

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Concentration at GJR04 Receptor [mg/l] - 100 years

05% of values less than 9.6	10% of values less than 9.6	25% of values less than 9.6
50% of values less than 9.6	75% of values less than 9.6	90% of values less than 9.6
Minimum 0.297985	Maximum 9.6	
Mean 9.46339	SD 1.04955	Variance 1.10155

Project: Former Contract Chemicals

Project Number: GJ224

Cyanide (Total)

Unretarded Travel Time to Abstraction B [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Abstraction B [years]

05% of values less than 2.52625E+007	10% of values less than 2.62513E+007	25% of values less than 2.95365E+007
50% of values less than 3.80775E+007	75% of values less than 5.29115E+007	90% of values less than 7.10455E+007
Minimum 2.35937E+0077.76572E+007	Maximum 9.29538E+007	
Mean 4.33277E+007	SD 1.68683E+007	Variance 2.84539E+014

Project: Former Contract Chemicals

Project Number: GJ224

1,2-dichlorobenzene

Unretarded Travel Time to Abstraction B [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Abstraction B [years]

05% of values less than 8.05693E+006	10% of values less than 1.00899E+007	25% of values less than 1.35317E+007
50% of values less than 1.77191E+007	75% of values less than 2.52134E+007	90% of values less than 3.53933E+007
Minimum 5.40708E+0064.37944E+007	Maximum 6.65449E+007	
Mean 2.06371E+007	SD 1.05861E+007	Variance 1.12065E+014

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Chlorobenzene

Unretarded Travel Time to Abstraction B [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Abstraction B [years]

05% of values less than 3.55967E+006	10% of values less than 4.29707E+006	25% of values less than 5.54545E+006
50% of values less than 7.06431E+006	75% of values less than 9.7826E+006	90% of values less than 1.3475E+007
Minimum 2.59852E+0061.65222E+007	Maximum 2.47742E+007	
Mean 8.12271E+006	SD 3.83974E+006	Variance 1.47436E+013

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Project Number: GJ224

Cyanide (Total)

Concentration at Abstraction B [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

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1,2-dichlorobenzene

Concentration at Abstraction B [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

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Chlorobenzene

Concentration at Abstraction B [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Cyanide (Total)

Unretarded Travel Time to Receptor G [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Receptor G [years]

05% of values less than 2.52625E+007	10% of values less than 2.62513E+007	25% of values less than 2.95365E+007
50% of values less than 3.80775E+007	75% of values less than 5.29115E+007	90% of values less than 7.10455E+007
Minimum 2.35937E+0077.76572E+007	Maximum 9.29538E+007	
Mean 4.33277E+007	SD 1.68683E+007	Variance 2.84539E+014

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Project Number: GJ224

1,2-dichlorobenzene

Unretarded Travel Time to Receptor G [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Receptor G [years]

05% of values less than 8.05693E+006	10% of values less than 1.00899E+007	25% of values less than 1.35317E+007
50% of values less than 1.77191E+007	75% of values less than 2.52134E+007	90% of values less than 3.53933E+007
Minimum 5.40708E+0064.37944E+007	Maximum 6.65449E+007	
Mean 2.06371E+007	SD 1.05861E+007	Variance 1.12065E+014

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Chlorobenzene

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05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Receptor G [years]

05% of values less than 3.55967E+006	10% of values less than 4.29707E+006	25% of values less than 5.54545E+006
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Mean 8.12271E+006	SD 3.83974E+006	Variance 1.47436E+013

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Cyanide (Total)

Concentration at Receptor G [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

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1,2-dichlorobenzene

Concentration at Receptor G [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

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Chlorobenzene

Concentration at Receptor G [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Cyanide (Total)

Unretarded Travel Time to Receptor H [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Receptor H [years]

05% of values less than 2.52625E+007	10% of values less than 2.62513E+007	25% of values less than 2.95365E+007
50% of values less than 3.80775E+007	75% of values less than 5.29115E+007	90% of values less than 7.10455E+007
Minimum 2.35937E+0077.76572E+007	Maximum 9.29538E+007	
Mean 4.33277E+007	SD 1.68683E+007	Variance 2.84539E+014

1,2-dichlorobenzene

Unretarded Travel Time to Receptor H [years]

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50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

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50% of values less than 1.77191E+007	75% of values less than 2.52134E+007	90% of values less than 3.53933E+007
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Mean 2.06371E+007	SD 1.05861E+007	Variance 1.12065E+014

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Chlorobenzene

Unretarded Travel Time to Receptor H [years]

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50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
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Mean 1E+006	SD 0	Variance 0

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Cyanide (Total)

Concentration at Receptor H [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

1,2-dichlorobenzene

Concentration at Receptor H [mg/l] - 100 years

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Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

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Chlorobenzene

Concentration at Receptor H [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Cyanide (Total)

Unretarded Travel Time to Receptor I [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Receptor I [years]

05% of values less than 2.52625E+007	10% of values less than 2.62513E+007	25% of values less than 2.95365E+007
50% of values less than 3.80775E+007	75% of values less than 5.29115E+007	90% of values less than 7.10455E+007
Minimum 2.35937E+0077.76572E+007	Maximum 9.29538E+007	
Mean 4.33277E+007	SD 1.68683E+007	Variance 2.84539E+014

1,2-dichlorobenzene

Unretarded Travel Time to Receptor I [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Receptor I [years]

05% of values less than 8.05693E+006	10% of values less than 1.00899E+007	25% of values less than 1.35317E+007
50% of values less than 1.77191E+007	75% of values less than 2.52134E+007	90% of values less than 3.53933E+007
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Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Receptor I [years]

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Mean 8.12271E+006	SD 3.83974E+006	Variance 1.47436E+013

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Cyanide (Total)

Concentration at Receptor I [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

1,2-dichlorobenzene

Concentration at Receptor I [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Concentration at Receptor I [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Aquifer Flow [m³/yr]

GJR03		
05% of values less than 91.4218	10% of values less than 114.886	25% of values less than 170.071
50% of values less than 279.856	75% of values less than 431.784	90% of values less than 548.509
Minimum 45.3489s than 623.986	Maximum 766.907	
Mean 308.264	SD 165.986	Variance 27551.2

GJR04		
05% of values less than 91.4218	10% of values less than 114.886	25% of values less than 170.071
50% of values less than 279.856	75% of values less than 431.784	90% of values less than 548.509
Minimum 45.3489s than 623.986	Maximum 766.907	
Mean 308.264	SD 165.986	Variance 27551.2

G4 – Groundwater Sources with GW Flow Towards the South-West

Project: Former Contract Chemicals

Project Number: GJ224

Project Details

Title: Former Contract Chemicals

Project Number: GJ224

Prepared By: C Hepworth

Date: 2025-04-09 14:02:39

Client Name: Knowsley Redevelopments Ltd

Comments:

Consim version 2.05

Simulation Level

Level 3a

Simulation Parameters

Iterations 1001

Timeslices:10, 100, 1000

Water Quality Standard

Lowest Value Selected from UK and EU Drinking Water Standards

Project: Former Contract Chemicals

Project Number: GJ224

Source

GJR03

Infiltration

Infiltration [mm/year] SINGLE(330)

Source Inventory:

Cyanide (Total)

Aquifer Source Concentration [mg/l] SINGLE(0.17)

Inorganic

1,2-dichlorobenzene

Aquifer Source Concentration [mg/l] SINGLE(62.4)

Organic

Project: Former Contract Chemicals

Project Number: GJ224

Source

GJR04

Infiltration

Infiltration [mm/year] SINGLE(330)

Source Inventory:

Chlorobenzene

Aquifer Source Concentration [mg/l] SINGLE(9.6)

Organic

Project: Former Contract Chemicals

Project Number: GJ224

Aquifer Pathway

Thickness [m] SINGLE(100)

Dry Bulk Density [g/cm³] TRIANGULAR(2.02,2.15,2.28)

Fraction of Organic Carbon [%] TRIANGULAR(0.1,0.3,0.6)

Calculated Mixing Zone Thickness

Hydraulic Conductivity [m/s] TRIANGULAR(1e-007,1e-005,0.0001)

Effective Porosity [fraction] UNIFORM(0.12,0.46)

Hydraulic Gradient SINGLE(0.053)

Groundwater Flow Direction (degrees), 225.00

Longitudinal Dispersivity [m] UNIFORM(3,100)

Lateral Dispersivity [m] UNIFORM(0.3,10)

Contaminant Inventory

Cyanide (Total)

Partition Coefficient [ml/g] SINGLE(5)

Simulate Degradation in Dissolved and sorbed phases

Half-life [years] SINGLE(1)

1,2-dichlorobenzene

koc [ml/g] SINGLE(692)

Calculate kd

Simulate Degradation in Dissolved and sorbed phases

Half-life [years] SINGLE(1.15)

Chlorobenzene

koc [ml/g] SINGLE(251)

Calculate kd

Simulate Degradation in Dissolved and sorbed phases

Half-life [years] SINGLE(1.17)

Project: Former Contract Chemicals

Project Number: GJ224

Receptor

Receptor E	X 342975.000000	Y 396810.000000
Receptor F	X 342981.000000	Y 396880.000000
Abstraction A	X 343994.000000	Y 397091.000000
Hotspot Source 2 Receptor	X 342901.435779	Y 396745.980973
GJR03 Receptor	X 342956.464466	Y 396726.464466
GJR04 Receptor	X 342866.464466	Y 396736.464466
Abstraction B	X 340973.000000	Y 396607.000000
Receptor G	X 342878.000000	Y 396647.000000
Receptor H	X 342840.000000	Y 396710.000000
Receptor I	X 342805.000000	Y 396674.000000

Input Correlations

Dispersivity	1
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Project: Former Contract Chemicals

Project Number: GJ224

Source Inventory:

Cyanide (Total)

Aquifer Source Concentration [mg/l] SINGLE(0.17)

1,2-dichlorobenzene

Aquifer Source Concentration [mg/l] SINGLE(62.4)

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Unretarded Travel Time to Receptor E [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Receptor E years

05% of values less than 2.53343E+007	10% of values less than 2.63721E+007	25% of values less than 2.97119E+007
50% of values less than 3.71758E+007	75% of values less than 5.15577E+007	90% of values less than 7.00288E+007
Minimum 2.32781E+0078.05656E+007	Maximum 9.34082E+007	
Mean 4.28378E+007	SD 1.68445E+007	Variance 2.83737E+014

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - 1,2-dichlorobenzene

Unretarded Travel Time to Receptor E [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Receptor E years

05% of values less than 8.97596E+006	10% of values less than 1.03212E+007	25% of values less than 1.31958E+007
50% of values less than 1.78434E+007	75% of values less than 2.49628E+007	90% of values less than 3.49595E+007
Minimum 5.52399E+0064.00501E+007	Maximum 6.51447E+007	
Mean 2.03097E+007	SD 9.98614E+006	Variance 9.97229E+013

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Concentration at Receptor E [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - 1,2-dichlorobenzene

Concentration at Receptor E [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Unretarded Travel Time to Receptor F [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Receptor F years

05% of values less than 2.53343E+007	10% of values less than 2.63721E+007	25% of values less than 2.97119E+007
50% of values less than 3.71758E+007	75% of values less than 5.15577E+007	90% of values less than 7.00288E+007
Minimum 2.32781E+0078.05656E+007	Maximum 9.34082E+007	
Mean 4.28378E+007	SD 1.68445E+007	Variance 2.83737E+014

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - 1,2-dichlorobenzene

Unretarded Travel Time to Receptor F [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Receptor F years

05% of values less than 8.97596E+006	10% of values less than 1.03212E+007	25% of values less than 1.31958E+007
50% of values less than 1.78434E+007	75% of values less than 2.49628E+007	90% of values less than 3.49595E+007
Minimum 5.52399E+0064.00501E+007	Maximum 6.51447E+007	
Mean 2.03097E+007	SD 9.98614E+006	Variance 9.97229E+013

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Concentration at Receptor F [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

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GJR03 - 1,2-dichlorobenzene

Concentration at Receptor F [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Unretarded Travel Time to Abstraction A [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Abstraction A years

05% of values less than 2.53343E+007	10% of values less than 2.63721E+007	25% of values less than 2.97119E+007
50% of values less than 3.71758E+007	75% of values less than 5.15577E+007	90% of values less than 7.00288E+007
Minimum 2.32781E+0078.05656E+007	Maximum 9.34082E+007	
Mean 4.28378E+007	SD 1.68445E+007	Variance 2.83737E+014

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - 1,2-dichlorobenzene

Unretarded Travel Time to Abstraction A [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Abstraction A years

05% of values less than 8.97596E+006	10% of values less than 1.03212E+007	25% of values less than 1.31958E+007
50% of values less than 1.78434E+007	75% of values less than 2.49628E+007	90% of values less than 3.49595E+007
Minimum 5.52399E+0064.00501E+007	Maximum 6.51447E+007	
Mean 2.03097E+007	SD 9.98614E+006	Variance 9.97229E+013

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Concentration at Abstraction A [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - 1,2-dichlorobenzene

Concentration at Abstraction A [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Unretarded Travel Time to Hotspot Source 2 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.0433505	90% of values less than 0.175562
Minimum 0es less than 0.339635	Maximum 2.03052	
Mean 0.0611131	SD 0.162317	Variance 0.0263468

Retarded Travel Time to Hotspot Source 2 Receptor years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 1.78936	90% of values less than 6.56654
Minimum 0es less than 12.117	Maximum 78.1222	
Mean 2.29561	SD 6.04607	Variance 36.5549

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - 1,2-dichlorobenzene

Unretarded Travel Time to Hotspot Source 2 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.0433505	90% of values less than 0.175562
Minimum 0es less than 0.339635	Maximum 2.03052	
Mean 0.0611131	SD 0.162317	Variance 0.0263468

Retarded Travel Time to Hotspot Source 2 Receptor years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.780451	90% of values less than 3.14628
Minimum 0es less than 5.94778	Maximum 52.36	
Mean 1.13499	SD 3.27216	Variance 10.707

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Concentration at Hotspot Source 2 Receptor [mg/l] - 100 years

05% of values less than 6.38123E-013	10% of values less than 1.32381E-009	25% of values less than 9.73853E-006
50% of values less than 0.17	75% of values less than 0.17	90% of values less than 0.17
Minimum 0es less than 0.17	Maximum 0.17	
Mean 0.119901	SD 0.0775414	Variance 0.00601267

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - 1,2-dichlorobenzene

Concentration at Hotspot Source 2 Receptor [mg/l] - 100 years

05% of values less than 4.74171E-009	10% of values less than 5.1484E-006	25% of values less than 62.4
50% of values less than 62.4	75% of values less than 62.4	90% of values less than 62.4
Minimum 0es less than 62.4	Maximum 62.4	
Mean 48.4368	SD 26.0189	Variance 676.985

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Unretarded Travel Time to GJR03 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.0017147
Minimum 0es less than 0.0236437	Maximum 0.221459	
Mean 0.00409621	SD 0.0189874	Variance 0.000360523

Retarded Travel Time to GJR03 Receptor years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.0715804
Minimum 0es less than 0.966745	Maximum 8.69288	
Mean 0.159404	SD 0.746221	Variance 0.556845

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - 1,2-dichlorobenzene

Unretarded Travel Time to GJR03 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.0017147
Minimum 0es less than 0.0236437	Maximum 0.221459	
Mean 0.00409621	SD 0.0189874	Variance 0.000360523

Retarded Travel Time to GJR03 Receptor years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.0263973
Minimum 0es less than 0.41672	Maximum 4.66735	
Mean 0.0765509	SD 0.375842	Variance 0.141257

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Concentration at GJR03 Receptor [mg/l] - 100 years

05% of values less than 0.17	10% of values less than 0.17	25% of values less than 0.17
50% of values less than 0.17	75% of values less than 0.17	90% of values less than 0.17
Minimum 0.001826163	Maximum 0.17	
Mean 0.162879	SD 0.031349	Variance 0.00098276

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - 1,2-dichlorobenzene

Concentration at GJR03 Receptor [mg/l] - 100 years

05% of values less than 62.4	10% of values less than 62.4	25% of values less than 62.4
50% of values less than 62.4	75% of values less than 62.4	90% of values less than 62.4
Minimum 3.07231s than 62.4	Maximum 62.4	
Mean 61.2836	SD 7.49927	Variance 56.2391

