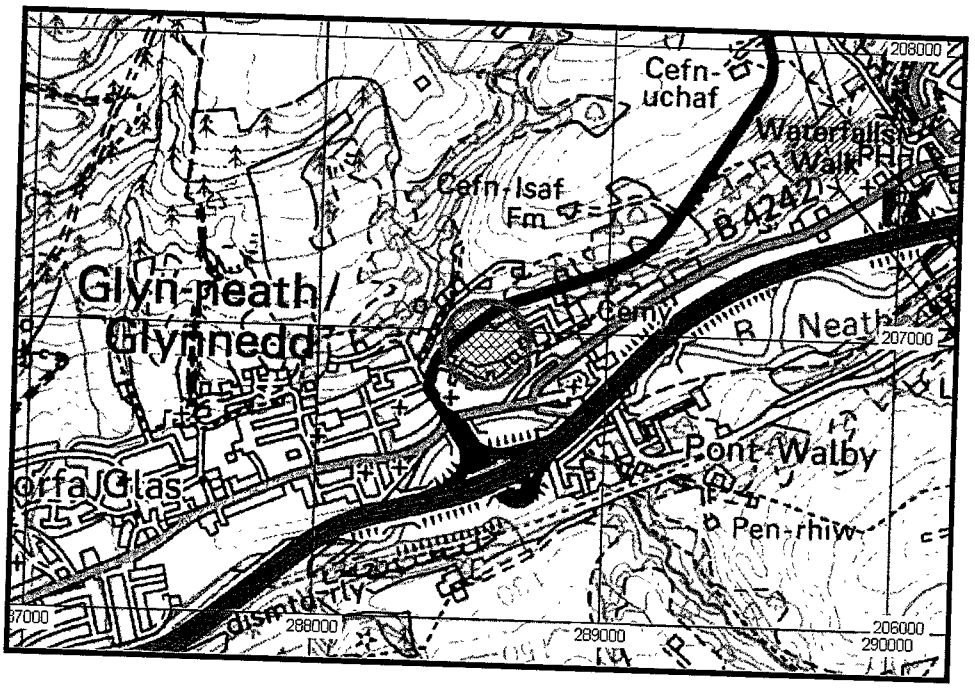
The property lies outside the Cheshire Brine Compensation District.

Additional remarks

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

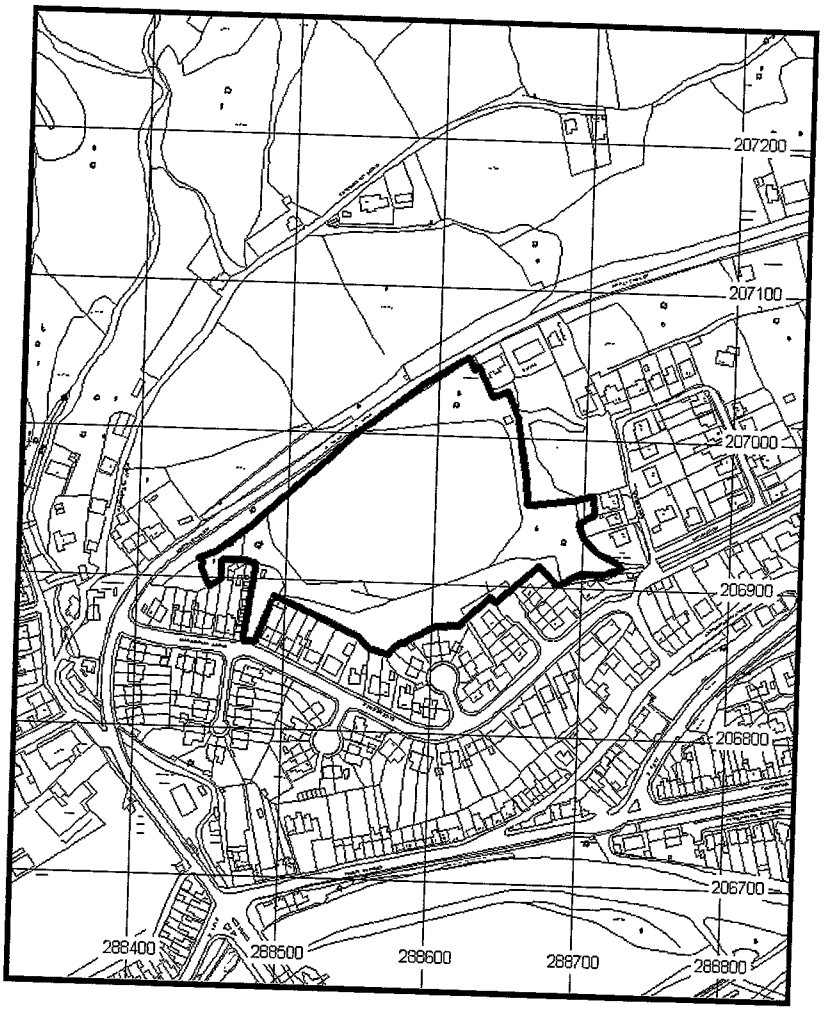
Ordnance Survey (OS) has carried out a Positional Accuracy Improvement Programme to make sure that the maps it produces are accurate. We have no control over who is using the improved information. In some cases, the position of surface features and mining features on the map may have changed. This is because we have updated our database in line with Ordnance Survey's improved maps.

Location map



Approximate position of property

Enquiry boundary



Key

Approximate position of enquiry boundary shown

Mapping sourced from Ordnance Survey

TERMS

DEFINITIONS

In these Terms the following words have the following meanings:

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

TERMS

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

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

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

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

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

LIMITATIONS OF THE REPORT

General

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

Sources of Information

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

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

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

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

8. Without prejudice to the generality of Clause 7:

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

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

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

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

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

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

Maps

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

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

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

RELIANCE ON THE REPORT

Who may rely on the Report

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

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

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

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

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

Extent of Reliance

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

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

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

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

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

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

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

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

USE OF THE REPORT

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

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

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

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

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

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

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

EVENTS BEYOND THE SUPPLIERS' CONTROL

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

LIABILITY

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

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

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

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

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

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

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

GENERAL

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

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

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

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

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

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

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

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

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

Annex D
Radon Report

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Ruth Liley
Terra Firma (Wales) Limited
5 Deryn Court
Whafedale Road
Pentwyn
Cardiff
CF23 7HB

BR211 RADON REPORT

Advisory report on the requirement for radon protective measures in new buildings and extensions

Client's Reference:

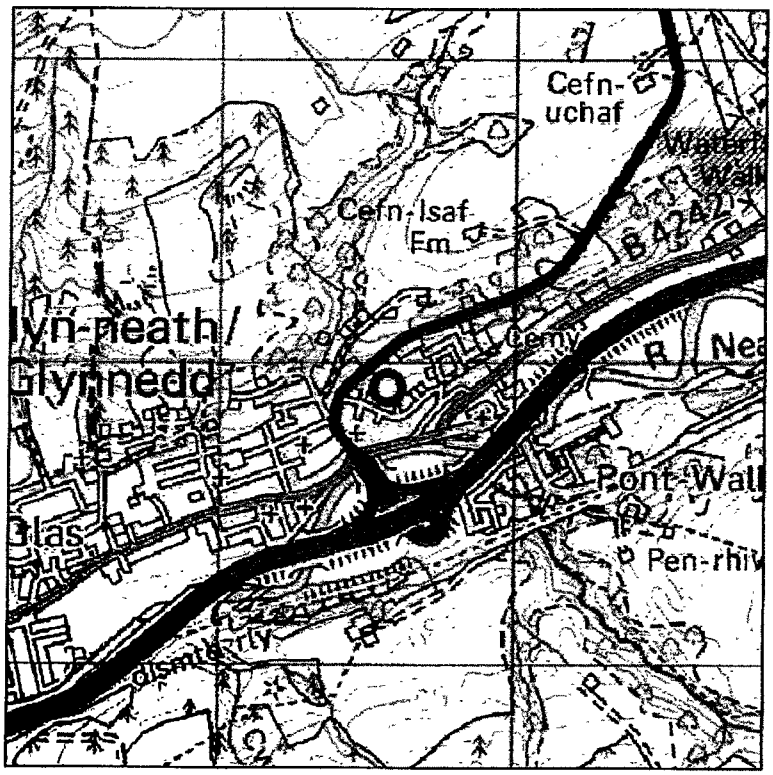
Glyn, Neath

BR211 Radon Report

Section 1: Location and extent of report area

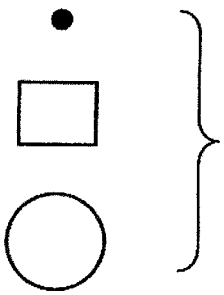
Area centred at: 288570,206910

Radius of site area: 50.0 metres



Scale: 1:25000 (1cm = 250m)

KEY:



POINT, RECTANGLE or CIRCLE defines report location or site area (details provided by client).

Section 2: Requirement for radon protective measures

The determination below follows advice in *BR211 Radon: Guidance on protective measures for new buildings (2007 edition)*, which also provides guidance on what to do if the result indicates that protective measures are required.

BASIC RADON PROTECTIVE MEASURES ARE REQUIRED FOR THE REPORT AREA.

The BGS is not able to provide advice on the technical specifications of 'basic' and 'full' radon protective measures. This information is detailed in **BRE Report BR211 :Radon: Protective measures for new buildings** which may be purchased from **brebookshop.com.** BR211 offers guidance on the technical solutions that are required to satisfy Building Regulations requirements. Summary guidance is available on the web at: http://www.bre.co.uk/radon/protect.html.

If you require further information or guidance, you should contact your local authority building control officer or approved inspector.

Contact 020 7944 5758 or Email: partsac.br@communities.gsi.gov.uk for advice on the interpretation of guidance contained in BRE Report BR211 (2007).

Section 3: What is radon ?

Radon is a naturally occurring radioactive gas, which is produced by the radioactive decay of radium which, in turn, is derived from the radioactive decay of uranium. Uranium is found in small quantities in all soils and rocks, although the amount varies from place to place. Radon released from rocks and soils is quickly diluted in the atmosphere. Concentrations in the open air are normally very low and do not present a hazard. Radon that enters enclosed spaces such as some buildings (particularly basements), caves, mines, and tunnels may reach high concentrations in some circumstances. The construction method and degree of ventilation will influence radon levels in individual buildings. A person's exposure to radon will also vary according to how particular buildings and spaces are used.
Inhalation of the radioactive decay products of radon gas increases the chance of developing lung cancer. If individuals are exposed to high concentrations for significant periods of time, there may be cause for concern. In order to limit the risk to individuals, the Government has adopted an Action Level for radon in homes of 200 becquerels per cubic metre (Bq m^{-3}). The Government advises householders that, where the radon level exceeds the Action Level, measures should be taken to reduce the concentration.

Section 4: Radon in workplaces

The Ionising Radiation Regulations, 1999, require employers to take action when radon is present above a defined level in the workplace. Advice may be obtained from your local Health and Safety Executive Area Office or the Environmental Health Department of your local authority. The BRE publishes a guide (BR293): **Radon in the workplace.**

BRE publications may be obtained from The BRE Bookshop, I H S Technical Indexes Ltd., Willoughby Road, Bracknell, Berkshire RG12 8DW. Tel: 01344 404407, Fax: 01344 714440, website: www.brebookshop.com

Section 5: Radon in existing buildings

Useful information is given in the following free publications which can be obtained by writing to:

Radon Studies, Radiation Protection Division, Health Protection Agency, Chilton, Didcot, Oxfordshire OX11 0RQ

Radon - A Householder's Guide

Radon - You Can Test for it

Radon - A Guide for Homebuyers and Sellers

Radon - A Guide to Reducing Levels in Your Home

Information in the booklets is also available on the DEFRA website at:
http://www.defra.gov.uk/environment/radioactivity/background/radon.htm

Householders are recommended to follow advice in **Radon - a householder's guide.** The guide outlines simple solutions for dealing with the radon problem depending on whether or not the home has been tested for radon. In radon affected homes, the problem of radon can usually be tackled with simple, effective and relatively inexpensive measures. These measures are comparable in cost to work such as damp-proofing and timber treatment. You can get practical advice about construction work to reduce radon levels from the Building Control Officer at your local council.

Advice about radon, its health risks and details of how to order the radon test may be obtained from the HPA free radon answerphone 0800 614529, HPA Radon Helpline on 01235 822622, website: www.hpa.org.uk or by writing to Radon Studies at the Health Protection Agency, address above.

Annex E
Trial Pit Logs

TERRA FIRMA (WALES) LIMITED

TEL: 02920 735354 FAX: 02920 735433

Trialpit No **TP1**

Sheet 1 of 1

Project Name: Glyn-neath	Project No.: 10287	Co-ords: 88581E - 6951N Level: -	Date: -
Location: Glyn-neath		Dimensions: - Depth 2.80m	Scale 1:25
Client: Moore Knight Limited			Logged By

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
						MADE GROUND: Soft to firm brown gravelly sandy SILT with common cobbles. Gravel and cobbles are fine to coarse of rounded to angular brick, glass, ceramic pipe, tarmac, wire, metal bars, wood, rootlets and sandstone.
			1.20			MADE GROUND: Soft to firm dark brown gravelly sandy SILT with common cobbles. Gravel and cobbles are fine to coarse of rounded to angular brick, glass, ceramic pipe, tarmac, wire, metal bars, wood, rootlets and sandstone.
			2.80			Trialpit Complete at 2.80 m

1
2
3
4

Remarks:

Groundwater:

AGS

TERRA FIRMA (WALES) LIMITED

TEL: 02920 735354 FAX: 02920 735433

Trialpit No **TP2** Sheet 1 of 1

Project Name: Glyn-neath	Project No.: 10287	Co-ords: 88602E - 6980N Level: 75.00 m AOD	Date: 20/03/2008
Location: Glyn-neath		Dimensions: - Depth 2.44m	Scale: 1:25
Client: Moore Knight Limited			Logged By

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
			0.10	74.90		TOPSOIL: Soft brown sandy SILT with frequent rootlets.
			0.50	74.50		MADE GROUND: Medium dense sandy fine to coarse of rounded to angular brick, glass, ceramic pipe, tarmac, wire, metal bars, wood, rootlets and sandstone GRAVEL with cobbles.
			1.20	73.80		MADE GROUND: Medium dense brown black sandy clayey fine to coarse of rounded to angular brick, glass, ceramic pipe, tarmac, wire, metal bars, wood, rootlets and sandstone GRAVEL with cobbles.
			1.55	73.45		MADE GROUND: Medium dense light yellow orrange very sandy clayey fine to coarse of rounded to angular brick, glass, ceramic pipe, tarmac, wire, metal bars, wood, rootlets and sandstone GRAVEL with cobbles.
			1.75	73.25		MADE GROUND: Medium dense light yellow orange silty very sandy fine to coarse rounded to angular sandstone and brick fragment GRAVEL.
			2.44	72.56		MADE GROUND: Medium dense grey black sandy silty fine to coarse rounded to angular wood, brick fragments sandstone GRAVEL. Occasional wire.
						Trialpit Complete at 2.44 m

Remarks:

Groundwater:

AGS

HoleBASE III (BS 412 22) Standard Trialpit Log v2 dated 27th Nov 03

TERRA FIRMA (WALES) LIMITED

TEL: 02920 735354 FAX: 02920 735433

Trialpit No **TP3** Sheet 1 of 1

Project Name: Glyn-neath	Project No.: 10287	Co-ords: 88615E - 7006N Level: 76.00 m AOD	Date: 20/03/2008
Location: Glyn-neath		Dimensions: - Depth 2.10m	Scale: 1:25
Client: Moore Knight Limited			Logged By:

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
						MADE GROUND: Soft to firm gravelly sandy SILT with common cobbles. Gravel and cobbles are fine to coarse of rounded to angular brick, glass, ceramic pipe, tarmac, wire, metal bars, wood, rootlets and sandstone.
			1.04	74.96		MADE GROUND: Firm dark brown mottled black slightly sandy slighlty gravelly CLAY with cobbles. Gravel is fine to course of subrounded to angular sandstone. Occasional pockets of sand. Rare plastic, brick and wood fragments.
			2.10	73.90		Trialpit Complete at 2.10 m

Remarks:

Groundwater:

AGS

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Trialpit No **TP4** Sheet 1 of 1

Project Name	Project No.	Co-ords: 88646E - 6987N	Date
Glyn-neath	10287	Level: 74.00 m AOD	20/03/2008
Location: Glyn-neath		Dimensions: - Depth 1.40m	Scale 1:25
Client: Moore Knight Limited			Logged By

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
						MADE GROUND: Medium dence brown mottled black clayey sandy fine to coarse of rounded to angular brick fragments and sandstone GRAVEL and cobbles. With common, glass, plastic, wire and fabric.
			0.61	73.39		MADE GROUND: Firm dark brown mottled black slightly sandy slighlty gravelly CLAY with cobbles. Gravel is fine to course of subrounded to angular sandstone. Occasional pockets of sand. Occasional plastic, brick and wood fragments.
			1.22	72.78		MADE GROUND: Medium dense black sandy fine to coarse mostly fine rounded to angular sandstone coal fragments and ash GRAVEL.
			1.40	72.60		MADE GROUND: Large concrete obstruction. Hole abandoned.
						Tnalpit Complete at 1.40 m

Remarks:

Groundwater:

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Trialpit No
TP5
Sheet 1 of 1

Project Name: Glyn-neath	Project No.: 10287	Co-ords: - Level: -	Date: 20/03/2008
Location: Glyn-neath		Dimensions: - Depth 2.70m	Scale: 1:25
Client: Moore Knight Limited			Logged By:

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
						MADE GROUND: Firm dark brown mottled black slightly sandy slighlty gravelly CLAY with cobbles. Gravel is fine to course of subrounded to angular sandstone. Occasional pockets of sand. Occasional plastic, brick and wood fragments.
			0.50			MADE GROUND: Soft to firm brown black very sandy gravelly CLAY with cobbles and boulders which become more frequent with depth. Gravel is fine to course mostly medium grained of rounded to angular sandstone, brick fragments. Common wood, concrete nodules, metal, wire and asphalt.
			2.70			MADE GROUND: Large concrete obstruction. Hole abandoned.
						Trialpit Complete at 2.70 m

1
2
3
4

Remarks:

Groundwater:

AGS

HoleBASE It (Bd 412.22) Standard Trialpit Log v2 dated 27th Nov 03

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Trialpit No
TP6
Sheet 1 of 1

