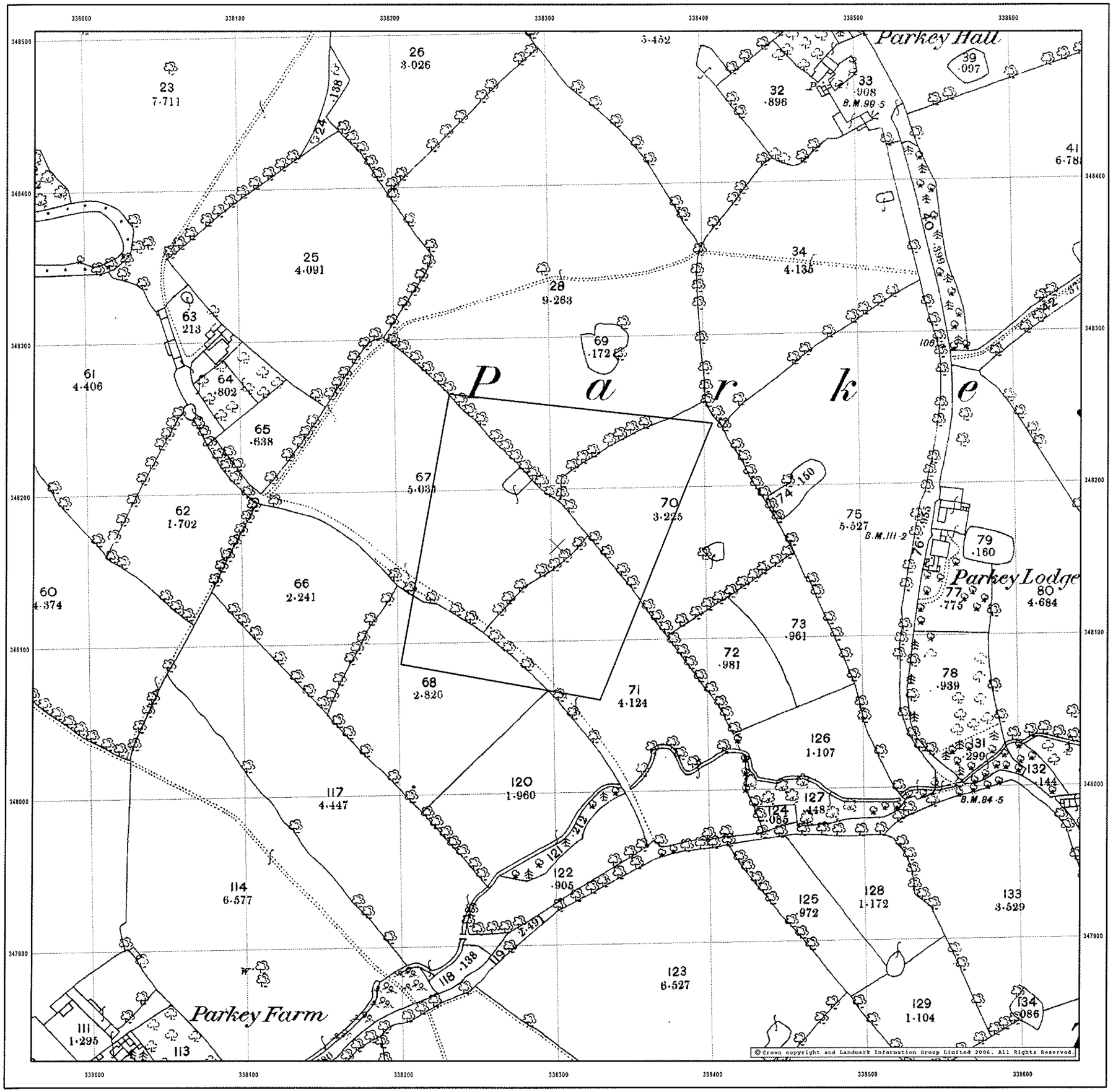


Envirocheck®

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CLIENT DETAILS Envirocheck Order No. EC19305141_1_1
(29-Apr-2006 15:44)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

Historical Map Legend

Quarry
Sand Pit
Marsh
Reeds
Gravel Pit
Clay Pit
Rough Pasture
Furze
Refuse Heap
Shingle
Osiers
Ford
Railway crossing River or Canal
Railway crossing Road
Level Crossing
Embankment
Cutting
Road crossing Railway
Road over single Stream
Road over River or Canal
Arrow denotes flow of Water

Ordnance Survey County Series 1

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 on the right 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.

DENBIGHSHIRE
Published 1873
Source map scale - 1:2,500

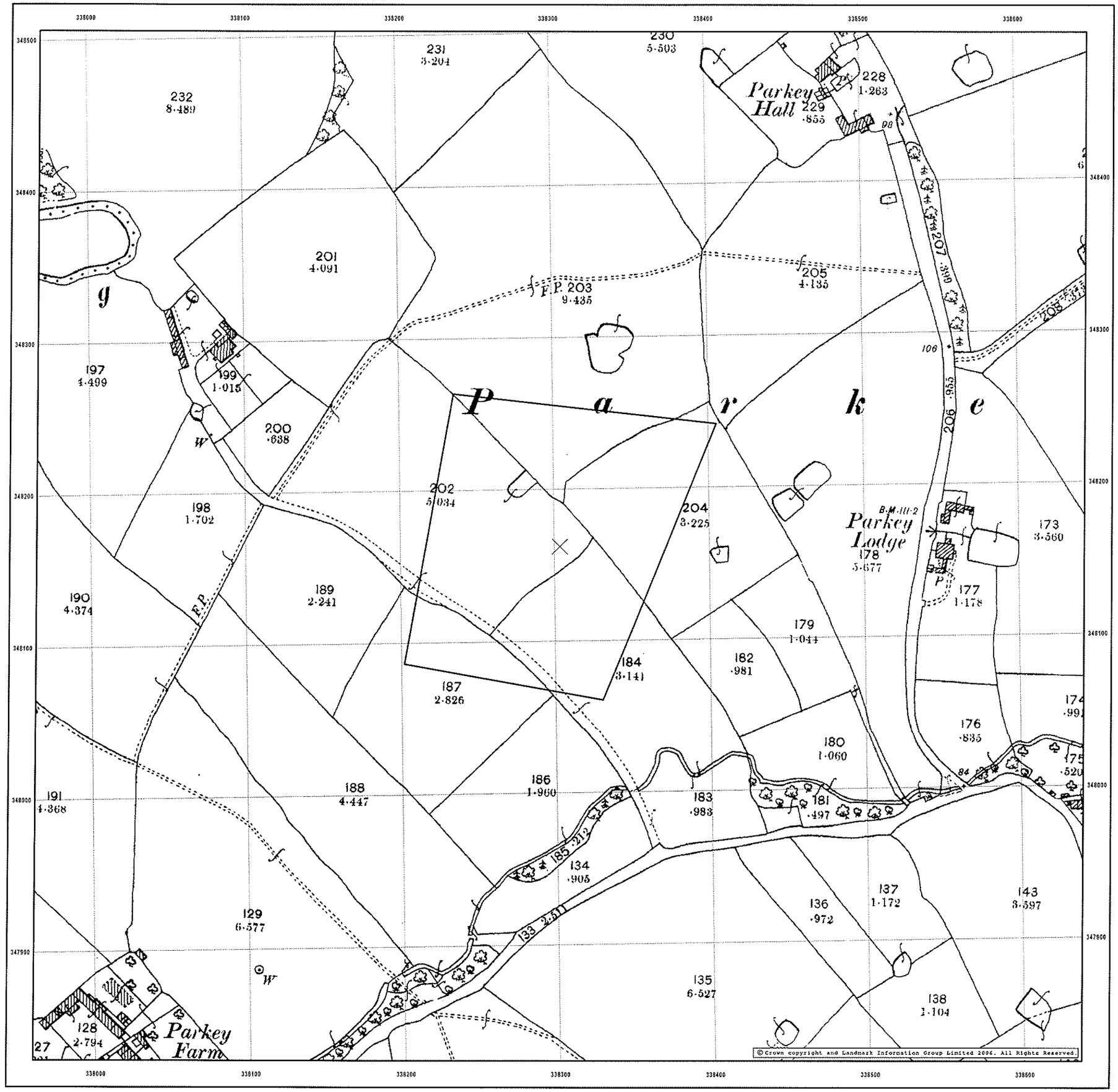
1873

Date(s) of Publication 1 of 24

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CLIENT DETAILS Envirocheck Order No. EC19305141_1_1
(20-Apr-2006 15:45)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

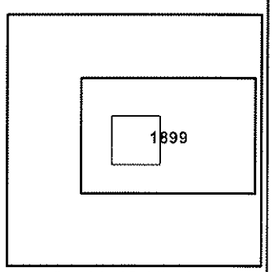
Historical Map Legend

Quarry
Sand Pit
Marsh
Reeds
Gravel Pit
Clay Pit
Rough Pasture
Furze
Refuse Heap
Shingle
Osiers
Ford
Railway crossing River or Canal
Railway crossing Road
Level Crossing
Embankment
Cutting
Road crossing Railway
Road over single Stream
Road over River or Canal
Arrow denotes flow of Water

Ordnance Survey County Series 2

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 1886 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given on the right 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.

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

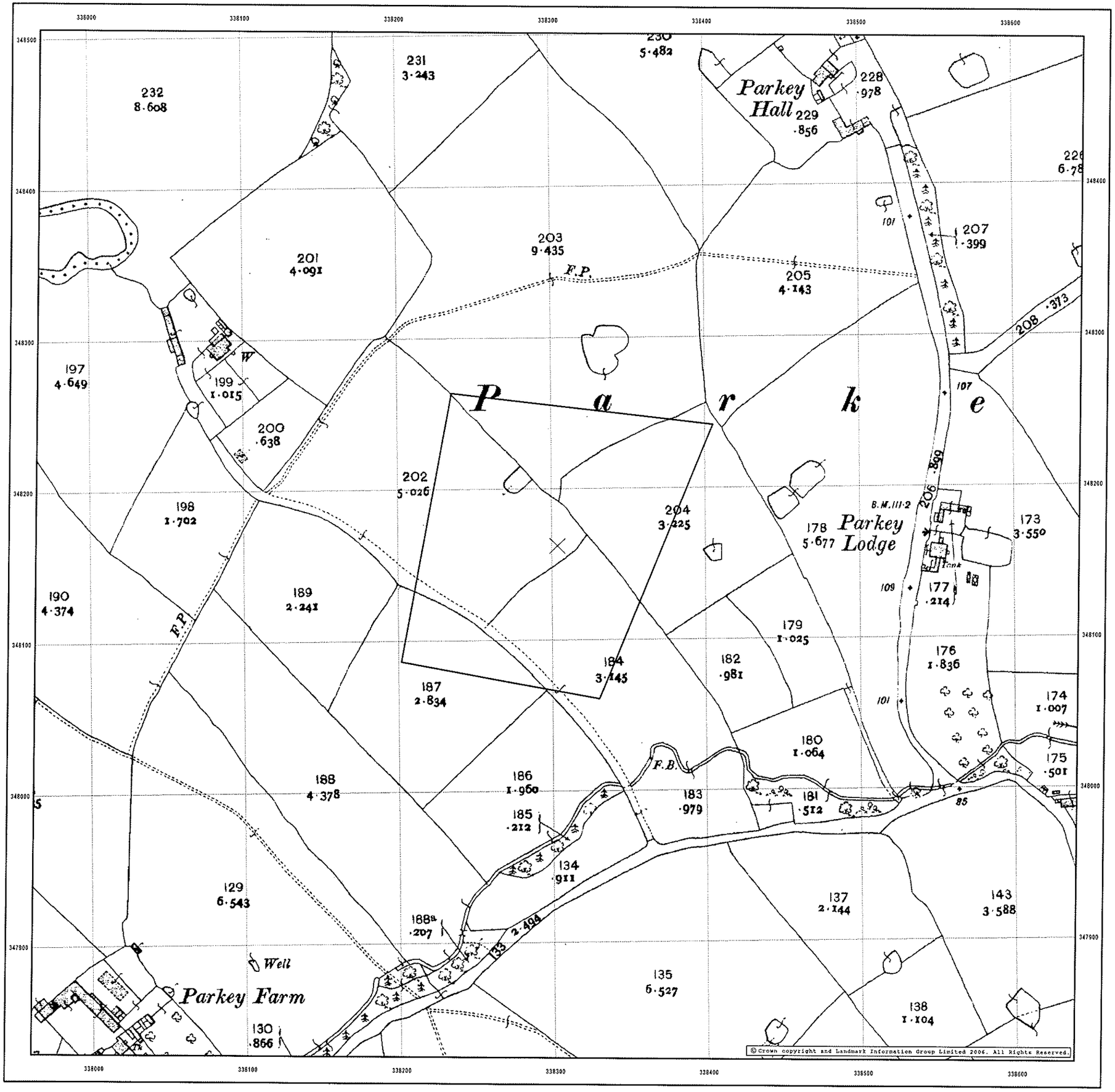


Date(s) of Publication 2 of 24

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CLIENT DETAILS Envirocheck Order No. EC19305141_1_1
(29-Apr-2006 15:45)

Customer Ref: C Coldrey,5006S-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

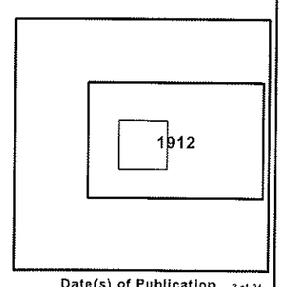
Historical Map Legend

Quarry
Sand Pit
Marsh
Reeds
Gravel Pit
Clay Pit
Rough Pasture
Furze
Refuse Heap
Shingle
Osiers
Ford
Railway crossing River or Canal
Railway crossing Road
Level Crossing
Embankment
Cutting
Road crossing Railway
Road over single Stream
Road over River or Canal
Arrow denotes flow of Water

Ordnance Survey County Series 3

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 on the right 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.

DENBIGHSHIRE
Published 1912
Source map scale - 1:2,500

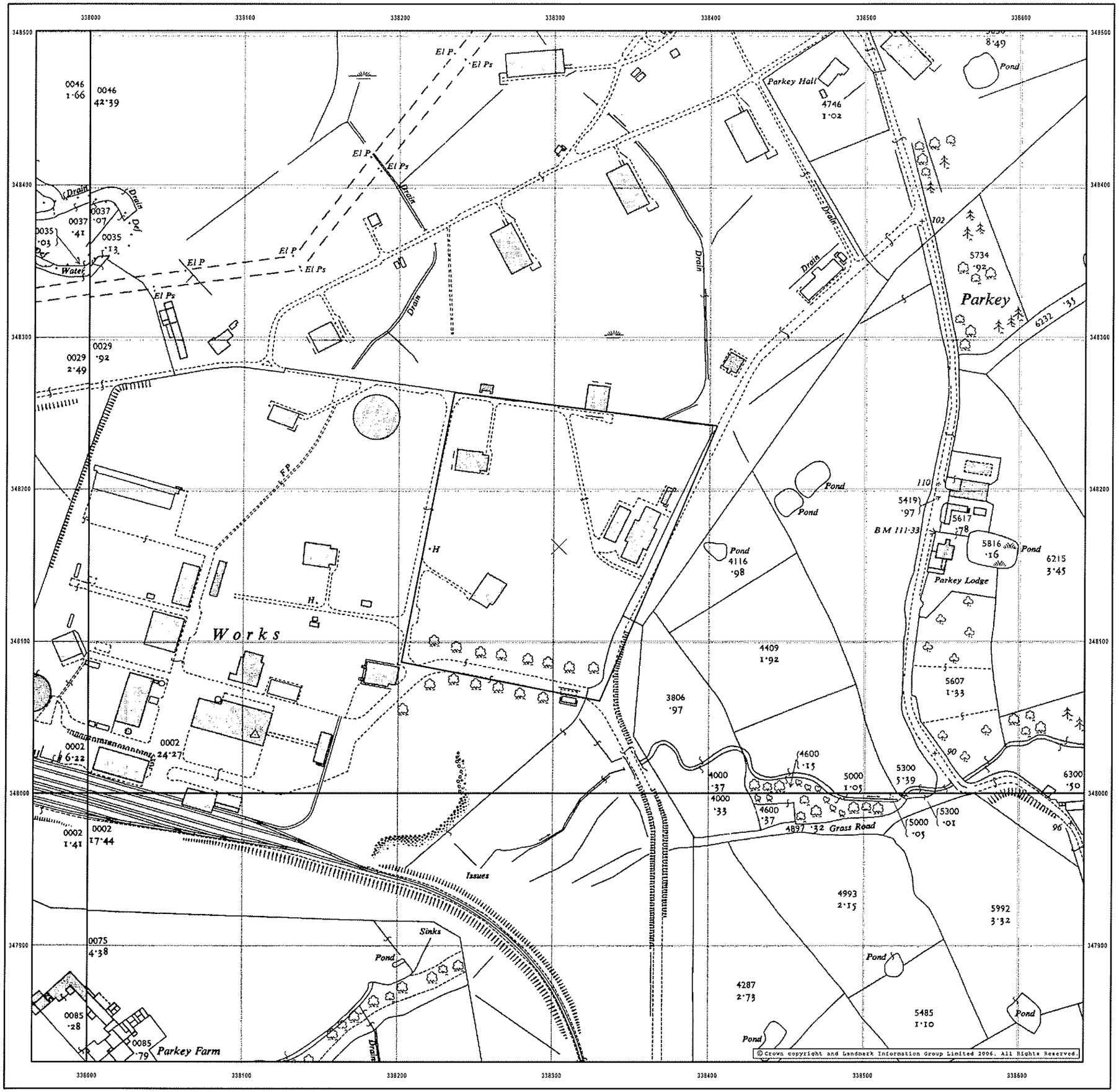


Date(s) of Publication 3 of 24

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CLIENT DETAILS Envirocheck Order No. EC19305141_1_1
(29-Apr-2006 13:45)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

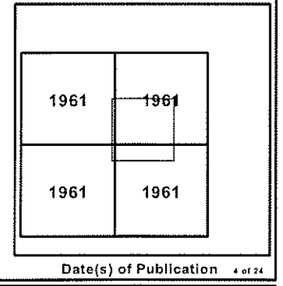
Historical Map Legend

- Inactive Quarry, Chalk Pit or Clay Pit
- Active Quarry, Chalk Pit or Clay Pit
- Culvert
- Slope
- Slope
- Pylon
- Electricity Transmission Line
- Direction of Water flow
- Coppice, Osier
- Marsh
- Saltings
- Orchard Tree
- Reeds
- Rough Grassland
- Scrub
- Heath
- Bracken
- Coniferous Tree (Surveyed)
- Coniferous Tree (Not Surveyed)
- Non-coniferous Tree (Surveyed)
- Non-coniferous Tree (Not Surveyed)

Ordnance Survey Plan 1

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 1886 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given on the right 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.

ORDNANCE SURVEY PLAN
Published 1961
Source map scale - 1:2,500

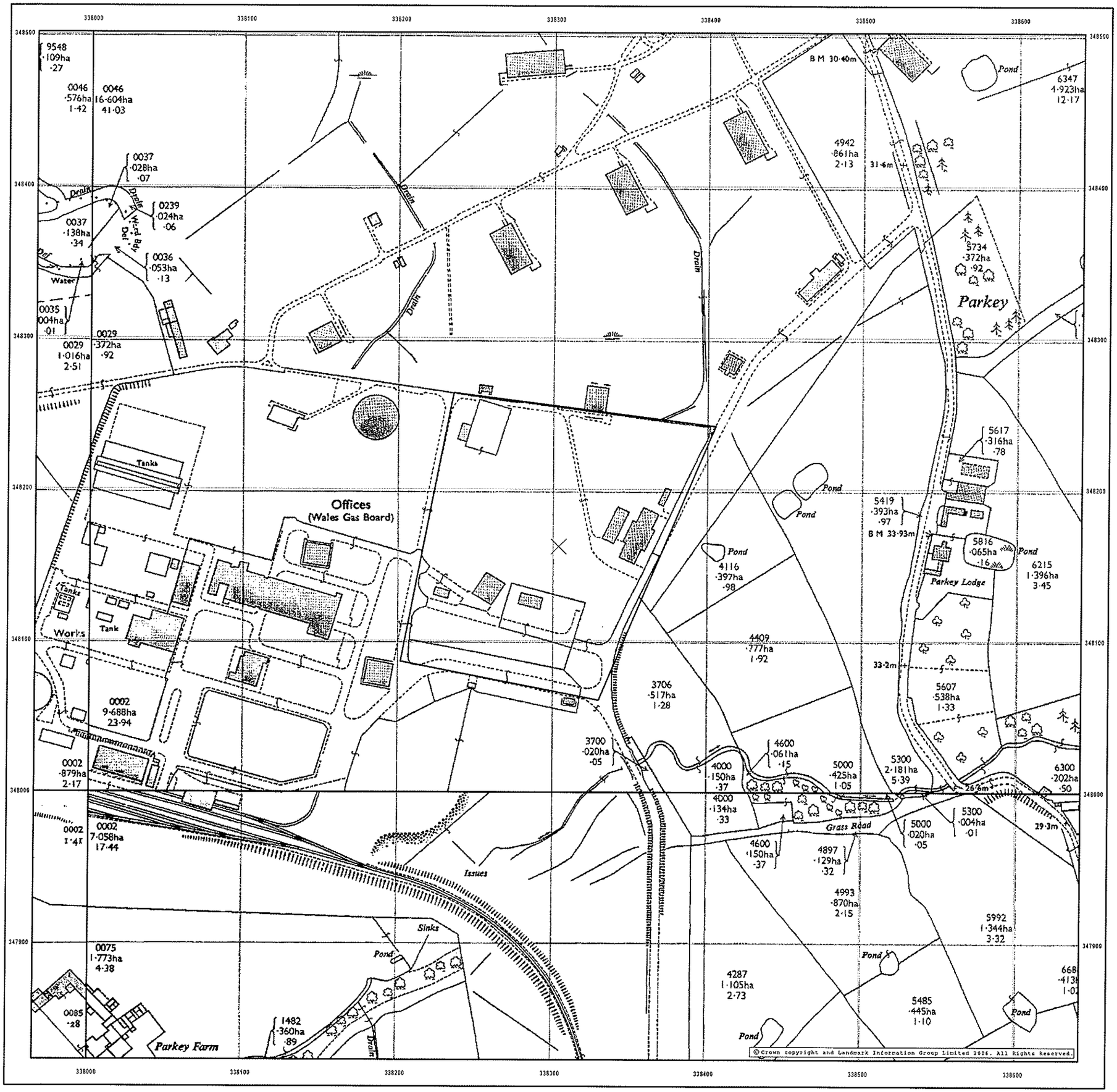


Date(s) of Publication 4 of 24

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CLIENT DETAILS Envirocheck Order No. EC19305141_1_1
(29-Apr-2008 15:45)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

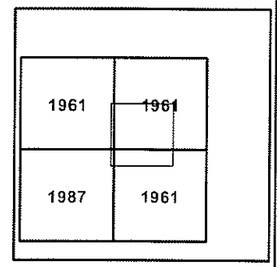
Historical Map Legend

- Inactive Quarry, Chalk Pit or Clay Pit
- Active Quarry, Chalk Pit or Clay Pit
- Culvert
- Slope
- Slope
- Pylon
- Electricity Transmission Line
- Direction of Water flow
- Coppice, Osier
- Marsh
- Saltings
- Orchard Tree
- Reeds
- Rough Grassland
- Scrub
- Heath
- Bracken
- Coniferous Tree (Surveyed)
- Coniferous Tree (Not Surveyed)
- Non-coniferous Tree (Surveyed)
- Non-coniferous Tree (Not Surveyed)

Additional SIMs 1

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 1991, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