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Unretarded Travel Time to GJR04 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0.0766586	75% of values less than 0.238884	90% of values less than 0.524633
Minimum 0es less than 0.890949	Maximum 5.46636	
Mean 0.211566	SD 0.407975	Variance 0.166443

Retarded Travel Time to GJR04 Receptor years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 3.44317	75% of values less than 8.91837	90% of values less than 20.2639
Minimum 0es less than 33.7925	Maximum 210.313	
Mean 7.94049	SD 14.8007	Variance 219.059

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - 1,2-dichlorobenzene

Unretarded Travel Time to GJR04 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0.0766586	75% of values less than 0.238884	90% of values less than 0.524633
Minimum 0es less than 0.890949	Maximum 5.46636	
Mean 0.211566	SD 0.407975	Variance 0.166443

Retarded Travel Time to GJR04 Receptor years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 1.45419	75% of values less than 4.29578	90% of values less than 9.9854
Minimum 0es less than 15.833	Maximum 140.958	
Mean 3.90015	SD 8.228	Variance 67.6999

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Concentration at GJR04 Receptor [mg/l] - 100 years

05% of values less than 2.66008E-015	10% of values less than 2.21015E-011	25% of values less than 5.05608E-007
50% of values less than 3.74663E-005	75% of values less than 0.17	90% of values less than 0.17
Minimum 0es less than 0.17	Maximum 0.17	
Mean 0.0620061	SD 0.0818529	Variance 0.0066999

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - 1,2-dichlorobenzene

Concentration at GJR04 Receptor [mg/l] - 100 years

05% of values less than 1.56227E-010	10% of values less than 1.78089E-007	25% of values less than 0.00136575
50% of values less than 0.0603578	75% of values less than 62.4	90% of values less than 62.4
Minimum 0es less than 62.4	Maximum 62.4	
Mean 27.6256	SD 31	Variance 961.002

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Unretarded Travel Time to Abstraction B [years]

05% of values less than 2.37266	10% of values less than 2.89245	25% of values less than 4.34268
50% of values less than 7.69165	75% of values less than 14.0023	90% of values less than 28.731
Minimum 1.14597s than 41.1877	Maximum 347.094	
Mean 13.1832	SD 19.9237	Variance 396.955

Retarded Travel Time to Abstraction B years

05% of values less than 119.818	10% of values less than 133.02	25% of values less than 180.038
50% of values less than 297.425	75% of values less than 547.578	90% of values less than 1000.9
Minimum 95.7236s than 1384.08	Maximum 24306.6	
Mean 503.602	SD 944.66	Variance 892383

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - 1,2-dichlorobenzene

Unretarded Travel Time to Abstraction B [years]

05% of values less than 2.37266	10% of values less than 2.89245	25% of values less than 4.34268
50% of values less than 7.69165	75% of values less than 14.0023	90% of values less than 28.731
Minimum 1.14597s than 41.1877	Maximum 347.094	
Mean 13.1832	SD 19.9237	Variance 396.955

Retarded Travel Time to Abstraction B years

05% of values less than 47.1879	10% of values less than 54.1888	25% of values less than 80.7125
50% of values less than 138.58	75% of values less than 258.81	90% of values less than 499.049
Minimum 22.6312s than 708.463	Maximum 10250.2	
Mean 244.443	SD 450.806	Variance 203226

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Concentration at Abstraction B [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 2.45976E-028	
Mean 9.05318E-031	SD 1.15997E-029	Variance 1.34554E-058

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - 1,2-dichlorobenzene

Concentration at Abstraction B [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 4.29433E-029
Minimum 0es less than 3.62594E-024	Maximum 1.56596E-017	
Mean 2.07006E-020	SD 5.0398E-019	Variance 2.53996E-037

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Unretarded Travel Time to Receptor G [years]

05% of values less than 0.0826601	10% of values less than 0.111717	25% of values less than 0.185683
50% of values less than 0.363147	75% of values less than 0.719514	90% of values less than 1.50272
Minimum 0.03163971	Maximum 12.9256	
Mean 0.666173	SD 0.990824	Variance 0.981733

Retarded Travel Time to Receptor G years

05% of values less than 3.74719	10% of values less than 4.67905	25% of values less than 8.01964
50% of values less than 14.2354	75% of values less than 27.8673	90% of values less than 54.7002
Minimum 1.820035	Maximum 905.162	
Mean 25.3545	SD 42.25	Variance 1785.06

GJR03 - 1,2-dichlorobenzene

Unretarded Travel Time to Receptor G [years]

05% of values less than 0.0826601	10% of values less than 0.111717	25% of values less than 0.185683
50% of values less than 0.363147	75% of values less than 0.719514	90% of values less than 1.50272
Minimum 0.03163971	Maximum 12.9256	
Mean 0.666173	SD 0.990824	Variance 0.981733

Retarded Travel Time to Receptor G years

05% of values less than 1.47744	10% of values less than 2.0626	25% of values less than 3.53241
50% of values less than 6.56025	75% of values less than 12.9227	90% of values less than 26.4261
Minimum 0.421337	Maximum 381.711	
Mean 12.3281	SD 21.3652	Variance 456.471

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Concentration at Receptor G [mg/l] - 100 years

05% of values less than 3.74703E-010	10% of values less than 3.63858E-008	25% of values less than 4.68282E-006
50% of values less than 9.65576E-005	75% of values less than 0.000458545	90% of values less than 0.0010063
Minimum 5.58069E-024 0.00134637	Maximum 0.0021598	
Mean 0.000313186	SD 0.000445585	Variance 1.98546E-007

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - 1,2-dichlorobenzene

Concentration at Receptor G [mg/l] - 100 years

05% of values less than 0.000220845	10% of values less than 0.00396356	25% of values less than 0.0774257
50% of values less than 0.404087	75% of values less than 1.10585	90% of values less than 1.88302
Minimum 3.22592E-015 2.35399	Maximum 62.4	
Mean 1.43157	SD 6.76448	Variance 45.7581

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Unretarded Travel Time to Receptor H [years]

05% of values less than 0.0381949	10% of values less than 0.0615641	25% of values less than 0.124508
50% of values less than 0.254299	75% of values less than 0.546863	90% of values less than 1.13609
Minimum 0.00625281	Maximum 9.55411	
Mean 0.505286	SD 0.779901	Variance 0.608246

Retarded Travel Time to Receptor H years

05% of values less than 1.72261	10% of values less than 2.491	25% of values less than 5.4452
50% of values less than 10.5382	75% of values less than 21.7532	90% of values less than 40.5611
Minimum 0.251883	Maximum 604.372	
Mean 19.2073	SD 31.8751	Variance 1016.02

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - 1,2-dichlorobenzene

Unretarded Travel Time to Receptor H [years]

05% of values less than 0.0381949	10% of values less than 0.0615641	25% of values less than 0.124508
50% of values less than 0.254299	75% of values less than 0.546863	90% of values less than 1.13609
Minimum 0.00625281	Maximum 9.55411	
Mean 0.505286	SD 0.779901	Variance 0.608246

Retarded Travel Time to Receptor H years

05% of values less than 0.71437	10% of values less than 1.09439	25% of values less than 2.40257
50% of values less than 4.69693	75% of values less than 9.95512	90% of values less than 20.3549
Minimum 0.102676	Maximum 254.866	
Mean 9.34457	SD 16.4954	Variance 272.098

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Concentration at Receptor H [mg/l] - 100 years

05% of values less than 1.30301E-014	10% of values less than 6.31195E-011	25% of values less than 1.50042E-007
50% of values less than 1.29656E-005	75% of values less than 0.00011349	90% of values less than 0.000334563
Minimum 2.55212E-026 0.000489996	Maximum 0.17	
Mean 0.00280016	SD 0.0213209	Variance 0.000454579

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - 1,2-dichlorobenzene

Concentration at Receptor H [mg/l] - 100 years

05% of values less than 3.08197E-009	10% of values less than 1.69573E-006	25% of values less than 0.00155405
50% of values less than 0.0440885	75% of values less than 0.193944	90% of values less than 0.446502
Minimum 2.06432E-020 62.4	Maximum 62.4	
Mean 5.4434	SD 17.4707	Variance 305.225

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Unretarded Travel Time to Receptor I [years]

05% of values less than 0.150303	10% of values less than 0.188011	25% of values less than 0.292479
50% of values less than 0.538081	75% of values less than 1.06224	90% of values less than 2.10877
Minimum 0.05799411	Maximum 20.8288	
Mean 0.962205	SD 1.40773	Variance 1.9817

Retarded Travel Time to Receptor I years

05% of values less than 6.85827	10% of values less than 8.43889	25% of values less than 12.3961
50% of values less than 21.0076	75% of values less than 39.6781	90% of values less than 73.8919
Minimum 4.504395	Maximum 1458.62	
Mean 36.6652	SD 62.5157	Variance 3908.22

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - 1,2-dichlorobenzene

Unretarded Travel Time to Receptor I [years]

05% of values less than 0.150303	10% of values less than 0.188011	25% of values less than 0.292479
50% of values less than 0.538081	75% of values less than 1.06224	90% of values less than 2.10877
Minimum 0.05799411	Maximum 20.8288	
Mean 0.962205	SD 1.40773	Variance 1.9817

Retarded Travel Time to Receptor I years

05% of values less than 2.78844	10% of values less than 3.59385	25% of values less than 5.38419
50% of values less than 9.83711	75% of values less than 18.7845	90% of values less than 37.4171
Minimum 0.946615	Maximum 615.104	
Mean 17.8177	SD 30.9245	Variance 956.327

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - Cyanide (Total)

Concentration at Receptor I [mg/l] - 100 years

05% of values less than 1.39817E-015	10% of values less than 1.88814E-012	25% of values less than 1.37851E-008
50% of values less than 2.43773E-006	75% of values less than 3.06897E-005	90% of values less than 0.000122411
Minimum 0es less than 0.000208218	Maximum 0.000459234	
Mean 3.49051E-005	SD 6.99049E-005	Variance 4.88669E-009

Project: Former Contract Chemicals

Project Number: GJ224

GJR03 - 1,2-dichlorobenzene

Concentration at Receptor I [mg/l] - 100 years

05% of values less than 5.75668E-009	10% of values less than 1.26428E-006	25% of values less than 0.000564692
50% of values less than 0.0221885	75% of values less than 0.108382	90% of values less than 0.277688
Minimum 9.70809E-022 0.411793	Maximum 62.4	
Mean 0.150411	SD 1.9747	Variance 3.89943

Project: Former Contract Chemicals

Project Number: GJ224

Source Inventory:

Chlorobenzene

Aquifer Source Concentration [mg/l] SINGLE(9.6)

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Unretarded Travel Time to Receptor E [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Receptor E years

05% of values less than 3.89301E+006	10% of values less than 4.38096E+006	25% of values less than 5.42361E+006
50% of values less than 7.10937E+006	75% of values less than 9.69171E+006	90% of values less than 1.33177E+007
Minimum 2.64093E+0061.51641E+007	Maximum 2.42664E+007	
Mean 8.00395E+006	SD 3.62214E+006	Variance 1.31199E+013

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Concentration at Receptor E [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Unretarded Travel Time to Receptor F [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Receptor F years

05% of values less than 3.89301E+006	10% of values less than 4.38096E+006	25% of values less than 5.42361E+006
50% of values less than 7.10937E+006	75% of values less than 9.69171E+006	90% of values less than 1.33177E+007
Minimum 2.64093E+0061.51641E+007	Maximum 2.42664E+007	
Mean 8.00395E+006	SD 3.62214E+006	Variance 1.31199E+013

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Concentration at Receptor F [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Unretarded Travel Time to Abstraction A [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Abstraction A years

05% of values less than 3.89301E+006	10% of values less than 4.38096E+006	25% of values less than 5.42361E+006
50% of values less than 7.10937E+006	75% of values less than 9.69171E+006	90% of values less than 1.33177E+007
Minimum 2.64093E+0061.51641E+007	Maximum 2.42664E+007	
Mean 8.00395E+006	SD 3.62214E+006	Variance 1.31199E+013

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Concentration at Abstraction A [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Unretarded Travel Time to Hotspot Source 2 Receptor [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Hotspot Source 2 Receptor years

05% of values less than 3.89301E+006	10% of values less than 4.38096E+006	25% of values less than 5.42361E+006
50% of values less than 7.10937E+006	75% of values less than 9.69171E+006	90% of values less than 1.33177E+007
Minimum 2.64093E+0061.51641E+007	Maximum 2.42664E+007	
Mean 8.00395E+006	SD 3.62214E+006	Variance 1.31199E+013

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Concentration at Hotspot Source 2 Receptor [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Unretarded Travel Time to GJR03 Receptor [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to GJR03 Receptor years

05% of values less than 3.89301E+006	10% of values less than 4.38096E+006	25% of values less than 5.42361E+006
50% of values less than 7.10937E+006	75% of values less than 9.69171E+006	90% of values less than 1.33177E+007
Minimum 2.64093E+0061.51641E+007	Maximum 2.42664E+007	
Mean 8.00395E+006	SD 3.62214E+006	Variance 1.31199E+013

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Concentration at GJR03 Receptor [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Unretarded Travel Time to GJR04 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.00250012
Minimum 0es less than 0.0303812	Maximum 0.247127	
Mean 0.00448137	SD 0.0206333	Variance 0.000425735

Retarded Travel Time to GJR04 Receptor years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.017655
Minimum 0es less than 0.198088	Maximum 1.89593	
Mean 0.0323009	SD 0.150144	Variance 0.0225432

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Concentration at GJR04 Receptor [mg/l] - 100 years

05% of values less than 9.6	10% of values less than 9.6	25% of values less than 9.6
50% of values less than 9.6	75% of values less than 9.6	90% of values less than 9.6
Minimum 1.90495s than 9.6	Maximum 9.6	
Mean 9.55912	SD 0.530078	Variance 0.280982

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Unretarded Travel Time to Abstraction B [years]

05% of values less than 2.28267	10% of values less than 2.77032	25% of values less than 4.1787
50% of values less than 7.41373	75% of values less than 13.4519	90% of values less than 27.4946
Minimum 1.10187s than 39.5984	Maximum 332.307	
Mean 12.671	SD 19.1377	Variance 366.253

Retarded Travel Time to Abstraction B years

05% of values less than 18.3979	10% of values less than 21.2501	25% of values less than 30.8569
50% of values less than 53.1733	75% of values less than 100.356	90% of values less than 189.951
Minimum 9.43192s than 274.734	Maximum 3771.3	
Mean 93.2857	SD 168.037	Variance 28236.4

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Concentration at Abstraction B [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 1.00462E-020
Minimum 0es less than 6.51497E-019	Maximum 1.63913E-015	
Mean 4.48252E-018	SD 6.01047E-017	Variance 3.61258E-033

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Unretarded Travel Time to Receptor G [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0.0672684	75% of values less than 0.229868	90% of values less than 0.505653
Minimum 0es less than 0.860721	Maximum 5.66811	
Mean 0.204888	SD 0.40388	Variance 0.163119

Retarded Travel Time to Receptor G years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0.530472	75% of values less than 1.63325	90% of values less than 3.80871
Minimum 0es less than 6.16592	Maximum 56.6271	
Mean 1.49734	SD 3.19869	Variance 10.2316

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Concentration at Receptor G [mg/l] - 100 years

05% of values less than 5.21555E-010	10% of values less than 2.59697E-007	25% of values less than 0.00156253
50% of values less than 9.6	75% of values less than 9.6	90% of values less than 9.6
Minimum 0es less than 9.6	Maximum 9.6	
Mean 6.10029	SD 4.62202	Variance 21.363

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Unretarded Travel Time to Receptor H [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.114354	90% of values less than 0.303508
Minimum 0es less than 0.555951	Maximum 3.73733	
Mean 0.111929	SD 0.262635	Variance 0.0689771

Retarded Travel Time to Receptor H years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.798079	90% of values less than 2.10695
Minimum 0es less than 4.07696	Maximum 37.3378	
Mean 0.82016	SD 2.09648	Variance 4.39525