Project Name: Glyn-neath	Project No.: 10287	Co-ords: 88598E - 6924N Level: 69.00 m AOD	Date: 20/03/2008
Location: Glyn-neath		Dimensions: - Depth 3.20m	Scale: 1:25
Client: Moore Knight Limited			Logged By

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
						MADE GROUND: Soft to firm brown black very sandy gravelly CLAY with cobbles and boulders which become more frequent with depth. Gravel is fine to course mostly medium grained of rounded to angular sandstone, brick fragments. Common wood, concrete nodules, metal, wire and asphalt.
			3.20	65.80		Trialpit Complete at 3.20 m

Remarks:

Groundwater:

AGS

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Project Name: Glyn-neath	Project No.: 10287	Co-ords: 88540E - 6931N Level: 66.00 m AOD	Trialpit No: **TP7** Sheet 1 of 1 Date: 20/03/2008
Location: Glyn-neath		Dimensions: - Depth: 2.95m	Scale: 1:25 Logged By:
Client: Moore Knight Limited			

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
						MADE GROUND: Soft dark brown gravelly sandy CLAY with cobbles. Gravel and cobbles are fine to course of rounde dto subangular sandstone and brick fragments. Common wood, plastic pipe metal bars and roots.
			2.20	63.80		MADE GROUND: Soft to firm grey black gravelly very sandy CLAY. Gravel and cobbles are fine to coarse rounded to angular brick fragments, ash and sandstone. Common pockets of red medium sand.
			2.95	63.05		Trialpit Complete at 2.95 m

1 2 3 4

Remarks:

Groundwater:

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Trialpit No
TP8
Sheet 1 of 1

Project Name: Glyn-neath	Project No.: 10287	Co-ords: 88531E - 6915N Level: 51.00 m AOD	Date: 20/03/2008
Location: Glyn-neath		Dimensions: - Depth 3.04m	Scale: 1:25
Client: Moore Knight Limited			Logged By

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
						PEAT: Soft dark brown fibrous peat with frequent roots and wood fragments.
			3.04	47.96		Trialpit Complete at 3.04 m

Remarks:

Groundwater:

AGS

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Trialpit No
TP9
Sheet 1 of 1

Project Name: Glyn-neath	Project No.: 10287	Co-ords: 88519E - 6991N Level: 77.00 m AOD	Date: 20/03/2008
Location: Glyn-neath		Dimensions: - Depth 2.60m	Scale: 1:25
Client: Moore Knight Limited			Logged By

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
						MADE GROUND: Medium dense dark brown clayey sandy gravelly subangular to angular brick fragements and tablular sandstone COBBLES.
			1.00	76.00		MADE GROUND: Soft brown gravelly sandy CLAY. Gravel is fine to coarse of subrouned to angular brick fragments and sandstone. Frequent wood rootlets and plastic.
			2.60	74.40		Trialpit Complete at 2.60 m

Remarks:

Groundwater:

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Trialpit No **TP10** Sheet 1 of 1

Project Name: Glyn-neath	Project No.: 10287	Co-ords: - Level: -	Date: 20/03/2008
Location: Glyn-neath		Dimensions: - Depth 1.90m	Scale: 1:25
Client: Moore Knight Limited			Logged By:

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
						MADE GROUND: Soft to firm dark brown mottled black gravelly sandy CLAY with cobbles. Gravel is fine to coarse rounded to angular brick fragments and sandstone. Common plastic ceramic.
			0.80			MADE GROUND: Soft to firm light brown mottled black gravelly very sandy CLAY with cobbles. Gravel is fine to coarse rounded to angular brick fragments and sandstone. Common plastic ceramic.
			1.40			MADE GROUND: Soft to firm light brown slightly sandy slightly gravelly CLAY with some cobbles. Gravel is fine to coarse rounded to angular brick fragments and sandstone. Common plastic ceramic.
			1.90			Trialpit Complete at 1.90 m

Remarks:

Groundwater:

AGS

HoleBASE III (Std 412.22) Standard Trialpit Log V2 dated 27th Nov 03

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Trialpit No **TP11**

Sheet 1 of 1

Project Name: Glyn-neath	Project No.: 10287	Co-ords: - Level: -	Date: 20/03/2008
Location: Glyn-neath		Dimensions: - Depth 1.70m	Scale: 1:25
Client: Moore Knight Limited			Logged By:

Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Results				
						MADE GROUND: Medium dence light brown silty sandy fine to coarse subrounded to angular brick fragment and sandstone GRAVEL. Cobbles of large tablular sandstone cobbles.
			1.70			MADE GROUND: Large concrete obstruction. Hole abandoned
						Trialpit Complete at 1.70 m

Remarks:

Groundwater:

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Annex F
Shell and Auger Borehole Logs

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Borehole No **BH1** Sheet 1 of 2

Project Name: Glyn-neath	Project No.: 10287	Co-ords: -	Hole Type: Cable
Location: Glyn-neath		Level: -	Scale: 1:50
Client: Moore Knight Limited		Dates: 19/03/2008	Logged By

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		1.00	CPT	N=24 N=24 (2,5,5,6,6,7)				MADE GROUND: Firm dark brown /grey silty sandy slightly clayey fine to coarse sub-angular to sub-rounded gravels and cobbles with occasional boulders
		2.00	CPT	N=17 N=17 (3,5,5,4,4,4)	2.00			MADE GROUND: Firm black/grey gravely bouldery CLAY
		3.00	CPT	N=29 N=29 (8,9,6,7,8,8)				
		4.00	CPT	N=10 N=10 (1,2,2,3,2,3)				
		5.00	CPT	N=25 N=25 (2,4,5,5,6,9)	4.80			Stiff brown to grey and orange mottled sandy in places BOULDER CLAY, fine to coarse gravels and cobbles
		6.50	CPT	N=27 N=27 (3,3,5,5,9,8)				
		7.00	CPT	N=31 N=31 (4,8,8,8,8,7)	7.00			Stiff brown gravely CLAY
		8.50	CPT	N=39 N=39 (7,8,10,1,14,14)	8.50			Weathered Mudstone GRAVELS
		9.50	CPT	N=99 N=99 (5,10,11,13,25,50)	9.50			Clayey mudstone gravels
			Type	Results				Continued next sheet

Remarks: Chiselling for 1 hour between 10m and 10.2m depth

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TEL: 02920 735354 FAX: 02920 735433

Borehole No **BH1**

Sheet 2 of 2

Project Name: Glyn-neath	Project No.: 10287	Co-ords: -	Hole Type: Cable
Location: Glyn-neath		Level: -	Scale: 1:50
Client: Moore Knight Limited		Dates: 19/03/2008	Logged By

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.00	CPT	50/75mm 75mm - Abandoned	10.00			End of Borehole at 10.02 m

Type | Results

Remarks: Chiselling for 1 hour between 10m and 10.2m depth

AGS

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TEL: 02920 735354 FAX: 02920 735433

Project Name: Glyn-neath	Project No.: 10287		Borehole No: **BH2**
Location: Glyn-neath		Co-ords: -	Sheet 1 of 1
		Level: -	Hole Type: Cable
Client: Moore Knight Limited		Dates: 26/03/2008	Scale: 1:50
			Logged By:

Well	Water Strikes	Samples & In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		1.00	SPT	N=23 N=23 (2,1,1,5,7,10)	1.00			MADE GROUND: Firm dark grey/brown silty sandy clayey fine to coarse subangular to sub-rounded GRAVELS and COBBLES, large boulders
		2.00	CPT	N=38 N=38 (6,6,9,10,11,8)				Stiff becomign very stiff brown/grey or grey and orange mottled silty CLAY, fine to ocarse sub-angular gravels and cobbles of sandstone, old roots between 4m and 5m depth, large boulders at depth
		3.00	CPT	N=60 N=60 (6,14,17,16,12,15)				
		4.00	CPT	N=33 N=33 (5,7,7,11,9,6)				
		5.00	CPT	N=34 N=34 (4,8,8,8,9,9)				
		6.50	CPT	50/75mm 75mm (17,29,50)	6.50			End of Borehole at 6.50 m

Type	Results

Remarks: Chiselling for 1 hour at 6.5m depth

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HoleBASE III (Bld 412.22) Standard Borehole Log V2 dated 27th Nov 03

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Borehole No **BH3**
Sheet 1 of 2

Project Name	Project No.	Co-ords: -	Hole Type
Glyn-neath	10287		Cable
Location: Glyn-neath		Level: -	Scale 1:50
Client: Moore Knight Limited		Dates: 17/03/2008	Logged By

Well	Water Strikes	Samples & In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		1.00	CPT	N=21 N=21 (7,6,6,7,4,4)				MADE GROUND: Firm brown/grey becoming black sandy silty CLAY, fine to coarse sub-angular to sub-rounded gravels and cobbles, brick fragments, boulders
		2.00	CPT	N=22 N=22 (4,5,4,4,7,7)				
		3.00	SPT	N=14 N=14 (3,2,2,2,5,5)				
		4.00	SPT	N=15 N=15 (3,5,7,3,3,2)				
					4.80			
		5.00	SPT	N=16 N=16 (2,3,3,5,4,4)				MADE GROUND: Stiff becoming firm grey green CLAY, wood, mudstone fragments
		6.50	SPT	N=25 N=25 (4,6,9,4,5,7)				
	▼							
	▽	8.00	SPT	N=7 N=7 (5,5,2,2,2,1)				
					8.50			Grey gravelly CLAY
		9.00	CPT	N=30 N=30 (3,5,5,8,8,9)	9.00			Stiff very sandy very gravely CLAY
		9.50	CPT	N=33 N=33 (4,7,7,7,9,10)	9.50			Stiff very sandy silty gravely BOULDER CLAY
			Type	Results				Continued next sheet

Remarks: Chiselling for 30 mins between 0.2m and 0.4m depth, for 1 hour between 0.6m and 0.9m depth and for 1 hour between 11.5m and 11.6m depth

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Borehole No **BH3**
Sheet 2 of 2

Project Name: Glyn-neath	Project No.: 10287	Co-ords: -	Hole Type: Cable
Location: Glyn-neath		Level: -	Scale: 1:50
Client: Moore Knight Limited		Dates: 17/03/2008	Logged By:

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
								Stiff very sandy silty gravely BOULDER CLAY
		11.00	CPT	55/75mm 75mm (10,8,5,50)				
		11.50	CPT	50/75mm				
		11.60	CPT	75mm 50/0mm - Abandoned	11.60			End of Borehole at 11.60 m

Type	Results

Remarks: Chiselling for 30 mins between 0.2m and 0.4m depth, for 1 hour between 0.6m and 0.9m depth and for 1 hour between 11.5m and 11.6m depth

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HoleBASE III (BH 4122/2) Standard Borehole Log V2 dated 27th Nov 03

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Borehole No **BH4**

Sheet 1 of 1

Project Name: Glyn-neath	Project No.: 10287	Co-ords: -	Hole Type: Cable
Location: Glyn-neath		Level: -	Scale: 1:50
Client: Moore Knight Limited		Dates: 27/03/2008	Logged By

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		1.00	CPT	N=17 N=17 (1,3,3,4,5,5)				MADE GROUND: Firm dark brown /grey sandy silty CLAY, fine to coarse angular to sub-angular gravels and cobbles, brick fragments
		2.00	CPT	N=15 N=15 (11,7,3,4,4,4)				
					2.60			MADE GROUND: Tar fragments
		3.00	SPT	N=12 N=12 (2,2,2,3,4,3)	2.90			MADE GROUND: Medium dense darkbrown clayey silty SAND and fine to coarse angular to sub-rounded gravels, cobbles and boulders, to firm to stiff grey and brown mottled gravely cobbley bouldery CLAY, occasional brick fragments, plastic, timber
		4.00	CPT	N=38 N=38 (4,7,8,8,11,11)				
		5.00	CPT	N=31 N=31 (2,7,3,5,10,13)				
		6.50	CPT	N=28 N=28 (2,2,3,8,8,9)	6.50			Brown CLAY
		7.00	CPT	50/75mm 75mm - Abandoned				
		7.20	CPT	50/75mm 75mm - Abandoned	7.20			End of Borehole at 7.20 m
			Type	Results				

Remarks: Chiselling for 1 hour between 0.3 - 0.7m, 1 hour between 2.6 - 1.9m, 30mins between 4.8m and 5.0m and for 1 hour between 7 and 7.2m depth.

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Borehole No **BH5**

Sheet 1 of 1

Project Name: Glyn-neath	Project No.: 10287	Co-ords: -	Hole Type: Cable
Location: Glyn-neath		Level: -	Scale: 1:50
Client: Moore Knight Limited		Dates: 25/03/2008	Logged By:

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
								MADE GROUND: Medium dense dark grey/brown clayey silty sandy fine to coarse sub-angular to sub-rounded GRAVELS and COBBLES becoming stiff gravely cobbley CLAY
		1.00	CPT	N=18 N=18 (2,4,4,4,6,4)				
		2.00	SPT	N=27 N=27 (5,9,10,7,5,5)				
		3.00	CPT	N=20 N=20 (4,5,4,4,6,6)	3.00			MADE GROUND: Stiff grey/black CLAY, fine to coarse angular to sub-rounded gravels and cobbles, boulders, ashy in places, occasional plastic
		4.00	CPT	N=32 N=32 (7,10,11,9,6,6)				
		5.00	CPT	N=25 N=25 (4,4,4,6,9,6)				
	▼							
		6.50	CPT	N=28 N=28 (1,5,9,9,6,4)				
					7.80			MADE GROUND: Stiff black CLAY, gravels and boulders, Steel
		8.00	CPT	50/75mm 75mm (11,17,50)	8.00			End of Borehole at 8.30 m
		8.30	CPT	50/75mm 75mm - Abandoned				

Type	Results

Remarks: Chiselling for 1 hour between 0.5m and 0.9m depth, for 1 hour between 1.7m and 2.0m depth and for 1 hour between 8.0m and 8.3m depth

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Annex G
Rotary Probehole Logs

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Borehole No **PH1**
Sheet 1 of 2

Project Name	Project No.	Co-ords: -	Hole Type
Glyn-neath	10287		Rotary
Location: Glyn-neath		Level: -	Scale 1:50
Client: Moore Knight Limited		Dates: 20/03/2008	Logged By

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
		Depth (m)	Type	Results				
								MADE GROUND
					5.00			Stiff CLAY
					7.00			MUDSTONE GRAVEL
					8.50			CLAY
					9.50			MUDSTONE
			Type	Results				Continued next sheet

Remarks: Casing to 11m depth

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Borehole No **PH1**
Sheet 2 of 2

Project Name: Glyn-neath	Project No.: 10287	Co-ords: -	Hole Type: Rotary
Location: Glyn-neath		Level: -	Scale: 1:50
Client: Moore Knight Limited		Dates: 20/03/2008	Logged By

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
								MUDSTONE
					11.00			
		11.00-12.00	50	0 0				Moderately weak grey with slight discolouration MUDSTONE. Initially completely weathered into fine to medium sub-angular gravels becoming highly weathered and broken up into angular gravels along natural fractures during drilling
					12.00			Residual soil: Very stiff becoming dry clay with mudstone lithorelics
		12.00-13.50	33	0 0				
					13.50			Completely weathered grey MUDSTONE which has diintergrated into very weak mudstone gravels becoming highly weathered and very weak, broken up into angular gravels along natural fractures during drilling
		13.50-15.00	66	0 0				
					15.00			Moderately weathered weak dark grey MUDSTONE
		15.00-16.00	100	45 65				
					16.00			End of Borehole at 16.00 m
			TCR	SCR RQD FI				

Remarks: Casing to 11m depth

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Borehole No **PH2**
Sheet 1 of 3

Project Name: Glyn-neath	Project No.: 10287	Co-ords: -	Hole Type: Rotary
Location: Glyn-neath		Level: -	Scale: 1:50
Client: Moore Knight Limited		Dates: 18/03/2008	Logged By:

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
								MADE GROUND
					5.20			Soft dark grey peaty CLAY
								Continued next sheet

Type	Results

Remarks: Casing to 17m depth

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Borehole No **PH2**
Sheet 2 of 3

Project Name: Glyn-neath	Project No.: 10287	Co-ords: -	Hole Type: Rotary
Location: Glyn-neath		Level: -	Scale: 1:50
Client: Moore Knight Limited		Dates: 18/03/2008	Logged By:

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
								Soft dark grey peaty CLAY
					11.00			BLUE CLAY
					16.00			Weathered SANDSTONE
		17.00-18.50	66	0 0	17.00			Completely weathered grey mottled with orange/brown veining MUDSTONE with areas light grey very silty sand with pink veining becoming moderately weak highly weathered light grey MUDSTONE with pink veining
		18.50-20.00	80	0 0	18.50			Highly weathered grey MUDSTONE broken up into angular gravels along natural fractures during drilling becoming weak dark grey highly weathered MUDSTONE with many fractures of random orientation, rough fracture surfaces
				TCR SCR RQD FI				Continued next sheet

Remarks: Casing to 17m depth

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Borehole No **PH2**
Sheet 3 of 3

Project Name: Glyn-neath	Project No.: 10287	Co-ords: -	Hole Type: Rotary
Location: Glyn-neath		Level: -	Scale: 1:50
Client: Moore Knight Limited		Dates: 18/03/2008	Logged By

Well	Water Strikes	Rotary Coring Depth (m)	TCR	SCR	RQD	FI	Depth (m)	Level (m AOD)	Legend	Stratum Description
		20.00-21.00	80	0	0		20.00			Highly to completely weathered grey MUDSTONE broken up into angular gravels along natural fractures during drilling. Banded (approx 10cm thick) with damp silty SAND with fine mudstone gravels
		21.00-22.00	100	0	0		21.00			Highly weathered and finely fractured grey MUDSTONE broken up into gravels in places becoming moderately weathered with many fratures of random orientation up to 4mm thick. Some fractures infilled with clay
							22.00			End of Borehole at 22.00 m
			TCR	SCR	RQD	FI				

Remarks: Casing to 17m depth

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Project Name: Glyn-neath	Project No.: 10287	Co-ords: -	Borehole No: **PH3** Sheet 1 of 3
Location: Glyn-neath		Level: -	Hole Type: Rotary
Client: Moore Knight Limited		Dates: 19/03/2008	Scale: 1:50
			Logged By:

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
								MADE GROUND
					2.60			Soft dark CLAY
					8.30			BOULDER CLAY
								Continued next sheet