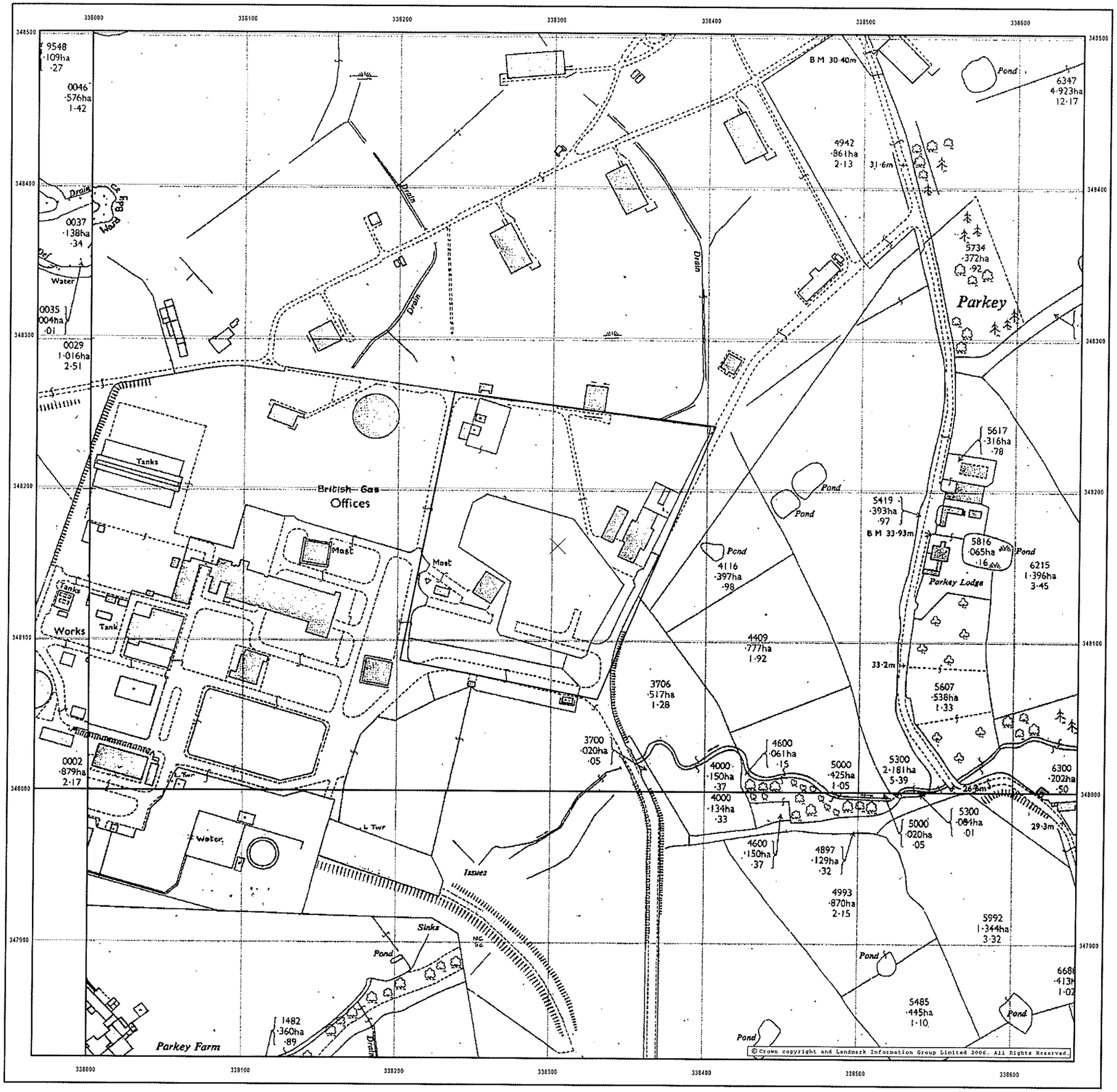
ORDNANCE SURVEY PLAN
Published 1961 to 1987
Source map scale - 1:2,500



Date(s) of Publication 5 of 24

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CLIENT DETAILS Envirocheck Order No. EC19305141_1_1
(20-Apr-2006 15:46)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

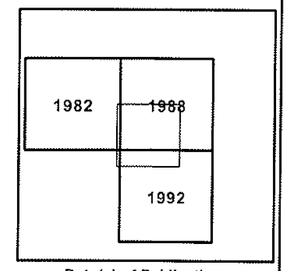
Historical Map Legend

Inactive Quarry, Chalk Pit or Clay Pit
Active Quarry, Chalk Pit or Clay Pit
Culvert
Slope
Slope
Pylon
Electricity Transmission Line
Direction of Water flow
Coppice, Osier
Marsh
Saltings
Orchard Tree
Reeds
Rough Grassland
Scrub
Heath
Bracken
Coniferous Tree (Surveyed)
Coniferous Tree (Not Surveyed)
Non-coniferous Tree (Surveyed)
Non-coniferous Tree (Not Surveyed)

Additional SIMs 2

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 1991, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

ORDNANCE SURVEY PLAN
Published 1982 to 1992
Source map scale - 1:2,500

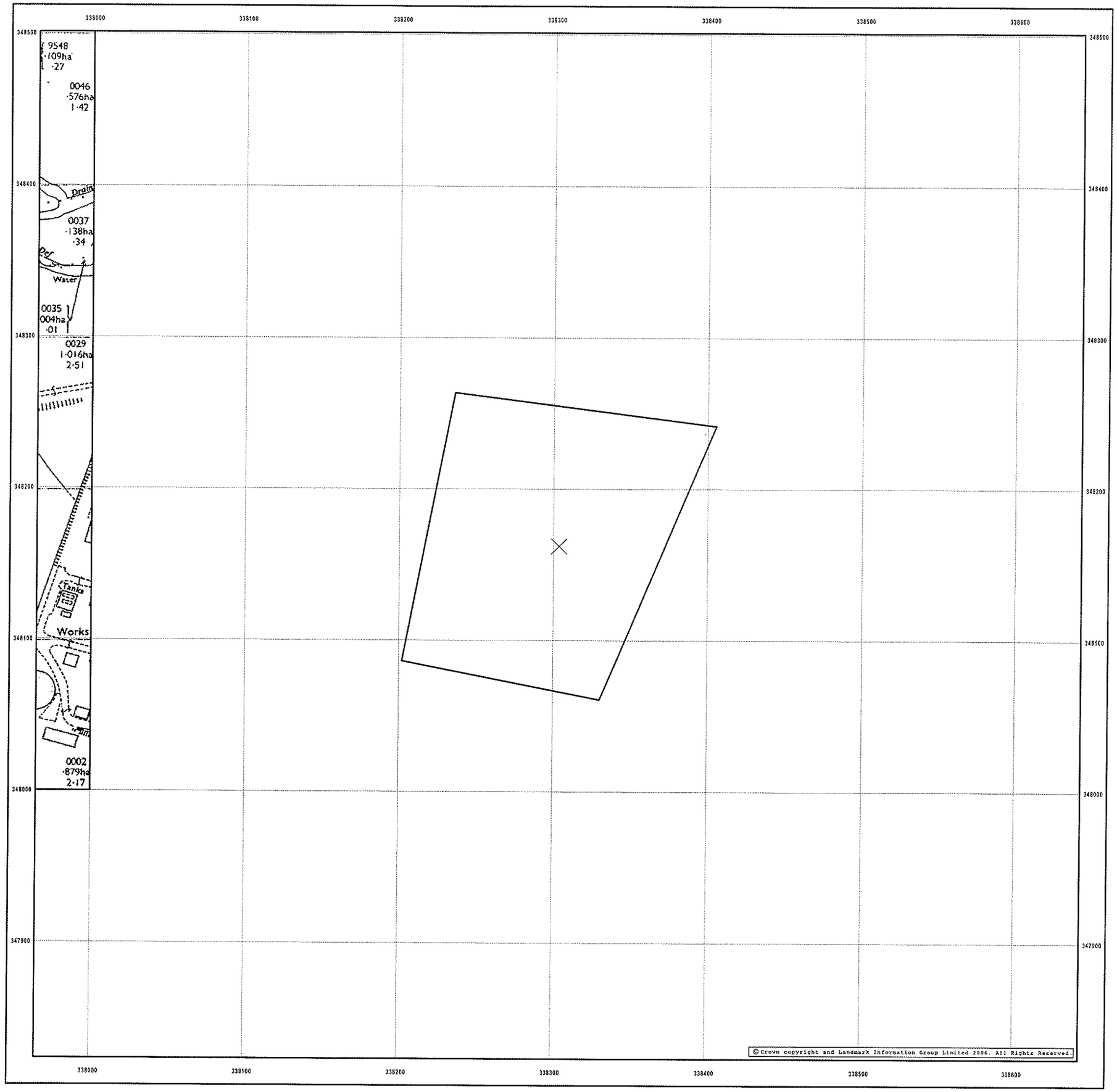


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CLIENT DETAILS Envirocheck Order No. EC19305141_1_1
(29-Apr-2006 15:46)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

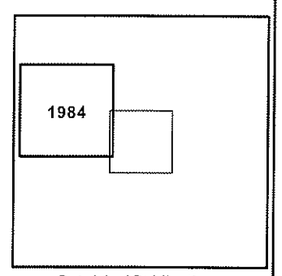
Historical Map Legend

- Inactive Quarry, Chalk Pit or Clay Pit
- Active Quarry, Chalk Pit or Clay Pit
- Culvert
- Slope
- Slope
- Pylon
- Electricity Transmission Line
- Direction of Water flow
- Coppice, Osier
- Marsh
- Saltings
- Orchard Tree
- Reeds
- Rough Grassland
- Scrub
- Heath
- Bracken
- Coniferous Tree (Surveyed)
- Coniferous Tree (Not Surveyed)
- Non-coniferous Tree (Surveyed)
- Non-coniferous Tree (Not Surveyed)

Additional SIMs 3

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 1991, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

ORDNANCE SURVEY PLAN
Published 1984
Source map scale - 1:2,500

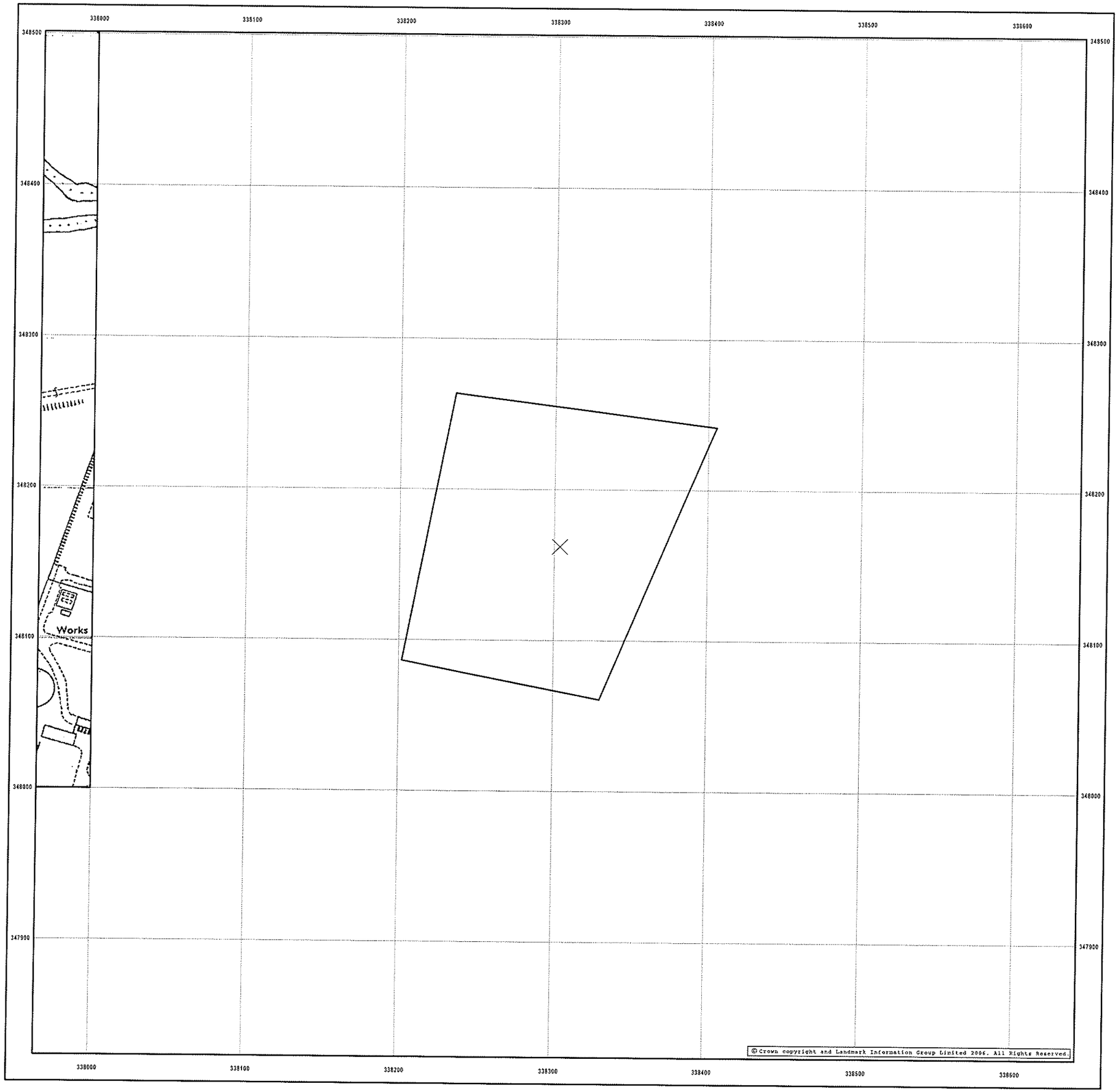


Date(s) of Publication 7 of 24

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CLIENT DETAILS Envirocheck Order No. EC19305141_1_1
(20-Apr-2006 15:48)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

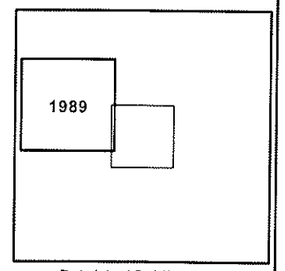
Historical Map Legend

- Inactive Quarry, Chalk Pit or Clay Pit
- Active Quarry, Chalk Pit or Clay Pit
- Culvert
- Slope
- Slope
- Pylon
- Electricity Transmission Line
- Direction of Water flow
- Coppice, Osier
- Marsh
- Saltings
- Orchard Tree
- Reeds
- Rough Grassland
- Scrub
- Heath
- Bracken
- Coniferous Tree (Surveyed)
- Coniferous Tree (Not Surveyed)
- Non-coniferous Tree (Surveyed)
- Non-coniferous Tree (Not Surveyed)

Additional SIMs 4

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 1991, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

ORDNANCE SURVEY PLAN
Published 1989
Source map scale - 1:2,500

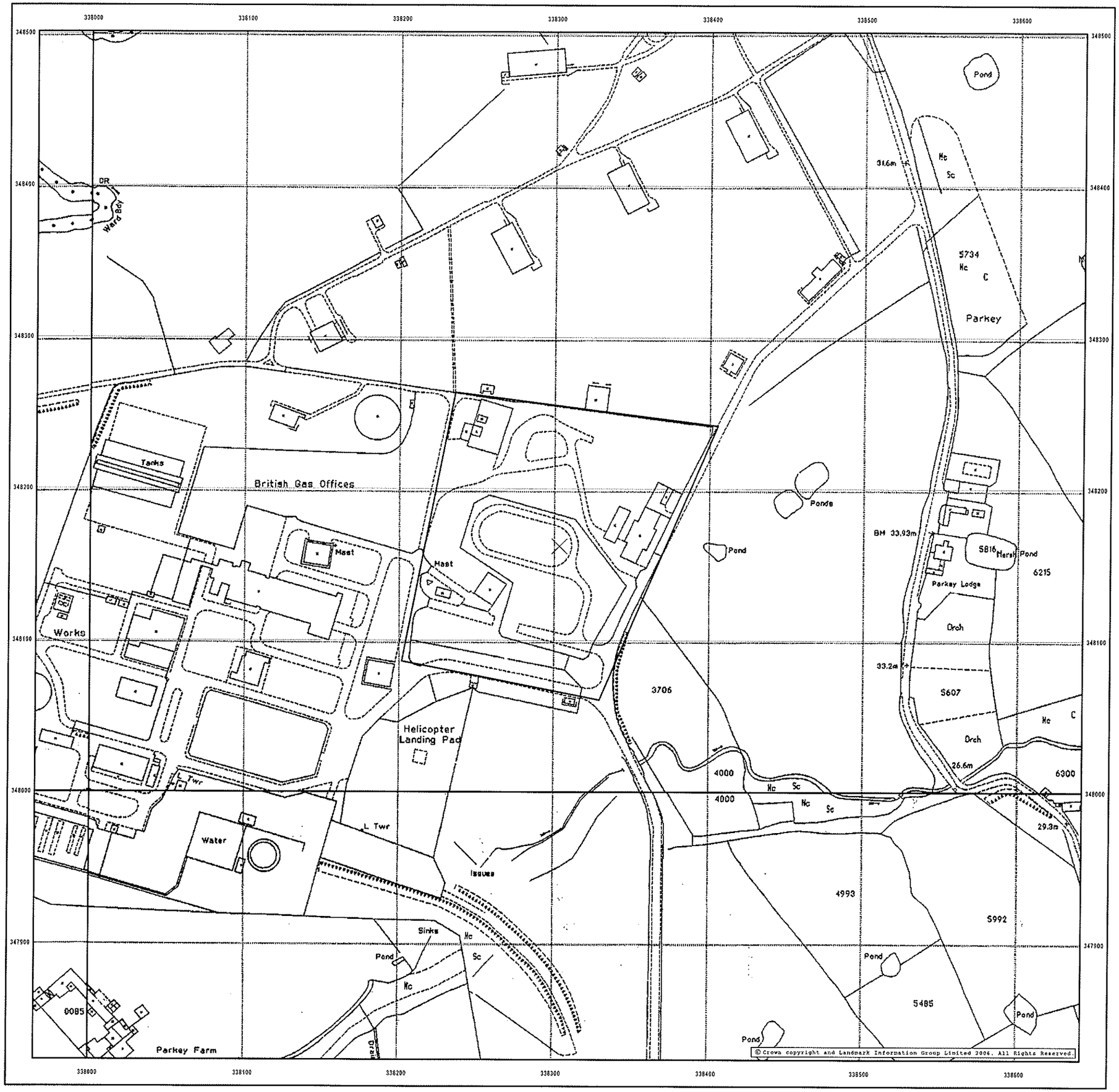


Date(s) of Publication 5 of 24

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CLIENT DETAILS Envirocheck Order No. EC19305141_1_1
(22-Aug-2006 15:46)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

Historical Map Legend

- Slope
- Slope
- BM 29.60m — Bench Mark
- Wells
- Buildings with Building Seed
- Direction of Water flow
- Pylon
- Electricity Transmission Line

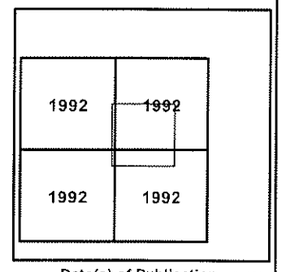
Administrative Boundaries

- Civil parish/community boundary
- District boundary
- County boundary
- Boundary post/stone
- Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)

Large-Scale National Grid Data 1

'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.

ORDNANCE SURVEY PLAN
Published 1992
Source map scale - 1:2,500

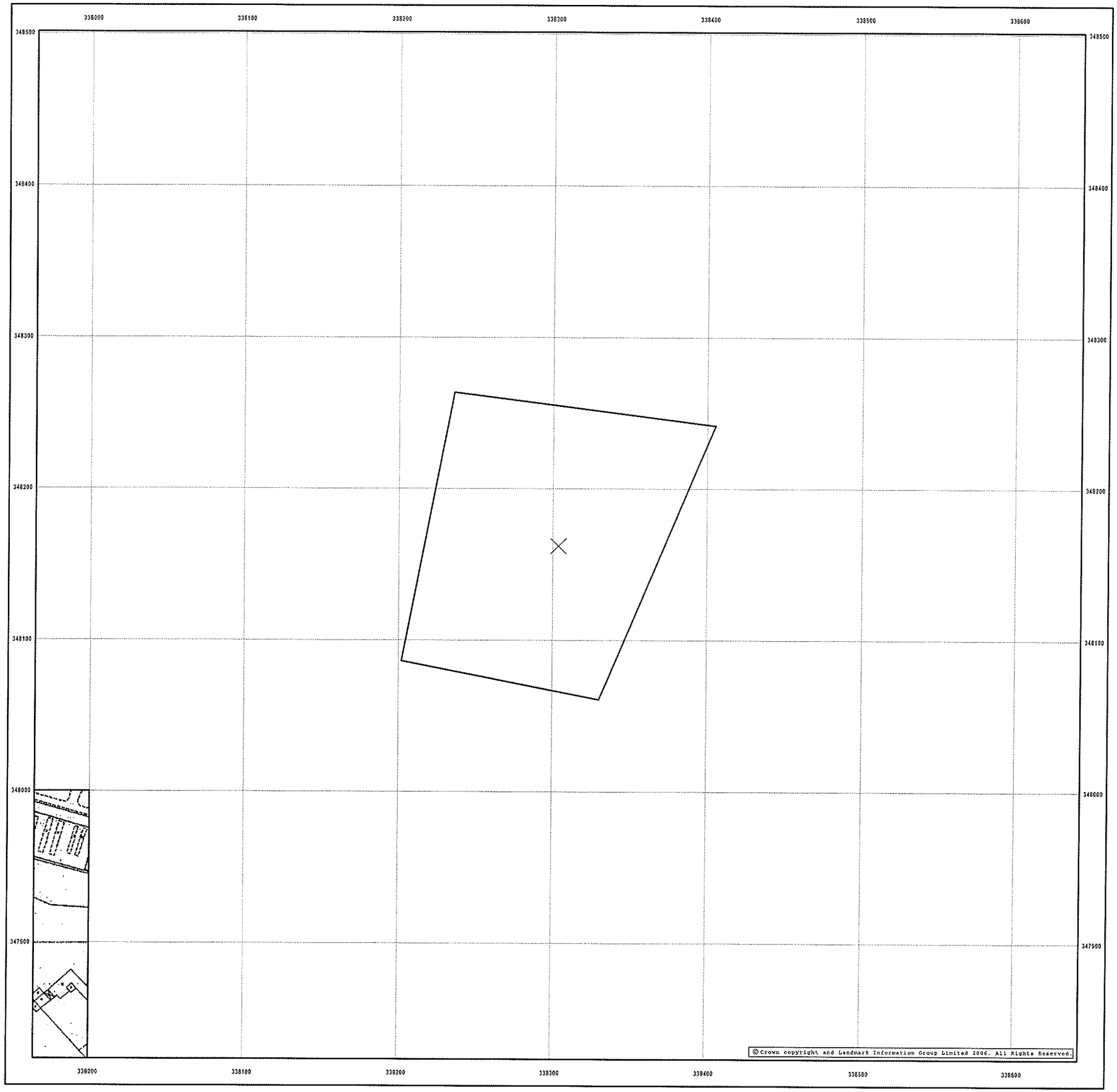


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CLIENT DETAILS Envirocheck Order No. EC19305141_1_1
(25-Apr-2006 15:47)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

Historical Map Legend

Slope

Slope

BM 231.60m
Bench Mark

Wells

Buildings with Building Seed

Direction of Water flow

Pylon

Electricity Transmission Line

Administrative Boundaries

Civil parish/community boundary

District boundary

County boundary

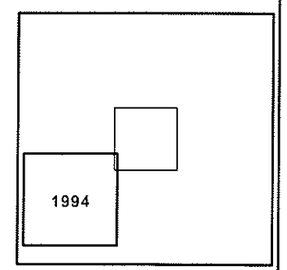
Boundary post/stone

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

Large-Scale National Grid Data 2

'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.