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Concentration at Receptor H [mg/l] - 100 years

05% of values less than 0.399468	10% of values less than 0.844977	25% of values less than 9.6
50% of values less than 9.6	75% of values less than 9.6	90% of values less than 9.6
Minimum 0.0006685211	Maximum 9.6	
Mean 7.76957	SD 3.52998	Variance 12.4607

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Unretarded Travel Time to Receptor I [years]

05% of values less than 0.0170938	10% of values less than 0.0360957	25% of values less than 0.0995817
50% of values less than 0.225127	75% of values less than 0.484335	90% of values less than 1.04963
Minimum 0es less than 1.63381	Maximum 9.22073	
Mean 0.450234	SD 0.711518	Variance 0.506259

Retarded Travel Time to Receptor I years

05% of values less than 0.13805	10% of values less than 0.273709	25% of values less than 0.798779
50% of values less than 1.61506	75% of values less than 3.59147	90% of values less than 7.36904
Minimum 0es less than 12.7494	Maximum 92.1196	
Mean 3.29843	SD 5.73626	Variance 32.9047

Project: Former Contract Chemicals

Project Number: GJ224

GJR04 - Chlorobenzene

Concentration at Receptor I [mg/l] - 100 years

05% of values less than 0.0167496	10% of values less than 0.0629153	25% of values less than 0.229211
50% of values less than 0.590391	75% of values less than 9.6	90% of values less than 9.6
Minimum 7.70011E-008 9.6	Maximum 9.6	
Mean 3.38901	SD 4.30135	Variance 18.5016

Project: Former Contract Chemicals

Project Number: GJ224

Cyanide (Total)

Unretarded Travel Time to Receptor E [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Receptor E [years]

05% of values less than 2.53343E+007	10% of values less than 2.63721E+007	25% of values less than 2.97119E+007
50% of values less than 3.71758E+007	75% of values less than 5.15577E+007	90% of values less than 7.00288E+007
Minimum 2.32781E+0078.05656E+007	Maximum 9.34082E+007	
Mean 4.28378E+007	SD 1.68445E+007	Variance 2.83737E+014

Project: Former Contract Chemicals

Project Number: GJ224

1,2-dichlorobenzene

Unretarded Travel Time to Receptor E [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Receptor E [years]

05% of values less than 8.97596E+006	10% of values less than 1.03212E+007	25% of values less than 1.31958E+007
50% of values less than 1.78434E+007	75% of values less than 2.49628E+007	90% of values less than 3.49595E+007
Minimum 5.52399E+0064.00501E+007	Maximum 6.51447E+007	
Mean 2.03097E+007	SD 9.98614E+006	Variance 9.97229E+013

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Unretarded Travel Time to Receptor E [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Receptor E [years]

05% of values less than 3.89301E+006	10% of values less than 4.38096E+006	25% of values less than 5.42361E+006
50% of values less than 7.10937E+006	75% of values less than 9.69171E+006	90% of values less than 1.33177E+007
Minimum 2.64093E+0061.51641E+007	Maximum 2.42664E+007	
Mean 8.00395E+006	SD 3.62214E+006	Variance 1.31199E+013

Project: Former Contract Chemicals

Project Number: GJ224

Cyanide (Total)

Concentration at Receptor E [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

1,2-dichlorobenzene

Concentration at Receptor E [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Concentration at Receptor E [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Cyanide (Total)

Unretarded Travel Time to Receptor F [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Receptor F [years]

05% of values less than 2.53343E+007	10% of values less than 2.63721E+007	25% of values less than 2.97119E+007
50% of values less than 3.71758E+007	75% of values less than 5.15577E+007	90% of values less than 7.00288E+007
Minimum 2.32781E+0078.05656E+007	Maximum 9.34082E+007	
Mean 4.28378E+007	SD 1.68445E+007	Variance 2.83737E+014

Project: Former Contract Chemicals

Project Number: GJ224

1,2-dichlorobenzene

Unretarded Travel Time to Receptor F [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Receptor F [years]

05% of values less than 8.97596E+006	10% of values less than 1.03212E+007	25% of values less than 1.31958E+007
50% of values less than 1.78434E+007	75% of values less than 2.49628E+007	90% of values less than 3.49595E+007
Minimum 5.52399E+0064.00501E+007	Maximum 6.51447E+007	
Mean 2.03097E+007	SD 9.98614E+006	Variance 9.97229E+013

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Unretarded Travel Time to Receptor F [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Receptor F [years]

05% of values less than 3.89301E+006	10% of values less than 4.38096E+006	25% of values less than 5.42361E+006
50% of values less than 7.10937E+006	75% of values less than 9.69171E+006	90% of values less than 1.33177E+007
Minimum 2.64093E+0061.51641E+007	Maximum 2.42664E+007	
Mean 8.00395E+006	SD 3.62214E+006	Variance 1.31199E+013

Project: Former Contract Chemicals

Project Number: GJ224

Cyanide (Total)

Concentration at Receptor F [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

1,2-dichlorobenzene

Concentration at Receptor F [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Concentration at Receptor F [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

Cyanide (Total)

Unretarded Travel Time to Abstraction A [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Abstraction A [years]

05% of values less than 2.53343E+007	10% of values less than 2.63721E+007	25% of values less than 2.97119E+007
50% of values less than 3.71758E+007	75% of values less than 5.15577E+007	90% of values less than 7.00288E+007
Minimum 2.32781E+0078.05656E+007	Maximum 9.34082E+007	
Mean 4.28378E+007	SD 1.68445E+007	Variance 2.83737E+014

Project: Former Contract Chemicals

Project Number: GJ224

1,2-dichlorobenzene

Unretarded Travel Time to Abstraction A [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Abstraction A [years]

05% of values less than 8.97596E+006	10% of values less than 1.03212E+007	25% of values less than 1.31958E+007
50% of values less than 1.78434E+007	75% of values less than 2.49628E+007	90% of values less than 3.49595E+007
Minimum 5.52399E+0064.00501E+007	Maximum 6.51447E+007	
Mean 2.03097E+007	SD 9.98614E+006	Variance 9.97229E+013

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Unretarded Travel Time to Abstraction A [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Abstraction A [years]

05% of values less than 3.89301E+006	10% of values less than 4.38096E+006	25% of values less than 5.42361E+006
50% of values less than 7.10937E+006	75% of values less than 9.69171E+006	90% of values less than 1.33177E+007
Minimum 2.64093E+0061.51641E+007	Maximum 2.42664E+007	
Mean 8.00395E+006	SD 3.62214E+006	Variance 1.31199E+013

Project: Former Contract Chemicals

Project Number: GJ224

Cyanide (Total)

Concentration at Abstraction A [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

1,2-dichlorobenzene

Concentration at Abstraction A [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Concentration at Abstraction A [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

Cyanide (Total)

Unretarded Travel Time to Hotspot Source 2 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.0433505	90% of values less than 0.175562
Minimum 0es less than 0.339635	Maximum 2.03052	
Mean 0.0611131	SD 0.162317	Variance 0.0263468

Retarded Travel Time to Hotspot Source 2 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 1.78936	90% of values less than 6.56654
Minimum 0es less than 12.117	Maximum 78.1222	
Mean 2.29561	SD 6.04607	Variance 36.5549

Project: Former Contract Chemicals

Project Number: GJ224

1,2-dichlorobenzene

Unretarded Travel Time to Hotspot Source 2 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.0433505	90% of values less than 0.175562
Minimum 0es less than 0.339635	Maximum 2.03052	
Mean 0.0611131	SD 0.162317	Variance 0.0263468

Retarded Travel Time to Hotspot Source 2 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.780451	90% of values less than 3.14628
Minimum 0es less than 5.94778	Maximum 52.36	
Mean 1.13499	SD 3.27216	Variance 10.707

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Unretarded Travel Time to Hotspot Source 2 Receptor [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to Hotspot Source 2 Receptor [years]

05% of values less than 3.89301E+006	10% of values less than 4.38096E+006	25% of values less than 5.42361E+006
50% of values less than 7.10937E+006	75% of values less than 9.69171E+006	90% of values less than 1.33177E+007
Minimum 2.64093E+0061.51641E+007	Maximum 2.42664E+007	
Mean 8.00395E+006	SD 3.62214E+006	Variance 1.31199E+013

Project: Former Contract Chemicals

Project Number: GJ224

Cyanide (Total)

Concentration at Hotspot Source 2 Receptor [mg/l] - 100 years

05% of values less than 6.38123E-013	10% of values less than 1.32381E-009	25% of values less than 9.73853E-006
50% of values less than 0.17	75% of values less than 0.17	90% of values less than 0.17
Minimum 0es less than 0.17	Maximum 0.17	
Mean 0.119901	SD 0.0775414	Variance 0.00601267

Project: Former Contract Chemicals

Project Number: GJ224

1,2-dichlorobenzene

Concentration at Hotspot Source 2 Receptor [mg/l] - 100 years

05% of values less than 4.74171E-009	10% of values less than 5.1484E-006	25% of values less than 62.4
50% of values less than 62.4	75% of values less than 62.4	90% of values less than 62.4
Minimum 0es less than 62.4	Maximum 62.4	
Mean 48.4368	SD 26.0189	Variance 676.985

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Concentration at Hotspot Source 2 Receptor [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

Cyanide (Total)

Unretarded Travel Time to GJR03 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.0017147
Minimum 0es less than 0.0236437	Maximum 0.221459	
Mean 0.00409621	SD 0.0189874	Variance 0.000360523

Retarded Travel Time to GJR03 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.0715804
Minimum 0es less than 0.966745	Maximum 8.69288	
Mean 0.159404	SD 0.746221	Variance 0.556845

1,2-dichlorobenzene

Unretarded Travel Time to GJR03 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.0017147
Minimum 0es less than 0.0236437	Maximum 0.221459	
Mean 0.00409621	SD 0.0189874	Variance 0.000360523

Retarded Travel Time to GJR03 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.0263973
Minimum 0es less than 0.41672	Maximum 4.66735	
Mean 0.0765509	SD 0.375842	Variance 0.141257

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Unretarded Travel Time to GJR03 Receptor [years]

05% of values less than 1E+006	10% of values less than 1E+006	25% of values less than 1E+006
50% of values less than 1E+006	75% of values less than 1E+006	90% of values less than 1E+006
Minimum 1E+006s than 1E+006	Maximum 1E+006	
Mean 1E+006	SD 0	Variance 0

Retarded Travel Time to GJR03 Receptor [years]

05% of values less than 3.89301E+006	10% of values less than 4.38096E+006	25% of values less than 5.42361E+006
50% of values less than 7.10937E+006	75% of values less than 9.69171E+006	90% of values less than 1.33177E+007
Minimum 2.64093E+0061.51641E+007	Maximum 2.42664E+007	
Mean 8.00395E+006	SD 3.62214E+006	Variance 1.31199E+013

Cyanide (Total)

Concentration at GJR03 Receptor [mg/l] - 100 years

05% of values less than 0.17	10% of values less than 0.17	25% of values less than 0.17
50% of values less than 0.17	75% of values less than 0.17	90% of values less than 0.17
Minimum 0.001826163	Maximum 0.17	
Mean 0.162879	SD 0.031349	Variance 0.00098276

Project: Former Contract Chemicals

Project Number: GJ224

1,2-dichlorobenzene

Concentration at GJR03 Receptor [mg/l] - 100 years

05% of values less than 62.4	10% of values less than 62.4	25% of values less than 62.4
50% of values less than 62.4	75% of values less than 62.4	90% of values less than 62.4
Minimum 3.07231s than 62.4	Maximum 62.4	
Mean 61.2836	SD 7.49927	Variance 56.2391

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Concentration at GJR03 Receptor [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 0	
Mean 0	SD 0	Variance 0

Project: Former Contract Chemicals

Project Number: GJ224

Cyanide (Total)

Unretarded Travel Time to GJR04 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0.0766586	75% of values less than 0.238884	90% of values less than 0.524633
Minimum 0es less than 0.890949	Maximum 5.46636	
Mean 0.211566	SD 0.407975	Variance 0.166443

Retarded Travel Time to GJR04 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 3.44317	75% of values less than 8.91837	90% of values less than 20.2639
Minimum 0es less than 33.7925	Maximum 210.313	
Mean 7.94049	SD 14.8007	Variance 219.059

Project: Former Contract Chemicals

Project Number: GJ224

1,2-dichlorobenzene

Unretarded Travel Time to GJR04 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0.0766586	75% of values less than 0.238884	90% of values less than 0.524633
Minimum 0es less than 0.890949	Maximum 5.46636	
Mean 0.211566	SD 0.407975	Variance 0.166443

Retarded Travel Time to GJR04 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 1.45419	75% of values less than 4.29578	90% of values less than 9.9854
Minimum 0es less than 15.833	Maximum 140.958	
Mean 3.90015	SD 8.228	Variance 67.6999

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Unretarded Travel Time to GJR04 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.00250012
Minimum 0es less than 0.0303812	Maximum 0.247127	
Mean 0.00448137	SD 0.0206333	Variance 0.000425735

Retarded Travel Time to GJR04 Receptor [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0.017655
Minimum 0es less than 0.198088	Maximum 1.89593	
Mean 0.0323009	SD 0.150144	Variance 0.0225432

Project: Former Contract Chemicals

Project Number: GJ224

Cyanide (Total)

Concentration at GJR04 Receptor [mg/l] - 100 years

05% of values less than 2.66008E-015	10% of values less than 2.21015E-011	25% of values less than 5.05608E-007
50% of values less than 3.74663E-005	75% of values less than 0.17	90% of values less than 0.17
Minimum 0es less than 0.17	Maximum 0.17	
Mean 0.0620061	SD 0.0818529	Variance 0.0066999

Project: Former Contract Chemicals

Project Number: GJ224

1,2-dichlorobenzene

Concentration at GJR04 Receptor [mg/l] - 100 years

05% of values less than 1.56227E-010	10% of values less than 1.78089E-007	25% of values less than 0.00136575
50% of values less than 0.0603578	75% of values less than 62.4	90% of values less than 62.4
Minimum 0es less than 62.4	Maximum 62.4	
Mean 27.6256	SD 31	Variance 961.002

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Concentration at GJR04 Receptor [mg/l] - 100 years

05% of values less than 9.6	10% of values less than 9.6	25% of values less than 9.6
50% of values less than 9.6	75% of values less than 9.6	90% of values less than 9.6
Minimum 1.90495s than 9.6	Maximum 9.6	
Mean 9.55912	SD 0.530078	Variance 0.280982

Project: Former Contract Chemicals

Project Number: GJ224

Cyanide (Total)

Unretarded Travel Time to Abstraction B [years]

05% of values less than 2.37266	10% of values less than 2.89245	25% of values less than 4.34268
50% of values less than 7.69165	75% of values less than 14.0023	90% of values less than 28.731
Minimum 1.14597s than 41.1877	Maximum 347.094	
Mean 13.1832	SD 19.9237	Variance 396.955

Retarded Travel Time to Abstraction B [years]

05% of values less than 119.818	10% of values less than 133.02	25% of values less than 180.038
50% of values less than 297.425	75% of values less than 547.578	90% of values less than 1000.9
Minimum 95.7236s than 1384.08	Maximum 24306.6	
Mean 503.602	SD 944.66	Variance 892383

Project: Former Contract Chemicals

Project Number: GJ224

1,2-dichlorobenzene

Unretarded Travel Time to Abstraction B [years]

05% of values less than 2.37266	10% of values less than 2.89245	25% of values less than 4.34268
50% of values less than 7.69165	75% of values less than 14.0023	90% of values less than 28.731
Minimum 1.14597s than 41.1877	Maximum 347.094	
Mean 13.1832	SD 19.9237	Variance 396.955

Retarded Travel Time to Abstraction B [years]

05% of values less than 47.1879	10% of values less than 54.1888	25% of values less than 80.7125
50% of values less than 138.58	75% of values less than 258.81	90% of values less than 499.049
Minimum 22.6312s than 708.463	Maximum 10250.2	
Mean 244.443	SD 450.806	Variance 203226

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Unretarded Travel Time to Abstraction B [years]