Type Results

Remarks: Borehole collapsing at 24m depth
Casing to 16m

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Borehole No **PH3** Sheet 2 of 3

roject Name: lyn-neath	Project No.: 10287	Co-ords: -	Hole Type: Rotary
ocation: Glyn-neath		Level: -	Scale: 1:50
lient: Moore Knight Limited		Dates: 19/03/2008	Logged By:

ell	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
					10.00			CLAY with SANDSTONE BOULDERS
	▽							
					15.50			SANDSTONE
					16.00			Highly weather Mudstone broken up into angular gravels along natural fractures during drilling, becoming completely weathered into gravels
		16.00-17.50	26	0 0				
					17.50			RESIDUAL SOIL: dark grey silty CLAY with fine to medium angular mudstone gravels grading into moderate to highly weathered MUDSTONE broken up into angular gravels along natural fractures during drilling
		17.50-19.00	46	0 0				
					19.00			Comletely weathered MUDSTONE into fine to medium weak mudstone gravels
		19.00-20.50	33	0 0				
			TCR	SCR RQD FI				

Continued next sheet

Remarks: Borehole collapsing at 24m depth
Casing to 16m

AGS

TERRA FIRMA (WALES) LIMITED
TEL: 02920 735354 FAX: 02920 735433

Borehole No **PH3** Sheet 3 of 3

Project Name: Glyn-neath	Project No.: 10287	Co-ords: -	Hole Type: Rotary
Location: Glyn-neath		Level: -	Scale: 1:50
Client: Moore Knight Limited		Dates: 19/03/2008	Logged By:

Well	Water Strikes	Rotary Coring Depth (m)	TCR	SCR	RQD	FI	Depth (m)	Level (m AOD)	Legend	Stratum Description
										Comletely weathered MUDSTONE into fine to medium weak mudstone gravels
		20.50-21.00	20	0	0		20.50			Completely weathered MUDSTONE into fine to medium soft very weak silty gravels
							21.00			SOFT DRILL
							26.00			MUDSTONE
							27.00			End of Borehole at 27.00 m

TCR	SCR	RQD	FI

Remarks: Borehole collapsing at 24m depth
Casing to 16m

AGS

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EL: 02920 735354 FAX: 02920 735433

Borehole No
PH4
Sheet 1 of 2

roject Name lyn-neath	Project No. 10287	Co-ords: -	Hole Type Rotary
ocation: Glyn-neath		Level: -	Scale 1:50
lient: Moore Knight Limited		Dates: 18/03/2008	Logged By

ell	Water Strikes	Samples & In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
								MADE GROUND
					3.00			Soft CLAY
	▽				9.00			BROKEN MUDSTONE, possible boulders 10.0 - 11.5m cored - no recovery
			Type	Results				Continued next sheet

Remarks: Casing to 12.50m depth

AGS

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Borehole No **PH4** Sheet 2 of 2

Project Name	Project No.	Co-ords: -	Hole Type
Glyn-neath	10287		Rotary
Location: Glyn-neath		Level: -	Scale 1:50
Client: Moore Knight Limited		Dates: 18/03/2008	Logged By

Well	Water Strikes	Rotary Coring Depth (m)	TCR	SCR	RQD	FI	Depth (m)	Level (m AOD)	Legend	Stratum Description
		10.00-11.50	0	0	0					BROKEN MUDSTONE, possible boulders 10.0 - 11.5m cored - no recovery
							12.50			Weathered grey MUDSTONE, fragmented into gravels on drilling becoming completely weathered mudstone into grey sand and sub-angular gravels with hard silty clay matrix, grading back into weak highly weatehred grey MUDSTONE with brown veining
		12.50-14.00	66	22	0		14.00			Completely weathered grey with brown discolouration MUDSTONE into wet very silty sandy fine to coarse gravels
		14.00-15.30	66	0	0		15.30			Highly weatehred grey MUDSTONE
		15.30-15.80	80	0	0					
		15.80-16.50	71	0	0		16.50			Moderately weathered grey MUDSTONE, broken into angular gravels on drilling along natyural fractures, no visible frature infill
		16.50-17.50	80	0	0					Moderately weathered grey MUDSTONE with a very weathered orange/brown vein and coarse cream/white quartz grains/softy silty sandy veining. Mudstone broken up into angular gravels along natural fractures during drilling. Fractures have rough surfaces and no infill
							17.50			End of Borehole at 17.50 m
			TCR	SCR	RQD	FI				

Remarks: Casing to 12.50m depth

AGS

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Borehole No
PH5
Sheet 1 of 2

roject Name Glyn-neath	Project No. 10287	Co-ords: -	Hole Type Rotary
ocation: Glyn-neath		Level: -	Scale 1:50
lient: Moore Knight Limited		Dates: 17/03/2008	Logged By

ell	Water Strikes	Samples & In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
								MADE GROUND
					5.00			SOFT DRILL
					9.00			BROKEN SANDSTONE, BOULDERS
			Type	Results				Continued next sheet

Remarks: Casing to 11.50m depth

AGS

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EL: 02920 735354 FAX: 02920 735433

Borehole No **PH5** Sheet 2 of 2

roject Name lyn-neath	Project No. 10287	Co-ords: -	Hole Type Rotary
ocation: Glyn-neath		Level: -	Scale 1:50
lient: Moore Knight Limited		Dates: 17/03/2008	Logged By

ell	Water Strikes	Samples & In Situ Testing Depth (m)	Type	Results				Depth (m)	Level (m AOD)	Legend	Stratum Description
											BROKEN SANDSTONE, BOULDERS
								10.50			Weathered Broken SANDSTONE
		12.00-13.00	80	30	0			12.00			Dark grey moderately weathered MUDSTONE/SILTSTONE, 5 main fractures but rick completely broken up in places. Fracrures smooth to undulated with diagonal approx 15 degree dip, 1-2mm spaced with silty infill in places.
		13.00-13.70	57	0	0			13.00			High to moderately weathered highly fracturedgrey MUDSTONE with brown/grey discolouration. Broken up into coarse angular gravels along natural fractures during drilling with undulated to rough surfaces
		13.70-14.50	100	0	0			13.70			Highly weathered slightly to moderately weak fine grey laminated MUDSTONE with grey/yellow discolouration throughout. Broken up into coarse angular gravels along natural fratures during drilling
		14.50-15.50	85	0	0			14.50			Moderately weathered grey brown MUDSTONE/SILTSTONE with brown discolouration, broken up into coarse angular gravels along natural fratures during drilling. Fractures have rough to undulated surfaces. 14.5 - 14.6 : highly weathered rock to sub-angular gravels with hard clay/silty matrix
		15.50-17.00	86	10	10			15.50			Moderately weak slightly weathered grey MUDSTONE, 7 main fractures, 1-2mm width with horizontal to 15 degree orientation, many natural randon natural fractures
								17.00			End of Borehole at 17 00 m
				TCR	SCR	RQD	FI				

Remarks: Casing to 11.50m depth

AGS

Annex H
Laboratory Soil Chemical Test Results

Report Summary

1314
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Ms Ruth Lilley
Terra Firma
5 Deryn Court
Wharfdale
Pentwyn
Cardiff
CF23 7HB

Date of Issue: **23 April 2008**

Report Number: **MID/502923/2008** Issue **3**

Job Description: Ruth Lilley - General

Job Location: Glyn-Neath

Job Received: **27 March 2008**

Number of Samples included in this report **6**

Analysis Commenced: **27 March 2008**

Number of Test Results included in this report **166**

Signed: .

Name: **G. Smith** Date: **23 April 2008**

Title: **Inorg and License Chem Manager**

STL was not responsible for sampling unless otherwise stated. Sampling is not covered by our UKAS accreditation.
Information on the methods of analysis and performance characteristics are available on request.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.
Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory.
MCERTS accreditation refers to analysis carried out at our STL Midlands site only
Analysis carried out on air-dried and ground test portion of the sample(s), unless otherwise stated. Air drying is carried out at not greater than 30 degrees C. Samples are not preserved on site, unless otherwise stated.
All results are reported on an air-dried basis following removal of stones.

ertificate of Analysis

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SEVERN TRENT STL

atrix: **Soil**

eport Number: **MID/502923/2008** Issue **3**
boratory Number: **10485595** Sample **1** of **6**
mple Source: **Terra Firma**
mple Point Description: **Terra Firma**
mple Description: **TP3 0.40m**
sual Description: **Brown loam with some stones**
mple Date: Sample Time: **1** Sample Received: **27 March 2008**

Test Description	Result	Units	Analysis Date	UoM%	Accreditation		Method
nes BG 2.6/3.0	23	%	31/03/2008		N	Mid	Stones
sture content at 30 C	20	%	31/03/2008		N	Mid	33A
enic as As, dry weight	12	mg/kg	01/04/2008		M	Mid	30/30C
lmium as Cd, dry weight	<0.50	mg/kg	01/04/2008		M	Mid	30
omium as Cr, dry weight	27	mg/kg	01/04/2008		M	Mid	30
pper, as Dry Weight	20	mg/kg	01/04/2008		M	Mid	30
ad, as Dry Weight	65	mg/kg	01/04/2008		M	Mid	30
rcury as Hg, dry weight	<0.25	mg/kg	01/04/2008		M	Mid	30C
kel as Ni, dry weight	19	mg/kg	01/04/2008		M	Mid	30
lenium as Se, dry weight	<0.30	mg/kg	01/04/2008		M	Mid	30C
c as Zn, dry weight	83	mg/kg	01/04/2008		M	Mid	30
anide (Total)	<2.5	mg/kg	03/04/2008		M	Mid	14
ganic matter	1.5	%	08/04/2008		Y	Mid	36
t. Steam Dist. Monophenols	<0.75	mg/kg	31/03/2008		M	Mid	40A
lphate (Total) as SO4	<0.024	%	31/03/2008		M	Mid	45
	7.8	pH units	31/03/2008		Y	Mid	39
phthalene	<0.50	mg/kg	02/04/2008		M	Mid	307
enaphthylene	<0.50	mg/kg	02/04/2008		M	Mid	307
enaphthene	<0.50	mg/kg	02/04/2008		M	Mid	307
rene	<0.50	mg/kg	02/04/2008		M	Mid	307
nanthrene	1.0	mg/kg	02/04/2008		M	Mid	307
racene	<0.50	mg/kg	02/04/2008		M	Mid	307
ranthene	1.4	mg/kg	02/04/2008		M	Mid	307
ne	1.6	mg/kg	02/04/2008		M	Mid	307
zo(a)anthracene	0.87	mg/kg	02/04/2008		M	Mid	307
sene	1.1	mg/kg	02/04/2008		M	Mid	307
zo(b)fluoranthene	1.1	mg/kg	02/04/2008		M	Mid	307
zo(k)fluoranthene	0.81	mg/kg	02/04/2008		M	Mid	307
o(a)pyrene	1.1	mg/kg	02/04/2008		M	Mid	307
nzo(ah)anthracene	<0.50	mg/kg	02/04/2008		M	Mid	307
o(ghi)perylene	1.1	mg/kg	02/04/2008		M	Mid	307
o(123cd)pyrene	0.98	mg/kg	02/04/2008		M	Mid	307
(Total - SUM EPA16)	11	mg/kg	02/04/2008		M	Mid	307

st Comments for 10485595: No Analyst Comment

ation Codes: Y = UKAS Accredited, N = Not UKAS Accredited, M = MCERTS, S = Sub-contracted
d at: Bri = STL Bridgend, Cov = STL Coventry, Mid = STL Midlands, Rea = STL Reading, Run = STL Runcorn.
obiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. I/S=Insufficient sample

ertificate of Analysis

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SEVERN TRENT STL

atrix: **Soil**

eport Number: **MID/502923/2008** Issue **3**
boratory Number: **10485596** Sample **2** of **6**
mple Source: **Terra Firma**
mple Point Description: **Terra Firma**
mple Description: **TP5 0.60m**
sual Description: **Brown loam with some stones**
ample Date: Sample Time: **2** Sample Received: **27 March 2008**

Test Description	Result	Units	Analysis Date	UoM%	Accreditation		Method
nes BG 2.6/3.0	12	%	31/03/2008		N	Mid	Stones
sture content at 30 C	12	%	31/03/2008		N	Mid	33A
enic as As, dry weight	12	mg/kg	01/04/2008		M	Mid	30/30C
lmium as Cd, dry weight	2.1	mg/kg	01/04/2008		M	Mid	30
omium as Cr, dry weight	12	mg/kg	01/04/2008		M	Mid	30
pper, as Dry Weight	33	mg/kg	01/04/2008		M	Mid	30
id, as Dry Weight	130	mg/kg	01/04/2008		M	Mid	30
rcury as Hg, dry weight	0.26	mg/kg	01/04/2008		M	Mid	30C
kel as Ni, dry weight	24	mg/kg	01/04/2008		M	Mid	30
enium as Se, dry weight	0.34	mg/kg	01/04/2008		M	Mid	30C
c as Zn, dry weight	310	mg/kg	01/04/2008		M	Mid	30
anide (Total)	<2.5	mg/kg	03/04/2008		M	Mid	14
ganic matter	3.4	%	08/04/2008		Y	Mid	36
t. Steam Dist. Monophenols	<0.75	mg/kg	31/03/2008		M	Mid	40A
phate (Total) as SO4	<0.024	%	31/03/2008		M	Mid	45
	8.4	pH units	31/03/2008		Y	Mid	39
H (Total - SUM EPA16)	<2.0	mg/kg	02/04/2008		M	Mid	307

lyst Comments for 10485596: No Analyst Comment

ditation Codes: Y = UKAS Accredited, N = Not UKAS Accredited, M = MCERTS, S = Sub-contracted
sed at: Brn = STL Bridgend, Cov = STL Coventry, Mid = STL Midlands, Rea = STL Reading, Run = STL Runcorn.
crobiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered I/S=Insufficient sample

ertificate of Analysis

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trix: **Soil**

port Number: **MID/502923/2008**
boratory Number: **10485597**
mple Source: **Terra Firma**
mple Point Description: **Terra Firma**
mple Description: **TP6 0.50m**
sual Description: **Brown clay with occasional stones**
mple Date: Sample Time: **3**

Issue **3**
Sample **3** of **6**
Sample Received: **27 March 2008**

Test Description	Result	Units	Analysis Date	UoM%	Accreditation		Method
es BG 2.6/3.0	25	%	31/03/2008		N	Mid	Stones
sture content at 30 C	12	%	31/03/2008		N	Mid	33A
enic as As, dry weight	8.6	mg/kg	01/04/2008		M	Mid	30/30C
lmium as Cd, dry weight	<0.50	mg/kg	01/04/2008		M	Mid	30
omium as Cr, dry weight	10	mg/kg	01/04/2008		M	Mid	30
per, as Dry Weight	18	mg/kg	01/04/2008		M	Mid	30
d, as Dry Weight	35	mg/kg	01/04/2008		M	Mid	30
cury as Hg, dry weight	<0.25	mg/kg	01/04/2008		M	Mid	30C
kel as Ni, dry weight	17	mg/kg	01/04/2008		M	Mid	30
enium as Se, dry weight	<0.30	mg/kg	01/04/2008		M	Mid	30C
c as Zn, dry weight	73	mg/kg	01/04/2008		M	Mid	30
anide (Total)	<2.5	mg/kg	03/04/2008		M	Mid	14
ganic matter	1.5	%	08/04/2008		Y	Mid	36
. Steam Dist. Monophenols	<0.75	mg/kg	31/03/2008		M	Mid	40A
lphate (Total) as SO4	<0.024	%	31/03/2008		M	Mid	45
	8.7	pH units	31/03/2008		Y	Mid	39
H (Total - SUM EPA16)	<2.0	mg/kg	02/04/2008		M	Mid	307

alyst Comments for 10485597: No Analyst Comment

reditation Codes: Y = UKAS Accredited, N = Not UKAS Accredited, M = MCERTS, S = Sub-contracted.
lysed at: Bri = STL Bridgend, Cov = STL Coventry, Mid = STL Midlands, Rea = STL Reading, Run = STL Runcorn.
Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. I/S=Insufficent sample

Certificate of Analysis

UKAS TESTING 1314 0897 1229 1510

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SEVERN TRENT STL

Matrix: **Soil**

Report Number: **MID/502923/2008** Issue **3**

Laboratory Number: **10485598** Sample **4** of **6**

Sample Source: **Terra Firma**

Sample Point Description: **Terra Firma**

Sample Description: **TP8 0.70m**

Visual Description: **Brown loam with many stones and occasional roots**

Sample Date: Sample Time: **4** Sample Received: **27 March 2008**

Test Description	Result	Units	Analysis Date	UoM%	Accreditation		Method
Stones BG 2.6/3.0	71	%	31/03/2008		N	Mid	Stones
Moisture content at 30 C	22	%	31/03/2008		N	Mid	33A
Arsenic as As, dry weight	13	mg/kg	01/04/2008		M	Mid	30/30C
Cadmium as Cd, dry weight	<0.50	mg/kg	01/04/2008		M	Mid	30
Chromium as Cr, dry weight	6.9	mg/kg	01/04/2008		M	Mid	30
Copper, as Dry Weight	54	mg/kg	01/04/2008		M	Mid	30
Lead, as Dry Weight	130	mg/kg	01/04/2008		M	Mid	30
Mercury as Hg, dry weight	<0.25	mg/kg	01/04/2008		M	Mid	30C
Nickel as Ni, dry weight	22	mg/kg	01/04/2008		M	Mid	30
Selenium as Se, dry weight	0.77	mg/kg	01/04/2008		M	Mid	30C
Zinc as Zn, dry weight	130	mg/kg	01/04/2008		M	Mid	30
Cyanide (Total)	<2.5	mg/kg	03/04/2008		M	Mid	14
Organic matter	3.9	%	08/04/2008		Y	Mid	36
Spt. Steam Dist. Monophenols	<0.75	mg/kg	31/03/2008		M	Mid	40A
Sulphate (Total) as SO4	0.026	%	31/03/2008		M	Mid	45
pH	8.2	pH units	31/03/2008		Y	Mid	39
Naphthalene	<0.50	mg/kg	02/04/2008		M	Mid	307
Acenaphthylene	<0.50	mg/kg	02/04/2008		M	Mid	307
Acenaphthene	<0.50	mg/kg	02/04/2008		M	Mid	307
Fluorene	<0.50	mg/kg	02/04/2008		M	Mid	307
Phenanthrene	0.84	mg/kg	02/04/2008		M	Mid	307
Anthracene	<0.50	mg/kg	02/04/2008		M	Mid	307
Fluoranthene	1.1	mg/kg	02/04/2008		M	Mid	307
Pyrene	0.82	mg/kg	02/04/2008		M	Mid	307
Benzo(a)anthracene	<0.50	mg/kg	02/04/2008		M	Mid	307
Chrysene	<0.50	mg/kg	02/04/2008		M	Mid	307
Benzo(b)fluoranthene	<0.50	mg/kg	02/04/2008		M	Mid	307
Benzo(k)fluoranthene	<0.50	mg/kg	02/04/2008		M	Mid	307
Benzo(a)pyrene	<0.50	mg/kg	02/04/2008		M	Mid	307
Dibenzo(ah)anthracene	<0.50	mg/kg	02/04/2008		M	Mid	307
Benzo(ghi)perylene	<0.50	mg/kg	02/04/2008		M	Mid	307
Indeno(123cd)pyrene	<0.50	mg/kg	02/04/2008		M	Mid	307
PAH (Total - SUM EPA16)	2.7	mg/kg	02/04/2008		M	Mid	307