ORDNANCE SURVEY PLAN
Published 1994
Source map scale - 1:2,500

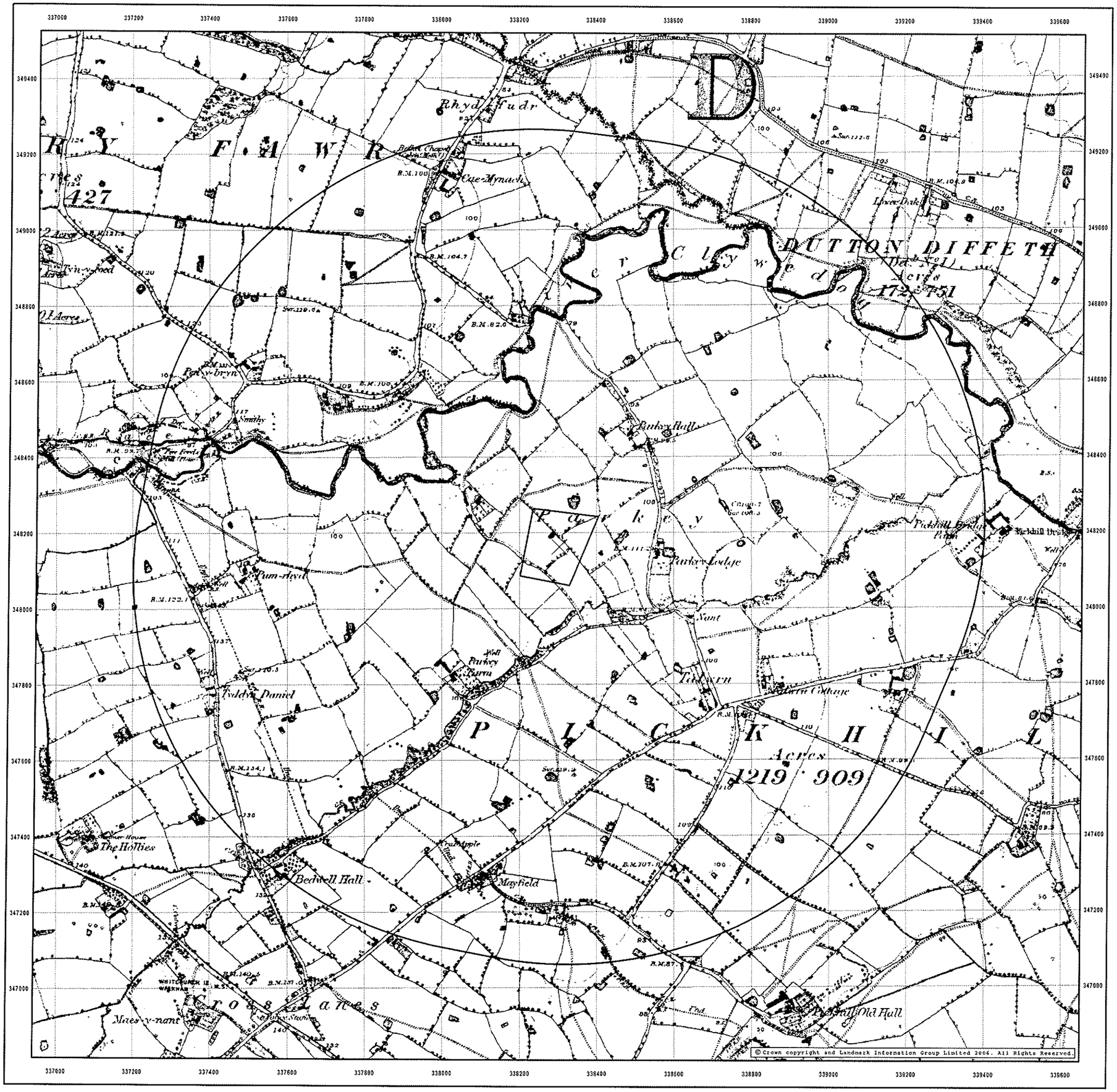


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CLIENT DETAILS Envirocheck Order No. EC19305141_1_1
(29-Apr-2006 15:47)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

Historical Map Legend

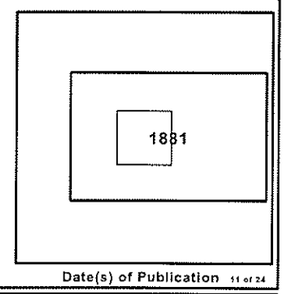
- Quarry
- Shingle
- Railway over Road
- Road over Railway
- Gravel Pit
- Sand Pit
- Level Crossing
- Railway over River
- Other Pits
- Road over Stream
- Road over Stream
- Rough Pasture
- Furze
- Road over River or Canal
- Marsh
- Reeds
- Sunken Road
- Raised Road
- Osiers
- Instrumental Contour
- Arrow denotes flow of Water
- Sketched Contour

Ordnance Survey County Series 1

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 on the right 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.

CHESHIRE
Published 1881
Source map scale - 1:10,560

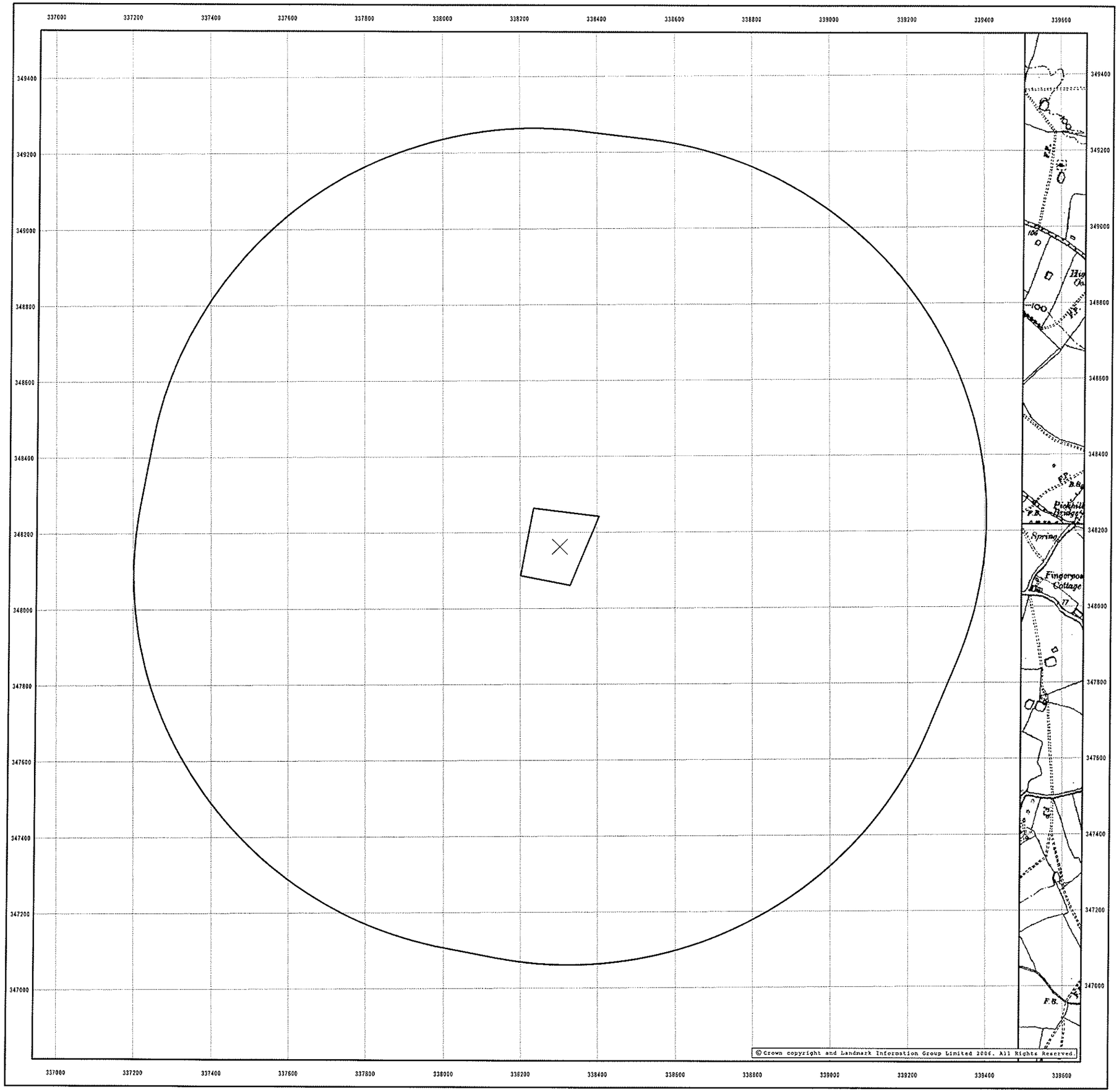


Date(s) of Publication 11 of 24

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CLIENT DETAILS Envirocheck Order No. EC19305141_1_1
(29-Apr-2006 15:47)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

Historical Map Legend

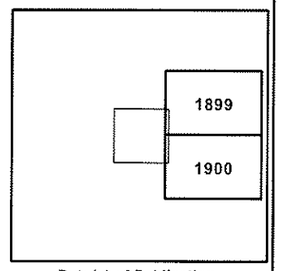
- Quarry
- Shingle
- Railway over Road
- Road over Railway
- Gravel Pit
- Sand Pit
- Level Crossing
- Railway over River
- Other Pits
- Road over Stream
- Road over Stream
- Rough Pasture
- Furze
- Road over River or Canal
- Marsh
- Reeds
- Sunken Road
- Raised Road
- Osiers
- Instrumental Contour
- Arrow denotes flow of Water
- Sketched Contour

Ordnance Survey County Series 2

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 on the right 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.

CHESHIRE
Published 1899 to 1900
Source map scale - 1:10,560

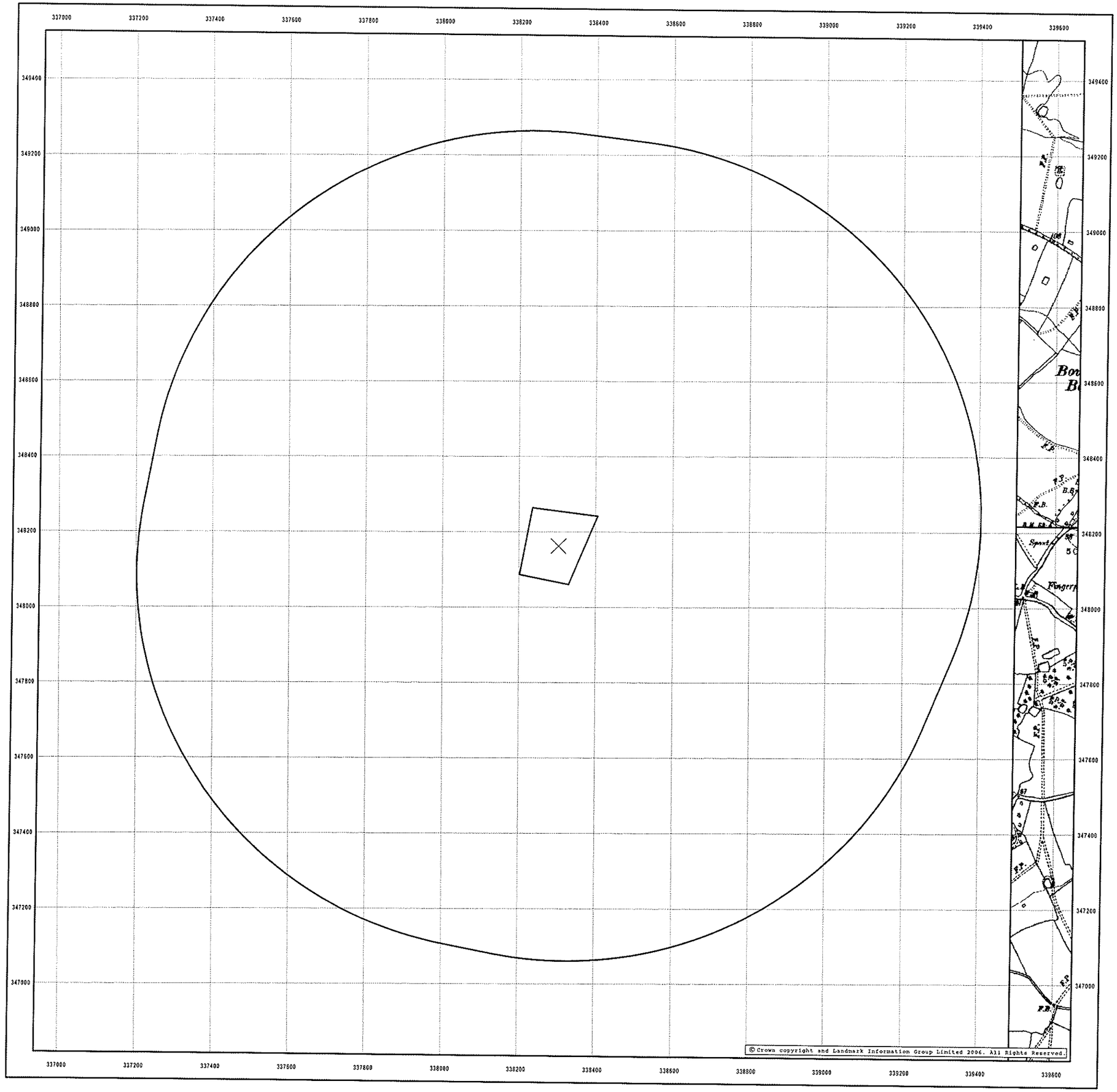


Date(s) of Publication 12 of 24

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CLIENT DETAILS Envirocheck Order No. EC19305141_1_1
(20-Apr-2006 15:47)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

Historical Map Legend

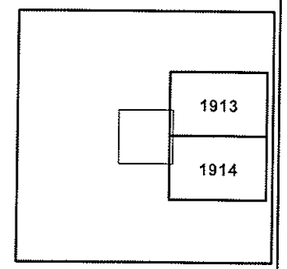
- Quarry
- Shingle
- Railway over Road
- Road over Railway
- Gravel Pit
- Sand Pit
- Level Crossing
- Railway over River
- Other Pits
- Road over Stream
- Road over Stream
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- Furze
- Road over River or Canal
- Marsh
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- Raised Road
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- Instrumental Contour
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Ordnance Survey County Series 3

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CHESHIRE
Published 1913 to 1914
Source map scale - 1:10,560

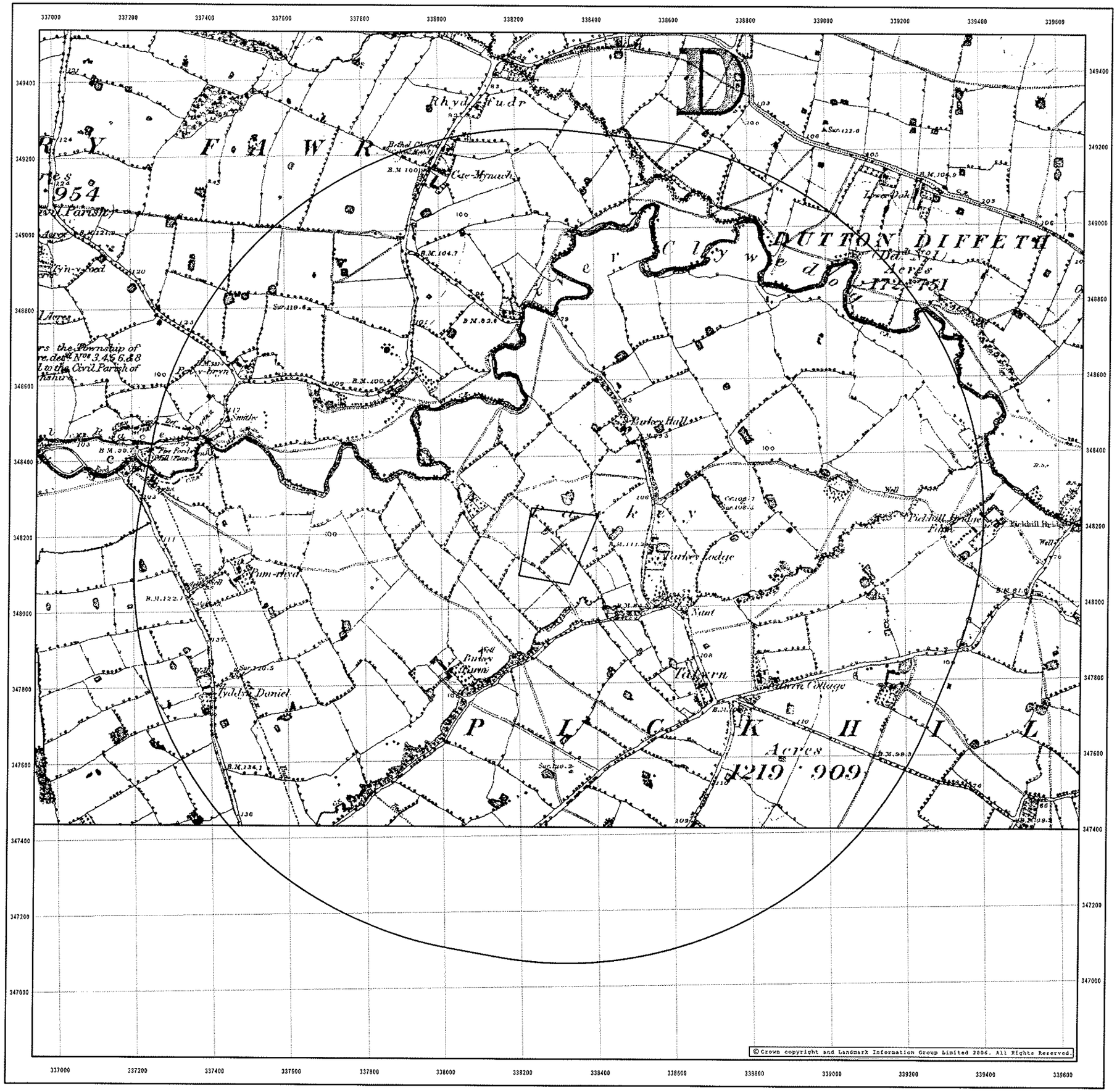


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CLIENT DETAILS Envirocheck Order No. EC19305141_1_1
(20-Apr-2006 15:48)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

Historical Map Legend

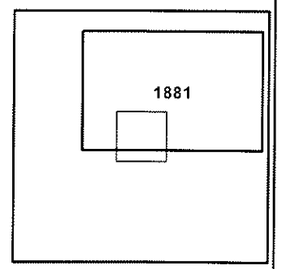
- Quarry
- Shingle
- Railway over Road
- Road over Railway
- Gravel Pit
- Sand Pit
- Level Crossing
- Railway over River
- Other Pits
- Road over Stream
- Road over Stream
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- Furze
- Road over River or Canal
- Marsh
- Reeds
- Sunken Road
- Raised Road
- Osiers
- Instrumental Contour
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Ordnance Survey County Series 1

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DENBIGHSHIRE
Published 1881
Source map scale - 1:10,560

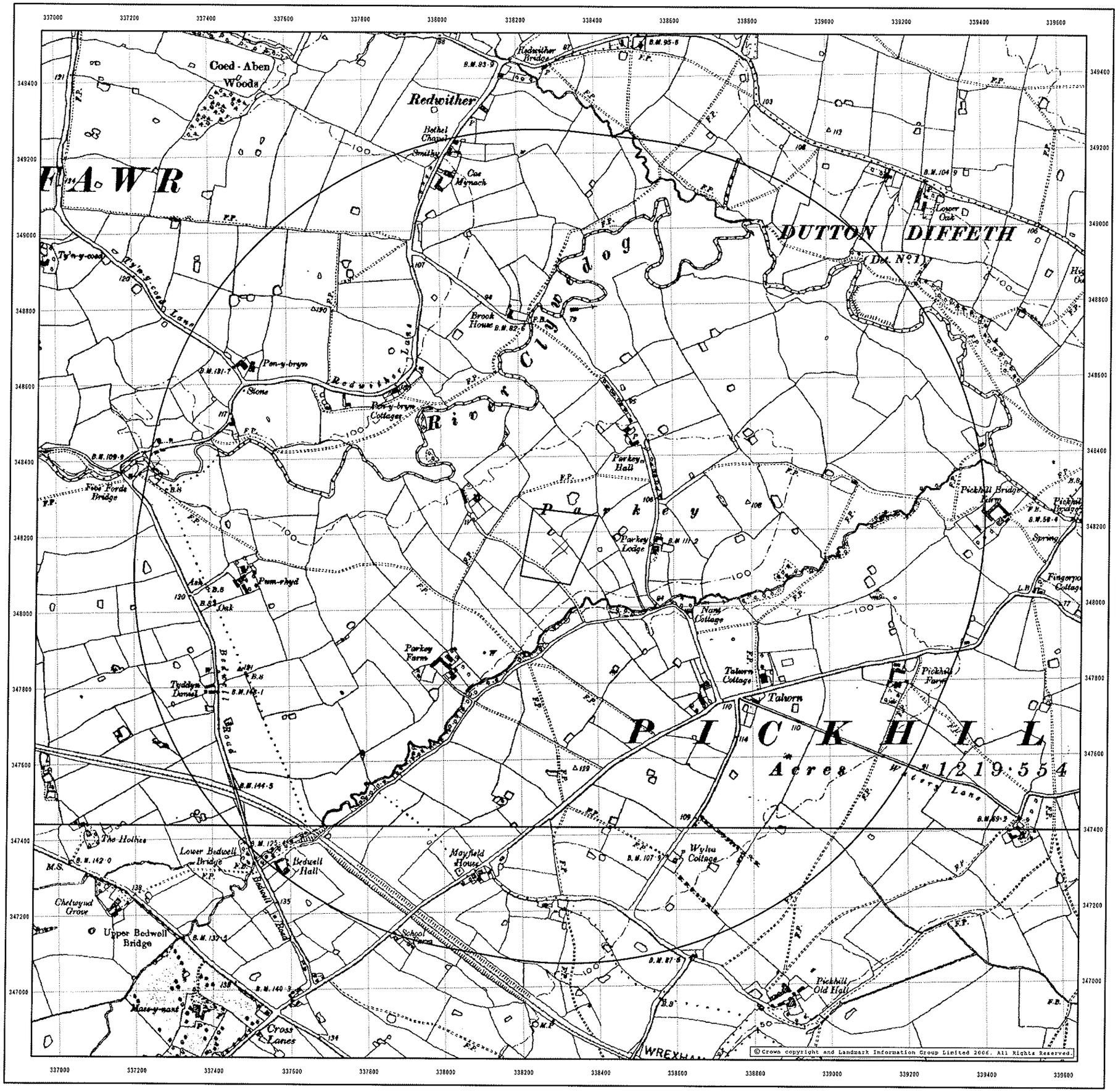


Date(s) of Publication 14 of 24

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(26-Apr-2006 12:48)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

Historical Map Legend

- Quarry
- Shingle
- Railway over Road
- Road over Railway
- Gravel Pit
- Sand Pit
- Level Crossing
- Railway over River
- Other Pits
- Road over Stream
- Road over Stream
- Rough Pasture
- Furze
- Road over River or Canal
- Marsh
- Reeds
- Sunken Road
- Raised Road
- Osiers
- Instrumental Contour
- Arrow denotes flow of Water
- Sketched Contour

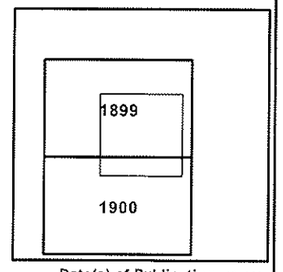
Ordnance Survey County Series

2

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 on the right 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.