05% of values less than 2.28267	10% of values less than 2.77032	25% of values less than 4.1787
50% of values less than 7.41373	75% of values less than 13.4519	90% of values less than 27.4946
Minimum 1.10187s than 39.5984	Maximum 332.307	
Mean 12.671	SD 19.1377	Variance 366.253

Retarded Travel Time to Abstraction B [years]

05% of values less than 18.3979	10% of values less than 21.2501	25% of values less than 30.8569
50% of values less than 53.1733	75% of values less than 100.356	90% of values less than 189.951
Minimum 9.43192s than 274.734	Maximum 3771.3	
Mean 93.2857	SD 168.037	Variance 28236.4

Project: Former Contract Chemicals

Project Number: GJ224

Cyanide (Total)

Concentration at Abstraction B [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 0
Minimum 0es less than 0	Maximum 2.45976E-028	
Mean 9.05318E-031	SD 1.15997E-029	Variance 1.34554E-058

Project: Former Contract Chemicals

Project Number: GJ224

1,2-dichlorobenzene

Concentration at Abstraction B [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 4.29433E-029
Minimum 0es less than 3.62594E-024	Maximum 1.56596E-017	
Mean 2.07006E-020	SD 5.0398E-019	Variance 2.53996E-037

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Concentration at Abstraction B [mg/l] - 100 years

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0	90% of values less than 1.00462E-020
Minimum 0es less than 6.51497E-019	Maximum 1.63913E-015	
Mean 4.48252E-018	SD 6.01047E-017	Variance 3.61258E-033

Project: Former Contract Chemicals

Project Number: GJ224

Cyanide (Total)

Unretarded Travel Time to Receptor G [years]

05% of values less than 0.0826601	10% of values less than 0.111717	25% of values less than 0.185683
50% of values less than 0.363147	75% of values less than 0.719514	90% of values less than 1.50272
Minimum 0.03163971	Maximum 12.9256	
Mean 0.666173	SD 0.990824	Variance 0.981733

Retarded Travel Time to Receptor G [years]

05% of values less than 3.74719	10% of values less than 4.67905	25% of values less than 8.01964
50% of values less than 14.2354	75% of values less than 27.8673	90% of values less than 54.7002
Minimum 1.820035	Maximum 905.162	
Mean 25.3545	SD 42.25	Variance 1785.06

Project: Former Contract Chemicals

Project Number: GJ224

1,2-dichlorobenzene

Unretarded Travel Time to Receptor G [years]

05% of values less than 0.0826601	10% of values less than 0.111717	25% of values less than 0.185683
50% of values less than 0.363147	75% of values less than 0.719514	90% of values less than 1.50272
Minimum 0.03163971	Maximum 12.9256	
Mean 0.666173	SD 0.990824	Variance 0.981733

Retarded Travel Time to Receptor G [years]

05% of values less than 1.47744	10% of values less than 2.0626	25% of values less than 3.53241
50% of values less than 6.56025	75% of values less than 12.9227	90% of values less than 26.4261
Minimum 0.421337	Maximum 381.711	
Mean 12.3281	SD 21.3652	Variance 456.471

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Unretarded Travel Time to Receptor G [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0.0672684	75% of values less than 0.229868	90% of values less than 0.505653
Minimum 0es less than 0.860721	Maximum 5.66811	
Mean 0.204888	SD 0.40388	Variance 0.163119

Retarded Travel Time to Receptor G [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0.530472	75% of values less than 1.63325	90% of values less than 3.80871
Minimum 0es less than 6.16592	Maximum 56.6271	
Mean 1.49734	SD 3.19869	Variance 10.2316

Project: Former Contract Chemicals

Project Number: GJ224

Cyanide (Total)

Concentration at Receptor G [mg/l] - 100 years

05% of values less than 3.74703E-010	10% of values less than 3.63858E-008	25% of values less than 4.68282E-006
50% of values less than 9.65576E-005	75% of values less than 0.000458545	90% of values less than 0.0010063
Minimum 5.58069E-024 0.00134637	Maximum 0.0021598	
Mean 0.000313186	SD 0.000445585	Variance 1.98546E-007

Project: Former Contract Chemicals

Project Number: GJ224

1,2-dichlorobenzene

Concentration at Receptor G [mg/l] - 100 years

05% of values less than 0.000220845	10% of values less than 0.00396356	25% of values less than 0.0774257
50% of values less than 0.404087	75% of values less than 1.10585	90% of values less than 1.88302
Minimum 3.22592E-015 2.35399	Maximum 62.4	
Mean 1.43157	SD 6.76448	Variance 45.7581

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Concentration at Receptor G [mg/l] - 100 years

05% of values less than 5.21555E-010	10% of values less than 2.59697E-007	25% of values less than 0.00156253
50% of values less than 9.6	75% of values less than 9.6	90% of values less than 9.6
Minimum 0es less than 9.6	Maximum 9.6	
Mean 6.10029	SD 4.62202	Variance 21.363

Project: Former Contract Chemicals

Project Number: GJ224

Cyanide (Total)

Unretarded Travel Time to Receptor H [years]

05% of values less than 0.0381949	10% of values less than 0.0615641	25% of values less than 0.124508
50% of values less than 0.254299	75% of values less than 0.546863	90% of values less than 1.13609
Minimum 0.00625281	Maximum 9.55411	
Mean 0.505286	SD 0.779901	Variance 0.608246

Retarded Travel Time to Receptor H [years]

05% of values less than 1.72261	10% of values less than 2.491	25% of values less than 5.4452
50% of values less than 10.5382	75% of values less than 21.7532	90% of values less than 40.5611
Minimum 0.251883	Maximum 604.372	
Mean 19.2073	SD 31.8751	Variance 1016.02

Project: Former Contract Chemicals

Project Number: GJ224

1,2-dichlorobenzene

Unretarded Travel Time to Receptor H [years]

05% of values less than 0.0381949	10% of values less than 0.0615641	25% of values less than 0.124508
50% of values less than 0.254299	75% of values less than 0.546863	90% of values less than 1.13609
Minimum 0.00625281	Maximum 9.55411	
Mean 0.505286	SD 0.779901	Variance 0.608246

Retarded Travel Time to Receptor H [years]

05% of values less than 0.71437	10% of values less than 1.09439	25% of values less than 2.40257
50% of values less than 4.69693	75% of values less than 9.95512	90% of values less than 20.3549
Minimum 0.102676	Maximum 254.866	
Mean 9.34457	SD 16.4954	Variance 272.098

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Unretarded Travel Time to Receptor H [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.114354	90% of values less than 0.303508
Minimum 0es less than 0.555951	Maximum 3.73733	
Mean 0.111929	SD 0.262635	Variance 0.0689771

Retarded Travel Time to Receptor H [years]

05% of values less than 0	10% of values less than 0	25% of values less than 0
50% of values less than 0	75% of values less than 0.798079	90% of values less than 2.10695
Minimum 0es less than 4.07696	Maximum 37.3378	
Mean 0.82016	SD 2.09648	Variance 4.39525

Project: Former Contract Chemicals

Project Number: GJ224

Cyanide (Total)

Concentration at Receptor H [mg/l] - 100 years

05% of values less than 1.30301E-014	10% of values less than 6.31195E-011	25% of values less than 1.50042E-007
50% of values less than 1.29656E-005	75% of values less than 0.00011349	90% of values less than 0.000334563
Minimum 2.55212E-026 0.000489996	Maximum 0.17	
Mean 0.00280016	SD 0.0213209	Variance 0.000454579

Project: Former Contract Chemicals

Project Number: GJ224

1,2-dichlorobenzene

Concentration at Receptor H [mg/l] - 100 years

05% of values less than 3.08197E-009	10% of values less than 1.69573E-006	25% of values less than 0.00155405
50% of values less than 0.0440885	75% of values less than 0.193944	90% of values less than 0.446502
Minimum 2.06432E-020 62.4	Maximum 62.4	
Mean 5.4434	SD 17.4707	Variance 305.225

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Concentration at Receptor H [mg/l] - 100 years

05% of values less than 0.399468	10% of values less than 0.844977	25% of values less than 9.6
50% of values less than 9.6	75% of values less than 9.6	90% of values less than 9.6
Minimum 0.000668521	Maximum 9.6	
Mean 7.76957	SD 3.52998	Variance 12.4607

Cyanide (Total)

Unretarded Travel Time to Receptor I [years]

05% of values less than 0.150303	10% of values less than 0.188011	25% of values less than 0.292479
50% of values less than 0.538081	75% of values less than 1.06224	90% of values less than 2.10877
Minimum 0.05799411	Maximum 20.8288	
Mean 0.962205	SD 1.40773	Variance 1.9817

Retarded Travel Time to Receptor I [years]

05% of values less than 6.85827	10% of values less than 8.43889	25% of values less than 12.3961
50% of values less than 21.0076	75% of values less than 39.6781	90% of values less than 73.8919
Minimum 4.504395	Maximum 1458.62	
Mean 36.6652	SD 62.5157	Variance 3908.22

1,2-dichlorobenzene

Unretarded Travel Time to Receptor I [years]

05% of values less than 0.150303	10% of values less than 0.188011	25% of values less than 0.292479
50% of values less than 0.538081	75% of values less than 1.06224	90% of values less than 2.10877
Minimum 0.05799411	Maximum 20.8288	
Mean 0.962205	SD 1.40773	Variance 1.9817

Retarded Travel Time to Receptor I [years]

05% of values less than 2.78844	10% of values less than 3.59385	25% of values less than 5.38419
50% of values less than 9.83711	75% of values less than 18.7845	90% of values less than 37.4171
Minimum 0.946615	Maximum 615.104	
Mean 17.8177	SD 30.9245	Variance 956.327

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Unretarded Travel Time to Receptor I [years]

05% of values less than 0.0170938	10% of values less than 0.0360957	25% of values less than 0.0995817
50% of values less than 0.225127	75% of values less than 0.484335	90% of values less than 1.04963
Minimum 0es less than 1.63381	Maximum 9.22073	
Mean 0.450234	SD 0.711518	Variance 0.506259

Retarded Travel Time to Receptor I [years]

05% of values less than 0.13805	10% of values less than 0.273709	25% of values less than 0.798779
50% of values less than 1.61506	75% of values less than 3.59147	90% of values less than 7.36904
Minimum 0es less than 12.7494	Maximum 92.1196	
Mean 3.29843	SD 5.73626	Variance 32.9047

Cyanide (Total)

Concentration at Receptor I [mg/l] - 100 years

05% of values less than 1.39817E-015	10% of values less than 1.88814E-012	25% of values less than 1.37851E-008
50% of values less than 2.43773E-006	75% of values less than 3.06897E-005	90% of values less than 0.000122411
Minimum 0es less than 0.000208218	Maximum 0.000459234	
Mean 3.49051E-005	SD 6.99049E-005	Variance 4.88669E-009

Project: Former Contract Chemicals

Project Number: GJ224

1,2-dichlorobenzene

Concentration at Receptor I [mg/l] - 100 years

05% of values less than 5.75668E-009	10% of values less than 1.26428E-006	25% of values less than 0.000564692
50% of values less than 0.0221885	75% of values less than 0.108382	90% of values less than 0.277688
Minimum 9.70809E-022 0.411793	Maximum 62.4	
Mean 0.150411	SD 1.9747	Variance 3.89943

Project: Former Contract Chemicals

Project Number: GJ224

Chlorobenzene

Concentration at Receptor I [mg/l] - 100 years

05% of values less than 0.0167496	10% of values less than 0.0629153	25% of values less than 0.229211
50% of values less than 0.590391	75% of values less than 9.6	90% of values less than 9.6
Minimum 7.70011E-008 9.6	Maximum 9.6	
Mean 3.38901	SD 4.30135	Variance 18.5016

Aquifer Flow [m³/yr]

GJR03		
05% of values less than 308.639	10% of values less than 399.907	25% of values less than 690.528
50% of values less than 1207.1	75% of values less than 1950.07	90% of values less than 2623.63
Minimum 77.9485s than 2870.64	Maximum 3454.33	
Mean 1368.14	SD 815.682	Variance 665337

GJR04		
05% of values less than 308.639	10% of values less than 399.907	25% of values less than 690.528
50% of values less than 1207.1	75% of values less than 1950.07	90% of values less than 2623.63
Minimum 77.9485s than 2870.64	Maximum 3454.33	
Mean 1368.14	SD 815.682	Variance 665337

Report No: UK99/A1421

Date: July 1999

**INTEGRATED POLLUTION
PREVENTION AND CONTROL PRE-
AUTHORISATION DESK STUDY
of
CONTRACT CHEMICALS LIMITED
PENRHYN ROAD
KNOWSLEY BUSINESS PARK
PRESCOT
MERSEYSIDE**

**Prepared For
CONTRACT CHEMICALS LIMITED
KNOWSLEY**

**AIG CONSULTANTS LTD
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**Project Quality Assurance
Information Sheet**

***Integrated Pollution Prevention and Control Pre-Authorisation Desk Study
CONTRACT CHEMICALS, PENRHYN ROAD, KNOWSLEY BUSINESS
PARK, PRESCOT, MERSEYSIDE***

Report Number : UK99/A1421

Report Status : Final

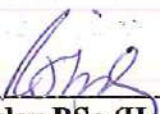
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APPENDICES

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**INTEGRATED POLLUTION PREVENTION
AND CONTROL PRE-AUTHORISATION DESK STUDY
OF
CONTRACT CHEMICALS LIMITED
PENRHYN ROAD
KNOWSLEY BUSINESS PARK
PRESCOT
MERSEYSIDE**

1. INTRODUCTION

- 1.1 AIG Consultants Limited (AIGC) have been commissioned to complete a desk study report of Contract Chemicals Limited (CCL), Penrhyn Road, Knowsley Business Park, Prescot, Merseyside. This report has been prepared for the benefit of CCL to determine site conditions in relation to soil and groundwater contamination issues/liabilities at their Knowsley facility and recommendations for further site investigations.
- 1.2 This study is being carried out by CCL to assist with their application for an Integrated Pollution Prevention and Control (IPPC) Authorisation. The EU Directive on Integrated Pollution Prevention and Control, (Directive 96/61), has to be implemented by 31 October 1999. Current information from the Environment Agency and Department of the Environment Transport and the Regions suggests that the IPPC Regulations will be in force by that date or mid November at the latest. As a chemical production installation, CCL will be subject to these Regulations. Indeed CCL are taking a pro-active approach to implementation of the IPPC regulations, acting as a 'pilot' scheme for their implementation with the assistance and advice of the Environment Agency (EA).
- 1.3 A specific requirement of the IPPC Directive is that "the necessary measures are taken upon definitive cessation of activities to avoid any pollution risk and return the site to a satisfactory state". CCL wish to address this element of the Directive and the purpose of this report is to assist with this.
- 1.4 The specific requirements of the Directive in respect of returning the site to a satisfactory state are not finalised. However, current guidance from the 3rd Phase consultation on the IPPC Directive and EA current understandings are that the site will need to be returned to the ground conditions that were present prior to IPPC operations commencing.
- 1.5 The purpose of this report is thus to provoke a 'Phase I' desk study of site conditions prior to the CCL Knowsley site applying for its IPPC permit. The conclusions and recommendations of this report discuss the necessity for any further investigations at the site as part of the IPPC application process and the interrelationships between the requirements under the IPPC regime and other forthcoming legislation, in particular Part II of the Environment Act relating to contaminated land.

1.6 The specific objectives of the desk study are summarised below:

- to assess the historical land uses at and near to the site.
- to determine the environmental setting of the study site with reference to geology, hydrogeology and hydrology, specifically identifying pollution sources, pathways and targets.
- to assess the degree of soil and groundwater pollution risk associated with the site and recommend any further ground investigation which might be needed to comment on the suitability of the site with respect to Articles 3 and 6 of the EU Directive 96/61.

1.7 The study consisted of an examination of data held by AIGC, historical and geological records from the Ordnance Survey and British Geological Survey (BGS) and information provided from a site check report by Landmark Information Group Plc. Information in the Landmark report is a compilation of data provided by the Environment Agency, Institute of Hydrology, Ordnance Survey, BGS and the National Radiological Protection Board.

1.8 This report presents the observations and findings of the desk study. The conclusions and recommendations given in this report are limited to those which can be based on the findings of the information in the desk study. AIGC reserve the right to amend their conclusions and recommendations in the light of further or more detailed information which may become available.