Analyst Comments for 10485598: No Analyst Comment

Accreditation Codes: Y = UKAS Accredited, N = Not UKAS Accredited, M = MCERTS, S = Sub-contracted.
Analysed at: Brl = STL Bridgend, Cov = STL Coventry, Mid = STL Midlands, Rea = STL Reading, Run = STL Runcorn.
For Microbiological determinands 0 or ND=Not Detected. For Legionella ND=Not Detected in volume of sample filtered I/S=Insufficient sample

ertificate of Analysis

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SEVERN TRENT STL

ix: **Soil**

ort Number: **MID/502923/2008**
oratory Number: **10485599**
ple Source: **Terra Firma**
ple Point Description: **Terra Firma**
ple Description: **TP9 1.40m**
al Description: **Brown loam with some stones**
ple Date: Sample Time: **5**

Issue **3**
Sample **5** of **6**

Sample Received: **27 March 2008**

Test Description	Result	Units	Analysis Date	UoM%	Accreditation		Method
s BG 2.6/3.0	23	%	31/03/2008		N	Mid	Stones
ire content at 30 C	14	%	31/03/2008		N	Mid	33A
c as As, dry weight	57	mg/kg	01/04/2008		M	Mid	30/30C
ium as Cd, dry weight	<0.50	mg/kg	01/04/2008		M	Mid	30
ium as Cr, dry weight	14	mg/kg	01/04/2008		M	Mid	30
r, as Dry Weight	89	mg/kg	01/04/2008		M	Mid	30
as Dry Weight	160	mg/kg	01/04/2008		M	Mid	30
ry as Hg, dry weight	<0.25	mg/kg	01/04/2008		M	Mid	30C
as Ni, dry weight	19	mg/kg	01/04/2008		M	Mid	30
ium as Se, dry weight	<0.30	mg/kg	01/04/2008		M	Mid	30C
s Zn, dry weight	260	mg/kg	01/04/2008		M	Mid	30
de (Total)	<2.5	mg/kg	03/04/2008		M	Mid	14
ic matter	3.4	%	08/04/2008		Y	Mid	36
team Dist. Monophenols	<0.75	mg/kg	31/03/2008		M	Mid	40A
ate (Total) as SO4	0.098	%	31/03/2008		M	Mid	45
	9.0	pH units	31/03/2008		Y	Mid	39
halene	<0.50	mg/kg	02/04/2008		M	Mid	307
phthylene	<0.50	mg/kg	02/04/2008		M	Mid	307
phthene	<0.50	mg/kg	02/04/2008		M	Mid	307
e	<0.50	mg/kg	02/04/2008		M	Mid	307
nthrene	1.1	mg/kg	02/04/2008		M	Mid	307
cene	<0.50	mg/kg	02/04/2008		M	Mid	307
thene	1.3	mg/kg	02/04/2008		M	Mid	307
	1.1	mg/kg	02/04/2008		M	Mid	307
a)anthracene	0.76	mg/kg	02/04/2008		M	Mid	307
e	0.76	mg/kg	02/04/2008		M	Mid	307
b)fluoranthene	0.75	mg/kg	02/04/2008		M	Mid	307
k)fluoranthene	0.58	mg/kg	02/04/2008		M	Mid	307
a)pyrene	0.60	mg/kg	02/04/2008		M	Mid	307
(ah)anthracene	<0.50	mg/kg	02/04/2008		M	Mid	307
hi)perylene	<0.50	mg/kg	02/04/2008		M	Mid	307
123cd)pyrene	<0.50	mg/kg	02/04/2008		M	Mid	307
tal - SUM EPA16)	7.1	mg/kg	02/04/2008		M	Mid	307

Comments for 10485599: No Analyst Comment

Codes: Y = UKAS Accredited, N = Not UKAS Accredited, M = MCERTS, S = Sub-contracted.
Bn = STL Bridgend, Cov = STL Coventry, Mid = STL Midlands, Rea = STL Reading, Run = STL Runcorn.
ogical determinands 0 or ND=Not Detected. For Legionella ND=Not Detected in volume of sample filtered. I/S=Insufficient sample

Certificate of Analysis

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Matrix: **Soil**

Report Number: **MID/502923/2008**
Laboratory Number: **10485600**
Sample Source: **Terra Firma**
Sample Point Description: **Terra Firma**
Sample Description: **TP10 0.70m**
Visual Description: **Brown loam with some stones**
Sample Date: Sample Time: **6**

Issue **3**
Sample **6** of **6**

Sample Received: **27 March 2008**

Test Description	Result	Units	Analysis Date	UoM%	Accreditation		Method
Stones BG 2.6/3.0	26	%	31/03/2008		N	Mid	Stones
Moisture content at 30 C	11	%	31/03/2008		N	Mid	33A
Arsenic as As, dry weight	14	mg/kg	01/04/2008		M	Mid	30/30C
Cadmium as Cd, dry weight	<0.50	mg/kg	01/04/2008		M	Mid	30
Chromium as Cr, dry weight	19	mg/kg	01/04/2008		M	Mid	30
Copper, as Dry Weight	36	mg/kg	01/04/2008		M	Mid	30
Lead, as Dry Weight	96	mg/kg	01/04/2008		M	Mid	30
Mercury as Hg, dry weight	<0.25	mg/kg	01/04/2008		M	Mid	30C
Nickel as Ni, dry weight	15	mg/kg	01/04/2008		M	Mid	30
Selenium as Se, dry weight	<0.30	mg/kg	01/04/2008		M	Mid	30C
Zinc as Zn, dry weight	140	mg/kg	01/04/2008		M	Mid	30
Cyanide (Total)	<2.5	mg/kg	03/04/2008		M	Mid	14
Organic matter	4.2	%	08/04/2008		Y	Mid	36
Tot. Steam Dist. Monophenols	<0.75	mg/kg	31/03/2008		M	Mid	40A
Sulphate (Total) as SO4	0.083	%	31/03/2008		M	Mid	45
pH	8.6	pH units	31/03/2008		Y	Mid	39
naphthalene	0.89	mg/kg	02/04/2008		M	Mid	307
acenaphthylene	<0.50	mg/kg	02/04/2008		M	Mid	307
acenaphthene	<0.50	mg/kg	02/04/2008		M	Mid	307
fluorene	<0.50	mg/kg	02/04/2008		M	Mid	307
phenanthrene	0.80	mg/kg	02/04/2008		M	Mid	307
anthracene	<0.50	mg/kg	02/04/2008		M	Mid	307
fluoranthene	0.95	mg/kg	02/04/2008		M	Mid	307
pyrene	0.97	mg/kg	02/04/2008		M	Mid	307
benzo(a)anthracene	0.70	mg/kg	02/04/2008		M	Mid	307
chrysene	0.66	mg/kg	02/04/2008		M	Mid	307
benzo(b)fluoranthene	0.75	mg/kg	02/04/2008		M	Mid	307
benzo(k)fluoranthene	0.63	mg/kg	02/04/2008		M	Mid	307
benzo(a)pyrene	0.77	mg/kg	02/04/2008		M	Mid	307
dibenzo(ah)anthracene	<0.50	mg/kg	02/04/2008		M	Mid	307
benzo(ghi)perylene	0.76	mg/kg	02/04/2008		M	Mid	307
indeno(123cd)pyrene	0.71	mg/kg	02/04/2008		M	Mid	307
PAH (Total - SUM EPA16)	8.6	mg/kg	02/04/2008		M	Mid	307

Analyst Comments for 10485600: No Analyst Comment

Accreditation Codes: Y = UKAS Accredited, N = Not UKAS Accredited, M = MCERTS, S = Sub-contracted.
Analysed at: Bri = STL Bridgend, Cov = STL Coventry, Mid = STL Midlands, Rea = STL Reading, Run = STL Runcorn
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered I/S=Insufficient sample

Signed: 

Name: **G. Smith** Date: **23 April 2008**

Title: **Inorg and License Chem Manager**

SEVERN TRENT STL

DETERMINAND COMMENTS FOR REPORT **MID/502923/2008** **ISSUE 3**

Date of Issue : 23 April 2008

Sample No	Description	Determinand	Comments

Signed:

Name: **G. Smith** Date: **23 April 2008**

Title: **Inorg and License Chem Manager**

SEVERN TRENT STL

METHOD COMMENTS FOR REPORT MID/502923/2008 Issue 3

Date of Issue :**23 April 2008**

Method	Statement
14	The cyanides in the sample are determined in two stages. The free cyanide is liberated by heating with pH 4 buffer and the resulting gas collected in sodium hydroxide solution. Complex cyanide is liberated using phosphoric acid under the same conditions. the two portions of sodium hydroxide are then analysed for cyanide content using a discrete autoanalyser.
30	Metals are extracted from land samples by boiling with hydrochloric/nitric acids (3:1 ratio). The measurement of metal concentrations is determined directly on an ICP-OES at defined wavelengths.
30/30C	Metals are extracted from land samples by boiling with hydrochloric/nitric acids (3:1 ratio). For the measurement of metal concentrations is determined on an ICP-OES at defined wavelengths. Where a result is 25mg/kg or above results are obtained directly. Otherwise results are obtained via hydride generation.
307	PAH?s are extracted from land samples using acetone. The samples are shaken mechanically and then centrifuged. An aliquot of the supernatant liquid is then transferred to a separate vial and analysed by HPLC using a variable wavelength programme.
30C	Metals are extracted from land samples by boiling with hydrochloric/nitric acid (3:1 ratio). The measurement of metal concentrations is determined by means of hydride generation / atomic vapour on an ICP-OES at defined wavelengths.
33A	Moisture Content is the weight difference between an as received sample and the air dried sample at 30 degrees C.
36	This method determines the percentage, by dry mass, of natural organic matter present in soil.
39	The test is carried out by extraction using deionised water with agitation. The pH of this suspension is read directly from an electronic pH meter.
40A	This method determines steam distillable phenolic compounds in land materials. Phenol is extracted from air dried soil using steam distillation. The pH adjusted distillate is measured colorimetrically at a defined wavelength.
45	The sulphates are extracted from land samples using boiling hydrochloric acid solution. After cooling and filtration the determination of sulphate is obtained from an aliquot of solution, via a turbidimetric measurement.
Stones	The percentage weight of the stones that are naturally occurring and are greater than 10mm in diameter of the total weight of sample.

Annex I
Laboratory Leachate Test Results

Report Summary

Ms Ruth Lilley
Terra Firma
5 Deryn Court
Wharfdale
Pentwyn
Cardiff
CF23 7HB

UKAS TESTING
1314
0897
1229
1510

SEVERN TRENT STL

Date of Issue: **22 April 2008**

Report Number: **COV/506496/2008** Issue **1**

Number of Samples included in this report	**5**	Site Name:	**Glyn-Neath**
		Job Received:	**09 April 2008**
Number of Test Results included in this report	**77**	Analysis Commenced:	**09 April 2008**
		Order No:	**FAO Gwyn Lake**

Signed: Name: **G. Smith** Date: **22 April 2008**

Title: **Inorg and License Chem Manager**

STL was not responsible for sampling unless otherwise stated. Sampling is not covered by our UKAS accreditation.

Information on the methods of analysis and performance characteristics are available on request.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.
Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory.

Certificate of Analysis

UKAS TESTING
1314
0897
1229
1510

SEVERN TRENT STL

Report Number: **COV/506496/2008** Issue **1**
Site Name: **Glyn-Neath**

Group	Determinand	Unit	Method/ Accreditation			Leachate				
						10509895	10509896	10509897	10509898	10509899
						TP3 0.40m	TP5 0.60m	TP8 0.70m	TP9 1.40m	TP10 0.70m
Sample Preparation	NRA Leachate		NRA Leachate	N	Mid	Y	Y	Y	Y	Y
Metals	Arsenic (Soluble)	ug/l	56	Y	Mid	-	-	-	2.2	-
	Zinc (Soluble)	ug/l	56	Y	Mid	-	6 9	-	<5.0	5.2
PAH	naphthalene	ug/l	331	N	Mid	0.13	-	0.31	0.050	0 18
	acenaphthene	ug/l	331	Y	Mid	0.015	-	0.017	0.022	0.017
	acenaphthylene	ug/l	331	Y	Mid	<0.010	-	0.021	0.022	0.018
	fluorene	ug/l	331	Y	Mid	0.037	-	0.17	0.074	0.052
	phenanthrene	ug/l	331	Y	Mid	0.036	-	0.048	0.021	0.051
	anthracene	ug/l	331	Y	Mid	0.012	-	0.014	0.066	0.015
	fluoranthene	ug/l	331	Y	Mid	<0.010	-	0.010	0.11	0.024
	pyrene	ug/l	331	Y	Mid	<0 010	-	0.011	0.097	0.030
	benzo(a)anthracene	ug/l	331	Y	Mid	<0 010	-	<0.010	0.018	0.013
	chrysene	ug/l	331	Y	Mid	<0.010	-	<0.010	0.013	0.017
	benzo(b)fluoranthene	ug/l	331	Y	Mid	<0.010	-	<0.010	0.014	<0.010
	benzo(k)fluoranthene	ug/l	331	Y	Mid	<0.010	-	<0.010	<0.010	<0.010
	benzo(a)pyrene	ug/l	331	Y	Mid	<0.010	-	<0.010	0.012	<0.010
	dibenzo(ah)anthracene	ug/l	331	Y	Mid	<0.010	-	<0.010	<0.010	<0.010
	benzo(ghi)perylene	ug/l	331	Y	Mid	<0.010	-	<0.010	<0.010	<0.010
	indeno(123cd)pyrene	ug/l	331	Y	Mid	0.012	-	<0.010	0.016	0.012
	PAH (Total)	ug/l	331	N	Mid	0.24	-	0.60	0.53	0.43

Signed: .

Name: **G. Smith** Date: **22 April 2008**

Title: **Inorg and License Chem Manager**

Accreditation Codes: Y = UKAS Accredited, N = Not UKAS Accredited, M = MCERTS, S = Sub-contracted.
Analysed at: Bri = STL Bridgend, Cov = STL Coventry, Mid = STL Midlands, Rea = STL Reading, Run = STL Runcorn.
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. I/S=Insufficient sample

SEVERN TRENT STL

ANALYST COMMENTS FOR REPORT COV/506496/2008 Issue 1

Date of Issue: **22 April 2008**

Sample No	Analyst Comments
10509895	
10509896	
10509897	
10509898	
10509899	

Signed: 

Name: **G. Smith** Date: **22 April 2008**

Title: **Inorg and License Chem Manager**

SEVERN TRENT STL

DETERMINAND COMMENTS FOR REPORT COV/506496/2008

ISSUE 1

Date of Issue : 22 April 2008

Sample No	Description	Determinand	Comments

Signed: 

Name: G. Smith Date: 22 April 2008

Title: Inorg and License Chem Manager

Annex J
In-situ Gas Monitoring Results

TERRA FIRMA (WALES) LIMITED

In-situ Gas Monitoring Results
Site: Glyn-neath
Date Monitored: 01/05/2008
Barometric Pressure: 0995
Weather: Sunny
Job No: 10287

Gas Monitoring Well Number	Methane CH_4 (%)	Oxygen O_2 (%)	Carbon dioxide CO_2 (%)	Flow Rate
BH1	0.1	17.7	1.0	0.1
BH2	0.1	11.5	1.7	0.1
BH4	0.1	5.3	1.3	0.0

Notes:

- Gas Measuring Instrument: Geotechnical Instruments monitor
- N/D = Not Detected

TERRA FIRMA (WALES) LIMITED

In-situ Gas Monitoring Results
Site: Glyn-neath
Date Monitored: 07/05/2008
Barometric Pressure: 0995
Weather: Sunny
Job No: 10287

Gas Monitoring Well Number	Methane CH_4 (%)	Oxygen O_2 (%)	Carbon dioxide CO_2 (%)	Flow Rate
BH1	0.0	18.2	0.9	0.0
BH2	0.1	11.2	1.3	0.1
BH4	0.1	7.3	1.3	0.0

Notes:

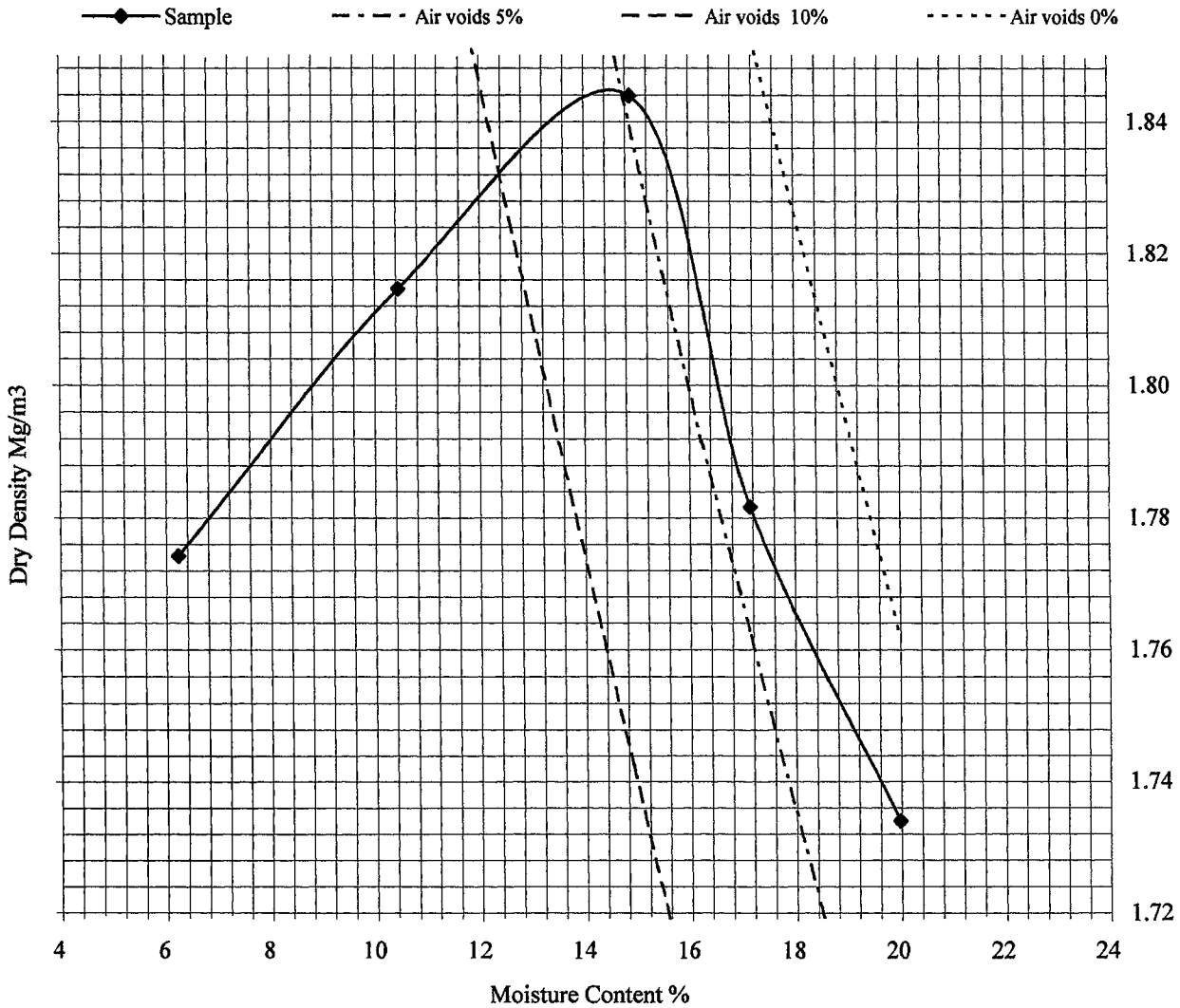
- Gas Measuring Instrument: Geotechnical Instruments monitor
- N/D = Not Detected

Annex K
Optimum Moisture Content/Maximum Dry Density Test Results

Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: TP1 **Depth(m):** 1.35



Initial Moisture Content:		17	Method of Compaction	2.5Kg Rammer / Single Sample	
Particle Density (Mg/m3):	2.72* Assumed		Material Retained on 37.5 mm Test Sieve (%):		9
Maximum Dry Density (mg/m3):		1.84	Material Retained on 20.0 mm Test Sieve (%):		15
Optimum Moisture Content (%):		15	Sample Preparation Clause :		3.2.5.3

** - not included in laboratory scope of accreditation*

Remarks

Checked by Date 5/04/08

Approved by Date 10/04/08

LABORATORY TESTING SERVICES LIMITED

Glyn-neath

Contract No.: GEO/5840/08

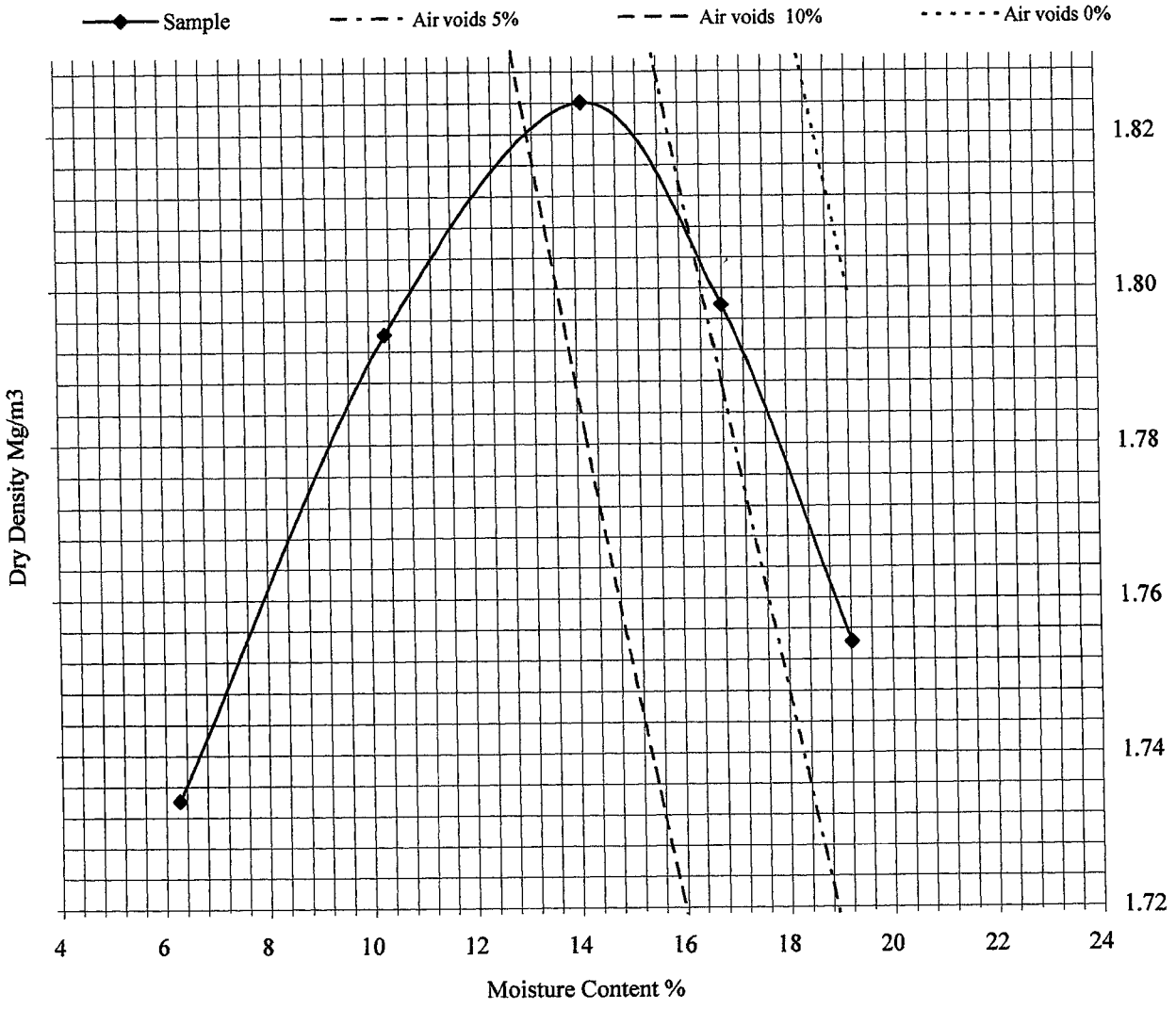
Client Ref No: n/a

UKAS TESTING 2788

Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: TP2 **Depth(m):** 1.45



Initial Moisture Content:		17	Method of Compaction	2.5Kg Rammer / Single Sample	
Particle Density (Mg/m3):	2.75* Assumed		Material Retained on 37.5 mm Test Sieve (%):		9
Maximum Dry Density (mg/m3):		1.82	Material Retained on 20.0 mm Test Sieve (%):		12
Optimum Moisture Content (%):		14	Sample Preparation Clause :		3.2.5.3

** - not included in laboratory scope of accreditation*

Remarks

Checked by Date 10/04/08

Approved by Date 10/04/08

LABORATORY TESTING SERVICES LIMITED

Glyn-neath

Contract No.: GEO/5840/08

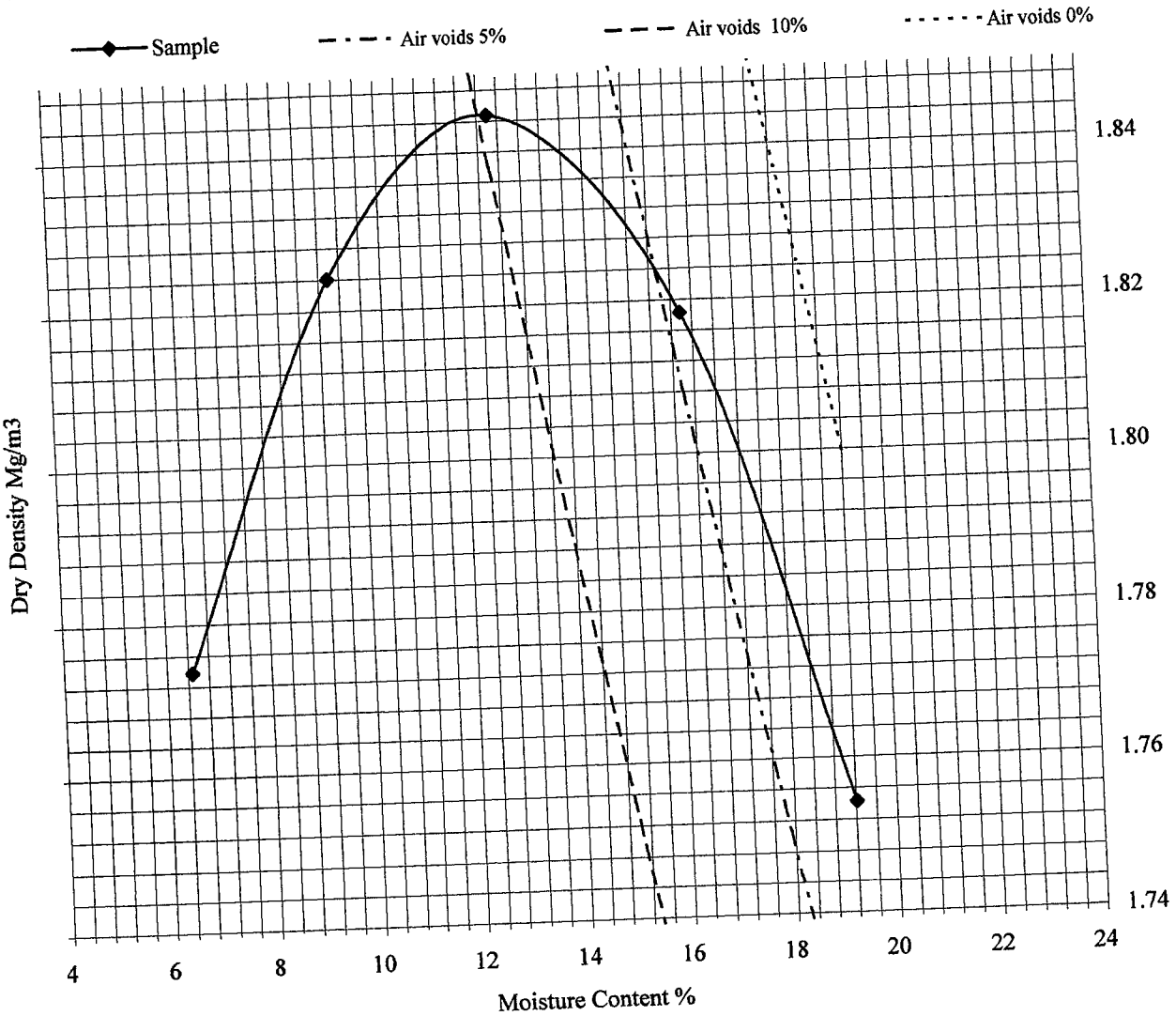
Client Ref No: n/a

UKAS TESTING 2788

Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: TP5 **Depth(m):** 2.60



Initial Moisture Content:	16	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m3):	2.75* Assumed	Material Retained on 37.5 mm Test Sieve (%):	7
Maximum Dry Density (mg/m3):	1.84	Material Retained on 20.0 mm Test Sieve (%):	12
Optimum Moisture Content (%):	13	Sample Preparation Clause :	3.2.5.3

** - not included in laboratory scope of accreditation*

Remarks

Checked by Date 15/12/05

Approved by Date 10/01/06

LABORATORY TESTING SERVICES LIMITED

Glyn-neath

Contract No.: GEO/5840/08

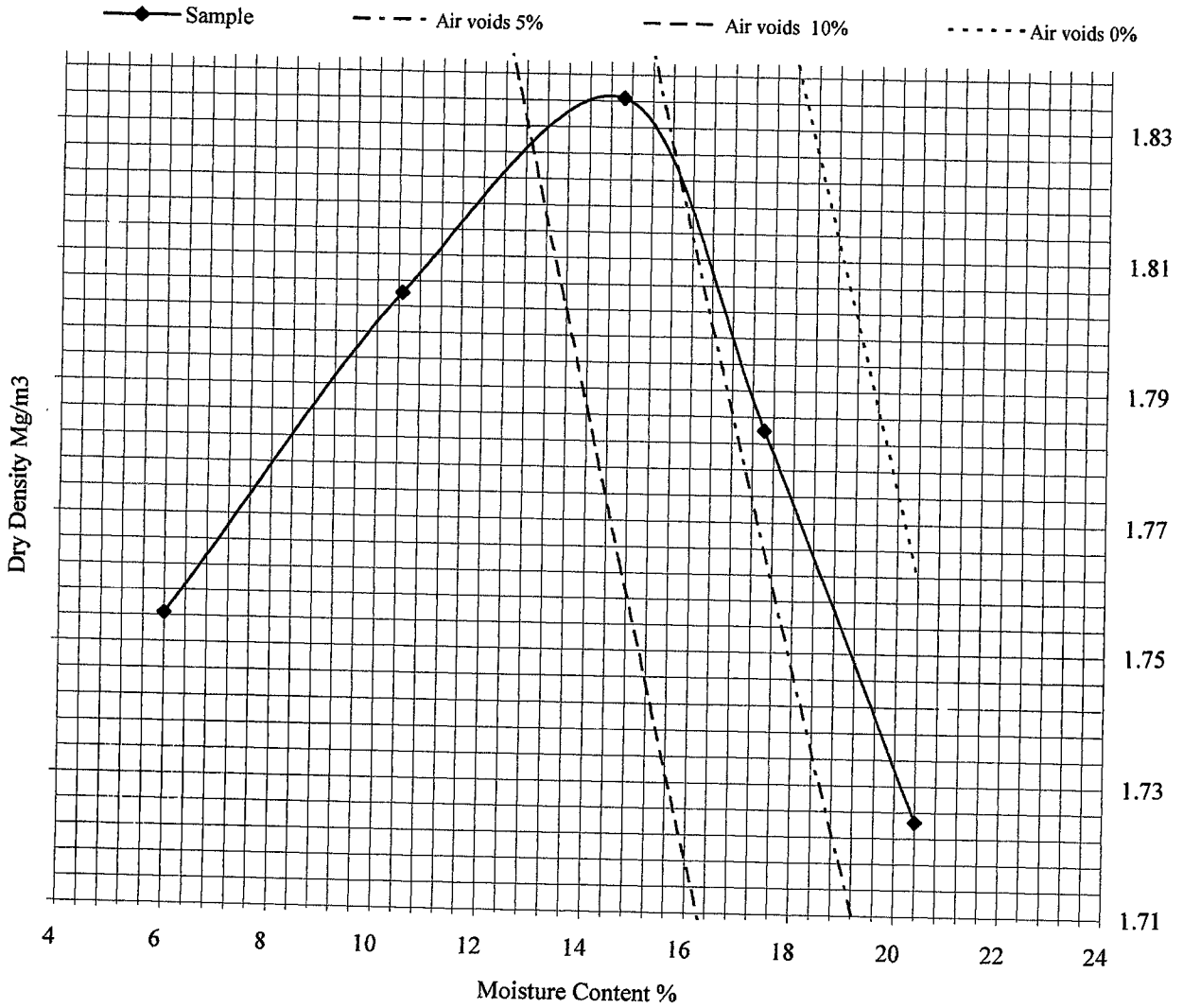
Client Ref No: n/a

UKAS TESTING 2788

Dry Density/Moisture Content Relationship

BS 1377:Part 4:1990

Hole Number: TP6 **Depth(m):** 3.20



Initial Moisture Content:	17	Method of Compaction	2.5Kg Rammer / Single Sample
Particle Density (Mg/m3):	2.75* Assumed	Material Retained on 37.5 mm Test Sieve (%):	6
Maximum Dry Density (mg/m3):	1.83	Material Retained on 20.0 mm Test Sieve (%):	13
Optimum Moisture Content (%):	15	Sample Preparation Clause :	3.2.5.3

** - not included in laboratory scope of accreditation*

Remarks

Checked by Date 08/05/08

Approved by Date 08/05/08.

LABORATORY TESTING SERVICES LIMITED

Glyn-neath

Contract No.: GEO/5840/08

Client Ref No: n/a

UKAS TESTING 2788

Annex L
Grading Analysis Results

Summary of Laboratory Sample Descriptions

Hole Number	Sample Number	Type	Depth m	Description of Sample*
TP1			1.35	Brown gravelly sandy silty CLAY.
TP1			1.90	Brown very sandy (fine to coarse) silty clayey fine to coarse GRAVEL with cobbles
TP2			1.45	Dark brown gravelly sandy silty CLAY.
TP3			1.45	Brown very gravelly (fine to coarse) very sandy (fine to coarse) SILT/CLAY.
TP5			2.60	Brown gravelly sandy silty CLAY.
TP6			3.20	Brown gravelly sandy silty CLAY.
TP7			2.45	Brown very sandy (fine to coarse) silty clayey fine to coarse GRAVEL.
TP9			2.50	Grey sandy (fine to coarse) slightly silty slightly clayey fine to coarse GRAVEL
				with cobbles.