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DENBIGHSHIRE
Published 1899 to 1900
Source map scale - 1:10,560

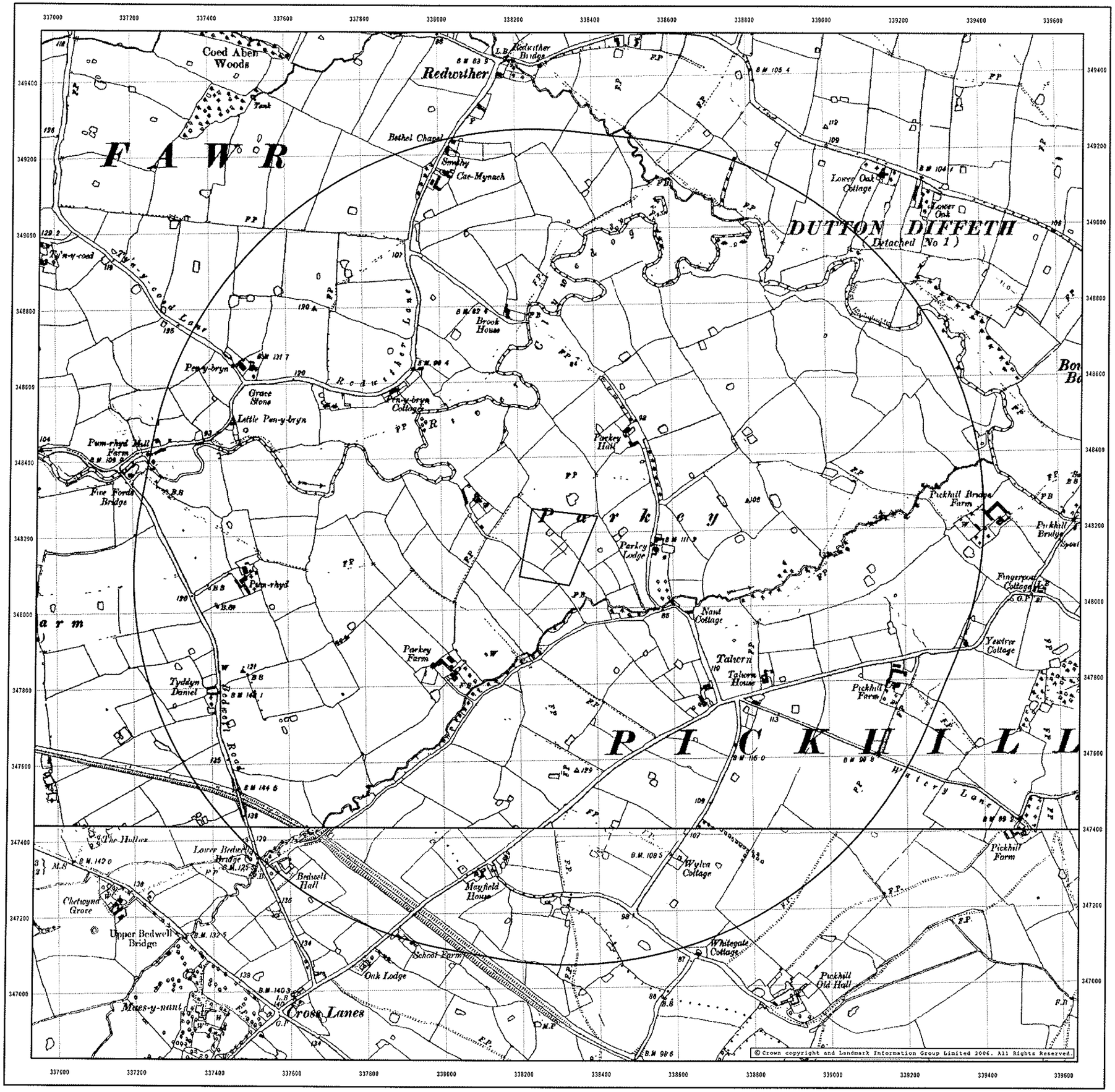


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(26-Apr-2006 15:48)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

Historical Map Legend

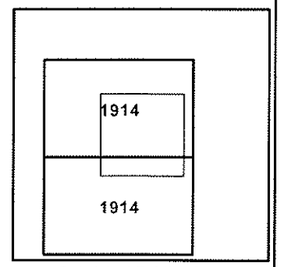
- Quarry
- Shingle
- Railway over Road
- Road over Railway
- Gravel Pit
- Sand Pit
- Level Crossing
- Railway over River
- Other Pits
- Road over Stream
- Road over Stream
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- Furze
- Road over River or Canal
- Marsh
- Reeds
- Sunken Road
- Raised Road
- Osiers
- Instrumental Contour
- Arrow denotes flow of Water
- Sketched Contour

Ordnance Survey County Series 3

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 on the right 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.

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DENBIGHSHIRE
Published 1914
Source map scale - 1:10,560

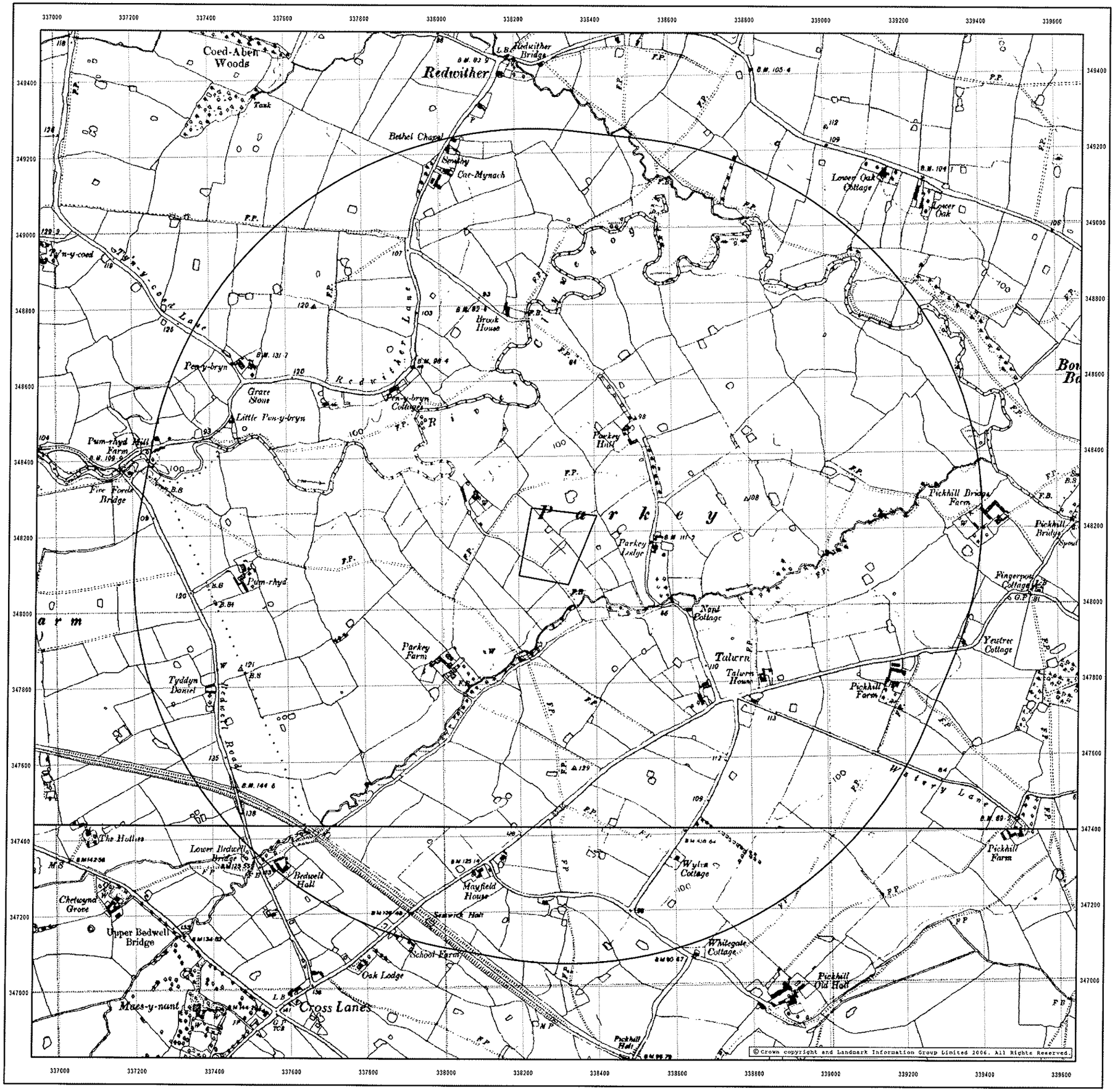


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CLIENT DETAILS Envirocheck Order No. EC19305141_1_1 (26-Apr-2006 15:43)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

Historical Map Legend

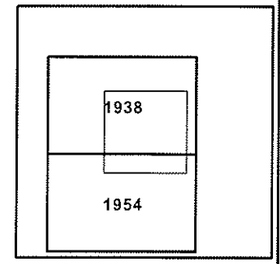
- Quarry
- Shingle
- Railway over Road
- Road over Railway
- Gravel Pit
- Sand Pit
- Level Crossing
- Railway over River
- Other Pits
- Road over Stream
- Road over Stream
- Rough Pasture
- Furze
- Road over River or Canal
- Marsh
- Reeds
- Sunken Road
- Raised Road
- Osiers
- Instrumental Contour
- Arrow denotes flow of Water
- Sketched Contour

Ordnance Survey County Series 4

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 on the right 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.

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DENBIGHSHIRE
Published 1938 to 1954
Source map scale - 1:10,560

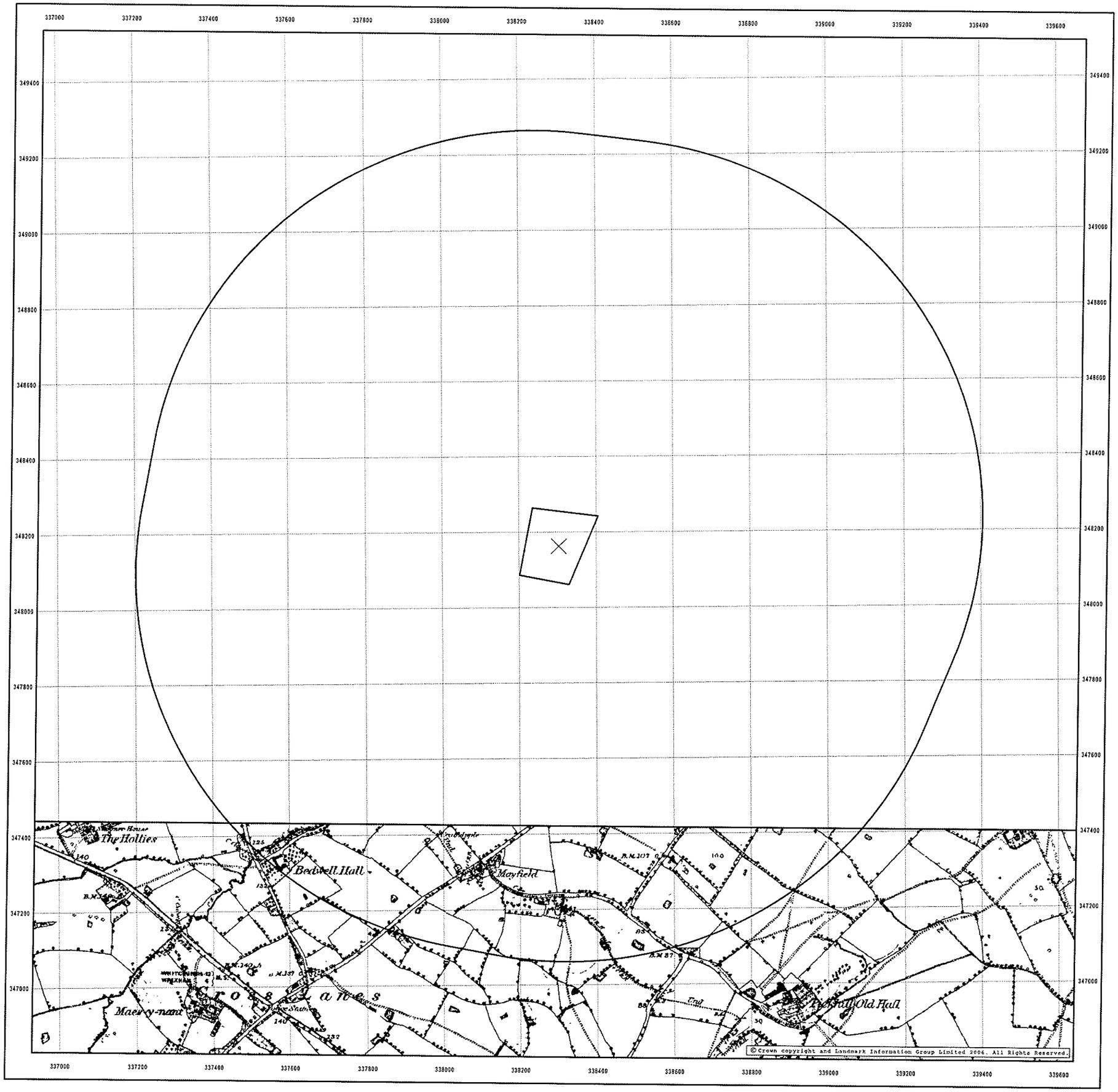


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CLIENT DETAILS Envirocheck Order No. EC19305141_1_1
[29-Apr-2006 15:43]

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

Historical Map Legend

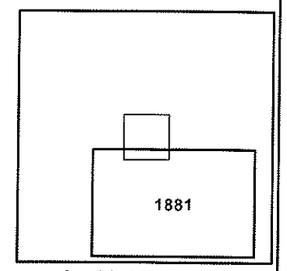
- Quarry
- Shingle
- Railway over Road
- Road over Railway
- Gravel Pit
- Sand Pit
- Level Crossing
- Railway over River
- Other Pits
- Road over Stream
- Road over Stream
- Rough Pasture
- Furze
- Road over River or Canal
- Marsh
- Reeds
- Sunken Road
- Raised Road
- Osiers
- Instrumental Contour
- Arrow denotes flow of Water
- Sketched Contour

Ordnance Survey County Series 1

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FLINTSHIRE
Published 1881
Source map scale - 1:10,560

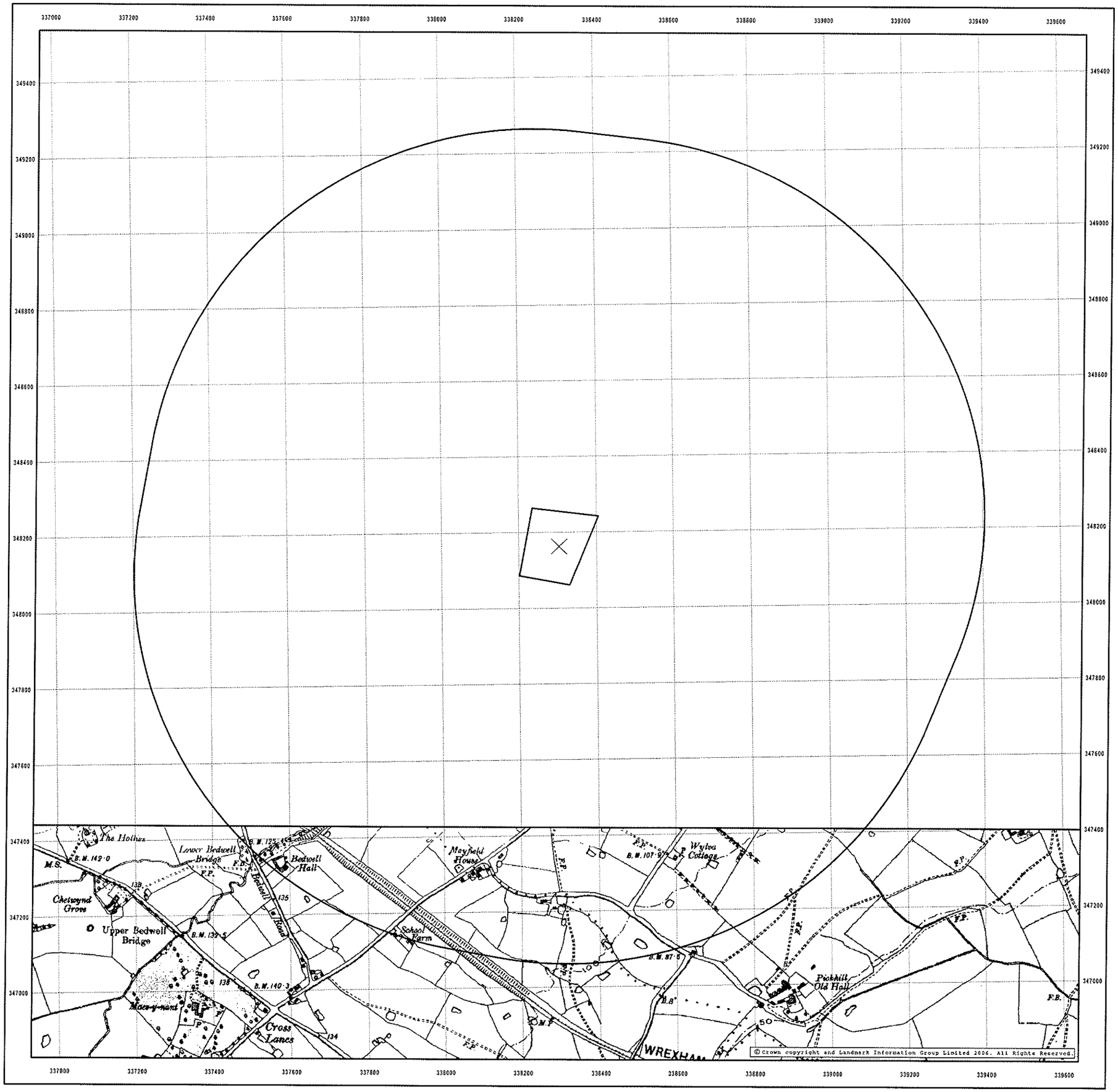


Date(s) of Publication 18 of 24

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CLIENT DETAILS Envirocheck Order No. EC19305141_1_1
(30-Apr-2008 15:48)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

Historical Map Legend

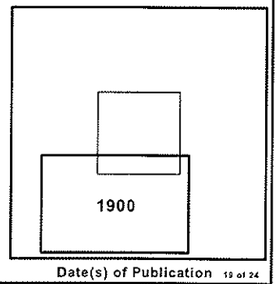
- Quarry
- Shingle
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- Road over Railway
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- Sand Pit
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Ordnance Survey County Series 2

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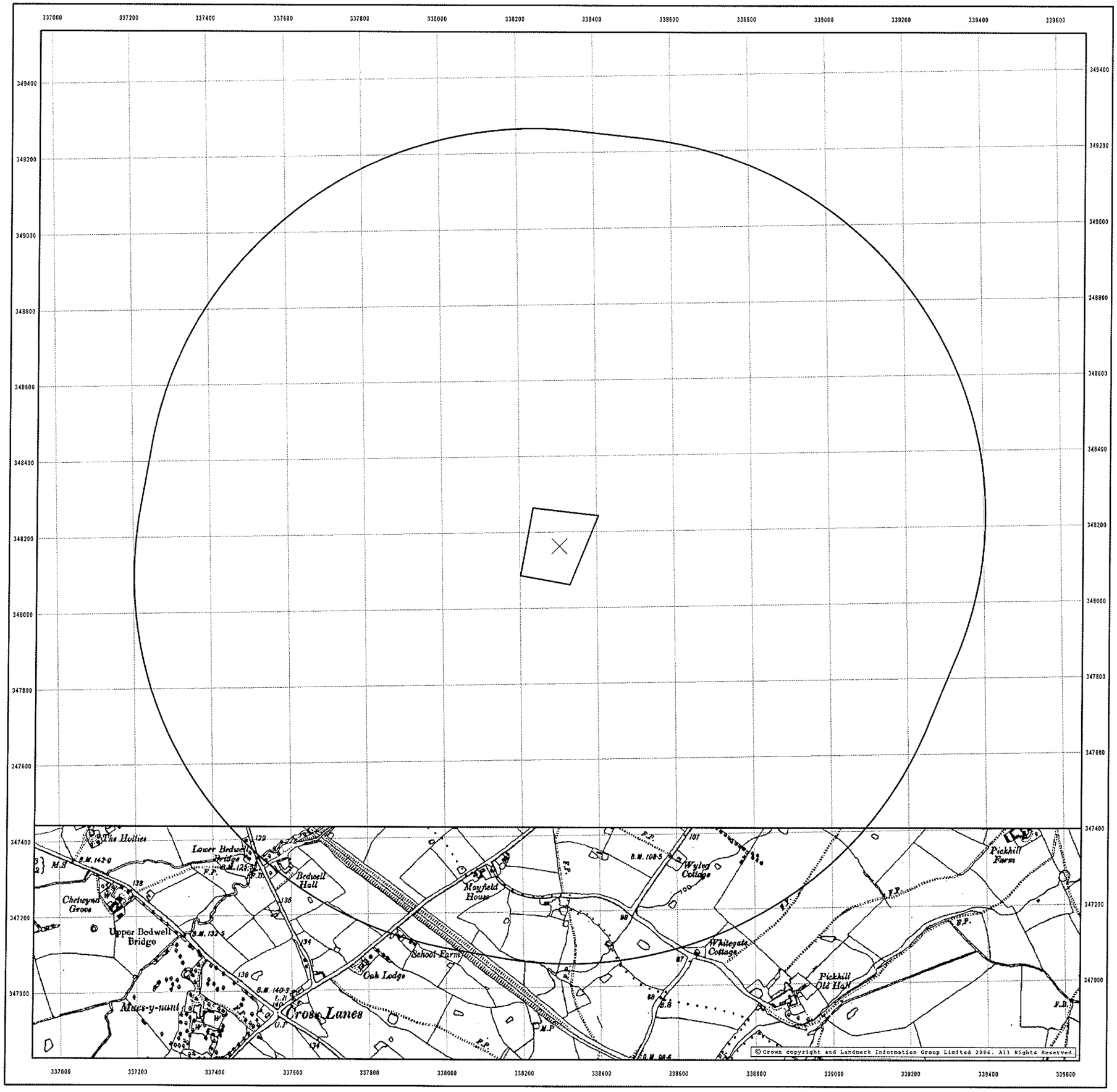
FLINTSHIRE
Published 1900
Source map scale - 1:10,560



Date(s) of Publication 19 of 24

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CLIENT DETAILS Envirocheck Order No. EC19305141_1_1
(29-Apr-2006 15:49)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

Historical Map Legend

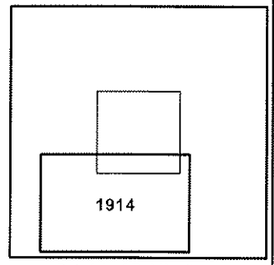
- Quarry
- Shingle
- Railway over Road
- Road over Railway
- Gravel Pit
- Sand Pit
- Level Crossing
- Railway over River
- Other Pits
- Road over Stream
- Road over Stream
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- Road over River or Canal
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- Sunken Road
- Raised Road
- Osiers
- Instrumental Contour
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- Sketched Contour

Ordnance Survey County Series 3

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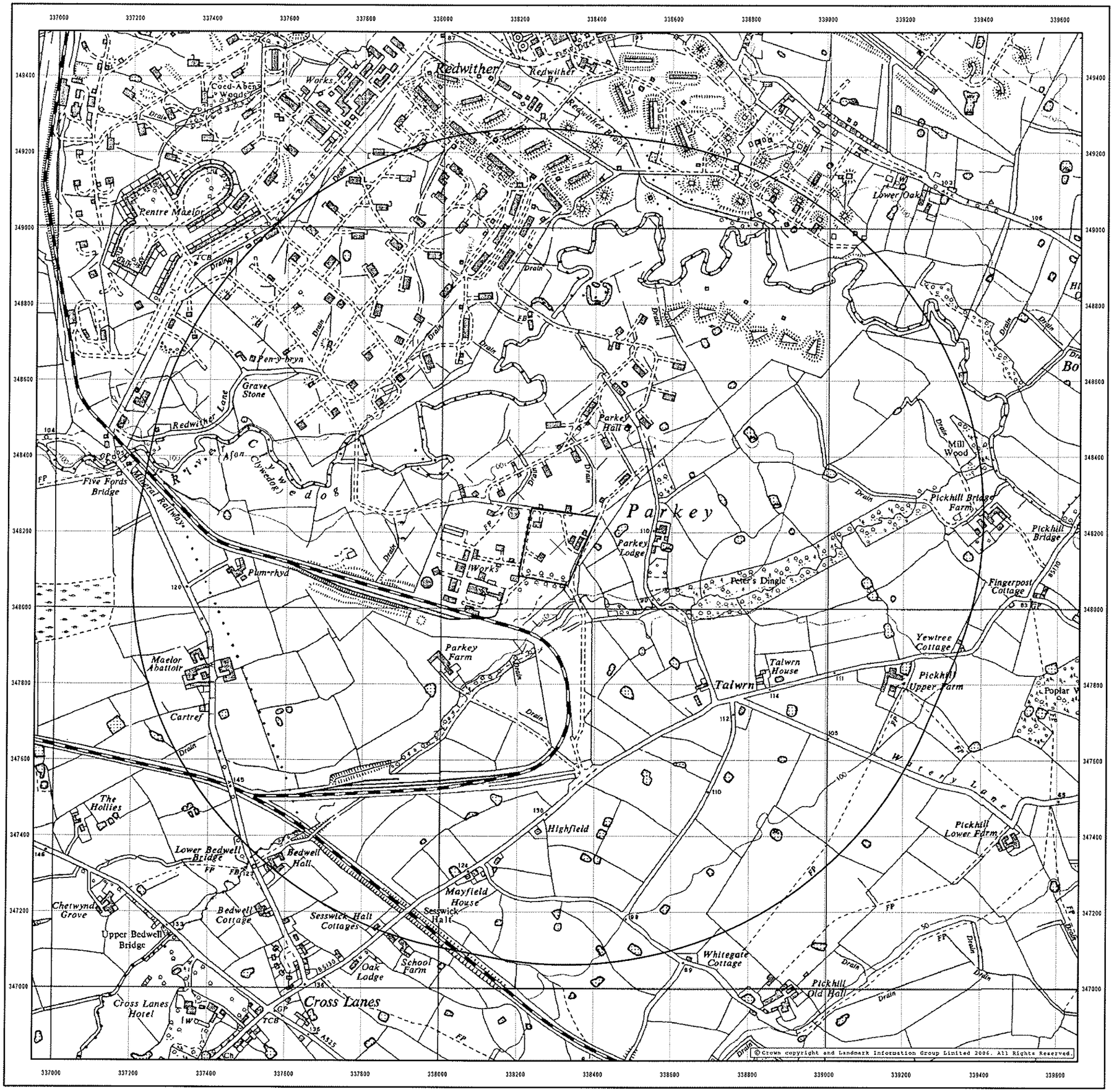
FLINTSHIRE
Published 1914
Source map scale - 1:10,560



Date(s) of Publication 20 of 24

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(26-Apr-2006 15:43)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

Historical Map Legend

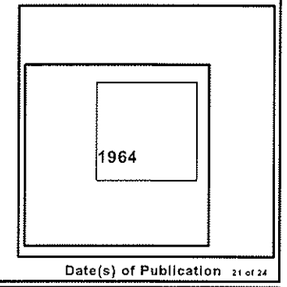
- Chalk Pit, Clay Pit, or Quarry
- Non-coniferous Trees
- Bracken
- Gravel Pit
- Coniferous Trees
- Heath
- Sand Pit
- Scrub
- Rough Grassland
- Lake, Loch or Pond
- Disused Pit or Quarry
- Pylon
- Electricity Transmission Line
- Reeds
- Refuse or Slag Heap
- Pole
- Saltings
- Direction of Flow of Water
- Marsh
- Shingle
- Sand
- Cutting
- Embankment
- Standard Gauge Multiple Track
- Road Under
- Road Over
- Level Crossing
- Foot Bridge
- Standard Gauge SingleTrack
- Siding, Tramway or Mineral Line
- Narrow Gauge

Ordnance Survey Plan 1

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 on the right 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.