2. SITE DESCRIPTION

2.1 Site Location

2.1.1 The CCL Knowsley site is located along the southern edge of the A580 East Lancashire Road which in turn is located on the northern outskirts of Knowsley Village. The CCL facility is approximately 8 km west of St Helens town centre at National Grid Reference 343032, 396683.

2.1.2 Access to the CCL facility is gained from Penrhyn Road which runs along the southern boundary of the site. The site covers an area of approximately 40,000 square metres and is at an elevation of approximately 30 m above sea level. A site location map is provided in Appendix A, Drawing No. A1421/1 of this report.

2.2 Site Layout and Landuse

2.2.1 The site is currently occupied by CCL for the manufacture of intermediate chemicals and performance products using the processes of amination, bromination, cyanation and Friedel Crafts chemistry. All products produced are supplied to major industries including pharmaceutical, agrochemical, photographic and textile sectors. CCL have been based at their Knowsley site since 1983.

2.2.2 The layout of the facility consists of an irregular square shaped plot possessing an area of approximately 40,000 m². The premises comprise of an administration/office block, raw material/product warehouse, flammable store, bonner storage, various bunded tank stores, cooling towers, surfactant hall and workshops. The majority of the buildings are estimated to be approximately 8 - 10 years old. A detailed site layout plan is located in Appendix A, Drawing No. A1421/2 of this report.

2.3 Adjacent Land Use

2.3.1 The site is bounded to the north by the East Lancashire Road which passes in an east-west direction. Beyond the A580 East Lancashire Road is the YMI Yorkshire Metals facility which is used for the manufacture of copper tubing. The Yorkshire Metals facility forms part of the Knowsley Industrial Estate.

2.3.2 Adjacent to the western boundary of the site is the McGregor Cory warehouse which is used for the packaging and distribution of processed food products. To the immediate east of the site is the Kelco Bio Specialities Ltd facility which is used for the manufacture of the 'Nutrasweet' products and other alternative sugar products.

2.3.3 Penrhyn Road is located along the southern boundary of the site, beyond which is a car park currently utilised by CCL and further still to the south are undeveloped industrial plots within Knowsley Business Park.

3. ENVIRONMENTAL SETTING

3.1 Geology

3.1.1 The underlying geology of the site has been determined through inspection of the BGS 1:50,000 solid and drift edition and 1:10,560 solid and drift edition (sheets 84 and 100 SW respectively). A copy of the geological map extract is located in Appendix A, Drawing No. A1421/3 of this report.

3.1.2 According to the BGS maps, the site is underlain by both drift and solid strata. The superficial drift deposits underlying the site are sandy clay soils which overlie stiff glacial boulder clay. Solid strata comprises of Permian and Triassic strata principally comprising the Sherwood Sandstone Group.

3.1.3 The Landmark Site Check report which can be found in Appendix B, identified several BGS surveyed boreholes within a 1 km radius of the site. Further

consultation with the BGS revealed that these boreholes were drilled during the construction of the Knowsley Business Park.

3.1.4 According to the BGS boreholes for the CCL, Knowsley site which were located on the CCL site prior to its development the geology comprises of red sand and gravel and stiff boulder clay drift deposits underlain by weathered sandstone and marl before reaching the Sherwood Sandstone bedrock. Copies of the BGS borehole logs can be found in Appendix C of this report and their locations are depicted in Appendix B and on Drawing No. A1412/3 in Appendix A.

3.1.5 Additional site specific geological information is presented in Appendix D in the form of a previously carried out ground investigation performed by SubSoil Surveys Limited in February 1997 (also see Section 5).

3.2 Hydrogeology

3.2.1 The underlying Triassic and Permian sandstone (Sherwood Sandstone Group) are classified by the EA as a 'major aquifer'. These are highly permeable formations usually with a known or probable presence of significant fracturing. These deposits are generally highly productive and able to support large abstractions to public water supply.

3.2.2 The Landmark 'Site Check' report has revealed one licensed groundwater abstraction approximately 1 km west of the CCL facility at national grid reference 344000, 397100. North West Water Limited (NWW) are licensed to abstract 1,659,326 cubic metres of water per annum for private water supplies (domestic) from this abstraction under Licence No. 2569031016. The source of the groundwater is from the underlying Sherwood Sandstone Group.

3.2.3 Further consultation with the EA Groundwater Resource Section, North West Region has revealed that the CCL facility is in a Zone II groundwater source protection zone. The proximity of an activity to a groundwater abstraction is one of the most important factors in assessing the risk to an existing groundwater resource. In order to protect any springs, wells or boreholes in the groundwater the following protection zones are recognised:

- Zone I (Inner Source Protection)
- Zone II (Outer Source Protection)
- Zone III (Source Catchment)

3.2.4 Zone II is an area defined by a 400 day travel time from any point below the water table to the source (abstraction). The travel time is based upon that required to provide delay and attenuation of slowly degrading pollutants.

3.2.5 The BGS borehole logs presented in Appendix C suggests that groundwater may be located at very shallow depths within drift strata in the vicinity of the CCL site. This is also partially confirmed by borehole records presented in the SubSoil Surveys Limited ground investigation presented in Appendix D.

3.3 Hydrology

- 3.3.1 The nearest surface water course to the CCL facility is Knowsley Brook, which is a culverted water course located directly underneath the southern area of the CCL facility. Inspection of the Ordnance Survey plans for this area indicate that Knowsley Brook enters its culvert approximately 700 m east of CCL and emerges from culvert approximately 400 m to the west.
- 3.3.2 A second unnamed water course has been observed approximately 300 m south of CCL, which flows into Knowsley Brook west of the CCL facility.
- 3.3.3 Knowsley Brook has been classified as River Quality E ('poor') with respect to the General Quality Assessment (GQA) Scheme 1997. The unnamed watercourse has not been classified with respect to the GQA scheme. CCL do not operate any consents to abstract or discharge water at surface water locations.
- 3.3.4 Further consultation with the EA has revealed a number of surface water pollution incidents within a 1 km radius of the site. The nearest of these pollution incidents was located 280 m south-east of the site at National Grid reference 343300, 396600 within a plot of land adjacent to the News International Limited building. The above was classed as a 'Category 3' (minor pollution) incident being an accidental spillage of fuel oil into Knowsley Brook. None of the above pollution incidents have been directly associated with the CCL facility.

3.4 Landfill

- 3.4.1 Reference to the Landmark 'Site Check' report and consultation with the EA have revealed no active or former licenced landfill sites within a 1 km radius of the site. However, it is understood that CCL previously held a Waste Management Licence (reference 442/01) for a Waste Transfer Station located within the grounds of the site near to the present office block. The Waste Management Licence was operated in conjunction with CCL's temporary storage of solid and liquid special wastes produced on site. It is understood that CCL no longer operate this waste transfer station and have surrendered their Waste Management Licence to the EA.
- 3.4.2 No details have been provided by CCL on the terms and conditions of their Waste Management Licence surrender especially with regard to contaminated land testing.

3.5 Radon

- 3.5.1 The site is not within a 'Radon Affected Area' as designated by the National Radiological Protection Board 'Radon Atlas of England NRPB R290, 1966'

3.6 Prescribed Processes

- 3.6.1 Prescribed processes are described under the Environmental Protection Act 1990: Section 1: Integrated Pollution Control and Air Pollution Control. A brief description of elements of the Act are discussed below:

Part A: Integrated Pollution Control (IPC): Part A industries are generally regarded as causing the most pollution and covers approximately 105 'prescribed processes' which must be registered with the Environment Agency. An IPC authorisation covers emissions to air, land and water. Any new companies which fall into the 'prescribed processes' category must apply for an authorisation.

Part B: Air Pollution Control (APC): These are the less polluting industries and cover approximately 60 designated processes. These must be registered with the relevant Local Authority. APC authorisation cover air emissions only.

All Part A processes are monitored by the Environment Agency and Part B processes by the relevant Local Authority.

- 3.6.2 At present CCL operate a total of 7 Part A IPC authorisations, with a further 2 IPC applications which have met the requirements for the authorisation (but not yet authorised). The following table details CCL's current IPC obligations.

Table 1: CCL Prescribed Process Part A IPC Authorisations

Authorisation Reference	Process Description	Date Issued
AF7096	Chlorination using thionylchloride	17.10.92
AF9650	Amine Diols	2.11.92
AK3129	Organic Esters and Acids	23.12.93
AL9220	Small processes <250 tonnes per year	14.06.94
A27505	Sodium Cyanate	01.01.98
BA9827	Use of designated acylate	05.08.98
BC2149	Bromination of organic chemicals	19.02.99
BA6119	Organic chemicals	Not yet issued
BA9509	Inorganic chemicals	Not yet issued

No further Part A IPC authorisations are located within a 1 km radius of the CCL facility according to EA and Landmark records.

- 3.6.3 No processes are currently undertaken at CCL which require authorisations with respect to the Local Authority Air Pollution Control (LAAPC) System. The nearest LAAPC authorised facility is located approximately 660 m north of CCL and is

operated by Tilcon Ltd. Tilcon currently hold the authorisation for PG3/7 Exfoliation of vermiculite and expansion of perlite.

4. SITE HISTORY

- 4.1 In order to investigate the development history of the site and immediate surrounding area, extracts from County Series Plans and Ordnance Survey plans dated 1850 to 1990 have been provided within the Landmark "Site Check" report and inspected. Copies of these historical maps are located in Appendix B of this report, along with the relevant map details eg scale, map sheet and date.
- 4.2 The following information is a summary of the salient points relating to the history of the site. It is not the intention of this report to describe in detail all changes which have occurred on or adjacent to the site only those that are relevant to this desk study.
- 4.3 The earliest edition map of 1850 showed the site to be situated in agricultural land approximately 850 m north of Knowsley Village. Knowsley Brook passed through the location of the site flowing in an east-west direction. Sandstone extraction by quarrying is shown to have occurred at Knowsley quarry approximately 900 m west of the site. Possible (earlier) quarry workings closer to the CCL site area are depicted by potential disused water filled quarry pits at 'Penrhyn Pits' and 'Hikling Pits' located approximately 300 and 400 m to the south and south-east respectively. The majority of the adjacent land use comprised mixed evergreen/deciduous trees/plantations and agricultural land.
- 4.4 No further significant changes had occurred up until 1928. This map depicts the former Knowsley Sandstone Quarry as a boating lake with further residential development occurring around Knowsley Village. The site, however, is shown to have remained undeveloped at this time.
- 4.5 By 1937 the A580 East Lancashire Road had been constructed along the approximate northern boundary of the site. No further significant changes are depicted.
- 4.6 In 1956 a large area of residential properties is shown to have been constructed just north of Knowsley Village, at an approximate distance of 150 m south of the CCL site. It is understood that these residential properties comprised pre-fabricated buildings constructed immediately post second world war.
- 4.7 The Yorkshire Metals facility located along the East Lancashire Road approximately 250 m north of the CCL site, is detailed on the 1966 map. Further industrial development had also occurred approximately 750 m north-west of the site and 400 m to the west. The 1966 map also shows the construction of three large factories adjacent to the residential area of Southdene. The boating lake at the previous Knowsley sandstone quarry is no longer depicted suggesting that the former quarry/lake had been filled by this time by unknown materials.

- 4.8 The 1978 plan now shows the development of the majority of Knowsley Business Park, although the CCL facility is not depicted. Knowsley Brook is shown to have been culverted and enclosed across the length of the business park. The large area of residential properties previously depicted to have been located 200 m south of the business park are shown in the 1978 map to have been removed, further suggesting that these residential properties were constructed for a post-war temporary housing measure. This map also shows the construction of the McGregor-Cory food packaging warehouse adjacent to the west of the CCL site. Further industrial development is also shown approximately 600 south-west incorporating units, offices and warehouses.
- 4.9 The 1990 OS map suggests that the CCL facility had been partially developed at this time showing the administration block, surfactant hall and laboratory building. The Kelco facility adjacent to the east of the site is shown on the plan and resembles its present layout. No further significant changes are shown to have occurred.
- 4.10 It is understood from information supplied by CCL personnel that the original occupants of the site were Tate and Lyle, manufacturers of sugar based products. CCL purchased part of the site in 1983 with Kelco Bio Specialities Ltd purchasing the remainder. There has been no other historical occupants at the site and detailed in the activities carried by Tate and Lyle between approximately 1979 and 1983 are not known.

5. PREVIOUS GROUND INVESTIGATIONS AND REMEDIAL WORKS

5.1 Introduction

- 5.1.1 It is understood that two ground investigations have been carried out on the CCL site in recent years for both geotechnical and environmental purposes.
- 5.1.2 These two investigations were carried out, firstly by Cremer and Warner in 1992 within western areas of the CCL site and adjoining land occupied by McGregor Cory Limited. A later investigation was carried out in 1997 by SubSoil Surveys Ltd for geotechnical parameters with regard to the proposed construction of the Bonner Building in the north-western corner of the site.
- 5.1.3 An extract of the Cremer and Warner report and the complete SubSoil Surveys Ltd report are presented in Appendix D and are summarised in the sections below.

5.2 Cremer and Warner Investigation

- 5.2.1 The Cremer and Warner investigation comprised the excavation of eight trial pits and one borehole. Four of these trial pits were located on the CCL site and the remainder were located on the adjacent McGregor Cory Ltd site. The location of the borehole is unknown.

5.2.2 Full details of the exact findings and reasons for this investigation have not been presented although it is understood that the investigation was commissioned in the light of visual contamination being detected on adjoining land. Extracts of this report are presented in Appendix D and suggest the following were identified during the investigation.

- Significant contamination of soils were noted in the four trial pits located in the western area of the CCL site (up to 15 m from the boundary fence). Details of the contaminants are not presented in the report extract.
- Aromatic organic compounds were detected in soils on the McGregor Cory site at unknown concentrations.
- Contamination was generally restricted to the top 0.5 m of the soil sequence above a layer of natural clay.
- Conclusions made suggest that contaminants had migrated from the CCL site to adjacent land primarily by surface run off from CCL storage areas but had been restricted from migrating vertically by natural low permeability strata.

5.3 Sub Soil Surveys Limited Investigation

5.3.1 The Sub Soil Surveys Limited investigation comprised the drilling of 3 boreholes to a maximum depth of 12.15 m in the area of the proposed Bonner Building in February 1997. ✓

5.3.2 This investigation identified up to 2.6 m of made ground materials comprising clay, stones, brick and ash. This material was underlain by gravely sands and, in turn, underlain by very stiff gravely glacial clays. Sandstone and mudstone strata were encountered at depths of between 6.6 and 10.9 m below ground level. ✓

5.3.3 Groundwater was encountered in only one of the three boreholes during drilling at approximately 6.3 m within the base of the glacial clay. Subsequent water levels of between 5.7 m and 6.3 m below ground level were recorded in all 3 boreholes within the glacial clay strata. ✓

5.3.4 It is understood that subsequent to carrying out appropriate geotechnical tests, selected samples (4 No.) of made ground were tested a suite of chemical determinands which possessed concentrations all below the lowest 'threshold trigger values' presented by the Interdepartmental Committee on the Redevelopment of Contamination Land (ICRCL guidance note 59/83, 2nd edition 1987), ✓

5.3.5 It is, however, noted that Sub Soil Surveys Limited in their letter appended to their report made reference to elevated nickel and phenol concentrations which are not ✓

apparent in the chemical test results discussed above and it is not known to which soil tests this comment is directed.

5.4 CCL Investigations

5.4.1 In addition to the investigations noted above CCL have carried out additional soil sampling and testing in the following areas:

- Bonner Building - 4 samples obtained at 0.2 m - 0.3 m depth prior to building construction (February 1997).
- Flammable Store - 3 samples obtained at shallow depth prior to building construction (July 1997).

The above sampling was carried out as a requirement of CCL's Environmental Management System 14001 quality statement and the results are presented in Appendix D.

5.4.2 The chemical analysis of fill samples in the area of the proposed Bonner Building suggest that there was no significant contamination present with regard to the proposed use of this part of the site. Furthermore, the chemical analysis equated to that analysis carried out by Sub Soil Surveys Limited in the same part of the site (see Section 5.3 above).