**: not included in laboratory scope of accreditation*

Note: Results on this table are in summary format and may not meet the requirements of the relevant standards, additional information is held by the laboratory

Checked by 10/04/08 Date

Approved by 10/04/08 Date

LABORATORY TESTING SERVICES LIMITED

Glyn-neath

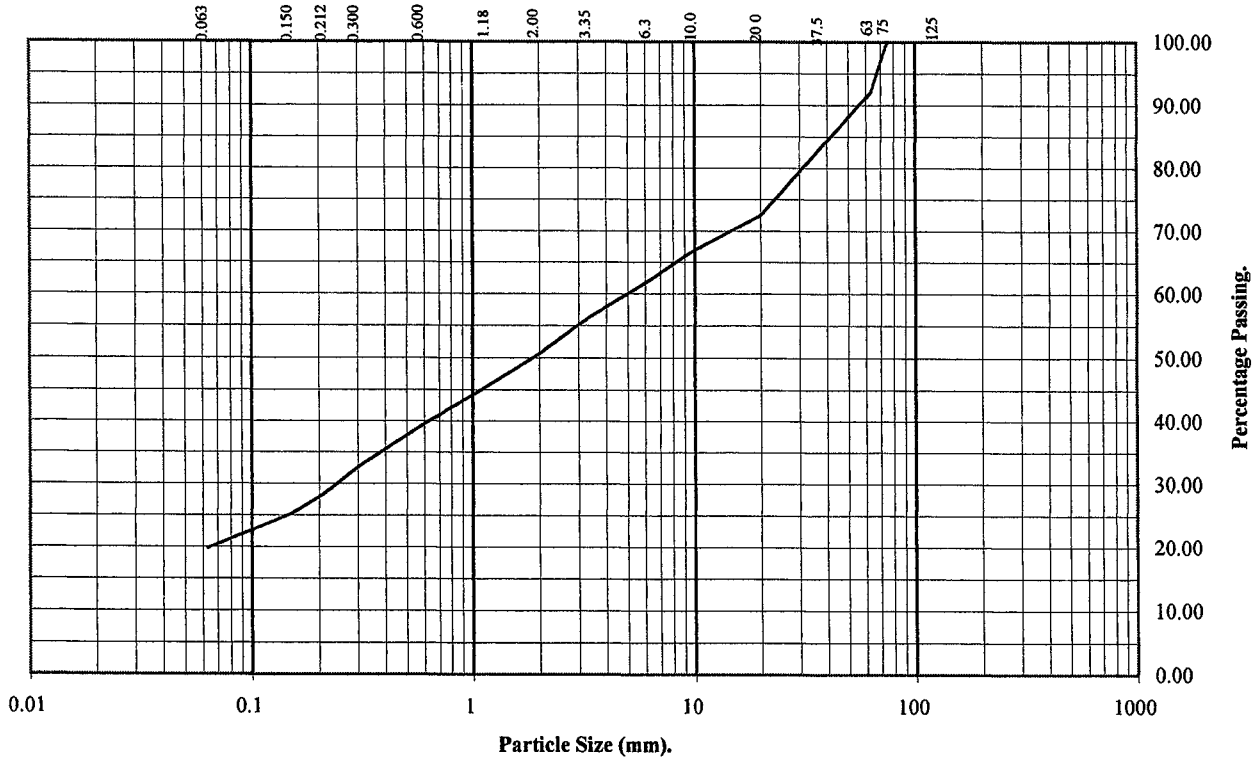
Contract No.:
GEO/5840/08
Client ref:
N/A

PARTICLE SIZE DISTRIBUTION TEST

BS 1377:Part 2:1990.

Wet sieve Clause 9.2

Hole Number: TP1 **Depth (m):** 1.90



BS Test Sieve	Percentage Passing
125	100
75	100
63	92
37.5	83
20	72
10	67
6.3	62
3.35	56
2	51
1.18	46
0.6	40
0.3	33
0.212	28
0.15	25
0.063	20

Soil Fraction	Total Percentage
Cobbles	8
Gravel	41
Sand	31
Silt and Clay	20

Remarks:

Checked by 10/04/08 Date

Approved by 10/04/08 Date

LABORATORY TESTING SERVICES LIMITED

Glyn-neath

Contract No.: GEO/5840/08

Client Ref No: n/a

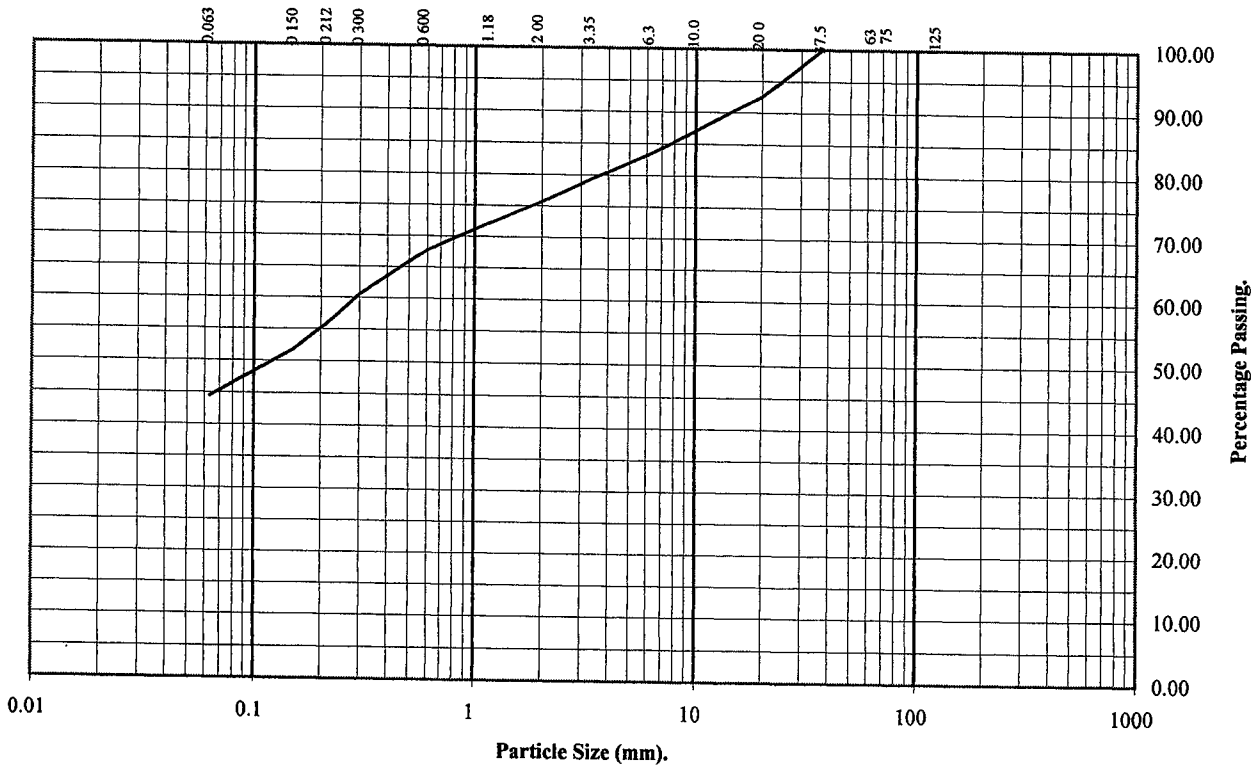
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377:Part 2:1990.

Wet sieve Clause 9.2

Hole Number: TP3 **Depth (m):** 1.45



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	93
10	87
6.3	84
3.35	79
2	76
1.18	72
0.6	68
0.3	61
0.212	56
0.15	52
0.063	44

Soil Fraction	Total Percentage
Cobbles	0
Gravel	24
Sand	32
Silt and Clay	44

Remarks:

Checked by 10/4/08 Date

Approved by 10/04/08 Date

Glyn-neath

Contract No.: GEO/5840/08

Client Ref No: n/a

LABORATORY TESTING SERVICES LIMITED

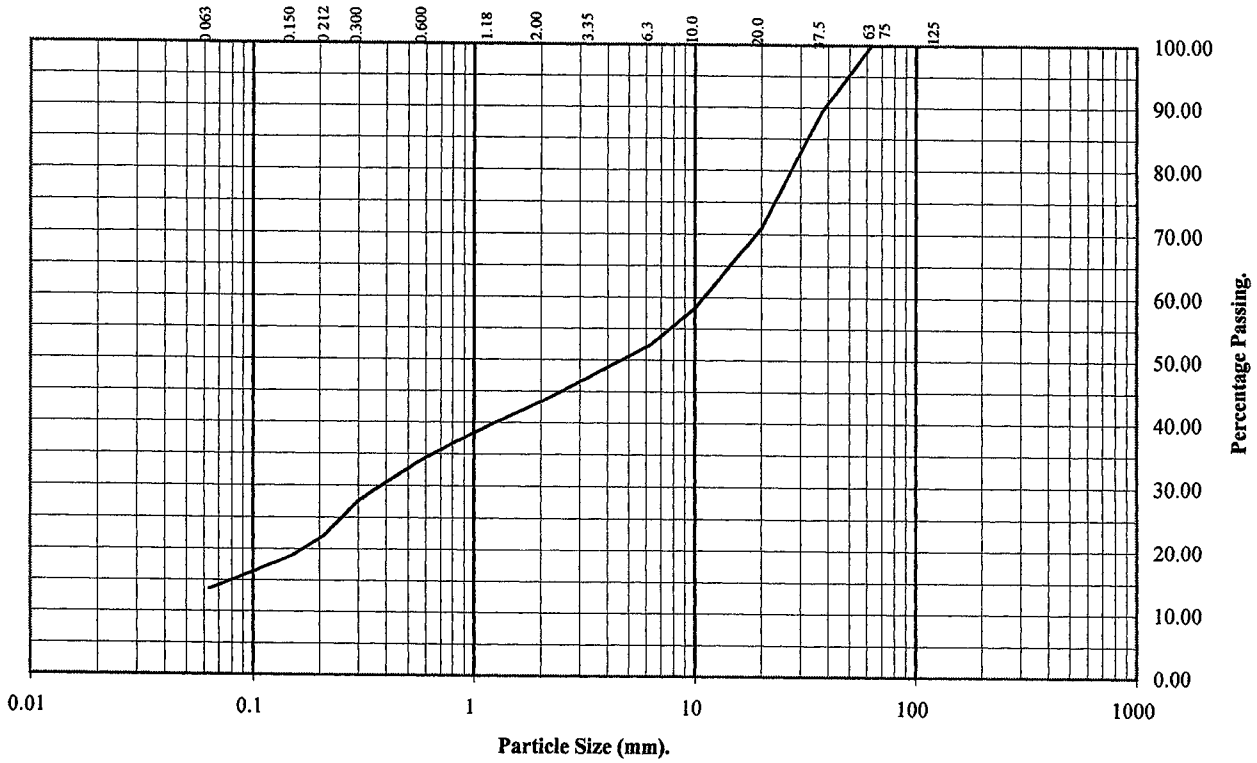
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377:Part 2:1990.

Wet sieve Clause 9.2

Hole Number: TP7 **Depth (m):** 2.45



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	89
20	71
10	58
6.3	52
3.35	47
2	43
1.18	40
0.6	34
0.3	28
0.212	22
0.15	19
0.063	14

Soil Fraction	Total Percentage
Cobbles	0
Gravel	57
Sand	29
Silt and Clay	14

Remarks:

Checked by 10/04/08 Date

Approved by 10/04/08 Date

LABORATORY TESTING SERVICES LIMITED

Glyn-neath

Contract No.: GEO/5840/08

Client Ref No: n/a

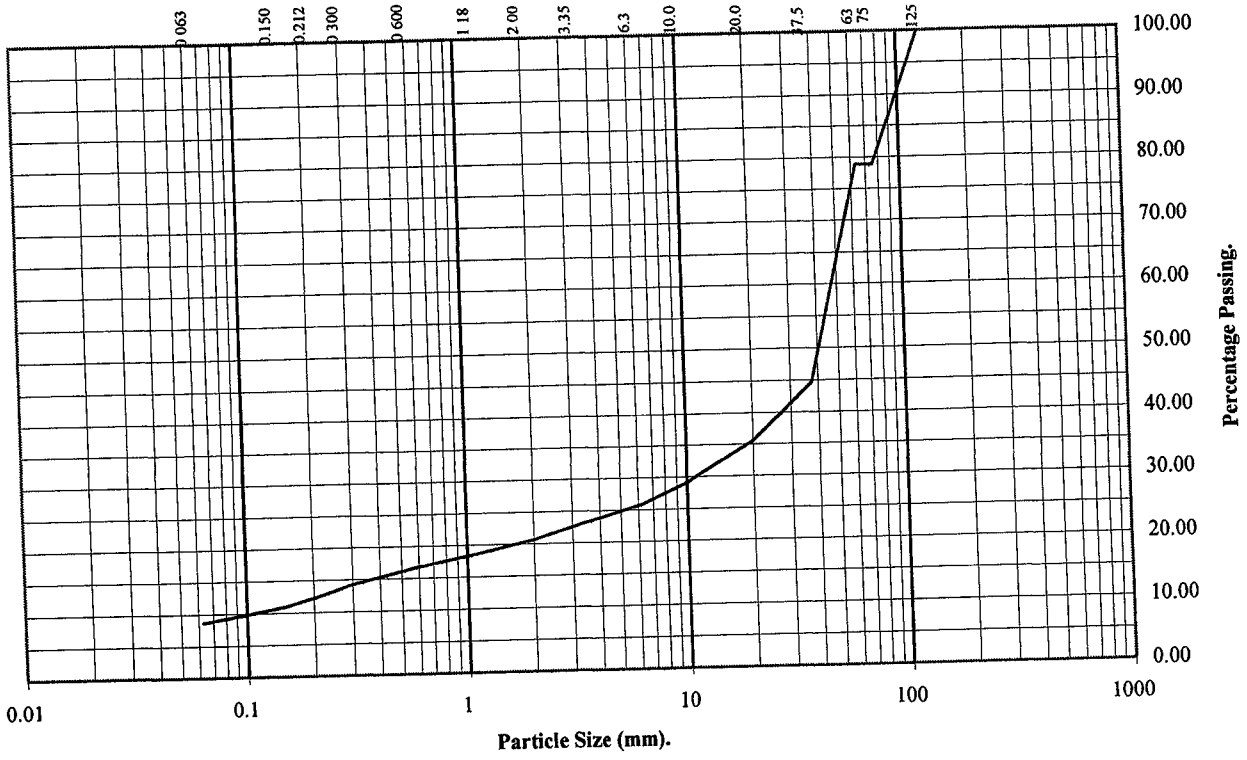
UKAS TESTING 2788

PARTICLE SIZE DISTRIBUTION TEST

BS 1377:Part 2:1990.

Wet sieve Clause 9.2

Hole Number: TP9 **Depth (m):** 2.50



BS Test Sieve	Percentage Passing
125	100
75	79
63	79
37.5	45
20	36
10	29
6.3	26
3.35	23
2	21
1.18	19
0.6	17
0.3	14
0.212	12
0.15	11
0.063	9

Soil Fraction	Total Percentage
Cobbles	21
Gravel	58
Sand	12
Silt and Clay	9

Remarks:

Checked by 10/04/08 Date

Approved by 10/04/08 Date

LABORATORY TESTING SERVICES LIMITED

Glyn-neath

Contract No.: GEO/5840/08

Client Ref No: n/a

UKAS TESTING 2788

Annex M
Shearbox Test Results

LABORATORY REPORT

LABORATORY TESTING SERVICES LIMITED

Contract Number: GEO/5840/08

LABORATORY TEST REPORT

Determination of Effective Angle of Internal Friction and Effective Cohesion Value
BS1377:Part 7:Clause 5:1990
Peak and Residual Values

Client's Reference:

Report Date: 15 April 2008

Client Name: Terrafirma
5 Deryn Court
Wharfdale Road
Pentwyn
Cardiff

For the attention of: Dr Gwyn Lake

Contract Title: **Glyn Neath**

Sample Details

Identification	:	TP1
Depth	:	1.50
Soil Description	:	Brown very gravelly sandy silty CLAY

Result:

		Peak	Residual
Effective Angle	:	29 °	20 °
Effective cohesion (C')	:	2 kN/m^2	0 kN/m^2
Test Dry Density	:	1.87 Mg/m^3	
Moisture Content (%)	:	16	
Applied Pressures:	:	25.50,100 kN/m^2	

Deviations from standerd Procedure:
None

Approved Signatories: D V Edwards (Managing Director)
Alun Walters (Technical Manager)
L R Evans (Technical Co-Ordinator).

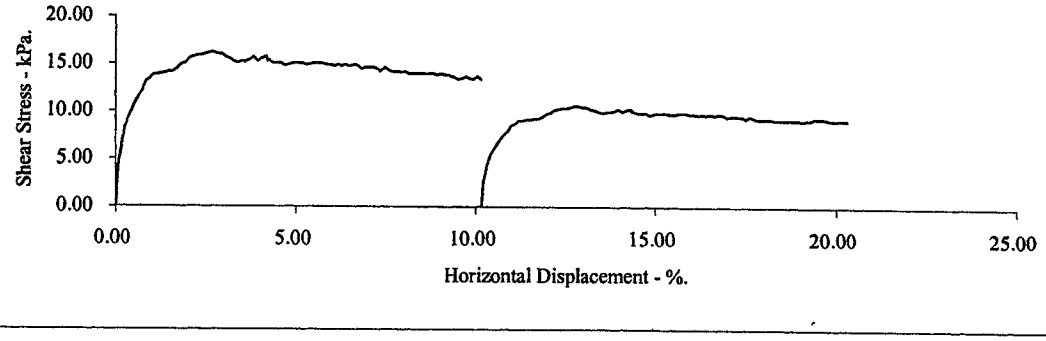
Unit 1a Bynea Business Park . Bynea .
Llanelli, Carmarthenshire . SA14 9SU
tel: +44 (0)1554 757734
fax: +44 (0)1554 775107
e-mail: info@geolab.org.uk

CONSOLIDATED DRAINED PEAK AND RESIDUAL SHEARBOX TEST.

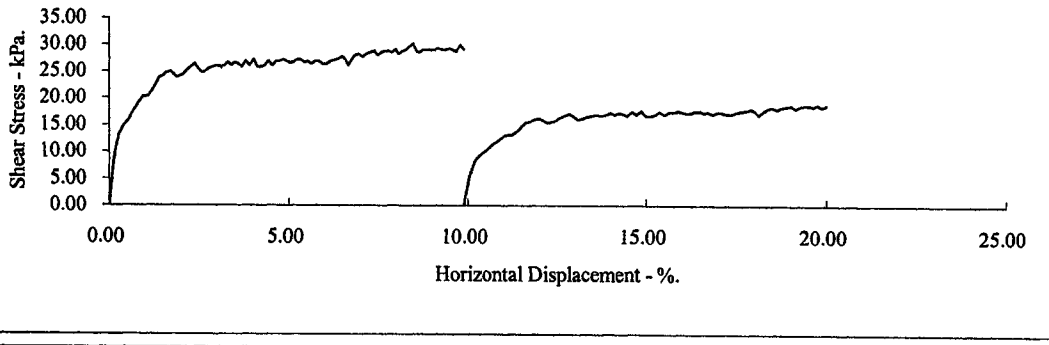
BS1377:Part 7 :1990.