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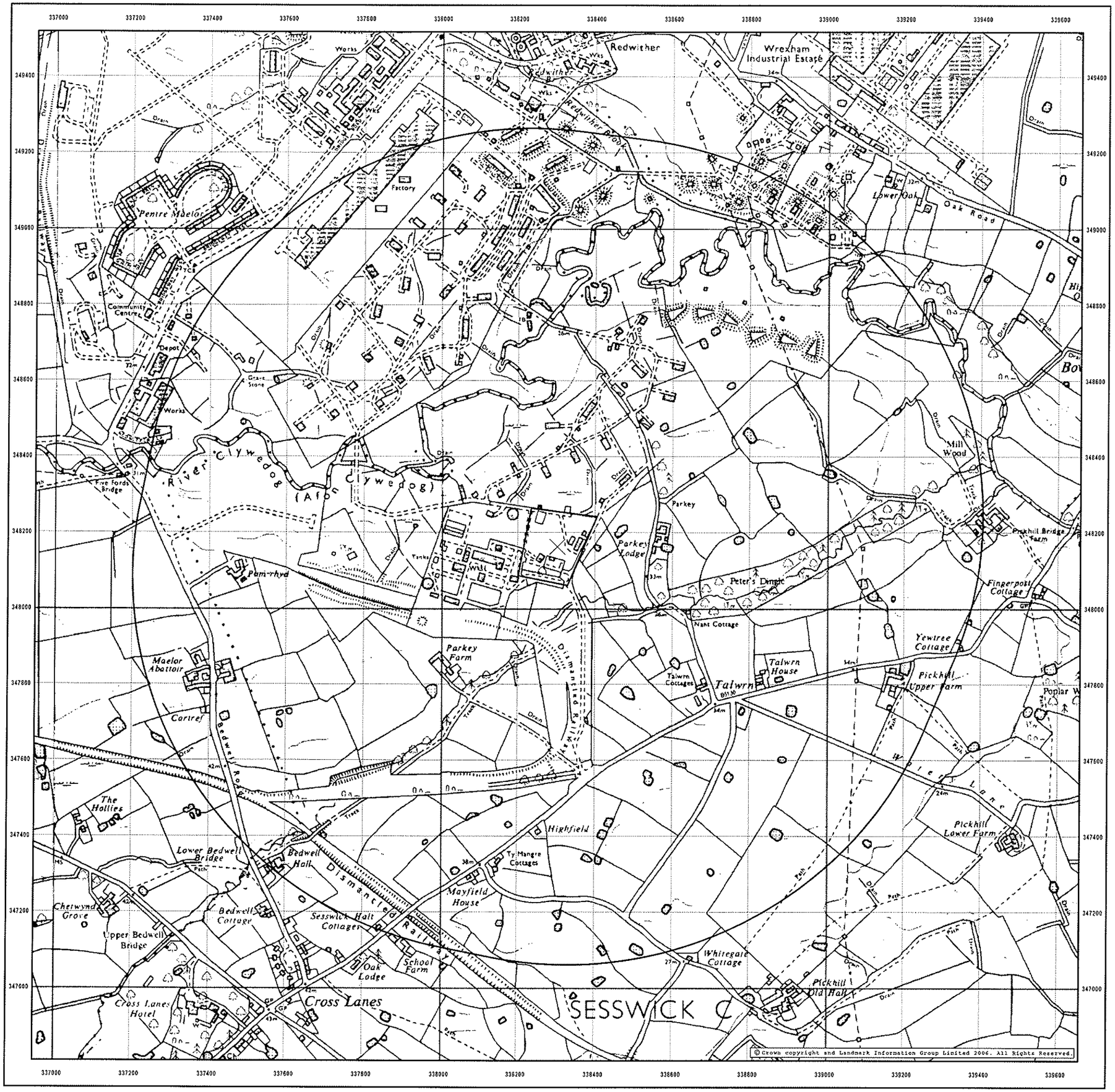
ORDNANCE SURVEY PLAN
Published 1964
Source map scale - 1:10,560



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CLIENT DETAILS Envirocheck Order No. EC19305141_1_1 (26-Apr-2006 15:59)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

Historical Map Legend

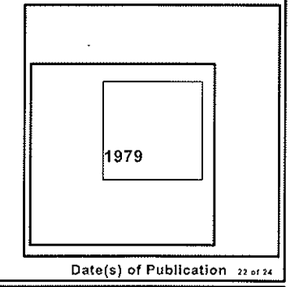
- Chalk Pit, Clay Pit, or Quarry
- Non-coniferous Trees
- Bracken
- Gravel Pit
- Coniferous Trees
- Heath
- Sand Pit
- Scrub
- Rough Grassland
- Lake, Loch or Pond
- Disused Pit or Quarry
- Pylon
- Electricity Transmission Line
- Reeds
- Refuse or Slag Heap
- Pole
- Saltings
- Direction of Flow of Water
- Marsh
- Shingle
- Sand
- 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

Ordnance Survey Plan 1

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 on the right 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.

ORDNANCE SURVEY PLAN
Published 1979
Source map scale - 1:10,000

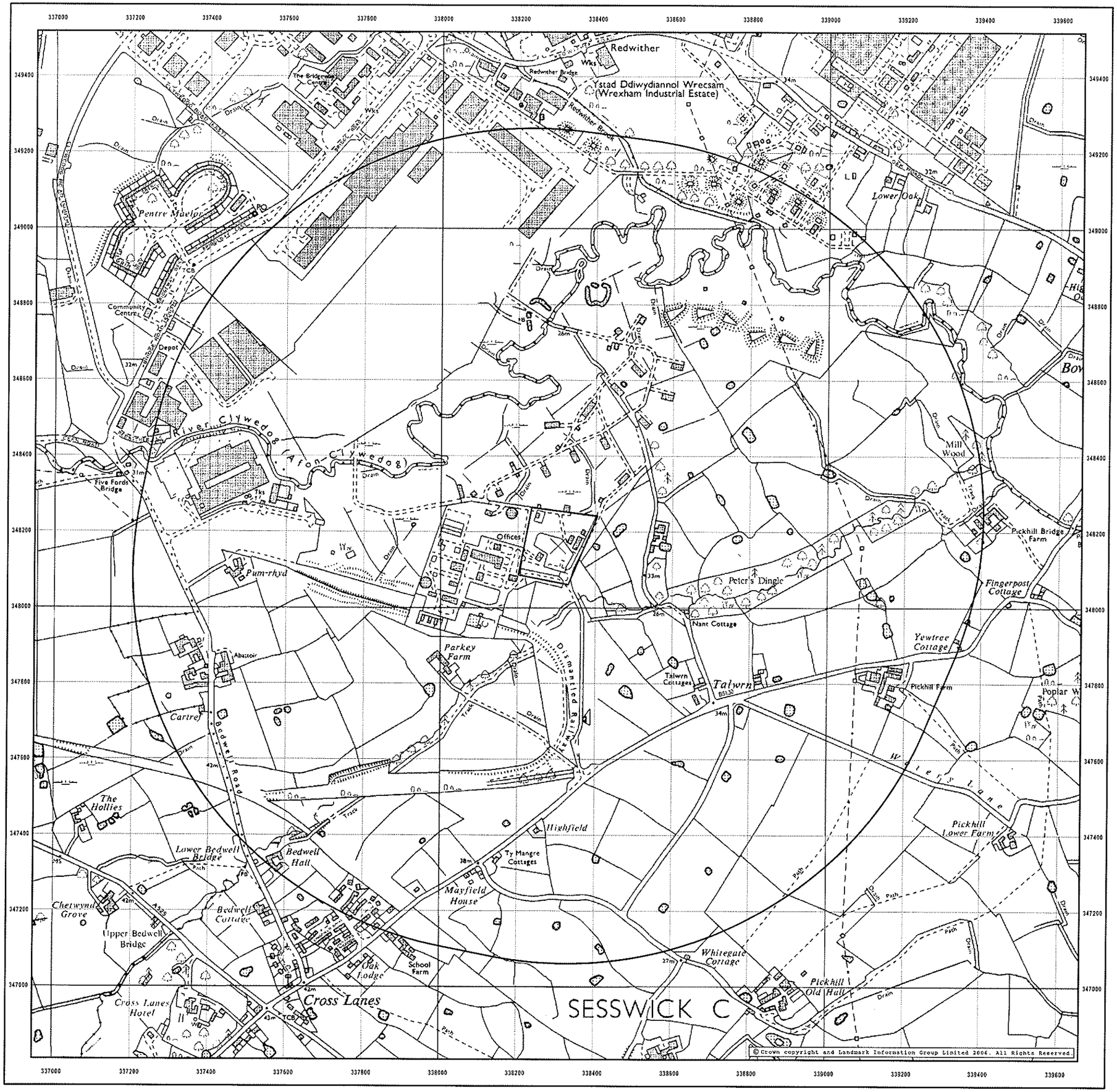


Date(s) of Publication 22 of 24

Ordnance Survey Licensed Partner

LANDMARK® Information Group

Produced by Landmark Information Group Limited. Tel: 0870 850 6670 Fax: 0870 850 6671



Envirocheck®

A Landmark® product

CLIENT DETAILS — Envirocheck Order No. EC19305141_1_1 (20-Apr-2006 15:59)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS — Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

Historical Map Legend

- Chalk Pit, Clay Pit, or Quarry
- Non-coniferous Trees
- Bracken
- Gravel Pit
- Coniferous Trees
- Heath
- Sand Pit
- Scrub
- Rough Grassland
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- Refuse or Slag Heap
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- Standard Gauge Multiple Track
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- Level Crossing
- Foot Bridge
- Standard Gauge SingleTrack
- Siding, Tramway or Mineral Line
- Narrow Gauge

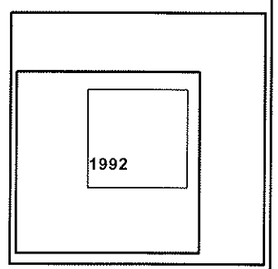
Ordnance Survey Plan

2

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 on the right 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.

ORDNANCE SURVEY PLAN
Published 1992
Source map scale - 1:10,000

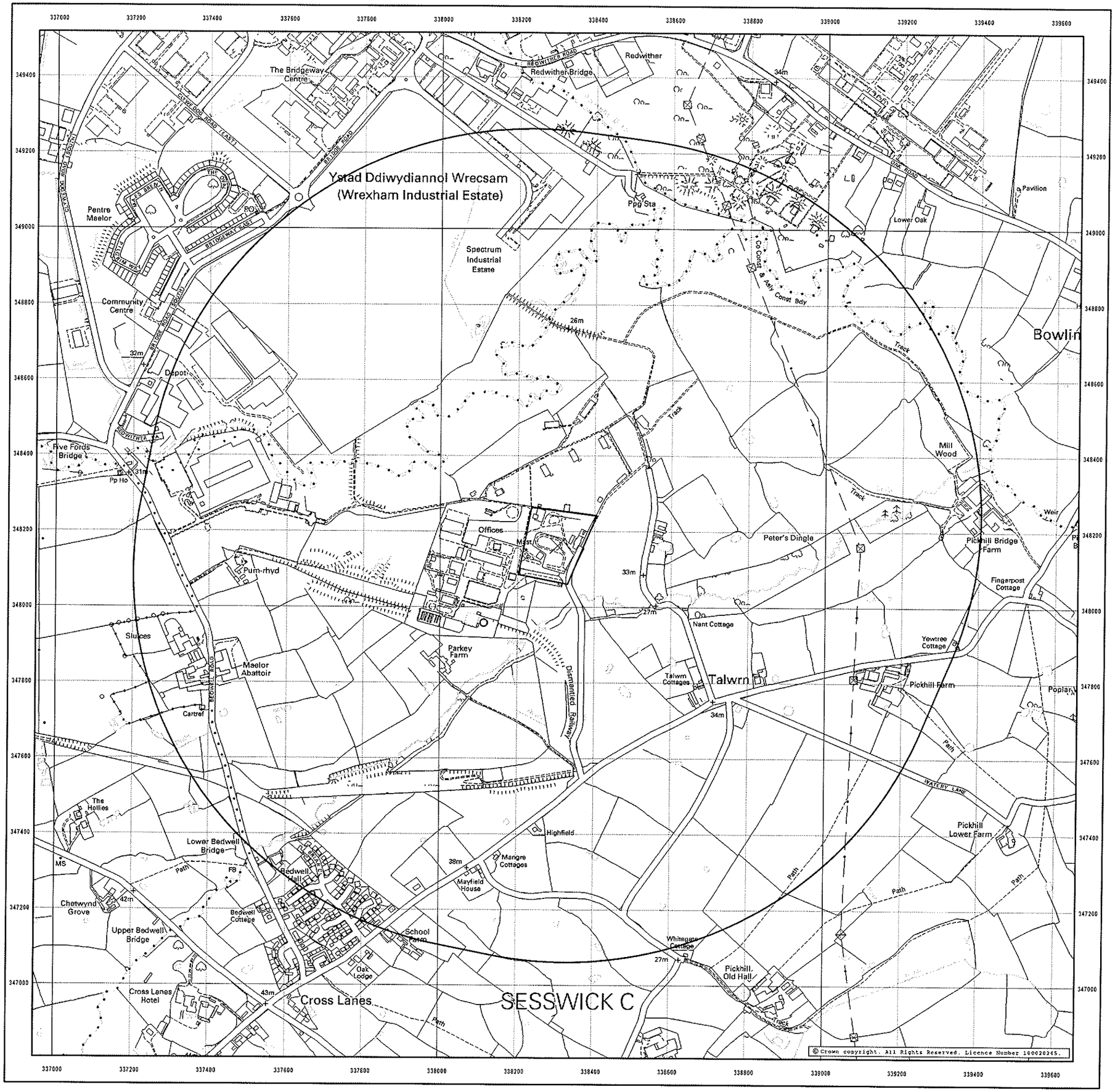


Date(s) of Publication 23 of 24

Ordnance Survey Licensed Partner

LANDMARK Information Group

Produced by Landmark Information Group Limited. Tel: 0870 850 6670 Fax: 0870 850 6671



Envirocheck®
A Landmark® product

CLIENT DETAILS Envirocheck Order No. EC19305141_1_1 (20-Apr-2006 15:50)

Customer Ref: C Coldrey,50065-25
Komex Clarke Bond
3-8 Redcliffe Parade West
Bristol
BS1 6SP

SITE DETAILS Grid Reference 338300 348160

3-8 Redcliffe Parade West
Bristol

Bristol City
Bristol BS3 2BA

Historical Map Legend

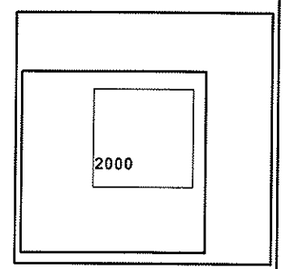
	Non-coniferous Trees		Pylon
	Coniferous Trees		Telephone Line (where shown)
	Orchard		Electricity Transmission Line (with poles)
	Rough Grassland		Gravel Pit
	Heath		Shingle
	Scrub		Refuse Tip or Slag Heap
	Marsh, Salt Marsh or Reeds	Sand	Sand
	County Boundary (England only)		Sand Pit
	Civil Parish or Community Boundary		Slopes
	Constituency Boundary		District, Unitary, Metropolitan, London Borough Boundary

10K Raster Mapping 1

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 1976.

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.

ORDNANCE SURVEY PLAN
Published 2000
Source map scale - 1:10,000



Date(s) of Publication 24 of 24

Ordnance Survey® Licensed Partner

LANDMARK® Information Group

Produced by Landmark Information Group Limited. Tel: 0870 850 6670 Fax: 0870 850 6671

LANDMARK TERMS AND CONDITIONS

Definitions

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

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

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

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

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

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

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

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

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

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

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

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

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

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

"Terms" means these Terms & Conditions.

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

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

1. Terms & Conditions

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

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

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

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

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

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

2. Services

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

3. Intellectual Property

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

b. Subject always to these Terms You may, without further charge, make the Services available to;
   i. the owner of the Property at the date of the Report,
   ii. any person who purchases the whole of the Property Site,
   iii. any person who provides funding secured on the whole of the Property Site,
   iv. any person for whom You act in a professional or commercial capacity,
   v. any person who acts for You in a professional or commercial capacity; and
   vi. prospective buyers of the Property Site as part of an Information Pack but for the avoidance of doubt, Landmark shall have no liability to such prospective buyer unless the prospective buyer subsequently purchases the Property Site, and the prospective (or actual) buyer shall not be entitled to make the Service available to any other third party.
   Accordingly Landmark shall have the same duties and obligations to those persons in respect of the Services as it has to You.

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

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

e. Each recipient of the Services agrees (and agrees it will cause its employees, agents or contractors who may from time to time have access to the Services to agree) it will not, except as permitted herein or by separate agreement with Landmark:-
   i. effect or attempt to effect any modification, merger or change to the Service, nor permit any other person to do so; or
   ii. copy, use, market, re-sell, distribute, merge, alter, add to or carry on any redistribution, reproduction, translation, publication, reduction to any electronic medium or machine readable form or commercially exploit or in any other way deal with or utilise or (except as expressly permitted by applicable law) reverse engineer, decompile or disassemble the Services, Content or Website; or
   iii. remove, alter or in any way change any trademark or proprietary marking in any element of the Services and You shall acknowledge the ownership of the Content, where such Content is incorporated or used into Your own documents, reports, systems or services whether or not these are supplied to any third party.
   iv. create any product which is derived directly or indirectly from the data contained in the Services

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

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

4. Charges

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

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

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

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

5. Termination

a. Landmark may suspend or terminate Your rights under these Terms without any liability to You with immediate effect if at any time:-
   i. You fail to make any payment due in accordance with clause 4;
   ii. You repeatedly breach or commit or cause to be committed any material breach of these Terms; or
   iii. You commit a breach and You fail to remedy the breach within 7 days of receipt of a written notice to do so; additionally, without prejudice to the foregoing, Landmark may remedy the breach and recover the costs thereof from You.

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

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

6. Liability

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

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

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

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

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

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

g. You acknowledge that:-
   i. Subject to clause 6.o below You shall have no claim or recourse against any Third Party Content supplier nor any of our other Suppliers. You will not in any way hold us responsible for any selection or retention of, or the acts of omissions of Third Party Content suppliers or other Suppliers (including those with whom We have contracted to operate various aspects or parts of the Service) in connection with the Services (for the avoidance of doubt Landmark is not a Third Party Content supplier). Landmark does not promise that the supply of the Services will be uninterrupted or error free or provide any particular facilities or functions, or that the Content will always be complete, accurate, precise, free from defects of any other kind, computer viruses, software locks or other similar code although Landmark will use reasonable efforts to correct any inaccuracies within a reasonable period of them becoming known to us;
   ii. Landmark's only obligation is to exercise reasonable skill and care in providing environmental property risk information to persons acting in a professional or commercial capacity who are skilled in the use of property and environmental information and You hereby acknowledge that You are such a person;
   iii. no physical inspection of the Property Site reported on is carried out as part of any Services offered by Landmark and Landmark do not warrant that all land uses or features whether past or current will be identified in the Services. The Services do not include any information relating to the actual state or condition of any Property Site nor should they be used or taken to indicate or exclude actual fitness or unfitness of a Property Site for any particular purpose nor should it be relied upon for determining saleability or value or used as a substitute for any physical investigation or inspection. Landmark recommends that You inspect and take other advice in relation to the Property Site and not rely exclusively on the Services.
   iv. Subject to clause 6.o below, Landmark shall not be responsible for error or corruption in the Services resulting from inaccuracy or omission in primary or secondary information and data, inaccurate processing of information and data by third parties, computer malfunction or corruption of data whilst in the course of conversion, geo-coding, processing by computer or electronic means, or in the course of transmission by telephone or other communication link, or printing.
   v. Landmark will not be held liable in any way if a Report on residential property is used for commercial property or more than the one residential property for which it was ordered.
   vi. the Services have not been prepared to meet Your or anyone else's individual requirements; that You assume the entire risk as to the suitability of the Services and waive any claim of detrimental reliance upon the same; and You confirm You are solely responsible for the selection or omission of any specific part of the Content;
   vii. Landmark offer no warranty for the performance of any linked internet service not operated by Landmark;
   viii. You will on using the Services make a reasonable inspection of any results to satisfy Yourself that there are no defects or failures. In the event that there is a material defect You will notify us in writing of such defect within seven days of its discovery;
   ix. Any support or assistance provided to You in connection with these Terms is at Your risk;

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

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

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

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

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

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

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

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

7. Contribution

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

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

c. In the event that a Remediation Notice is served on the First Purchaser or First Purchaser's Lender of a Property Site under Part II(A) of the Environmental Protection Act 1990 ("the Notice") Landmark will contribute to the cost of such works as either the First Purchaser or First Purchaser's Lender (but not both) are required to carry out under the Notice subject to the provisions of this clause 7 and on the following terms:
   i. the Contribution shall only apply to contamination or a pollution incident present or having occurred prior to the date of the Report;
   ii. the Contribution shall only apply where the Property Site is a single residential dwelling house or a single residential flat within a block of flats. For the avoidance of doubt, this obligation does not apply to any commercial property, nor to any Property Site being developed or redeveloped whether for residential purposes or otherwise;
   iii. the Contribution is strictly limited to the cost of works at the Property Site and at no other site.
   iv. the Contribution will not be paid in respect of any of the following:
   Radioactive contamination of whatsoever nature, directly or indirectly caused by or contributed to or arising from ionising radiations or contamination by radioactivity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel or the radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof.
   Asbestos arising out of or related in any way to asbestos or asbestos-containing materials on or in structures or services serving the structures.
   Naturally occurring materials arising from the presence or required removal of naturally occurring materials except in circumstances where such materials are present in concentrations which are in excess of their natural concentration.
   Intentional non-compliance arising from the intentional disregard of or knowing wilful or deliberate non-compliance by any owner or occupier of the Property Site with any statute, regulation, administrative complaint, notice of violation, or notice letter of any Regulatory Authority.
   Any condition which is known or ought reasonably to have been known to the First Purchaser or the First Purchaser's Lender prior to the purchase of the Report.
   Any condition which is caused by acts of War or an Act of Terrorism.
   Any property belonging to or in the custody or control of the First Purchaser which does not form a fixed part of the Property Site or the structure.
   Any fines liquidated damages punitive or exemplary damages.
   Any bodily injury including without limitation, death, illness or disease, mental injury, anguish or nervous shock.
   Any financial loss in respect of any loss of any rental, profit, revenue, savings or business or any consequential indirect or economic loss damage or expense including the cost of rent of temporary premises or business interruption.
   Any losses incurred following a material change in use of, alteration or development of the Property Site.