5.4.3 The chemical analysis of the 3 samples obtained from the flammable store area also confirmed that the shallow soils/made ground were also uncontaminated with regard to the proposed site use and appropriate ICRCCL threshold trigger values.

5.5 Remediation Works

5.5.1 In response to the findings presented in the Cremer and Warner site investigation report, remedial action was instigated by CCL. Such works initially comprised the removal of all stored materials from the affected area.

5.5.2 CCL subsequently commissioned Robinson Fletcher Consultants Ltd (now AIGC) to design appropriate surface water control systems and soil restoration works in the area investigated by Cremer and Warner.

5.5.3 In November 1993 appropriate specifications and method statements were prepared by Robinson Fletcher Consultants Ltd and the surface water control and soil remediation works were carried out by an approved in 1994 under the supervision and validation of Robinson Fletcher Consultants Ltd. A copy of the design method statement for the above works is presented in Appendix E of this report.

5.5.4 The contaminated soils noted by Cremer and Warner were excavated from site and disposed of at a suitably licensed landfill site (approximate volume 250m³). Inert

clean materials were imported from an approved source and placed to an engineered standard in the resultant voids.

5.5.5 The works were carried out to the full satisfaction of McGregor Cory and CCL.

6. CONCLUSIONS AND RECOMMENDATIONS

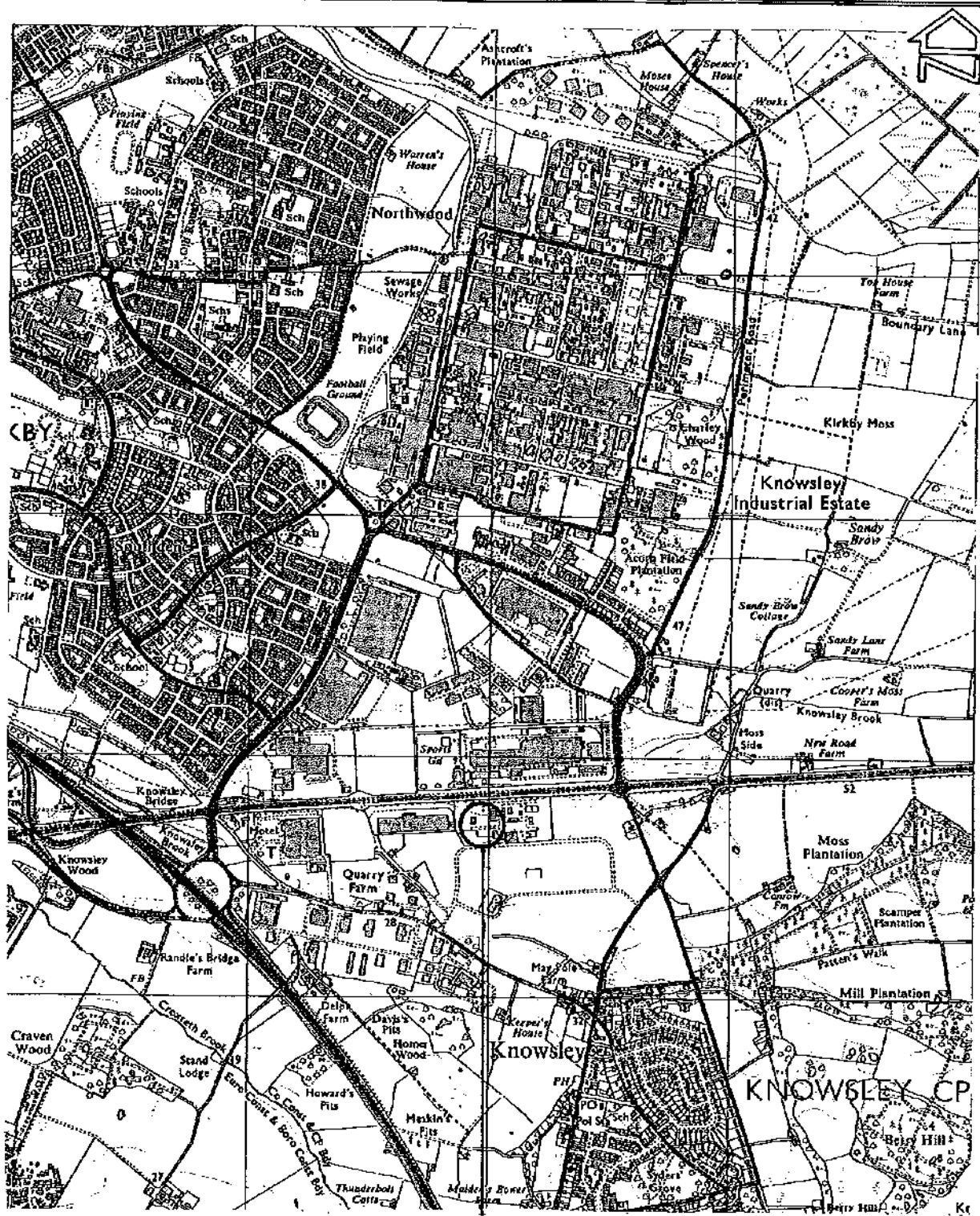
- 6.1 AIGC have been commissioned to complete an environmental desk study of CCL, Penryhn Road, Knowsley Business Park, Prescot, Merseyside.
- 6.2 CCL's principle operations comprise the production of intermediate chemicals and performance products for the pharmaceutical, agrochemical, photographic and textile sectors. CCL have been based at their Knowsley site since 1983. The facility is in a low/moderate environmentally sensitive area with respect adjacent land use being located in an industrial area with the nearest residential properties being some 800 m south-east.
- 6.3 Published geological information shows the site to be underlain by drift deposits of sandy clay soils overlying stiff glacial boulder clay and solid strata of Sherwood Sandstone. This underlying solid geology has been classified as a 'major aquifer' with one recognised public water supply borehole operated by North West Water Limited 1 km west of CCL. The CCL facility is located within a Zone II groundwater protection zone, however the underlying boulder clay is likely to allow some protection to the major aquifer from any vertical migration of on site contaminants. Groundwater is, however, expected to be located at shallow depths as indicated by BGS borehole records and as depicted in historical Ordnance Survey maps as water in shallow quarries and sand pits.
- 6.4 With regard to surface water courses, the nearest hydrological feature is the Knowsley Brook, a culverted watercourse located directly underneath the southern area of the CCL facility. Knowsley Brook has been classified as River Quality E ('poor') with respect to the GQA Scheme 1997. However, it is thought unlikely that any processes from the CCL facility will adversely effect this water course, although details of the culvert construction are not known.
- 6.5 No landfill sites are known located within a 1 km radius. However, historical maps show the occurrence of sand quarries and pits which would appear to have been infilled in more recent years by unknown materials.
- 6.6 At present CCL operate a total of 7 IPC authorisations, with a further 2 IPC applications which have met the requirements for the authorisation (but not yet authorised). No concerns have been expressed by the Environment Agency with regard to breaches of the above IPC authorisations.
- 6.7 It is understood from information supplied by CCL personnel that the original occupants of the site were Tate and Lyle, for the manufacture of sugar based

products. CCL purchased part of the site in 1983 with Kelco Bio Specialities Ltd purchasing the remainder. There has been no other historical occupants at the site.

- 6.8 A series of ground investigations have been carried out at the CCL in recent years. Investigations carried out prior to the construction of the Bonner Building and Flammable Store suggest that the made ground materials in these areas are uncontaminated and present no obvious risks to site users and/or ground water. However, organic contamination is understood to have been identified on land adjacent to the CCL site probably arising from contaminated surface run off from storage areas. This contaminated area was subsequently remedied by the removal of contaminated soils from site and their replacement by clean inert imported materials. In addition, appropriate surface water management systems were constructed within this area to prevent future off site surface water runoff.
- 6.9 A requirement of the IPPC Directive is that IPPC installations will need to have a good understanding of the state of ground conditions on their site prior to being issued with an IPPC permit, otherwise sites could be required to 'clean up' any contamination that may have existed of the facility prior to the IPPC permit being issued. Therefore it is considered important for the operator of a potential IPPC facility to assess ground conditions in a thorough manner in order to prevent a more onerous clean-up than what might have been required otherwise.
- 6.10 In effect this means that in the future, clean up at IPPC installations (under the requirements of an IPPC permit) is going to be on a different basis to that required under the proposed Part IIA Environmental Protection Act 1990 (EPA) contaminated land regime in that a process of 'hazard management' will be used with any clean up required to return the site to its pre-IPPC state.
- 6.11 In addition to the clean up measures specified under the IPPC Directive, IPPC sites will still be subject to Part IIA (the contaminated land requirements) of the EPA 1990. In its third consultation paper on IPPC the DETR has said that the initial site report will serve additionally to identify whether action is required at the site, to bring it up to a condition which is 'suitable for use' under Part IIA of the EPA.
- 6.12 Reports produced as part of the application will also have to be deposited on the public register.
- 6.13 There are a range of implications for the CCL Knowsley site from this.
- As one of the initial users of the facility and the only obvious potential polluter CCL will also be responsible for any site remediation required under the proposed EPA Part IIA Contaminated Land regime. This could commence at IPPC permit application time, when deposition of site investigation reports on the site could require the facility to remediate (if contamination was found) to make the facility fit for purpose. Such requirements will also be on the facility if redevelopment at later dates is carried out.

- The site investigation reports will be on a public register and CCL could come under public scrutiny if contamination is found but no action is (or is required to be) taken.
- 6.14 In view of the above therefore, it is recommended that a brief, yet thorough, ground investigation is carried out over the entire site. This investigation should aim to identify the following issues:
- Soil contamination in targeted high risk areas e.g. liquid and fuel storage areas, special waste storage areas, former transfer station area.
 - Soil contamination over the site generally.
 - Groundwater characteristics and quality.
 - Physical soil properties.
- 6.15 It is considered that the above investigation could be carried out, in view of the likely restrictions on access, by conventional window sampling techniques over a 2 or 3 day period supplemented by trial pits in areas presenting adequate access. Any subsequent interpretative site investigation report should consider appropriate hazard - pathway - target assessments of any contaminants found in either soil or groundwater with regard to the type and nature of contaminants and soil types identified.

APPENDIX A DRAWINGS



THE SITE

AIG

AIG CONSULTANTS

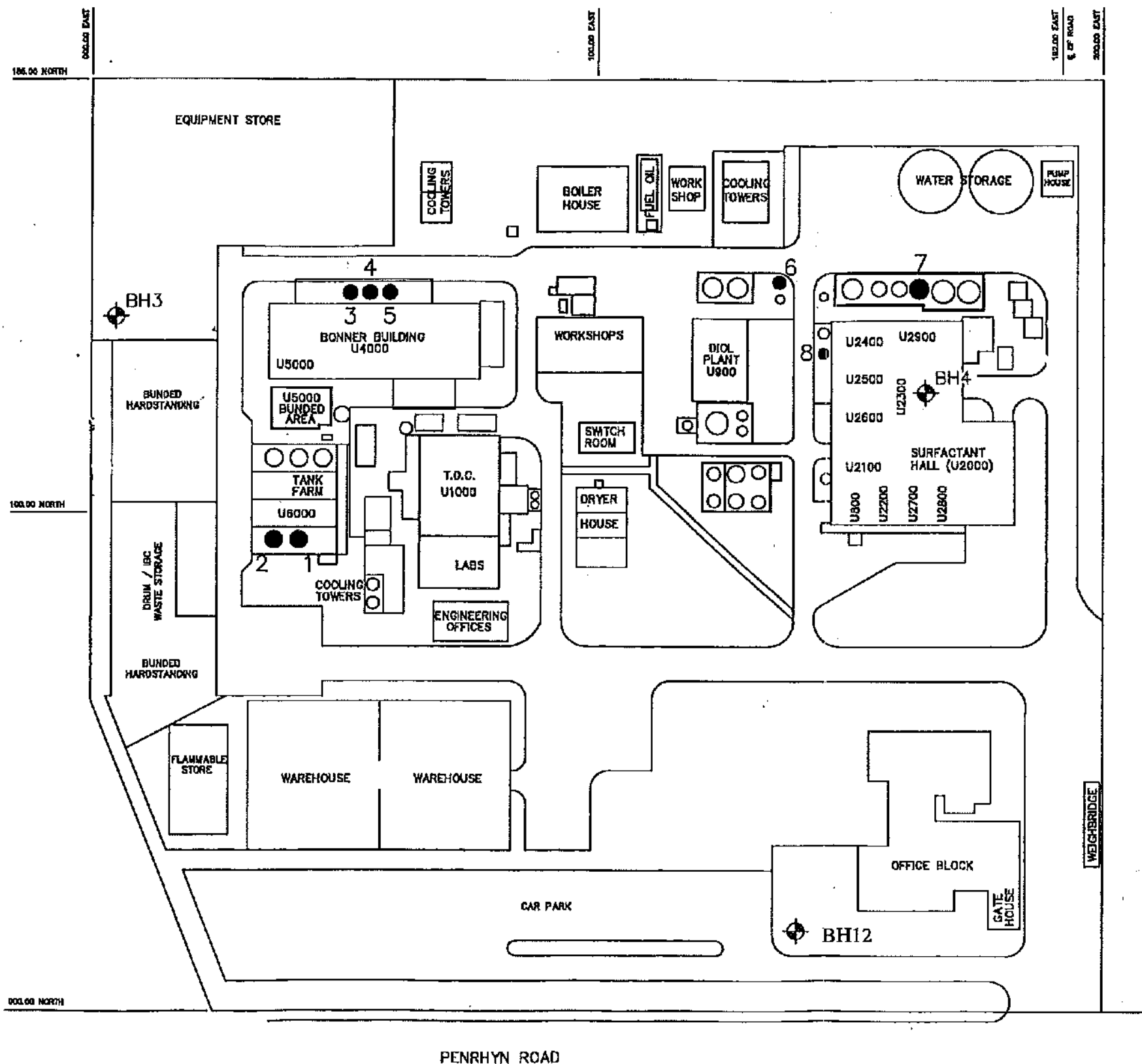
TEL: 01942 824406
FAX: 01942 824030

CLIENT
CONTRACT CHEMICALS LTD, KNOWSLEY

JOB TITLE
IPPC DESK STUDY

DRAWING TITLE
SITE LOCATION MAP

DRAWN BY RJT	SIGNATURE	DATE 1/7/99	STATUS FINAL
APPROVED AJA	SIGNATURE	DATE 1/7/99	SCALE 1: 25,000
			DRG No. A1421/1



SITE WASTE STORAGE

KEY

- 1). HCL ACIDIC WASTE 50000 L (T8011)
- 2). SO₂ ABSORBER WASTE 50000 L (8010)
- 3). SAFENER ACID WASTE 29500 L (V4029)
- 4). PROVISIONAL ALKALINE WASTE 29500 L
- 5). PROVISIONAL SOLVENT WASTE 29500 L
- 6). DIOL HEAVY RESIDUES 20000 L (V932)
- 7). AMMONIUM SULPHATE WITH 3% H₂SO₄ 40000 L
- 8). DIOL ACIDIC SCRUBBER WASTE 32000 L (V946)

KEY

BGS Borehole Location Points

CONTRACT
CHEMICALS
LIMITED,
KNOWSLEY

JOB TITLE

IPPC
DESK STUDY

DRAWING TITLE

SITE
LAYOUT
PLAN

STATUS

FINAL

DRAWN BY
R.J.T.

SIGNATURE

DATE
01/07/99

APPROVED
A.J.A.