Borehole/Sample Number: TP1 Depth (m): 1.50

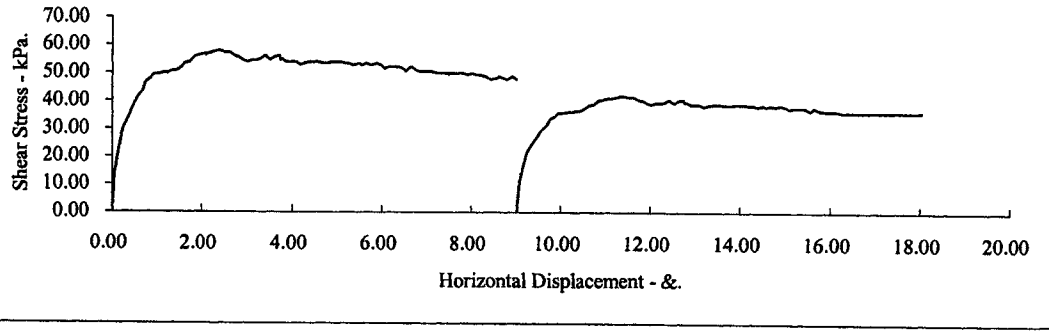
SHEARING STAGE 1.



SHEARING STAGE 2.



SHEARING STAGE 3.



Checked by Date 16/5/05

Approved by Date 16/5/05

LABORATORY TESTING SERVICES LIMITED

GEO/064 17-May-05 Issue No. 1.1

Glyn Neath

Contract No.:
GEO/5840/08

Client Ref Number:

Figure.

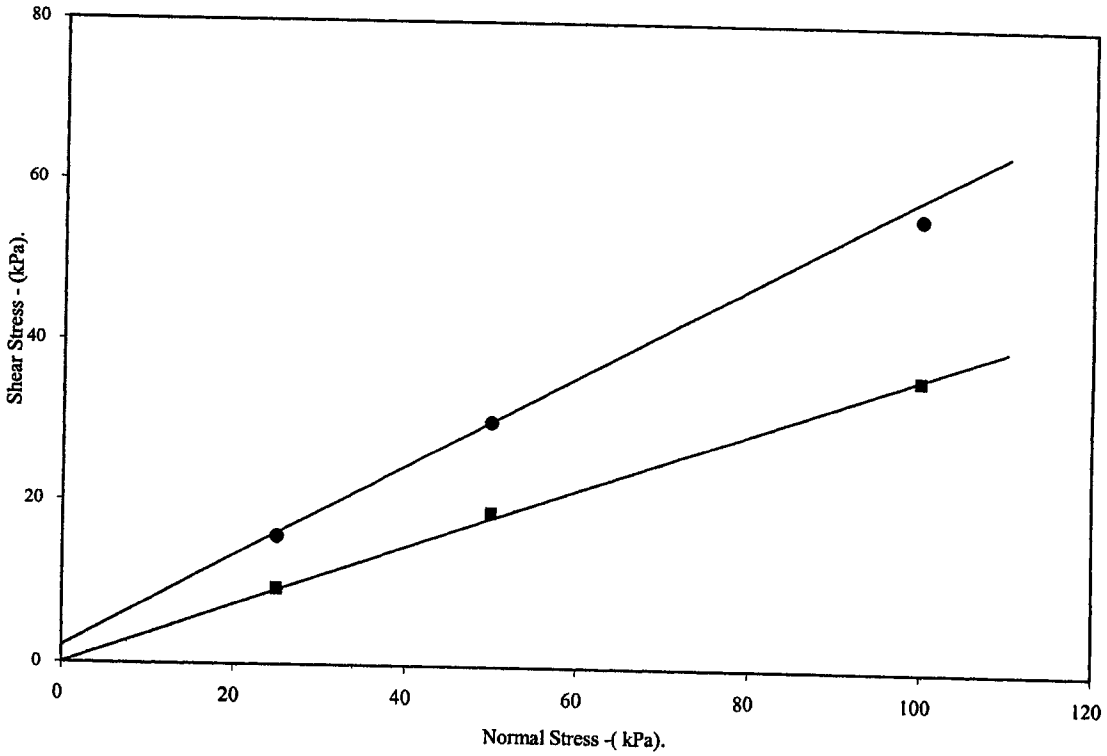
Bynea, Llanelli, SA14 9SU

CONSOLIDATED DRAINED PEAK AND RESIDUAL SHEARBOX TEST.

BS1377:Part 7 :1990.

Borehole/Sample Number: TP1 Depth (m): 1.50

FAILURE CONDITIONS



Checked by 16/5/05 Date

Approved by 16/5/05 Date

LABORATORY TESTING SERVICES LIMITED

GEO/064 17-May-05 Issue No. 1.1

Glyn Neath

Contract No.:
GEO/5840/08

Client Ref Number:

Figure.

Bynea, Llanelli, SA14 9SU.

LABORATORY REPORT

LABORATORY TESTING SERVICES LIMITED

Contract Number: GEO/5840/08

LABORATORY TEST REPORT

Determination of Effective Angle of Internal Friction and Effective Cohesion Value
BS1377:Part 7:Clause 5:1990
Peak and Residual Values

Client's Reference:

Report Date: 15 April 2008

Client Name: Terrafirma
5 Deryn Court
Wharfdale Road
Pentwyn
Cardiff

For the attention of: Dr Gwyn Lake

Contract Title: **Glyn Neath**

Sample Details

Identification	:	TP2
Depth	:	2.88
Soil Description	:	Brown very gravelly clayey sandy SILT

Result:

		Peak	Residual
Effective Angle	:	30 °	16 °
Effective cohesion (C')	:	7 kN/m^2	0 kN/m^2
Test Dry Density	:	1.81 Mg/m^3	
Moisture Content (%)	:	16	
Applied Pressures:	:	25.50,100 kN/m^2	

Deviations from standerd Procedure:
None

Approved Signatories: D V Edwards (Managing Director) 16/5/08
Alun Walters (Technical Manager)
L R Evans (Technical Co-Ordinator).

Unit 1a Bynea Business Park . Bynea .
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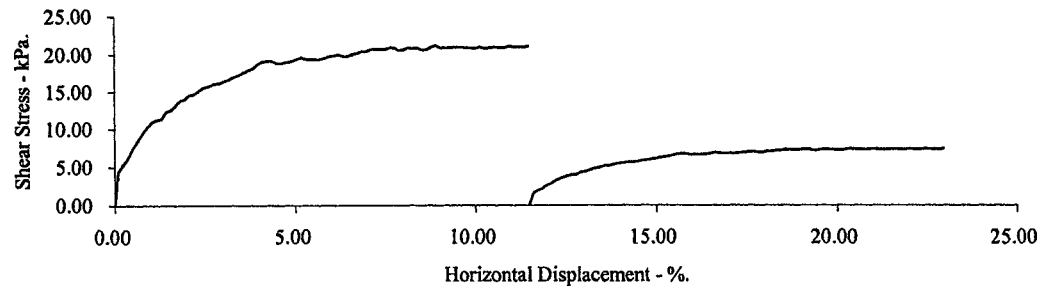
e-mail: info@geolab.org.uk

CONSOLIDATED DRAINED PEAK AND RESIDUAL SHEARBOX TEST.

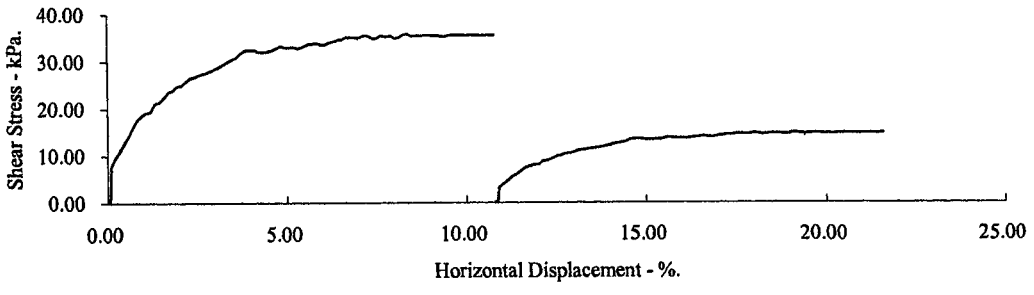
BS1377:Part 7:4.5 :1990.

Borehole/Sample Number: TP1 Depth (m): 1.50

SHEARING STAGE 1.



SHEARING STAGE 2.



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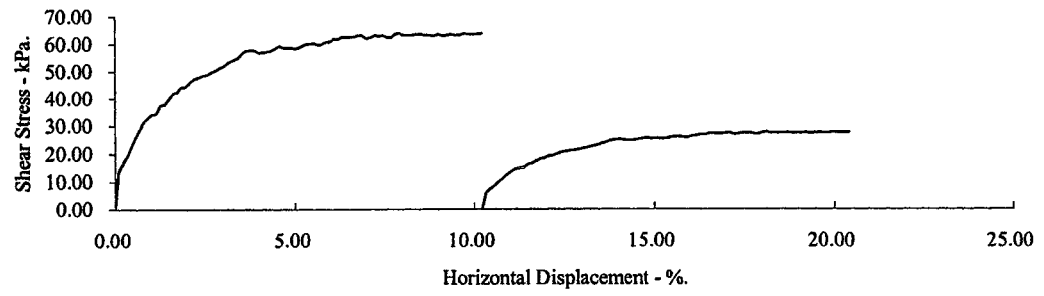

Checked by Date 16/5/08

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Figure.

Bynea, Llanelli, SA14 9SU.

CONSOLIDATED DRAINED PEAK AND RESIDUAL SHEARBOX TEST.

BS1377:Part 7:4.5 :1990.

Borehole/Sample Number: TP1 Depth (m): 1.50

FAILURE CONDITIONS

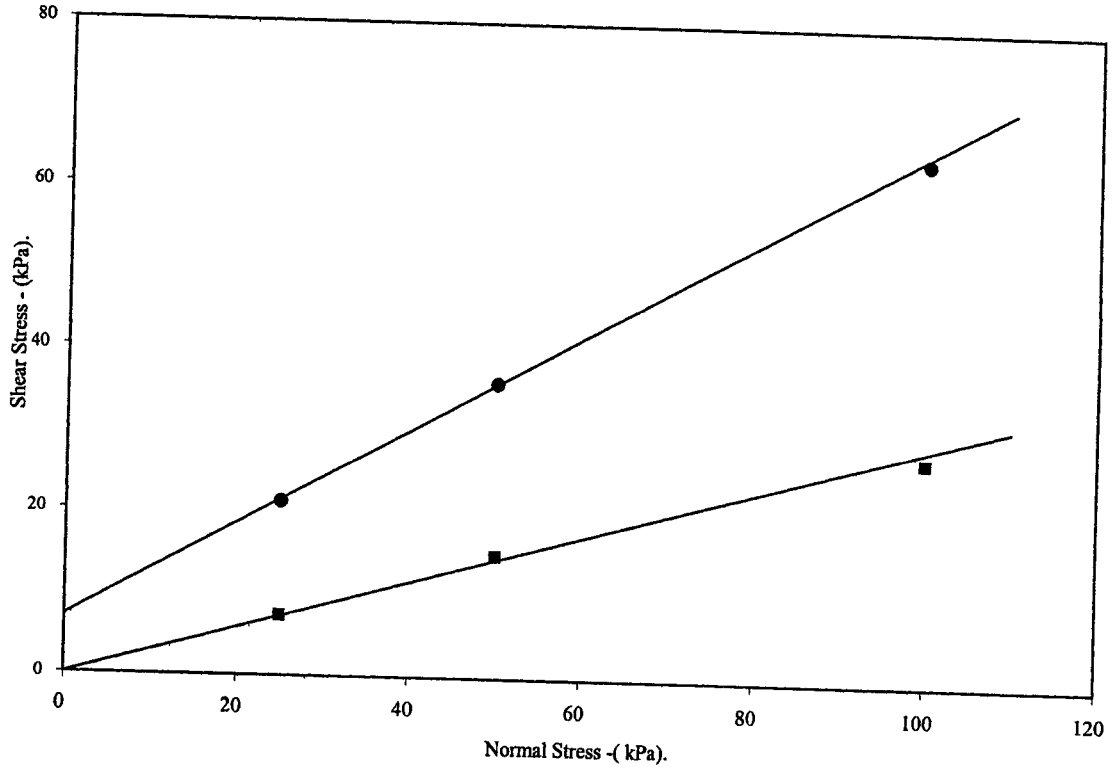

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Figure.

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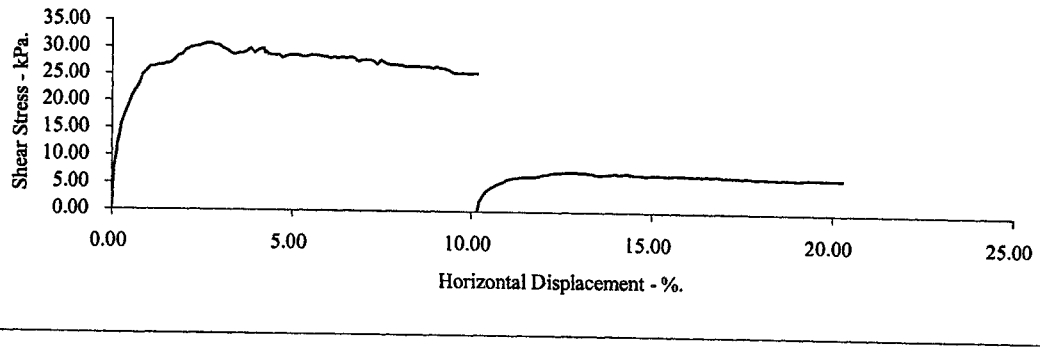
CONSOLIDATED DRAINED PEAK AND RESIDUAL SHEARBOX TEST.

BS1377:Part 7 :1990.

Borehole/Sample Number: TP10 Depth (m): 1.70

SHEARING STAGE 1.



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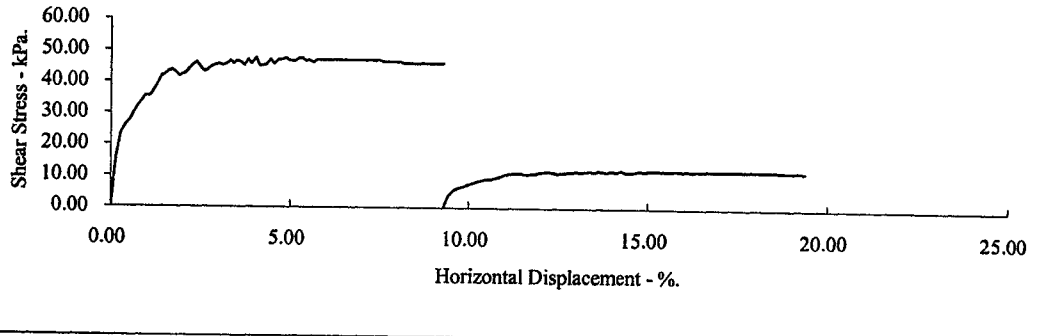

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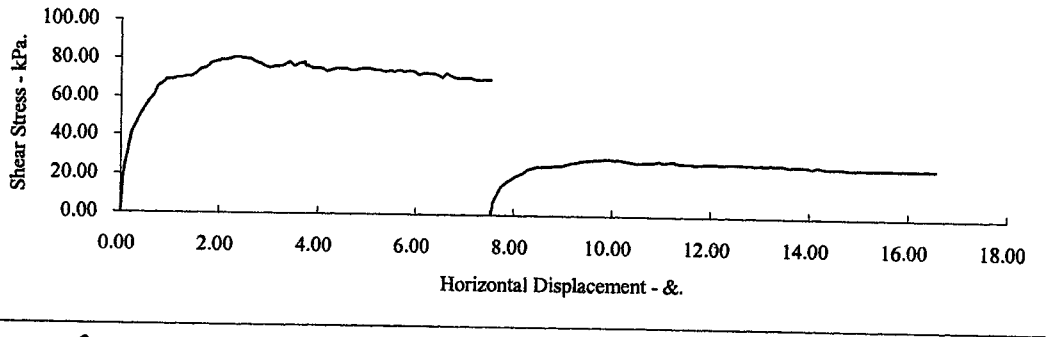

Checked by Date 16/11/05

Approved by Date 16/11/05

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Contract No.:
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Figure.

Bynea, Llanelli, SA14 9SU.

CONSOLIDATED DRAINED PEAK AND RESIDUAL SHEARBOX TEST.

BS1377:Part 7 :1990.