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

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

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

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

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

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

8. Events Beyond Our Control

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

9. Severability

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

10. Governing Law

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

11. General; Complaints

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

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

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

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

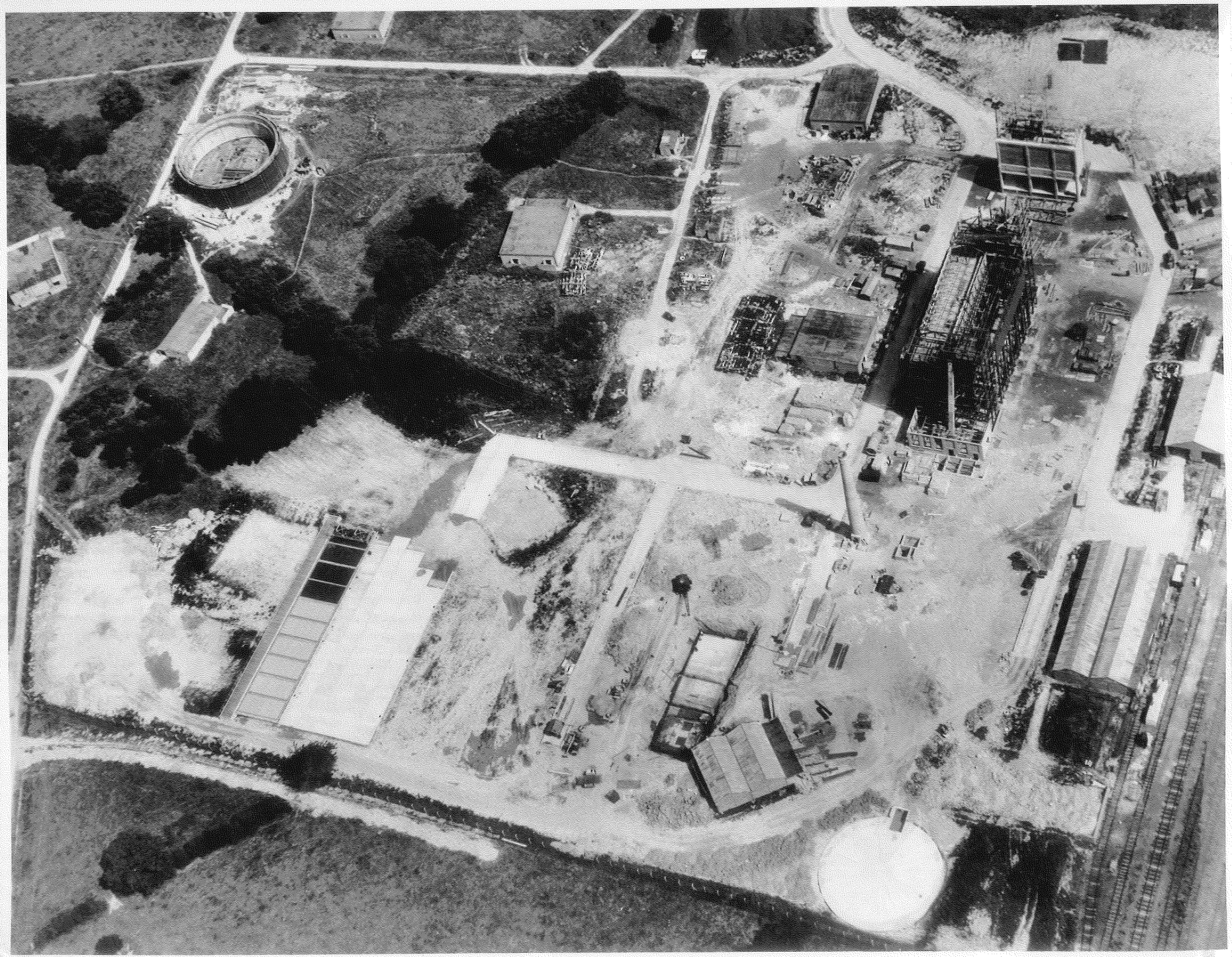
e. Any complaints in relation to the Services should, in the first instance, be in writing addressed to the Customer Service Support Manager at the Landmark registered office. Landmark or its agents will respond to any such complaints in writing as soon as practicably possible.

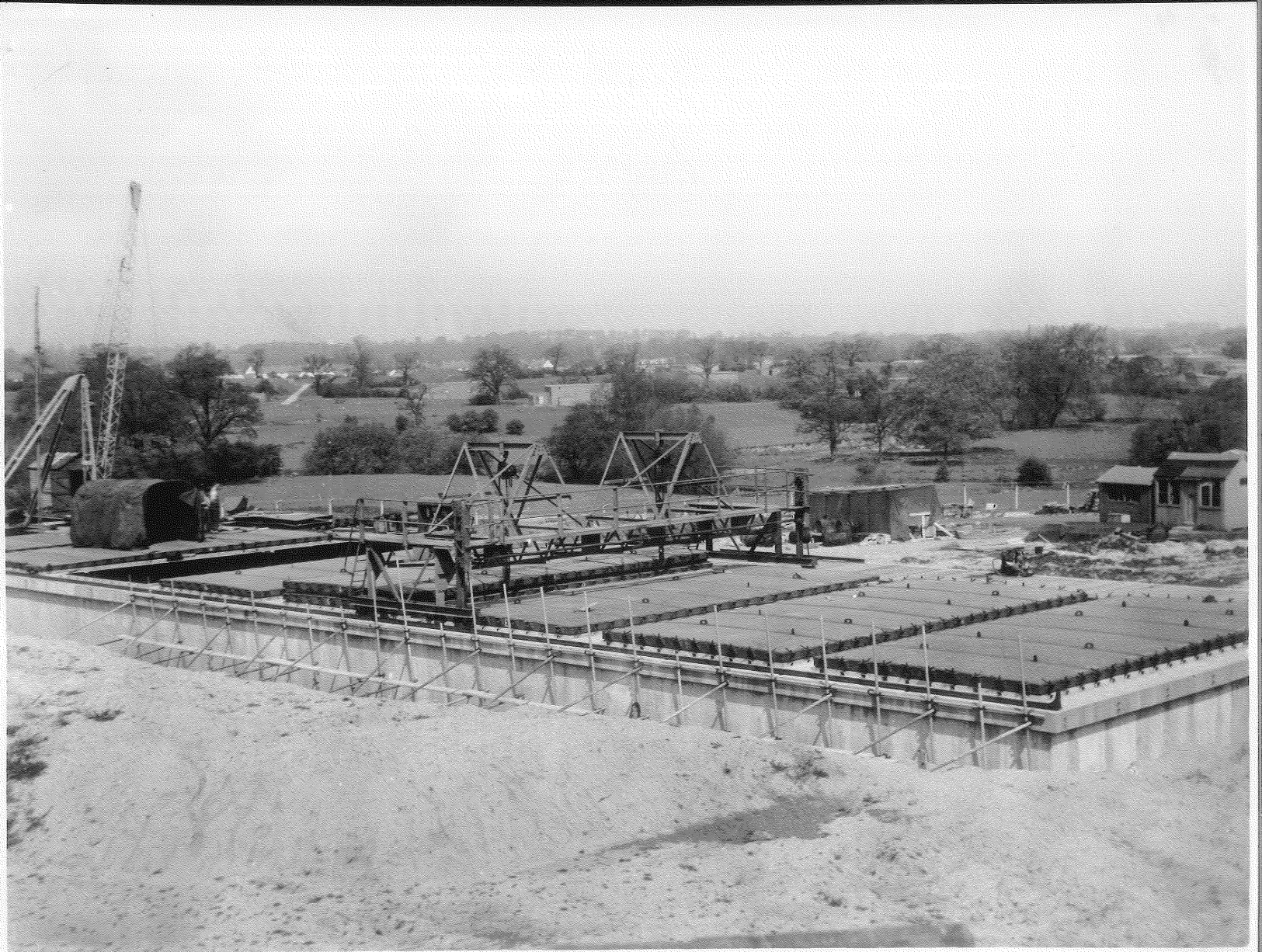
f. A person who is not a party to any contract made pursuant to these Terms shall have no right under the Contract (Right of Third Parties) Act 1999 to enforce any terms of such contract and Landmark shall not be liable to any such third party in respect of any Services supplied.

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

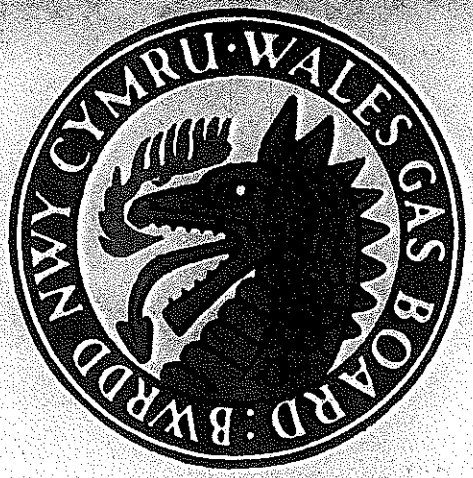
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WREXHAM UNDERTAKING

OFFICIAL OPENING

OF

MAELOR GAS WORKS

BY THE

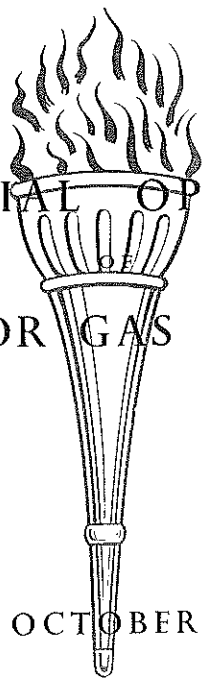
LORD LLOYD, M.B.E.

Parliamentary Under Secretary of State for
the Home Department and Welsh Affairs



14TH OCTOBER, 1953

WREXHAM UNDERTAKING



OFFICIAL OPENING

OF

MAELOR GAS WORKS

14TH OCTOBER, 1953

R. H. JOHNS LTD.
NEWPORT . MON.



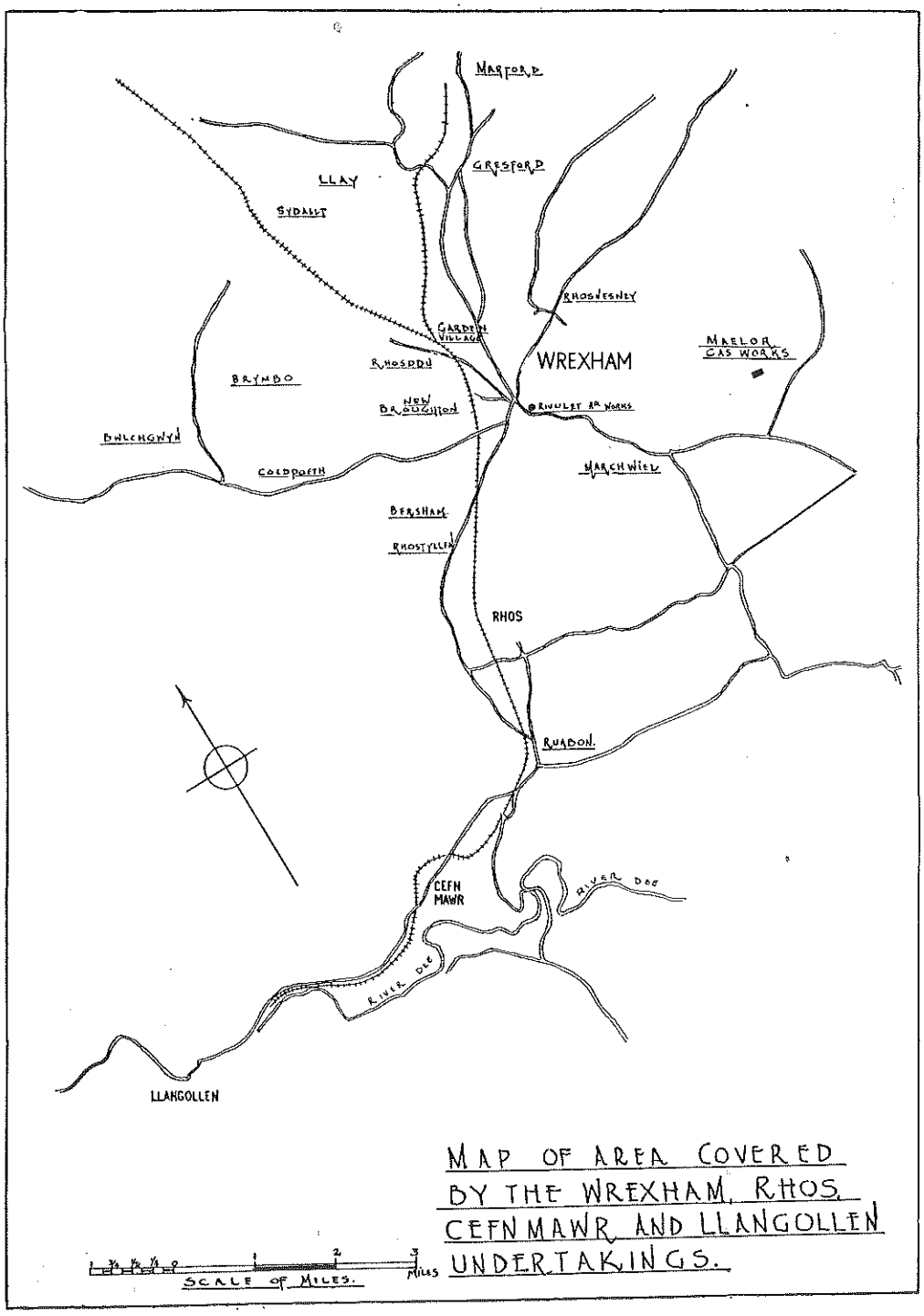
THE LORD LLOYD, M.B.E.
Parliamentary Under Secretary of State for the Home Department and Welsh Affairs



Affairs



MR. J. F. LLOYD, M. INST. GAS. E.
Engineer and Manager, Wrexham Undertaking



MAP OF AREA COVERED BY THE WREXHAM, RHOS, CEFNMAWR AND LLANGOLLEN UNDERTAKINGS.

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HISTORY

GAS was first introduced in Wrexham in 1827 when Messrs. Keay, Edwards and Company provided gas lighting. In 1839 the Wrexham Gas and Coke Company was formed and took over the assets of the original suppliers at a cost of £705. A new works was then erected in Willow Road, total cost of various buildings amounting to £507.

The output of the works increased steadily and in 1869 a larger site was necessary. During the period 1869-70 the whole of the works was transferred to the present site in Rivulet Road. At this time the Company obtained its first Act of Parliament and became a Statutory Company under the name of the Wrexham Gaslight Co., the capital involved being £15,000 and the manufacturing plant consisting of 56 hand-charged horizontal retorts. The second Act of Parliament in 1905 changed its name to the Wrexham Gas Gompany.

During the years 1902-1907, the works were almost wholly rebuilt, new carbonising plant comprising 72 machine-charged horizontal retorts, purifying plant and a new gasholder of 500,000 cu. ft. capacity being installed.

The distribution side of the Undertaking was expanding rapidly and supplies were now made available to Coedpoeth and Rhostyllen. In 1912 the then new method of high pressure distribution was adopted for supplying outlying villages. By this means Rhosnessey and Gresford were supplied before the outbreak of the 1914-1918 War, whilst the supply to Brymbo was completed shortly after cessation of hostilities.

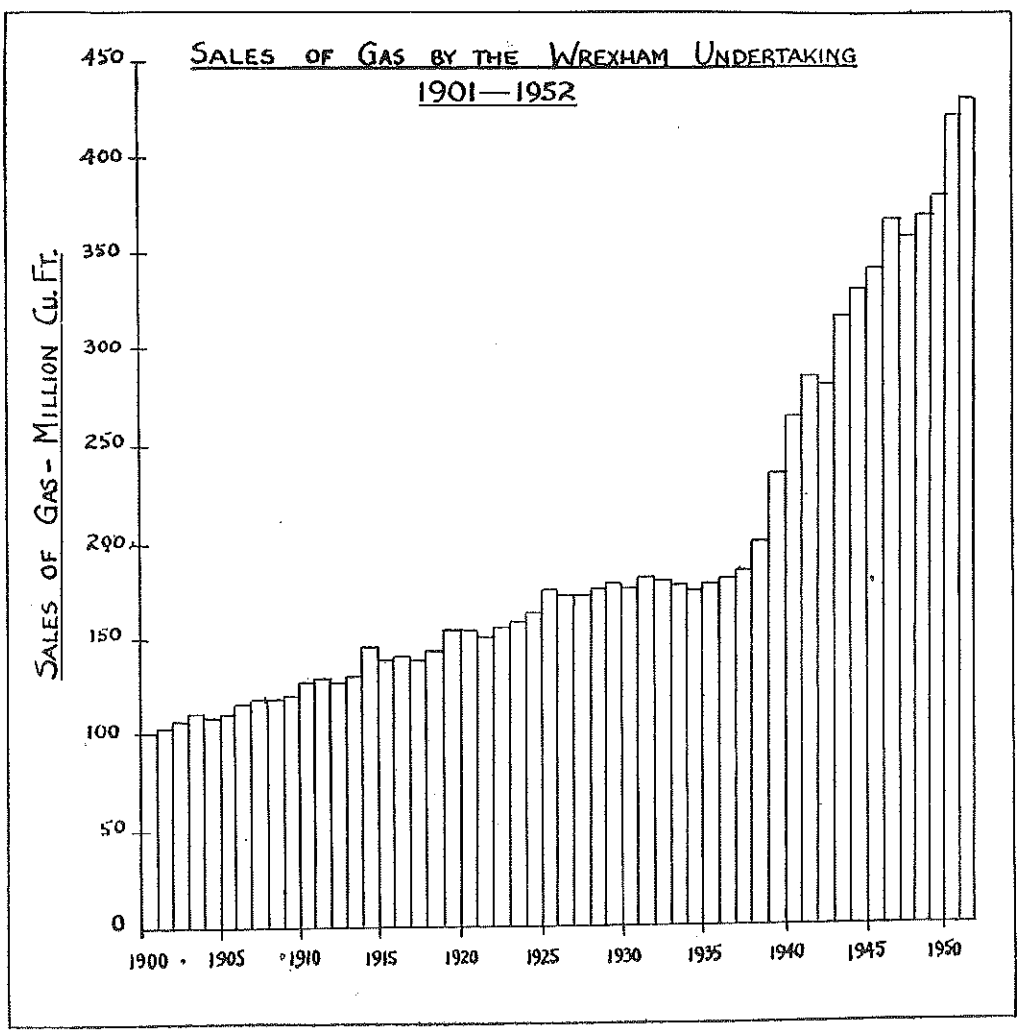
By 1938 the make of gas had increased from the 1900 figure of 100,000,000 cu. ft. per annum to 223,000,000 cu. ft.

The second World War brought about a rapid increase in gas consumption and new carburetted water gas plants were installed in 1943 and 1947 by which time the annual make of gas had increased to 406,000,000 cu. ft. Requests were also being received for bulk supplies of gas to the neighbouring Undertakings of Rhos, Cefn Mawr and Llangollen.

By reason of the state of the manufacturing plant, now forty years old, and of the continuing increasing demand for gas supplies, it became obvious that new plant was urgently required and permission was sought by the Company,

and obtained from the Ministry of Fuel and Power, for the construction of a modern Intermittent Vertical Chamber Oven Plant of 25 Chambers, with a capacity of 2,250,000 cu. ft. per day, on a site adjacent to the existing works. This plant was to be so arranged that a duplicate setting could be later added to give a total output of 4,500,000 cu.ft. per day. With the existing water gas plants a total maximum daily output from the present site of 6,000,000 cu. ft. was to have been possible.

This then was the position on 1st May, 1949, when the Wrexham Gas Company became vested in the Wales Gas Board under the Gas Act, 1948.



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It was now possible to review the gas supplies in the North Wales Area with a wider outlook, and as a result it was decided to choose a new site for the erection of the carbonising plant and to expand the proposals of the former Company to include the provision of the necessary purification, compressing, storage, steam raising, electricity generation and other ancillary plant on a new works which should not only supply gas southwards in the Rhos—Cefn Mawr—Llangollen area but also northwards to Mold, Buckley and Deeside.

In the Autumn of 1949 the Wales Gas Board acquired a site of 27 acres on the Wrexham Trading Estate some 3½ miles south-east of the centre of the town for the purpose of erecting the Maelor Works.

NORTH WALES GAS GRID

THE new gasworks at Maelor is an important part of the co-ordinated scheme that has been prepared for the integration of gas supplies in the North Wales area.

Initially the gas produced at Maelor will supply the needs of consumers in the Wrexham, Rhos, Cefn Mawr and Llangollen areas. The construction of mains for Rhos and Cefn Mawr has been completed, and the mains to Llangollen are well advanced.

When the main north from Wrexham—which is in process of being laid—is ready, gas from Maelor will meet part of the requirements of the consumers at Mold, Buckley and Deeside.

Reference to the drawing on page 10 will indicate the extent of the gas grid planned up to the present time : local sections of this grid have already been laid. It will be seen that the grid planned will be supplied with gas from three principal sources of supply, viz. Maelor Works, coke oven gas from the Shotton Works of Messrs. John Summers and Sons, Ltd., and Methane (or 'firedamp') drained from Point of Ayr Colliery and subsequently treated to render it suitable as Town's gas. The latter project is the first large scale development of a process new to Great Britain, and the use of Methane from Point of Ayr will save the Nation some 30,000 tons of coal annually. This large scale commercial experiment will assist in determining the extent of similar development elsewhere.