SIGNATURE

DATE
01/07/99

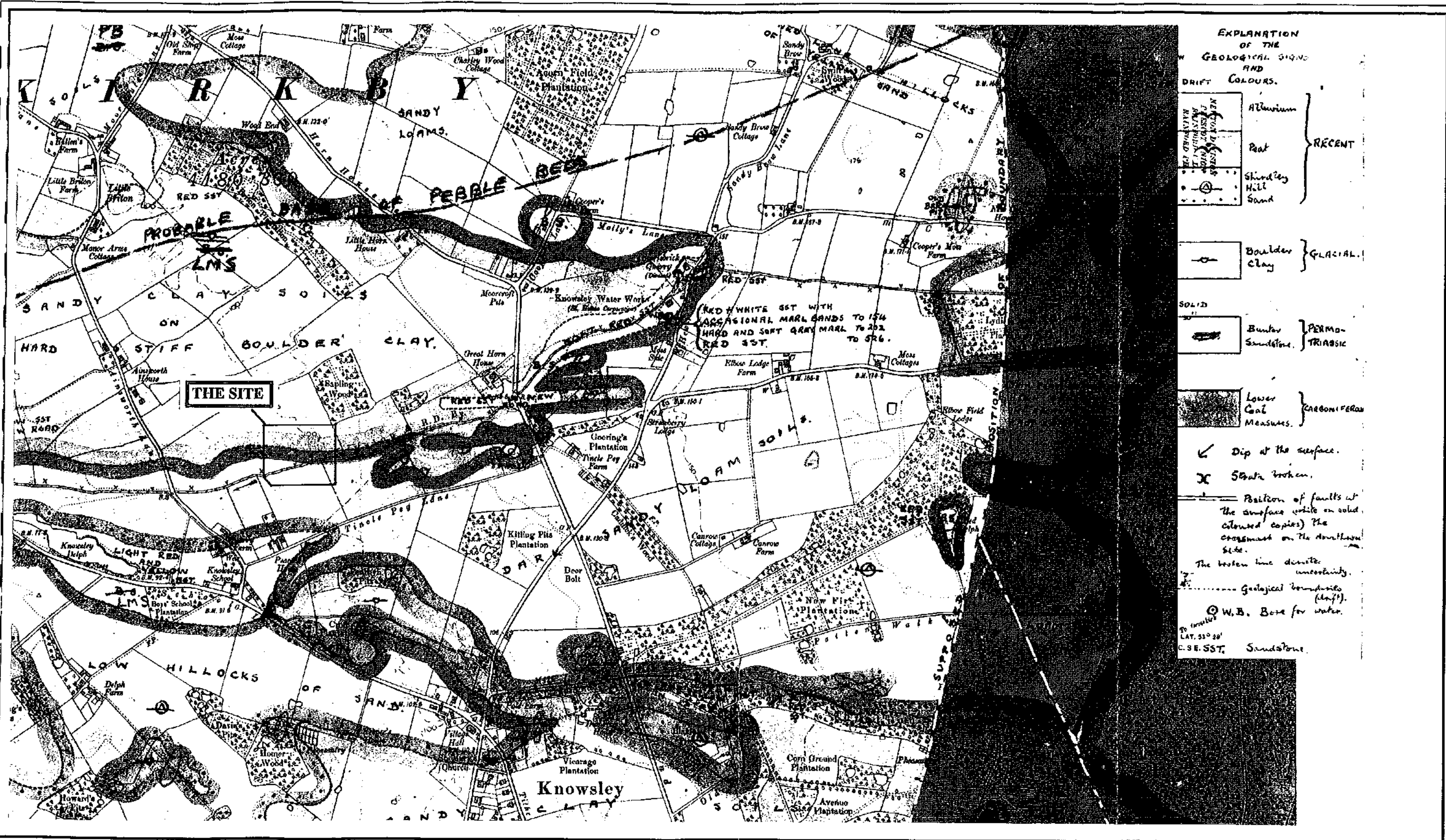
SCALE

1:1000

ORG No.

A1421/2

AIG
AIG
CONSULTANTS
LIMITED
PIER HOUSE WALLGATE WIGAN LANCASHIRE WN9 4AL
TEL: 01942 824406 FAX: 01942 824030



EXPLANATION OF THE GEOLOGICAL SIGNS AND COLOURS.

NEARLY HORIZONTAL	Alluvium	RECENT
PEAT	Peat	
SHIRDLLEY HILL SAND	Shirdley Hill Sand	
BOULDER CLAY	Boulder Clay	GLACIAL
BUNTER SANDSTONE	Bunter Sandstone	PERMO-TRIASSIC
LOWER COAL MEASURES	Lower Coal Measures	CARBONIFEROUS

✓ Dip at the surface.
 X Strata broken.
 --- Position of faults at the surface (white on solid coloured copies) the crossmark on the downthrow side.
 The broken line denotes uncertainty.
 Geological boundaries (unf.).
 W.B. Bore for water.
 To 1000 feet
 LAT. 53° 28'
 C. 98.557. Sandstone.



AIG CONSULTANTS LIMITED
 PIER HOUSE WALLGATE WIGAN LANCASHIRE WN3 4AL
 TEL: 01942 824400 FAX: 01942 824050

CONTRACT CHEMICALS LIMITED, KNOWSLEY

JOB TITLE
 IPPC
 DESK STUDY

DRAWING TITLE
 GEOLOGICAL
 MAP
 EXTRACT

STATUS		
FINAL		
DRAWN BY	SIGNATURE	DATE
R.J.T.		01/07/99
APPROVED	SIGNATURE	DATE
A.J.A.		01/07/99
SCALE	DRG No.	
1:10560	A1421/3	

APPENDIX B
LANDMARK SITE CHECK REPORT

**EnviroCheck Report on:**

Contract Chemicals Ltd
Penrhyn Road
Knowsley Business Park
PRESCOT
Merseyside
L34 9HY

National Grid Reference :

343032, 396683

Prepared For :

AIG Consultants Limited
PIER HOUSE
WALLGATE
WIGAN
WN3 4AL

Your Reference :

Robert Tinsley



Summary

Environmental Setting

Industrial Setting

Useful Contacts

BGS Borehole Order Form

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does to the potential sources of contamination. For this reason, Landmark's Site Sensitivity Data Sheet places great emphasis on statutory data provided by the Environment Agency and the Scottish Environment Protection Agency; it also incorporates data from English Nature (and the Scottish and Welsh equivalents), the Environment Agency (and the Scottish equivalent) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The data sheet is produced by querying the legend database to 1km from a single point provided by the client.

Landmark has geocoded and plotted the data to 1m accuracy where possible. Where this isn't the case, data is geocoded to +/- 100m accuracy. In the attached datasheet the National Grid References (NGRs) are rounded to the nearest 100m in accordance with Landmark's agreements with a number of Data Suppliers.

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Data Type	50m	250m	500m	1000m
Water				
Water Abstractions				
Discharge Consents			✓ 1	✓ 3
Red List Discharge Consents				
Prosecutions relating to Controlled Waters				
Pollution Incidents to Controlled Waters			✓ 2	✓ 22
Nearest Surface Water Feature		✓		
Waste				
Landfill Sites				
BGS Recorded Landfill Sites				
Waste Treatment or Disposal Sites				
Waste Transfer Sites	✓ 1			
IPC Registered Waste Sites				
Statutory / Authorisation				
Integrated Pollution Controls	✓ 23	✓ 2		✓ 1
Air Pollution Controls			✓ 2	✓ 7
Registered Radioactive Substances		✓ 2		✓ 5
Prosecutions relating to Authorised Processes				
Enforcement and Prohibition Notices				
Planning Hazardous Substance Consents			✓ 2	
Planning Hazardous Substance Enforcements				
Other				
Planning Applications (of possible contaminative uses)		✓ 2	✓ 1	✓ 5
BGS Recorded Mineral Sites				
BGS Boreholes	✓ 1	✓ 9	✓ 22	✓ 18
Sites of Special Scientific Interest				
Potentially Contaminative Industrial Use			✓ 2	✓ 3

Water Abstractions identified, whose centres are more than 1000 metres (but less than 2000 metres) from the centre of the site: 1



Map ID	Details	Estimated Distance from Site	Source	NGR
-	Water Abstraction Operator North West Water Ltd., Licence No 2669031016 Location Knowsley Ps, Kirkby Abstraction Private Water Supplies (Domestic) Source Groundwater Daily Rate 7500 cubic metres Yearly Rate 1859326 cubic metres Details Well Borehole And Wells And Boreholes (2)	1050	EA	344000 397100
-	Groundwater Vulnerability Geological Classification Major Aquifer (Highly permeable) - These are highly permeable formations usually with a known or probable presence of significant fracturing. They may be highly productive and able to support large abstractions for public water supply and other purposes Soil Classification Soils of High Leaching Potential (U) - Soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere. A worst case vulnerability classification (H) assumed, until proved otherwise Drift Deposit None Map Sheet Derived from Sheet 16 West Cheshire Scale 1:100,000	-	EA	343000 396700
-	Radon Affected Area Less than 1% of homes are above the Action Level	-	NRPB	-
1	Discharge Consent Operator Knowsley M B C Property Type Not Given Location Mersey Control Systems Ltd, 765 Knowsley Lane, Knowsley Catchment Area Not Given Discharge Reference 016991396 Issued Not Given Discharge Type Sewage Treatment Works - Final Effluent Discharge Freshwater Stream/River Environment Received Water Not Given	690	EA	343400 396100
1	Discharge Consent Operator Mersey Systems Property Type Not Given Location Location Description Not Available Catchment Area Not Given Discharge Reference 016991396B Issued Not Given Discharge Type Surface Water Discharge Freshwater Stream/River Environment Received Water C/Deemed1; Outlet; Dog Beck; Licence Status: Revoked	690	EA	343400 396100
1	Discharge Consent Operator Mersey Systems Property Type Not Given Location Location Description Not Available Catchment Area Not Given Discharge Reference 016991396A Issued Not Given Discharge Type Tank and filler Discharge Freshwater Stream/River Environment Received Water C/Deemed1; Outlet; Dog Beck; Licence Status: Revoked	690	EA	343400 396100
2	Discharge Consent Operator Yardley Plastics Ltd Property Type Not Given Location Yardley Plastics Ltd, Caddick Road, Knowsley Ind Est Catchment Area Upper Mersey Discharge Reference 016990269 Issued 1st April 1991 Discharge Type Trade Cooling Water Effluent: Plastic & Rubber Manufacture Discharge Freshwater Stream/River Environment Received Water Croxteth Brook Trib	380	EA	342700 396500



Map ID	Details	Estimated Distance from Site	Source	NGR
25	BGS Borehole BGS Reference SJ49NW 171 Drilled Length n/a Bore Name KIRKBY 275KV SUB STN TP A	990	BGS	343800 397300
25	BGS Borehole BGS Reference SJ49NW 172 Drilled Length n/a Bore Name KIRKBY 275KV SUB STN TP B	990	BGS	343800 397300
25	BGS Borehole BGS Reference SJ49NW 173 Drilled Length n/a Bore Name KIRKBY 275KV SUB STN TP C	990	BGS	343800 397300
25	BGS Borehole BGS Reference SJ49NW 174 Drilled Length n/a Bore Name KIRKBY 275KV SUB STN TP D	990	BGS	343800 397300
25	BGS Borehole BGS Reference SJ49NW 175 Drilled Length n/a Bore Name KIRKBY 275KV SUB STN TP E	990	BGS	343800 397300
26	BGS Borehole BGS Reference SJ49NW 165 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 36	670	BGS	343500 396200
27	BGS Borehole BGS Reference SJ49NW 166 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 37	710	BGS	342800 396000
28	BGS Borehole BGS Reference SJ49NW 167 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 38	660	BGS	342900 396000
29	BGS Borehole BGS Reference SJ49NW 168 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 39	640	BGS	343100 396000
30	BGS Borehole BGS Reference SJ49NW 169 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 40	660	BGS	343200 396100
31	BGS Borehole BGS Reference SJ49NW 158 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 28	570	BGS	343500 396400
32	BGS Borehole BGS Reference SJ49NW 159 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 29	580	BGS	342700 396200
33	BGS Borehole BGS Reference SJ49NW 160 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 30	520	BGS	342900 396200
34	BGS Borehole BGS Reference SJ49NW 161 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 31	490	BGS	343100 396200
35	BGS Borehole BGS Reference SJ49NW 162 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 32	490	BGS	343100 396200
36	BGS Borehole BGS Reference SJ49NW 163 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 33	510	BGS	343200 396200



Map ID	Details	Estimated Distance from Site	Source	NGR
37	BGS Borehole BGS Reference SJ49NW 154 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 34	590	BGS	343300 396200
38	BGS Borehole BGS Reference SJ49NW 151 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 21	640	BGS	343600 396500
39	BGS Borehole BGS Reference SJ49NW 152 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 22	400	BGS	342800 396400
40	BGS Borehole BGS Reference SJ49NW 153 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 23	370	BGS	342900 396300
41	BGS Borehole BGS Reference SJ49NW 154 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 24	390	BGS	343000 396300
42	BGS Borehole BGS Reference SJ49NW 155 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 25	340	BGS	343000 396300
43	BGS Borehole BGS Reference SJ49NW 156 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 26	370	BGS	343200 396400
44	BGS Borehole BGS Reference SJ49NW 157 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 27	450	BGS	343300 396400
45	BGS Borehole BGS Reference SJ49NW 148 Drilled Length 5.49 metres Bore Name KNOWSLEY IND ESTATE BH 18	240	BGS	343200 396500
46	BGS Borehole BGS Reference SJ49NW 149 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 19	350	BGS	343300 396500
47	BGS Borehole BGS Reference SJ49NW 150 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 20	490	BGS	343500 396500
48	BGS Borehole BGS Reference SJ49NW 142 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 12	30	BGS	343000 396700
49	BGS Borehole BGS Reference SJ49NW 143 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 13	150	BGS	343200 396700
50	BGS Borehole BGS Reference SJ49NW 144 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 14	300	BGS	343300 396700
51	BGS Borehole BGS Reference SJ49NW 145 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 15	460	BGS	343500 396700
52	BGS Borehole BGS Reference SJ49NW 146 Drilled Length 3.68 metres Bore Name KNOWSLEY IND ESTATE BH 16	240	BGS	342900 396500



Map ID	Details	Estimated Distance from Site	Source	NGR
53	BGS Borehole BGS Reference SJ49NW 147 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 17	190	BGS	343000 396500
54	BGS Borehole BGS Reference SJ49NW 135 Drilled Length 4.88 metres Bore Name KNOWSLEY IND ESTATE BH 6	310	BGS	343300 396800
55	BGS Borehole BGS Reference SJ49NW 136 Drilled Length 3.05 metres Bore Name KNOWSLEY IND ESTATE BH 6A	370	BGS	343400 396800
56	BGS Borehole BGS Reference SJ49NW 137 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 7	440	BGS	343500 396900
57	BGS Borehole BGS Reference SJ49NW 138 Drilled Length 3.66 metres Bore Name KNOWSLEY IND ESTATE BH 8	480	BGS	343500 396800
58	BGS Borehole BGS Reference SJ49NW 139 Drilled Length 3.66 metres Bore Name KNOWSLEY IND ESTATE BH 9	470	BGS	342600 396600
59	BGS Borehole BGS Reference SJ49NW 140 Drilled Length 4.57 metres Bore Name KNOWSLEY IND ESTATE BH 10	310	BGS	342700 396600
60	BGS Borehole BGS Reference SJ49NW 141 Drilled Length 5.49 metres Bore Name KNOWSLEY IND ESTATE BH 11	160	BGS	342900 396600
61	BGS Borehole BGS Reference SJ49NW 134 Drilled Length 5.18 metres Bore Name KNOWSLEY IND ESTATE BH 5	190	BGS	343200 396800
62	BGS Borehole BGS Reference SJ49NW 132 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 3	180	BGS	342900 396800
63	BGS Borehole BGS Reference SJ49NW 133 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 4	90	BGS	343000 396800
64	BGS Borehole BGS Reference SJ49NW 130 Drilled Length 6.1 metres Bore Name KNOWSLEY IND ESTATE BH 1	470	BGS	342600 396700
65	BGS Borehole BGS Reference SJ49NW 131 Drilled Length 4.57 metres Bore Name KNOWSLEY IND ESTATE BH 2	320	BGS	342700 396800
66	BGS Borehole BGS Reference SJ49NW 7 Drilled Length -1 metres Bore Name LIVERPOOL CORP. SHALLOW BORES	470	BGS	342600 396800
67	BGS Borehole BGS Reference SJ49NW 8 Drilled Length -1 metres Bore Name LIVERPOOL CORP. SHALLOW BORES	160	BGS	343000 396800
68	BGS Borehole BGS Reference SJ49NW 9 Drilled Length -1 metres Bore Name LIVERPOOL CORP. SHALLOW BORES	360	BGS	343300 396900