Borehole/Sample Number: TP10 Depth (m): 1.70

FAILURE CONDITIONS

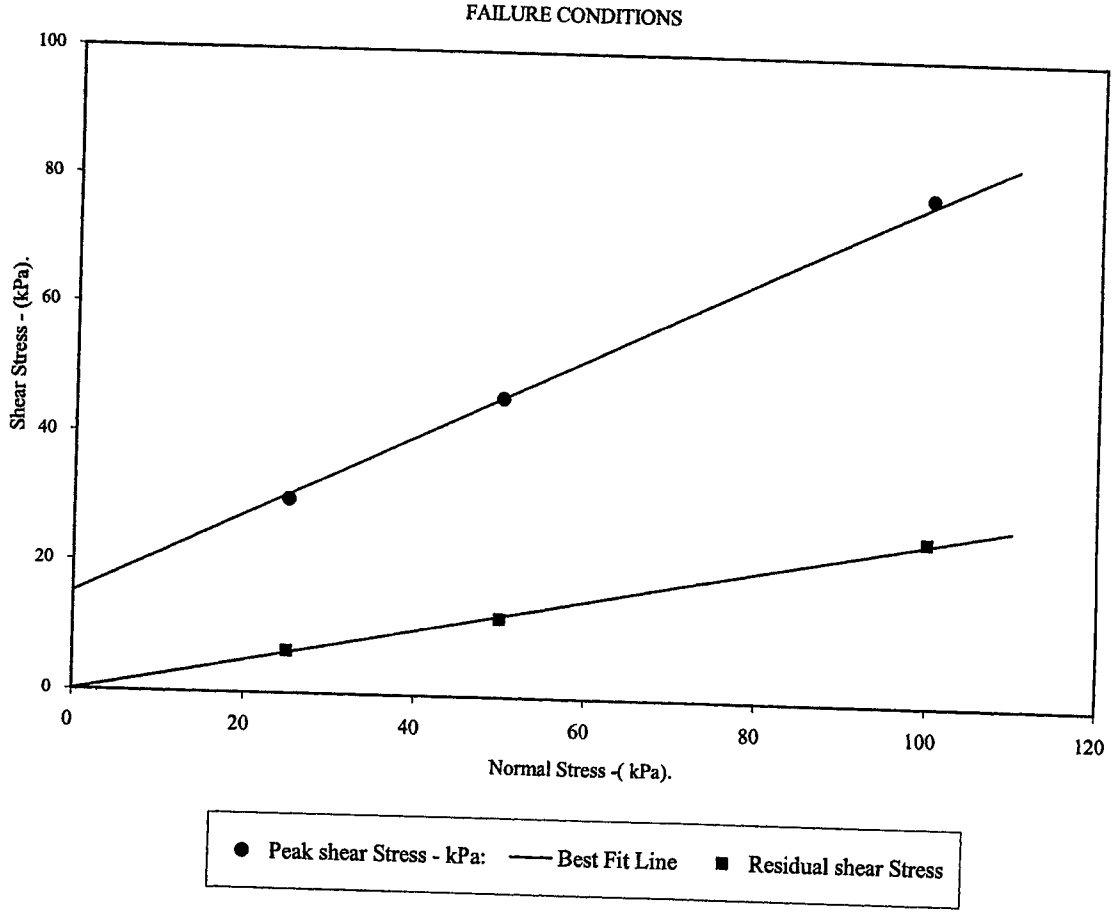

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Figure.

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CONSOLIDATED DRAINED PEAK AND RESIDUAL SHEARBOX TEST.

BS1377:Part 7:4.5 :1990.

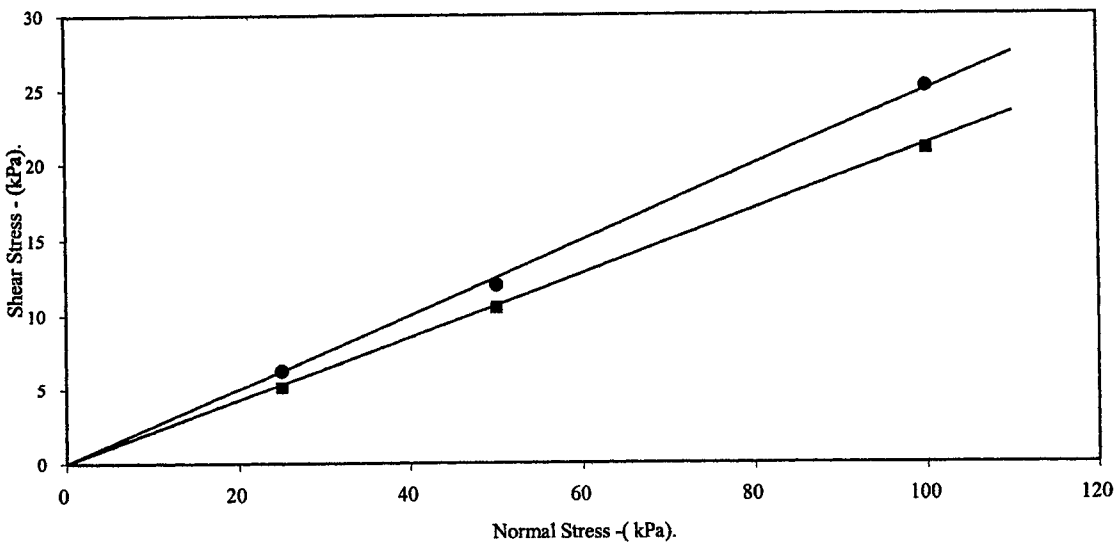
Hole/Sample Number: TP8 Depth (m): 2.70

Sample Type:	Disturbed
Particle Density - Mg/m3:	1.80 (Assumed)
Specimen Tested:	Submerged Recompacted by means of light tamping (All sample above 2mm removed)
Sample Description: **Dark brown very organic SILT**	

STAGE	1	2	3
Initial Conditions			
Height - mm:	25.00	25.00	25.00
Length - mm:	60.00	60.00	60.00
Moisture Content - %:	460	460	460
Bulk Density - Mg/m3:	0.98	0.98	0.98
Dry Density - Mg/m3:	0.17	0.17	0.17
Voids Ratio:	9.3067	9.3044	9.2962
Normal Pressure- kPa	25	50	100
Consolidation			
Consolidated Height - mm:	22.84	21.02	19.85
Shear			
Rate of Strain (mm/min)	0.005	0.005	0.005
Strain at peak shear stress (%)	4.79	5.41	4.43
Peak shear Stress - kPa:	6	12	25

PEAK	
Angle of Shearing Resistance:(θ)	**14.0**
Effective Cohesion - kPa:	**0**
RESIDUAL	
Angle of Shearing Resistance:(θ)	**12.0**
Effective Cohesion - kPa:	**0**

FAILURE CONDITIONS



Checked by Date 16/04/08

Approved by Date 16/04/08

LABORATORY TESTING SERVICES LIMITED

GEO/064 17-May-05 Issue No. 1.1

Glyn Neath

Contract No.:
GEO/5840/07

Client Ref Number:

Figure.

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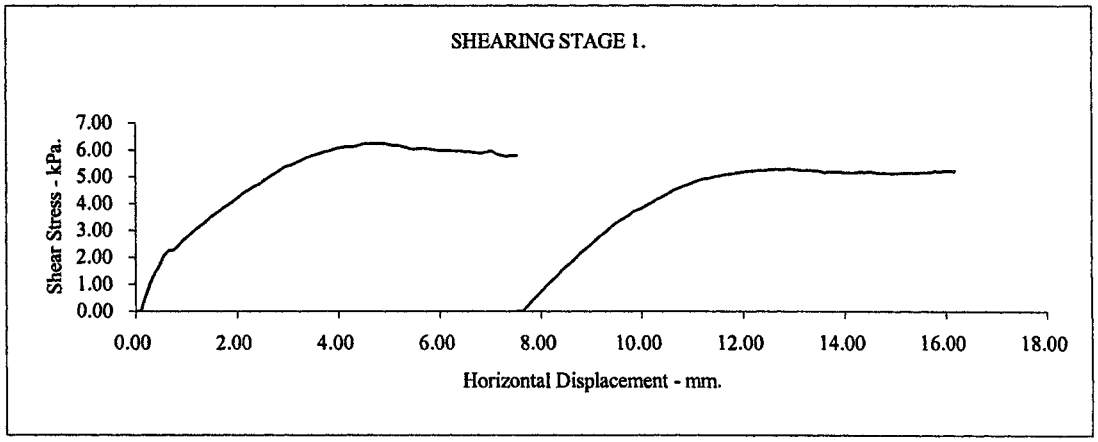
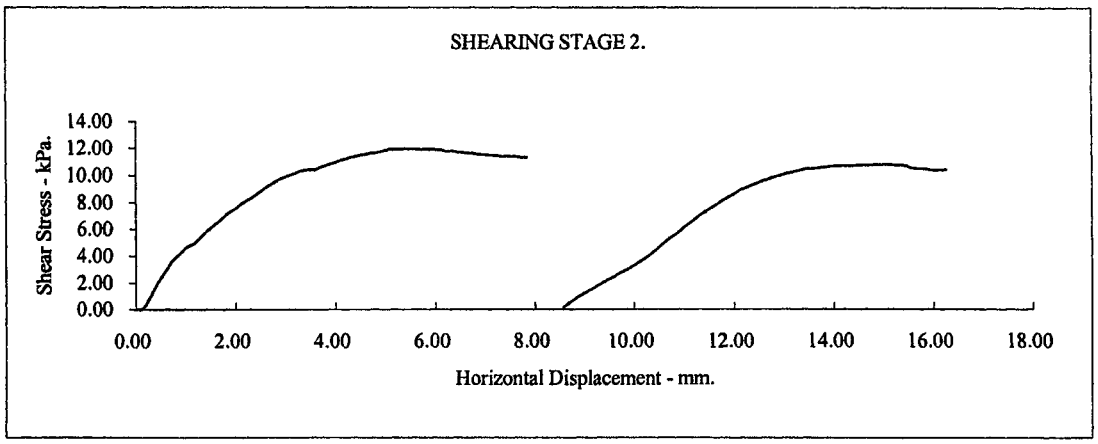
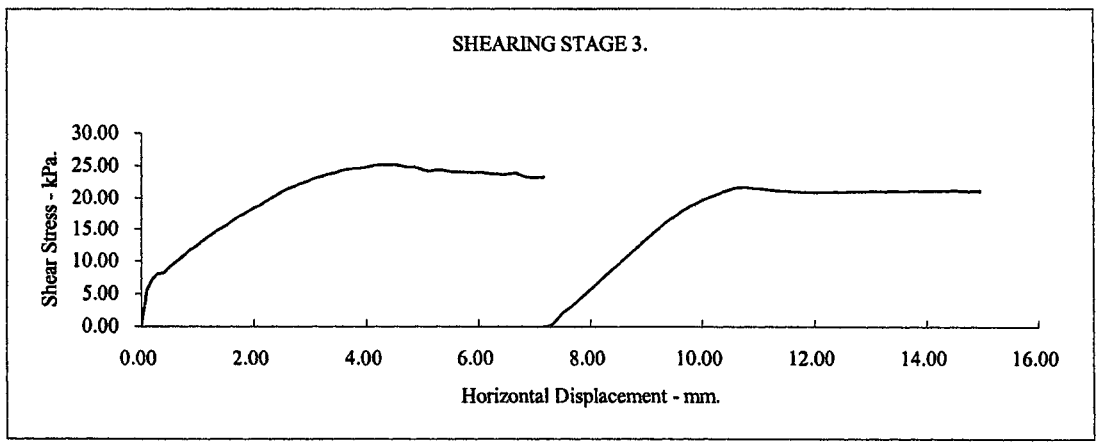
CONSOLIDATED DRAINED PEAK AND RESIDUAL SHEARBOX TEST.

BS1377:Part 7:4.5 :1990.

Hole/Sample Number: TP8 Depth (m): 2.70







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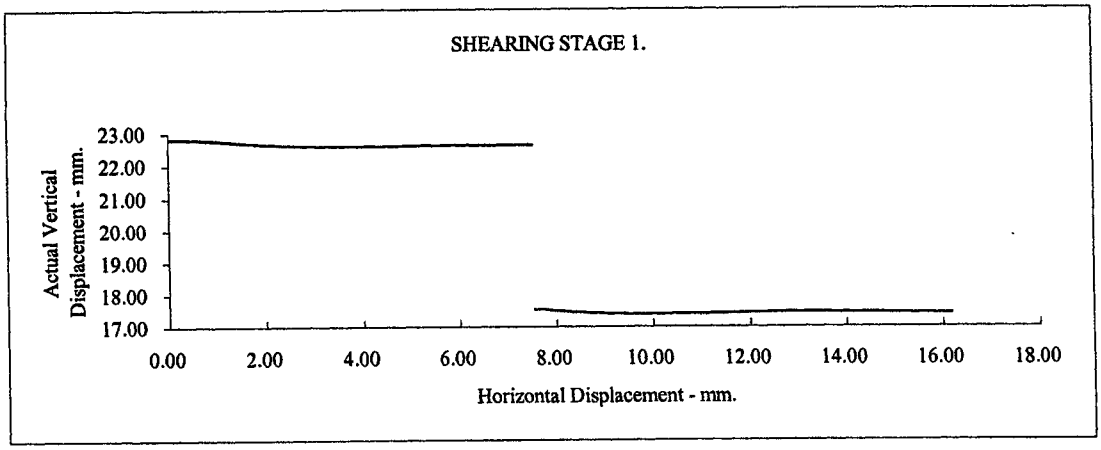

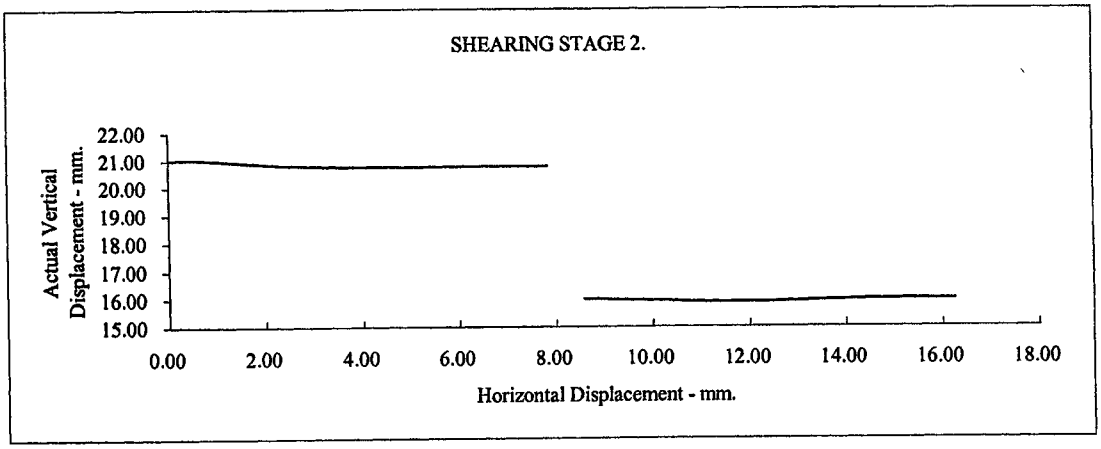

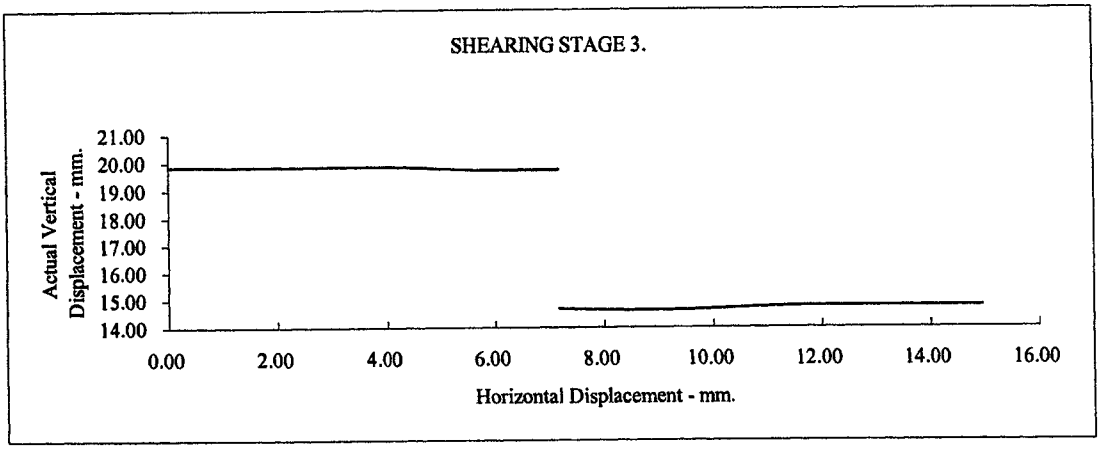

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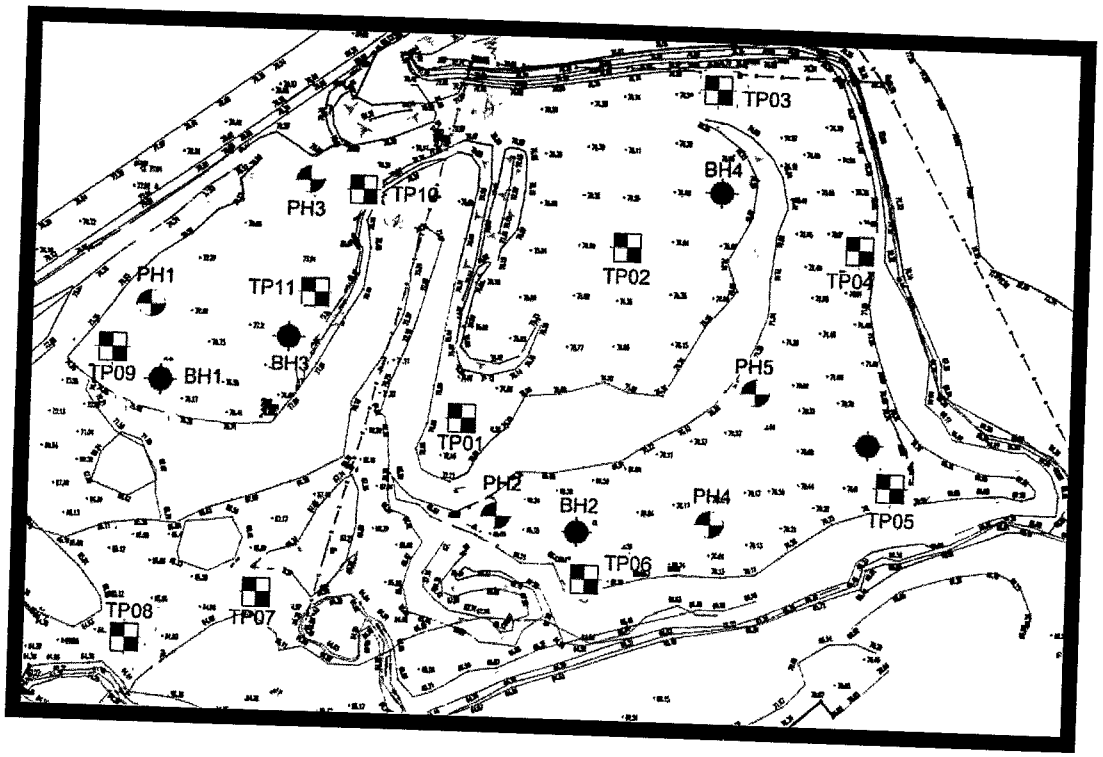

LEGEND

TP1 Location of Machine Excavated Trial Pits

PH1 Location of Roarty Probe Holes

BH1 Location of shell and auger Bore Holes

terrafirma

Project : Glyn- Neath

Drawing No. 02 - Site Layout
Scale NTS