The planned grid system, extending through the Counties of Denbighshire, Flintshire and Caernarvonshire, and into Anglesey, will serve not only the

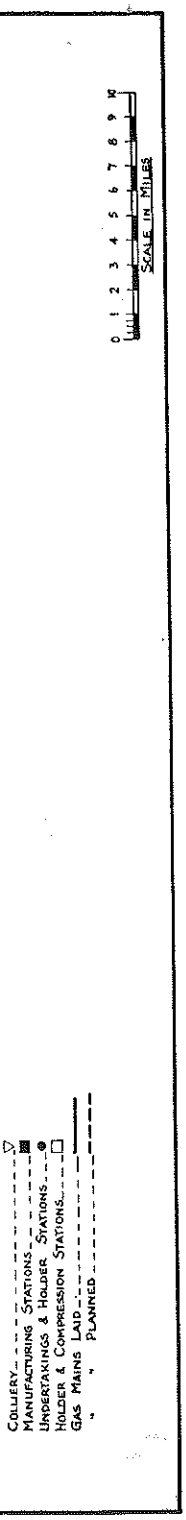
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important developing industrial districts of Wrexham and Deeside, but also the North Wales coastal resorts as far as Caernarvon, with supplies to other communities. The system is designed so that further development can later proceed.

STATISTICAL INFORMATION

IT is estimated that the Maelor Works will carbonise some 36,000 tons of coal per annum, producing 2,900,000 therms of gas, 18,000 tons of coke and 435,000 gallons of tar.

The area of supply of the Wrexham Undertaking alone covers approximately 38 square miles, some 80 miles of main being laid to serve 14,500 gas consumers. A further 8.5 miles of main have been laid to supply gas from Maelor to an additional 4,300 consumers in the areas served by the Rhos and Cefn Mawr Undertakings.

Extension of mains to serve Llangollen and the Deeside area north of Wrexham will add another 12,000 consumers to the mains system supplied from Maelor.

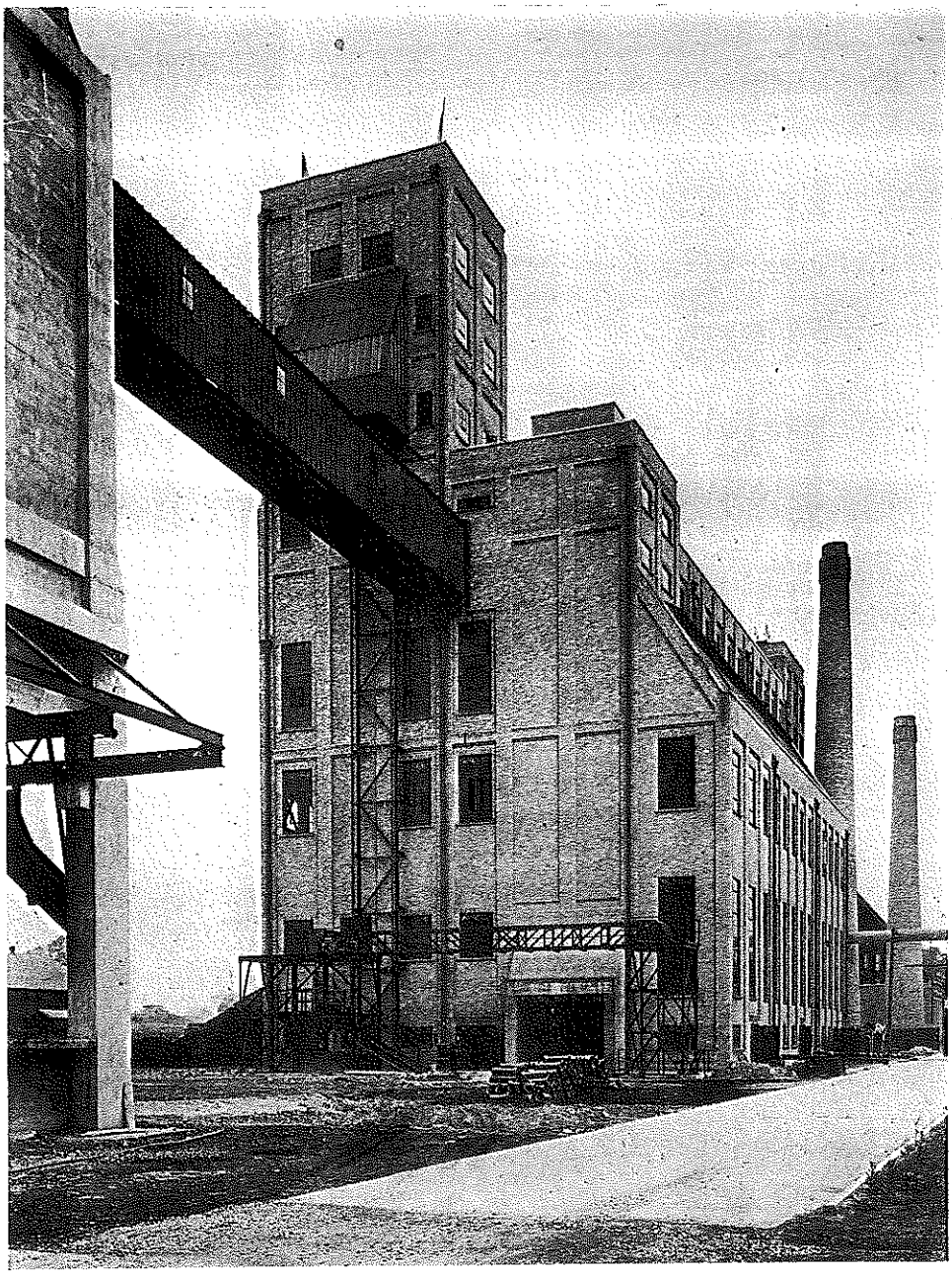


PLATE 1

General View of the Intermittent Vertical Chamber Oven Plant on the Coke Quenching and Handling Gable end; Belt Conveyor gantry and corner of R.C. coke screening and storage plant are shown.

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DESCRIPTION OF PLANT AND BUILDINGS

INTERMITTENT VERTICAL CHAMBER OVEN PLANT

THE Carbonising Plant is the fourth of its type to be installed in Wales, the others being Holywell (1933), Milford Haven (1936), and Abertillery (1937) ; selection of this type has been steadily growing in Great Britain over the last 20 years and particularly since the end of the World War II.

Intermittent Chambers are not limited to selected high grade coals but will deal adequately with a wide range, and particularly those of lower coking value, at the same time producing good yields of gas with a high degree of flexibility of output, and in particular a strong coke of low breeze content suitable for both domestic and industrial use.

The Carbonising Plant, complete with the necessary Coal and Coke handling equipment and Coke Grading, Storage and Loading plant has been designed and built by Messrs. W. J. Jenkins and Co., Ltd., of Retford, Notts.

The new installation consists of 25 chambers each of 3.65 tons capacity, arranged in one bench of five equal settings, and has a nominal maximum output of 2,250,000 cu. ft. per day. It is housed in a modern steel-frame brick-embellished building of pleasing architectural appearance and is designed for extension to double the present size in one or more stages. (See Plate 1).

Coal Handling Plant

Coal brought to the site by road vehicles is discharged into an underground Receiving Hopper, from which it is extracted by means of a Feeder Conveyor of the De Brouwer type, either into a Coal Crusher or, in the case of small coal, into a by-pass chute, both of which discharge into a 40-ton per hour Elevator. From the Elevator the coal is discharged on to the first of two rubber belt conveyors, the second one running the full length of the overhead bunkers from which it is discharged by a travelling throw-off carriage. (See Plate 2). The overhead bunkers have a total storage capacity to cover 72 hours working and are completely enclosed to minimise dust nuisance and fire. Feeding doors in the bunker cover platforms are automatically opened and closed by a plough on the travelling throw-off carriage. Integral with these bunkers and extending

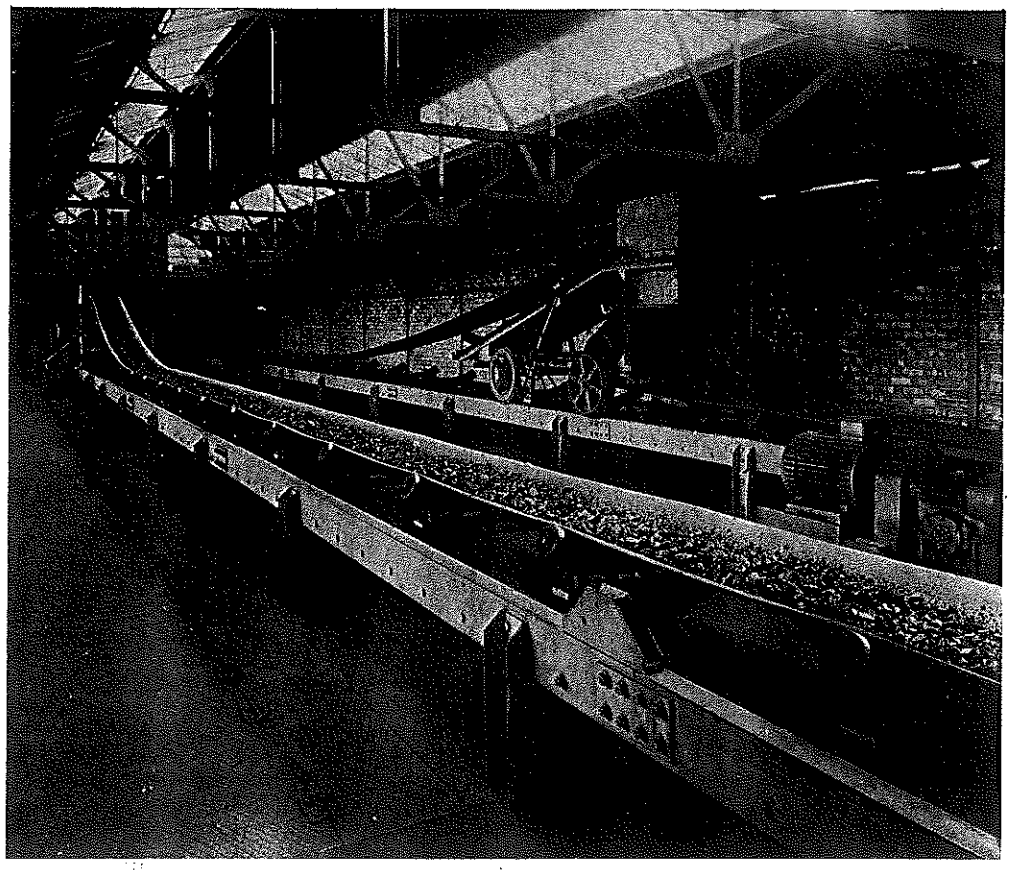


PLATE 2

Distributing Conveyors for Coal (foreground) and Coke (background), showing travelling throw-off carriages and the design of bunker top platform with plough operated filling doors.

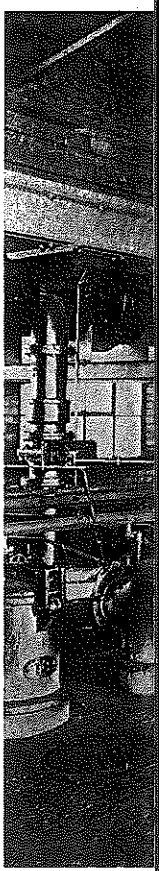
the full length of the bench are Coke Hoppers, also 72 hours storage capacity, for Producer fuel. The bunkers feed fuel through a series of outlets into a charging car which carries a measured quantity of coal for the charging of each chamber. This charging car is electrically propelled on an overhead track and is of special design to ensure uniform filling of each chamber to a predetermined height. A compartment of the car contains small coke which is fed to each chamber to protect the bottom door ; interlocked levers ensure that this breeze feed is dropped in before the coal charge. (See Plate 3).

Provision has been made for the installation of a duplicate Coal Elevator ; either Elevator will feed the present bench or the future extension.

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Bench and Brickwork

The bench is made up of 5 equal settings each of 5 chambers ; each setting is heated by a built-in step grate producer and has its own secondary air recuperator. The whole is rigidly braced by massive vertical side and end buckstays with horizontal members, and longitudinal and transverse tierods which are spring loaded to control expansion.

The chambers are constructed of 95% silica and measure approximately 19 ft. 2 in. high by 9 ft. 10 in. wide and are tapered $10\frac{1}{4}$"—13" on the minor axis. The chamber heating flues are formed by continuous tongued and grooved key tiles bonding adjacent chambers throughout the full width, thus forming an entirely monolithic structure which gives maximum strength in the oven walls

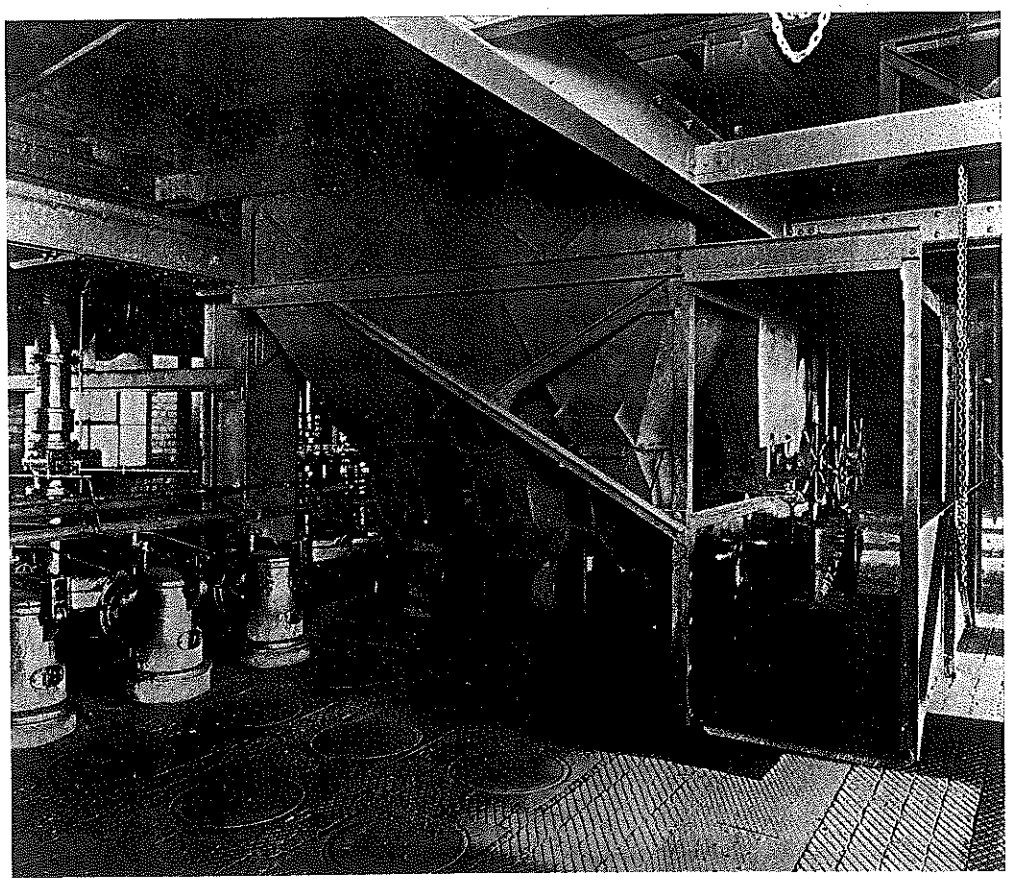


Plate 3

Top of bench showing chamber charging car.

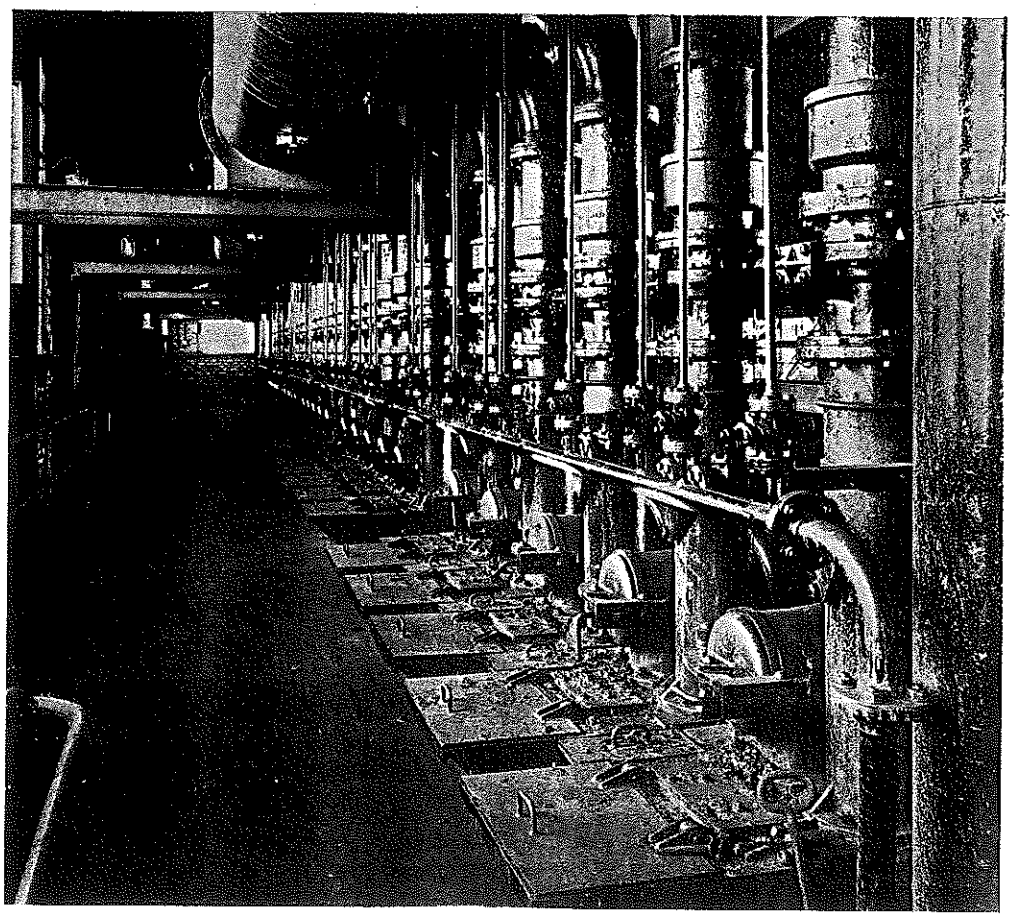


PLATE 4

Top Mains platform showing individual hydraulic mains.

to withstand the pressures exerted by strongly swelling coals. Expansion of the silica materials is provided for on the periphery of the silica work and this avoids the possibility of distortion thereby ensuring a long working life. The producer fittings are of the loose type to allow for expansion and to permit easy renewal. The recuperators are of the contra-flow type and a feature of this design, which gives absolute and easy control of temperature, is that each secondary air flue is entirely independent from the inlet slide to the combustion chamber. The settings are adequately insulated on bench top and side walls

GAS OFFTAKES AND DISCHARGE DOORS

Gas is taken away from the chambers by offtakes fitted at both top and bottom. Each top offtake feeds an individual hydraulic main from which the

gas passes into a common collecting main (See Plate 4). The bottom gas offtake is of patented type and is actually formed in the dome of the bottom discharge doors. Along the length of the dome, which is virtually a semi-circular section pipe, there are a number of slots through which the gas flows to the collecting mains. (See Plate 5). Pressure in the lower part of the chamber is eliminated, thus permitting the use of water-sealed bottom doors. Counter balanced hand-operated closing gear is fitted to the bottom doors.

The gas offtakes, hydraulic mains, valves and collecting mains are continuously sprayed with hot ammoniacal liquor. Liquor is circulated by one of two pumps, one centrifugal type electrically driven, the other a reciprocating type steam driven which acts as a standby.

Coke Quenching and Handling

At the conclusion of the carbonising period, coke is discharged from the chambers by manual opening of the bottom doors into a flat bottomed hot coke wagon which is traversed under the bench to the quenching tower by means of push button operated electrically-driven haulage gear. After quenching by a predetermined quantity of water, the wagon is removed from the quenching chamber and the coke discharged by hydraulically tipping the pivotted body of the wagon into a Receiving Hopper, from which it is extracted by means of a De Brouwer Conveyor, on which additional quenching can be carried out. This Conveyor discharges into a second hopper which feeds an electrically driven automatic Skip Hoist elevating the coke to a hopper in the Chamber House. From this hopper a reciprocating feeder delivers the coke onto a high speed vibratory screen where all material below $\frac{1}{2}''$ is removed, this being directed into a compartment of the overhead bunkers for use as the protecting pad for the bottom doors of the chambers before coal is charged into them.

The coke passing over the screen can then be either taken to the distributing conveyor over the bunkers in the Chamber House, for producer fuel, shown in Plate 2, or directly to the coke grading and storage plant.

Coke Grading and Storage Plant

A Belt Conveyor from the Chamber House conveys this coke to a reinforced concrete building composed of screen house and bunkers of 350 tons capacity. On reaching the screening house, the coke first passes over a scalping screen which removes the fraction over 3″ which flows via a spiral anti-breakage chute directly into the large coke compartment.

The coke below 3″ passes on to a main grading screen of the balanced reciprocating type, which grades into four sizes :—0—$\frac{1}{2}''$, $''\frac{1}{2}$—$1\frac{1}{4}''$, $1\frac{1}{4}''$—2″, 2″—3″, spiral anti-breakage chutes again being employed for the two larger sizes of coke.

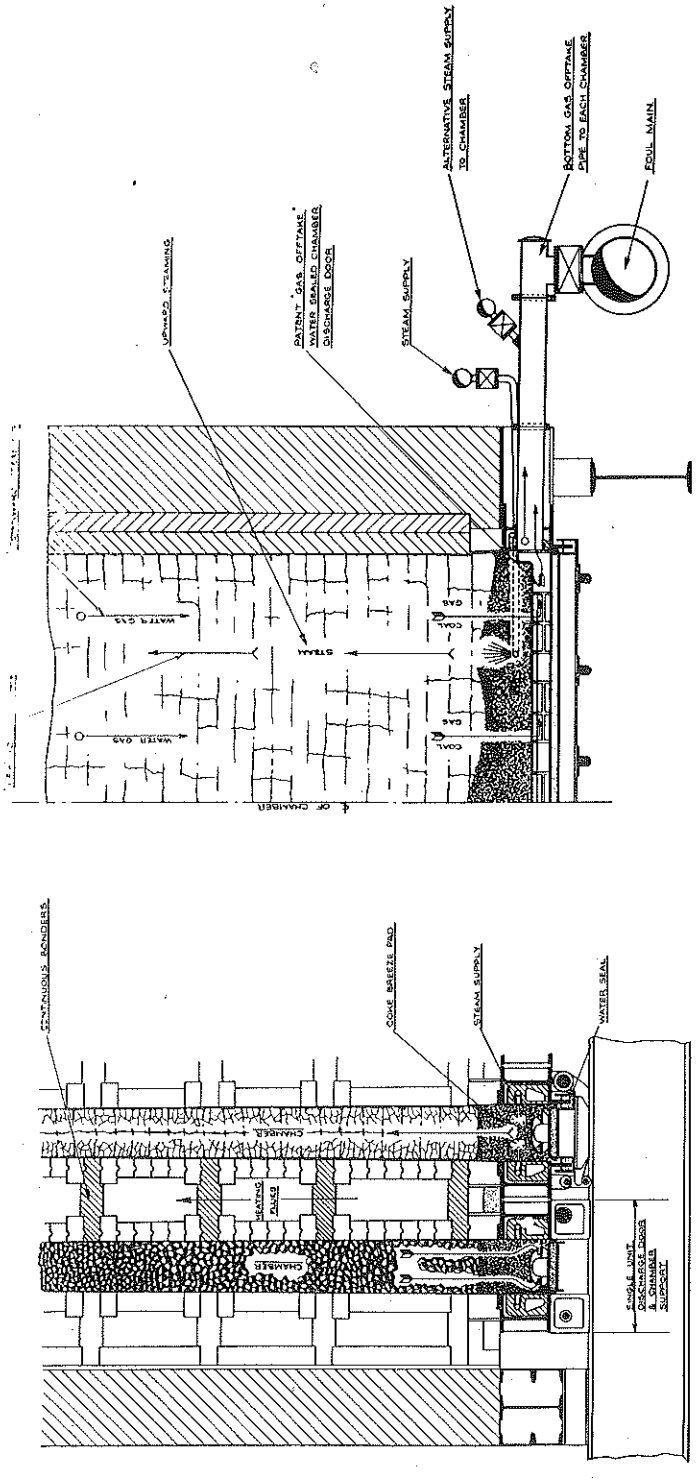


PLATE 5

Sections shewing combined chamber discharge door and support, one piece all welded steel design (water seal).

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The cones of the bunker are lined with special hard burnt tiles and are fitted with discharge doors below which are vibratory screens and loading chutes. All sizes of coke (except breeze) are re-screened to remove breeze and smalls, before being loaded to road or rail vehicles or into bags.

Waste Heat Recovery

The bench is equipped with a Spencer Bonecourt Waste Heat Boiler generating steam at a pressure of 150 lbs. per sq. in., the boiler being complete with electrically driven draught fan, feed pump and automatic boiler feed controls. This Boiler deals with the full output of waste gas from the bench ; a brick chimney deals with the waste gas during the boiler overhaul but provision has been made for the later addition of two more boilers.

General

The whole plant has been designed to ensure economical working as regards fuel and power and labour requirements and is very fully instrumented for ease of control.

Much thought has been given to the ease of operation and comfort of the stokers ; adequate natural and artificial lighting is ensured with roomy platforms and staircases and a goods/passenger lift gives access to all levels. Mess, locker and bathing and lavatory accommodation have all been provided in the building.

BUILDINGS

When the site was taken over it held several buildings that had been erected during the War while the site was part of the Ordnance Factory. These are mostly in fair condition and a serious endeavour was made to use some or all of them for works' purposes. They had been erected for a special purpose and it was found that, except as stores and one building to be made into a repair shop, they were unsuitable for gas works' purposes.

Four of these buildings have had to be removed.

Four new buildings have been erected ; the Retort House which has already been described, the Carburetted Water Gas House, Compressor and Power House, and the block containing the laboratory and offices, which are all described in later sections.

ROADWAYS AND YARDS

The site has a clay subsoil and in wet weather is impassable to vehicles.

The whole of roadways and yards where vehicular traffic is expected have been covered with an 8″ layer of reinforced concrete, carefully laid and drained.

CARBURETTED WATER GAS HOUSE

This is a sheeted building of brick and steel frame construction and is so designed that protection is given to overhead bunkers for water gas plant and boiler fuel within the building.

The building houses two solid fuel boilers and is intended to accommodate Two-750,000 cu. ft. per day capacity carburetted water gas sets that are to be transferred to Maelor from the existing Rivulet Road Works in Wrexham.

A separate blower room for the water gas plant is provided in the building.

The building is designed to hold a third boiler and Two-1,750,000 cu. ft. per day capacity carburetted water gas sets (in place of the present 750,000 cu. ft. sets), and for extension if required.

Solid Fuel Boilers

The boiler installation in the carburetted water gas house consists of 2 Economic Boilers, 16′ long × 10′ 6″ dia., fitted with Oldbury Chain Grate Stokers for firing Coke Breeze. Automatic control of feed water level is provided, together with comprehensive panel of recording instruments. The boilers are fitted with forced draught and induced draught fans, grit arresters and superheaters. Each boiler is rated at 6,000 lbs. of steam per hour when firing Coke Breeze. Steam is generated at 150 lbs. per sq. in. and superheated, as in the case of the Retort House waste heat boiler.

COMPRESSOR AND POWER HOUSE

This new brick building of modern design houses gas exhausting and compressing plant and a bulk supply gas meter in one section, and in an entirely separate section electricity generating plant, switchboard and high tension equipment for the electro-detarrer.

Exhausters and Compressors

Two steam driven Rootes type exhausters, each of 200,000 cu. ft. per hour capacity, are installed for handling coal gas or carburetted water gas, or a mixture of these gases.

Overhead gas connections are so arranged that the present units can be replaced by larger machines at some future date if required.

Compressors

The compressor installation consists of two steam-driven Rootes type compressors, capable of handling 120,000 cu. ft. of gas per hour against 7 lbs./ p.s.i. pressure, for supplying gas to the Wrexham district and into the grid main supplying gas to Rhos, Cefn Mawr and Llangollen.

One steam-driven vertical reciprocating compressor, capable of handling 70,000 cu. ft. of gas per hour against 15 lbs. p.s.i. pressure, is also provided for supplying gas north to the Deeside Undertakings.

A Connersville meter with a rating of 150,000 cu. ft. per hour, is installed for metering under pressure the gas supplied into the grid main running north from Wrexham.

There is room in this section of the compressor and power house for the installation of two more exhausters and an additional compressor, at some future date.

Electricity Generating Plant

Two-250 kilowatt alternator sets, driven by 365 B.H.P. compound condensing steam engine are provided.

A small diesel engine-driven alternator set is provided for emergency use.

A 10-ton overhead travelling crane is installed.

LABORATORY AND OFFICE BLOCK

This is a flat-roofed brick building, adjacent to the purification plant, which will contain Laboratories, Fairweather Calorimeter Room and offices for Works' Management and Technical Staff.

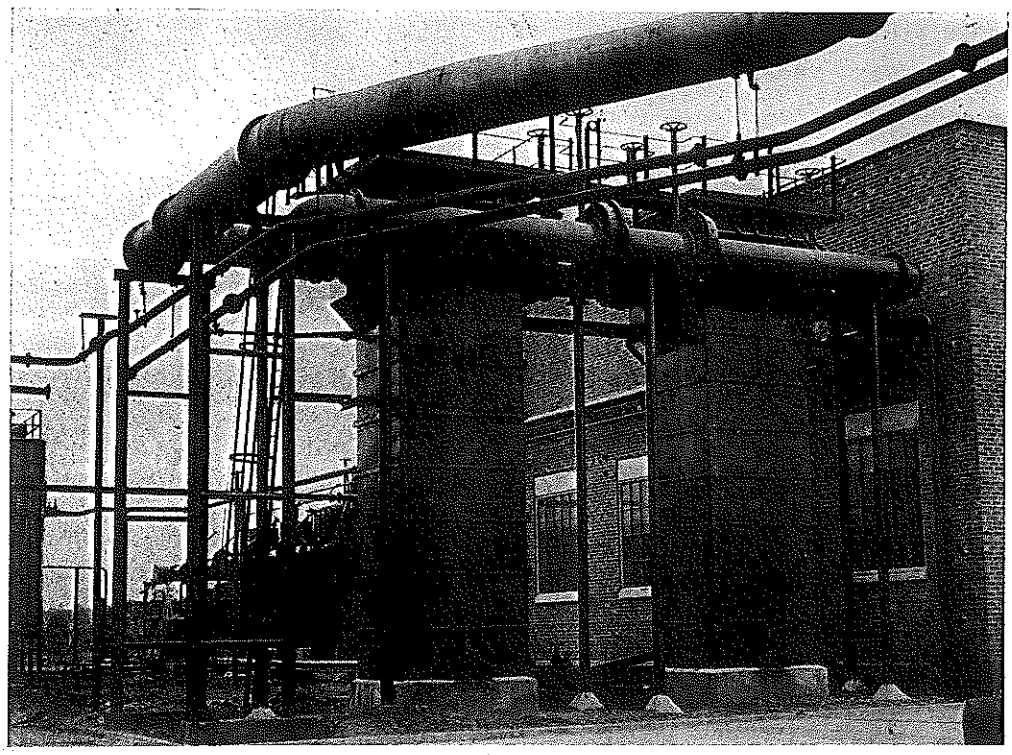


PLATE 6 — CONDENSERS

ANCILLARY PLANT

CONDENSERS

Two vertical water-cooled condensers, of 5,000,000 cu. ft. per day capacity, are provided. (See Plate 6).

Each condenser consists of a mild steel vertical chamber measuring 6′ 7½″ x 5′ 6¾″ x 25′ 6″ high with vertical water tubes and 24″ dia. gas connections.

Automatic control of the outlet gas temperature is provided by means of thermostatically-operated cooling water supply valve.

Detarrer

The detarrer is installed in the gas stream at outlet of exhausters and is designed to handle 5,000,000 cu. ft. of gas per day with 99% efficiency of removal of tar fog. (See Plate 7).

The detarrer consists of a mild steel circular vessel, 6′ dia. x 26′ high and is fitted with 24″ gas connections.

The electrical equipment is fitted with safety interlocking gear and consists of transformer, rectifier and control panel situated in the power house.

Ammonia Washer

The ammonia washer consists of a static type washer in two sections, of all steel construction, with 24″ valves and connections, designed for a capacity of 5,000,000 cu. ft. per day. Each section measures 10′ 8″ x 5′ 4″ x 13′ 1″ high and contains 4 washing bays packed with board filling.

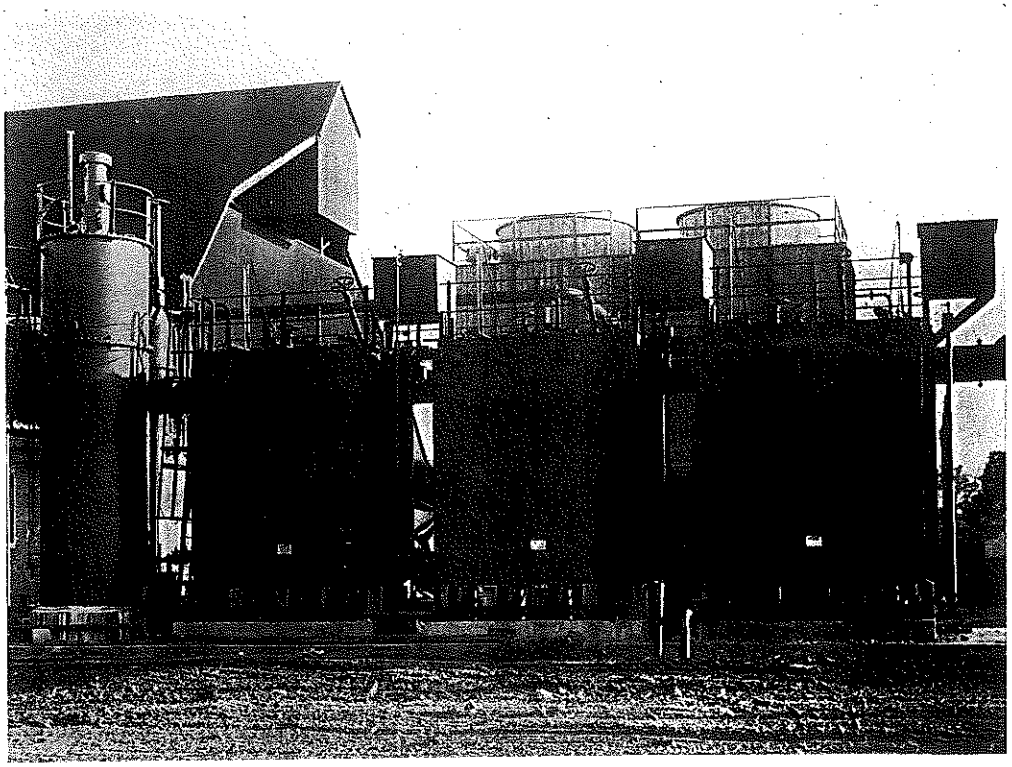


Plate 7—Detarrer and Static Washers

Individual liquor circulating pumps are provided for each bay, there being a separate electric motor and counter-shaft for each section.

Naphthalene Washer

This consists of a single mild steel rectangular vessel, board filled, with 4 bays, overall dimensions being 10′ 8″ x 5′ 4″ x 13′ 1″ high, designed for a capacity of 5,000,000 cu. ft. per day. Valves and connections of 24″ dia. are provided with electric motor and circulating pumps as for the Ammonia washers.

This washer stands in line with and is of similar design to the ammonia washers.

Purifiers

Five reinforced concrete ground level purifiers are installed with suitably braced steel lids, each box measuring 35′ x 35′ x 6′ deep. There are two lids to each box and the purifying material is carried on two layers of grids.

The five boxes are arranged for series rotation through 20″ dia. valves and connections, with split flow to each box. A gas heater is provided on the main inlet to the purifiers.

A travelling gantry is provided for lifting the lids when the purifiers are to be emptied and filled.

Oxide handling will be by means of a 24 R.B. Diesel-driven crane with special bucket.

Station Meter

A Connersville Station Meter with a rated capacity of 200,000 cu. ft. per hour is provided on inlet holder, with valves and connections of 20″ dia.

Town's Gasholder

The main gasholder has three spirally guided lifts in a steel tank and when fully inflated has a capacity of 500,000 cu. ft. It is equipped with 30″ dia. valves and connections and is of rivetted construction. (See Plate 8).

Anti-flood pipes are provided on the inlet and outlet mains, as well as a safety by-pass governor between inlet and outlet.



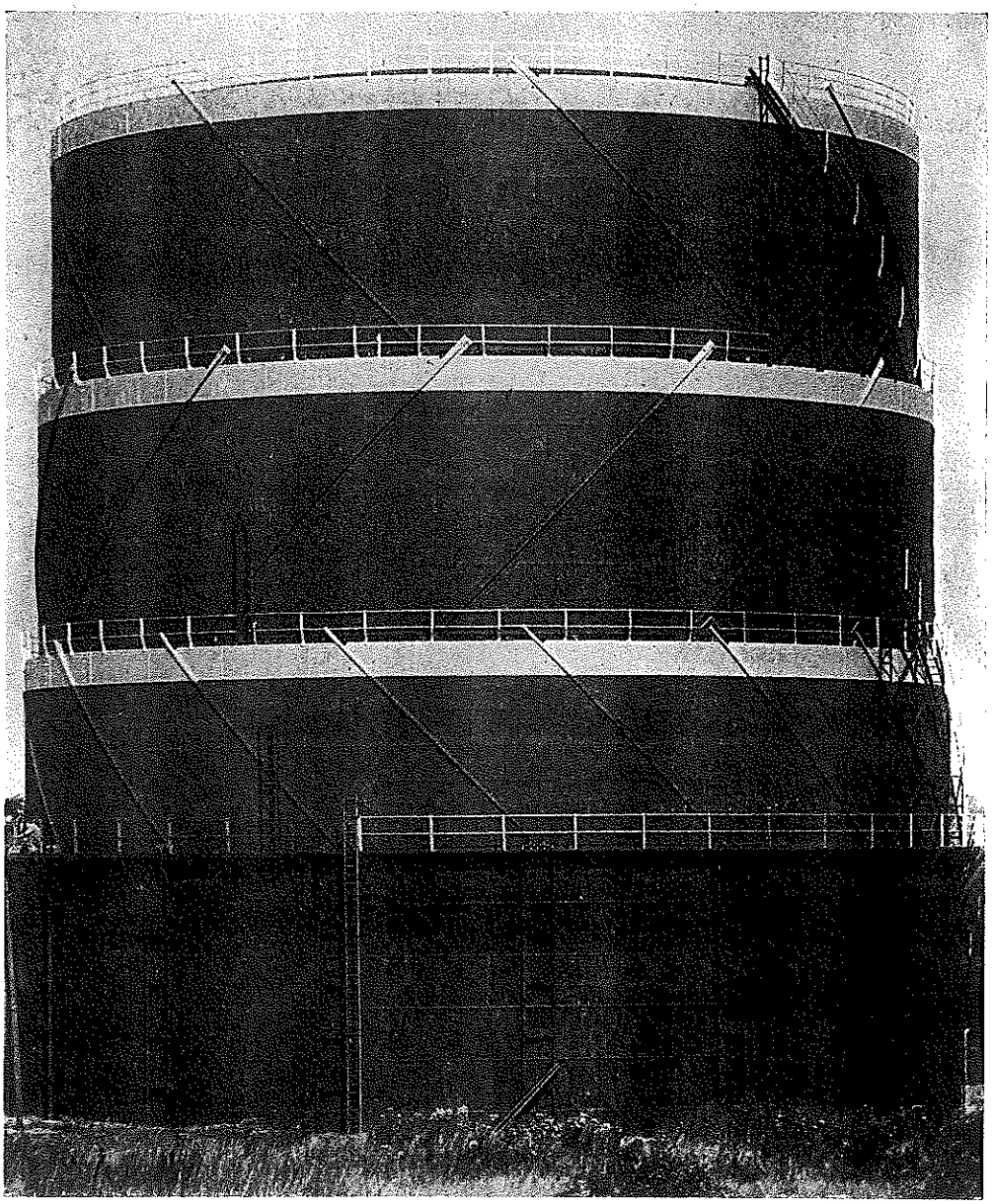


PLATE 8 — 500,000 CU. FT. GASHOLDER

The practice of using hot enamel for protecting parts of the holder exceptionally liable to corrosion, as adopted at Pontypool has been repeated in the case of this holder.

The principal dimensions of the holder are :—

Inner Lift	88′ 2″ dia.	x 27′ 9″	deep.
Middle Lift	90′ 10″ ,,	x 27′ 9″	,,
Outer Lift	93′ 6″ ,,	x 27′ 9″	,,
Steel Tank	96′ 0″ ,,	x 28′ 6″	,,

The pressure thrown by the holder is 13.4″ when fully inflated.

Carburetted Water Gas Relief Holder

A two-lift spirally guided holder in steel tank, of all welded construction, with a capacity of 250,000 cu. ft. is provided for storage of carburetted water gas prior to its being mixed with the coal gas stream.

The following are the principal dimensions :—

Inner Lift	77′ 0″ dia.	x 27′ 3″	deep.
Outer Lift	79′ 8″ ,,	x 27′ 3″	,,
Steel Tank	81′ 11″ ,,	x 27′ 9″	,,

Gas Dehydration Plant

A calcium chloride gas-drying plant is provided on outlet holder, having a capacity of 5,000,000 cu. ft. per day. Valves and connections are 24″ dia. The plant consists of a cast iron static washer of 4 chambers, brush-filled, dimensions 4′ 6″ x 10′ x 15′ high. The plant is provided with rack cooler, pumps, storage tanks and concentrator for calcium chloride.

Water Cooling Tower

An induced draught water cooling tower, capable of dealing with 45,000 gallons of water per hour, is installed to allow for re-circulation of condenser cooling water. The tower is of rectangular timber construction, with board filling, and stands over a reinforced concrete water basin which forms its foundation.

Two electrically-driven centrifugal water circulating pumps with 9″ water connections are provided.

Liquor Concentration Plant

A liquor concentration plant for the automatic production of concentrated liquor of 20% ammonia content, and capable of dealing with 20,000 gallons per hour of crude liquor, is provided.

A cylindrical storage tank of 11,000 gallons capacity is provided for storing the concentrated liquor.

Tar and Liquor Storage

Underground storage for the tar, crude liquor and the effluent from the concentrated liquor plant, is provided by an underground reinforced concrete tank, having a total capacity of 280,000 gallons.

A mass concrete foundation forms the bottom of the tank and the tank is covered by a reinforced concrete roof which carries the detarrer and static washers for removal of ammonia and naphthalene.

Tar and liquor pumps and necessary connections are also carried on the tank top.

Incoming tar and liquor passes through an underground separating tank, capacity 6,000 galls., adjacent to the main storage tank.

Weighbridge

A 30-ton platform road vehicle weighbridge is provided at the entrance to the works.

STEAM AND POWER

Works' steam requirements will be met by recovery of heat from the flue gases leaving the retort bench by means of waste heat boiler in the Retort House.

This boiler has a rated capacity of 7,500 lbs. of steam per hour at 150 lbs. p.s.i., and superheated to 500°F.

An alternative and supplementary source of steam supply will be provided by two Economic Boilers in the water gas plant house which are equipped with chain grate mechanical stokers for Breeze firing.

These boilers are each rated at 6,000 lbs. of steam per hour when firing Breeze, also at 150 lbs. p.s.i. and 500°F. superheat.

Steam used for driving exhausters, compressors and boiler feed pumps is exhausted at 30 lbs. p.s.i. to provide a supply of low pressure steam for process work.

Electricity is generated by alternators driven by compound steam engines which are condensing.

All other machinery on the works is electrically driven.



WALES GAS BOARD
WREXHAM UNDERTAKING
MAELOR WORKS — SITE LAYOUT
N
STORES
WORKS ENTRANCE
WEIGHBRIDGE & OFFICE
NOTE:-
FORMER R.O.F. BUILDINGS SHOWN DOTTED.
SCALE IN FEET
0 20 40 60 80 100 120 140
AREA FOR COKE & COAL STOCKING
TOILETS
½ MILLION CU FT HOLDER
BOUNDARY FENCE
LABORATORY & OFFICES
WORK SHOP
CONDENSERS
RETORT HOUSE
WASTE HEAT B.H.
20 TON COAL HOPPERS
CONVEYOR
COKE GRADING PLANT
PLATFORM
LOADING BAY
SKIP HOIST PIT
BOILER HOUSE
CHG. HOUSE
STORES
S.R.C. PURIFIER BOXES
CONCRETED AREA FOR OXIDE RE-VIVIFICATION
DEHYDRATION PLANT
CONC. LIQUOR PLANT
BENZOL PLANT
DETARRER
STATIC SCRUBBERS
ELEC. GEN. HOUSE
ENGINE HOUSE
UNDERGROUND TANKS
COOLING TOWER
½ MILLION CU FT RELIEF HOLDER
LOADING RAMP
RAILWAY LINES

LIST OF MAIN CONTRACTORS

Intermittent Vertical Chamber Oven Plant	W. J. Jenkins & Co., Ltd.
Coke Grading Plant	W. J. Jenkins & Co., Ltd.
Condensers	Whessoe, Ltd.
Detarrer	Whessoe, Ltd.
Ammonia Washer	Whessoe, Ltd.
Naphthalene Washer	Whessoe, Ltd.
Purifiers	Peter Lind & Co., Ltd.
Station Meter	W. C. Holmes & Co., Ltd.
Gas Dehydration Plant	W. C. Holmes & Co., Ltd.
Concentrated Liquor Plant	W. C. Holmes & Co., Ltd.
Gas Holders	Drummond & Co. Whessoe, Ltd.
Economic Boilers	Foster, Yate & Thom, Ltd. Edwin Danks & Co., Ltd. (Chain Grate Stokers). Unit Superheater & Pipe Co., Ltd. (Superheaters). Clyde Blowers, Ltd. (Soot Blowing Equipment). Davidson & Co., Ltd. (Induced Draught Fans and Grit Arresters). G. & J. Weir, Ltd. (Feed Pumps).
Carburetted Water Gas House	T. C. Jones, Ltd. (Steelwork). Wm. Hall & Son, Ltd. (Brickwork). Humphreys & Glasgow, Ltd. (Skip Hoist and Coke Chutes). T. E. Warrington, Ltd. (Chimney).
Compressor and Power House	T. C. Jones, Ltd. (Steelwork). Wm. Hall & Son, Ltd. (Brickwork).
Exhausters and Compressors	Geo. Waller & Son. Bryan Donkin Co., Ltd.
Steam Engines	Belliss & Morcom, Ltd.
Alternator Sets	Belliss & Morcom, Ltd.
Electrical switchgear and cables	Thorntons, Wrexham.
Steam Pipe Lines	Unit Superheater & Pipe Co., Ltd. Versil Ltd. (Insulation).
Gas Mains	Stewarts & Lloyds, Ltd.
Gas Valves	Westwood & Wrights, Ltd.
Site Preparation, Roads, Fencing and Drainage	Whitley Bros.
Foundations	W. J. Jenkins & Co., Ltd. (F.C. Construction Co.) Peter Lind & Co., Ltd. A. Monk & Co., Ltd.

Bricks	London Brick Company, Ltd.
Cement	Tunnel Portland Cement Co.
Roof Sheeting	Robertson Thain, Ltd.
Consultants	Soil Mechanics, Ltd.
	Scott & Wilson.
	Vulcan Boiler & General Insurance Co., Ltd.
	British Engine Boiler & Electrical Insurance, Co., Ltd.
Architects	W. J. Jenkins, Ltd.
	E. Colwyn Foulkes, Colwyn Bay.

A large amount of work has been carried out by the Board's own staff. This includes pipe fitting and plumbing work on gas, water and liquor services and other general pipework, together with painting and final preparation of the site and plant for full operation.