Map ID	Details		Estimated Distance from Site	Source	NGR
69	BGS Borehole BGS Reference Drilled Length Bore Name	SJ49NW 11 -1 metres SIMONSWOOD TE. LIVERPOOL	850	BGS	343700 397200
70	BGS Borehole BGS Reference Drilled Length Bore Name	SJ49NW 6 -1 metres LIVERPOOL CORP. SHALLOW BORES	830	BGS	342200 396800



Map ID	Details	Estimated Distance from Site	Source	NGR
3	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency North West Region Pollutant: Oils - Other Oil Note: Knowsley Brook; Oil & Waste Water Incident Date: 8th December 1992 Incident Reference: 92450031 Catchment Area: Alt Received Water: Not Given Cause: Unknown Severity: Category 3 - Minor Incident	940	EA	342100 396600
4	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency North West Region Pollutant: Miscellaneous - Colour Note: Knowsley Brook Incident Date: 13th August 1991 Incident Reference: 91440062 Catchment Area: Alt Received Water: Not Given Cause: Unknown Severity: Category 3 - Minor Incident	930	EA	342100 396700
5	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency North West Region Pollutant: Oils - Other Oil Note: Knowsley Brook; Oil Film Incident Date: 26th June 1992 Incident Reference: 92440078 Catchment Area: Alt Received Water: Not Given Cause: Unknown Severity: Category 3 - Minor Incident	540	EA	342500 396600
5	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency North West Region Pollutant: Oils - Diesel (Including Agricultural) Note: Knowsley Brook Incident Date: 23rd August 1994 Incident Reference: 94440121 Catchment Area: Alt Received Water: Not Given Cause: Other Incident/Unknown Severity: Category 2 - Significant Incident	540	EA	342500 396600
6	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency North West Region Pollutant: Oils - Waste Oil Note: Knowsley Brook Incident Date: 11th December 1992 Incident Reference: 92450030 Catchment Area: Alt Received Water: Not Given Cause: Unknown Severity: Category 2 - Significant Incident	960	EA	342500 397500



Map ID	Details	Estimated Distance from Site	Source	NGR
7	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Connection To Surface Drains Location: Location Description Not Available Authority: Environment Agency North West Region Pollutant: Miscellaneous - Other Note: Knowsley Brook; Cross Connections Incident Date: 7th August 1992 Incident Reference: 92440107 Catchment Area: Alt Received Water: Not Given Cause: Unknown Severity: Category 2 - Significant Incident	830	EA	343500 398000
8	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency North West Region Pollutant: Miscellaneous - Unknown Note: Knowsley/Mill Brook Incident Date: 30th April 1993 Incident Reference: 93450054 Catchment Area: Alt Received Water: Not Given Cause: Unknown Severity: Category 3 - Minor Incident	750	EA	343500 398100
9	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency North West Region Pollutant: Oils - Diesel (including Agricultural) Note: Knowsley Brook Incident Date: 4th November 1993 Incident Reference: 93450132 Catchment Area: Alt Received Water: Not Given Cause: Unknown Severity: Category 2 - Significant Incident	580	EA	343600 396800
10	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Spillage; Accident - Static Site Location: Location Description Not Available Authority: Environment Agency North West Region Pollutant: Chemicals - Paints / Dyes Note: Tributary Croxteth Bk; Food Dye Incident Date: 20th January 1992 Incident Reference: 92440006 Catchment Area: Alt Received Water: Not Given Cause: Unknown Severity: Category 3 - Minor Incident	680	EA	343000 398000
11	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency North West Region Pollutant: Industrial Effluent Note: Knowsley Brook; Starch Solution Incident Date: 19th August 1993 Incident Reference: 93450108 Catchment Area: Alt Received Water: Not Given Cause: Unknown Severity: Category 2 - Significant Incident	900	EA	342300 397200



Map ID	Details	Estimated Distance from Site	Source	NGR
12	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency North West Region Pollutant: Chemicals - Other Organic Note: Knowsley Brook; Starch Incident Date: 29th January 1994 Incident Reference: 94440013 Catchment Area: Alt Received Water: Not Given Cause: Mechanical Failure Severity: Category 2 - Significant Incident	960	EA	342300 397300
13	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency North West Region Pollutant: Oils - Diesel (Including Agricultural) Note: Croxeth Brook Incident Date: 12th April 1994 Incident Reference: 94740672 Catchment Area: Alt Received Water: Not Given Cause: Accidental Spillage/Leakage Severity: Category 3 - Minor Incident	870	EA	342500 396000
14	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Spillage; Accident - Static Site Location: Location Description Not Available Authority: Environment Agency North West Region Pollutant: Oils - Diesel (Including Agricultural) Note: Not Given Incident Date: 26th November 1994 Incident Reference: 94440163 Catchment Area: Alt Received Water: Not Given Cause: Accidental Spillage/Leakage Severity: Category 3 - Minor Incident	810	EA	343400 397400
15	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Spillage; Accident In Transit Location: Location Description Not Available Authority: Environment Agency North West Region Pollutant: Other Chemicals Note: Knowsley Brook; Photographic Liquid Incident Date: 9th September 1995 Incident Reference: 95440151 Catchment Area: Alt Received Water: Not Given Cause: Accidental Spillage/Leakage Severity: Category 3 - Minor Incident	520	EA	343000 397200
16	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Not Given Location: Merseyside Authority: Environment Agency North West Region Pollutant: Oils - Other Fuel Oil Note: Knowsley Brook; Oil Incident Date: 30th August 1996 Incident Reference: 96440127 Catchment Area: Winster Received Water: Not Given Cause: Accidental Spillage/Leakage Severity: Category 3 - Minor Incident	280	EA	343300 396600



Map ID	Details	Estimated Distance from Site	Source	NGR
17	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Not Given Location: Merseyside Authority: Environment Agency North West Region Pollutant: Chemicals - Other Organic Note: Knowsley Brook; Maize Starch Washing Incident Date: 14th August 1998 Incident Reference: 96440113 Catchment Area: All Received Water: Not Given Cause: Treatment System Failure Severity: Category 3 - Minor Incident	980	EA	342200 397200
18	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Not Given Location: Merseyside Authority: Environment Agency North West Region Pollutant: Chemicals - Other Inorganic Note: Knowsley Brook; Glass Cutting And Grind Incident Date: 14th August 1998 Incident Reference: 96440114 Catchment Area: All Received Water: Not Given Cause: Not Given Severity: Category 3 - Minor Incident	720	EA	343400 397300
19	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Not Given Location: Merseyside Authority: Environment Agency North West Region Pollutant: Oils - Diesel (Including Agricultural) Note: Knowsley Brook; Oil Incident Date: 22nd January 1996 Incident Reference: 96440010 Catchment Area: All Received Water: Not Given Cause: Not Given Severity: Category 3 - Minor Incident	820	EA	343100 397500
20	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Industrial Premises Location: Rear Of Caddick Road, Knowsley Authority: Environment Agency North West Region Pollutant: Miscellaneous - Inert Suspended Solids Note: Tributary Croxteth Br; Bits Of Plastic Incident Date: 20th February 1997 Incident Reference: 97440033 Catchment Area: All Received Water: Freshwater Stream/River Cause: Land Runoff Severity: Category 3 - Minor Incident	850	EA	342700 395900
21	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Construction Location: At Culvert Up Stream End, Mill Brook, Knowsley Authority: Environment Agency North West Region Pollutant: Miscellaneous - Inert Suspended Solids Note: Knowsley Brook/Mill Brook; Inert Solids/Silt Incident Date: 4th March 1997 Incident Reference: 97440035 Catchment Area: All Received Water: Freshwater Stream/River Cause: In River Works Severity: Category 3 - Minor Incident	510	EA	343200 395200



Map ID	Details	Estimated Distance from Site	Source	NGR
22	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Garage Premises Location: C Site Authority: Environment Agency North West Region Pollutant: Miscellaneous - Vehicle Washings And De Waxing Note: Knowsley Bk; Vehicle Washings Incident Date: 17th January 1997 Incident Reference: 97440011 Catchment Area: All Received Water: Freshwater Stream/River Cause: Deliberate Disposal To Drain Severity: Category 2 - Significant Incident	900	EA	343400 397500
22	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Garage Premises Location: Oil From East Lancs Outfall Authority: Environment Agency North West Region Pollutant: Miscellaneous - Vehicle Washings And De Waxing Note: Knowsley Bk; Vehicle Washings Incident Date: 17th January 1997 Incident Reference: 97440012 Catchment Area: All Received Water: Freshwater Stream/River Cause: Deliberate Disposal To Drain Severity: Category 2 - Significant Incident	900	EA	343400 397500
22	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Garage Premises Location: East Lancashire Road Authority: Environment Agency North West Region Pollutant: Oils - Other Oil Note: Outfall; Knowsley Brook; Oil Incident Date: 16th January 1997 Incident Reference: 97440010 Catchment Area: All Received Water: Freshwater Stream/River Cause: Unknown Severity: Category 2 - Significant Incident	900	EA	343400 397500
23	Pollution Incident to Controlled Waters Name: Unknown Operator Property Type: Unknown Location: Rear Of News International Authority: Environment Agency North West Region Pollutant: Oils - Unknown Note: Not Given Incident Date: 24th September 1998 Incident Reference: CE980865 Catchment Area: All Received Water: Freshwater Stream/River Cause: Unknown Severity: Category 3 - Minor Incident	430	EA	342600 398700
24	Waste Transfer Site Licence Holder: Contract Chemicals (knowsley) Ltd Licence Reference: 442/01 Site: Penrhyn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Operator: 14 Bold St, Warrington, Cheshire WA1 1DL Authority: Environment Agency - North West Region South Area Site Category: Transfer Licence Status: No valid licence (ie surrender/return/expiry/revocation/lapse of CoPA licence or planning) Waste types on Site: Authorised waste: Solid Special W.Prod.On Site Max.Stor Max.Waste Permitted By Licence Liquid Special W.Prod.On Site Max.Stor	40	EA	343100 396700
71	Air Pollution Control Name: Otis Plc Location: Liverpool Works, Moorgate Road, Liverpool, Merseyside L33 7XW Authority: Knowsley Metropolitan Borough Council Permit Reference: B3/0992/6.5/05 Permit Date: 1st September 1992 Process Type: Local Authority Air Pollution Control Description: PG6/23 Coating of metal and plastic Status: Application has been authorised and any conditions apply to the operator	870	LA	342400 387200



Map ID	Details	Estimated Distance from Site	Source	NGR
72	Air Pollution Control Name: Pentre Timber Drums Ltd Location: Unit 50, Randles Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HX Authority: Knowsley Metropolitan Borough Council Permit Reference: B1/0192/6.7/11 Permit Date: 1st January 1992 Process Type: Local Authority Air Pollution Control Description: PG6/2 Manufacture of timber and wood-based products Status: Application has been authorised and any conditions apply to the operator	780	LA	342400 396200
72	Air Pollution Control Name: Pentre Timber Drums Ltd Location: Unit 50, Randles Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HX Authority: Knowsley Metropolitan Borough Council Permit Reference: B1/0192/6.7/11 Permit Date: 1st January 1992 Process Type: Local Authority Air Pollution Control Description: PG 1/12 Combustion of fuel manufactured from/ or comprised of, solid waste in appliances between 0.4-3MW thermal input Status: Application has been authorised and any conditions apply to the operator	780	LA	342400 396200
73	Air Pollution Control Name: Dalco Electronics Location: Moorgate Road, Liverpool, Merseyside L33 7XL Authority: Knowsley Metropolitan Borough Council Permit Reference: B2/0392/2.2/07 Permit Date: 1st March 1992 Process Type: Local Authority Air Pollution Control Description: PG2/4 Iron, steel and non-ferrous metal foundry processes Status: Authorisation either revoked or cancelled	960	LA	342500 397500
74	Air Pollution Control Name: Accident Repair Centre Ltd Location: Unit 5, Britonwood Trading Estate, Abercrombie Road, Liverpool, Merseyside L33 7YN Authority: Knowsley Metropolitan Borough Council Permit Reference: E/0595/6.5/1 Permit Date: 1st June 1995 Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles Status: Authorisation revoked	740	LA	342900 397400
75	Air Pollution Control Name: News International Ltd Location: Killing Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HN Authority: Knowsley Metropolitan Borough Council Permit Reference: B3/0392/6.5/09 Permit Date: 1st September 1992 Process Type: Local Authority Air Pollution Control Description: PG6/16 Printworks Status: Authorisation revoked	290	LA	343200 396500
76	Air Pollution Control Name: Titeon Ltd Location: Unit A1-A2, Britonwood Trading Estate, Hornhouse Lane, Liverpool, Merseyside L33 7YQ Authority: Knowsley Metropolitan Borough Council Permit Reference: B2/0392/3.4/04 Permit Date: 1st March 1992 Process Type: Local Authority Air Pollution Control Description: PG3/7 Exploitation of vermiculite and expansion of perlite Status: Application has been authorised and any conditions apply to the operator	660	LA	343400 397200
77	Air Pollution Control Name: Wentworth Furniture Ltd Location: Randles Road, Knowsley, Merseyside L34 9HX Authority: Knowsley Metropolitan Borough Council Permit Reference: B1/1091/6.7/06 Permit Date: 1st October 1991 Process Type: Local Authority Air Pollution Control Description: PG6/2 Manufacture of timber and wood-based products Status: Authorisation revoked	720	LA	342500 396200



Map ID	Details	Estimated Distance from Site	Source	NGR
78	Air Pollution Control Name: Dawson Colourmatch Ltd Location: Ainsworth Lane, Knowsley, Merseyside L34 9EU Authority: Knowsley Metropolitan Borough Council Permit Reference: B3/1092/6.5/16 Permit Date: 1st October 1992 Process Type: Local Authority Air Pollution Control Description: PG6/18 Paper coating Status: Authorisation either revoked or cancelled	460	LA	342600 396500
79	Integrated Pollution Control Name: Yardley Plastics Ltd Location: Caddick Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HP Authority: Environment Agency North West Region Permit Reference: AN8704 Dated 22nd July 1994 Process Type: Application since found to be exempt from IPC Description: 4.5 A (G) Inorganic Chemical processes within the Chemical Industry Status: Application since found to be exempt from IPC	710	EA	342800 396000
80	Integrated Pollution Control Name: Contract Chemicals (knowsley) Ltd Location: Penrhyn Road, Knowsley Industrial Park, Prescot, Merseyside L34 9HY Authority: Environment Agency North West Region Permit Reference: BA9827 Dated 30th November 1998 Process Type: IPC new application Description: 4.2 A (J) Manufacture and use of Organic Chemicals within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variation	70	EA	343100 396700
80	Integrated Pollution Control Name: Contract Chemicals (knowsley) Ltd Location: Penrhyn Road, Knowsley Industrial Park, Prescot, Merseyside L34 9HY Authority: Environment Agency North West Region Permit Reference: BE4088 Dated 30th November 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.2 A (J) Manufacture and use of Organic Chemicals within the Chemical Industry Status: Application has been authorised and any conditions apply to the operator	70	EA	343100 396700
81	Integrated Pollution Control Name: Contract Chemicals (Knowsley) Ltd Location: Penrhyn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Authority: Environment Agency North West Region Permit Reference: AN4555 Dated 9th June 1994 Process Type: Application since found to be exempt from IPC Description: 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry Status: Application since found to be exempt from IPC	10	EA	343000 396700
81	Integrated Pollution Control Name: Contract Chemicals (knowsley) Ltd Location: Penrhyn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Authority: Environment Agency North West Region Permit Reference: AQ8123 Dated 30th November 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variation	10	EA	343000 396700
81	Integrated Pollution Control Name: Contract Chemicals (knowsley) Ltd Location: Penrhyn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Authority: Environment Agency North West Region Permit Reference: AF9650 Dated 13th April 1995 Process Type: IPC new application Description: 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variation	10	EA	343000 396700
81	Integrated Pollution Control Name: Contract Chemicals (knowsley) Ltd Location: Penrhyn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Authority: Environment Agency North West Region Permit Reference: AK3129 Dated 28th June 1995 Process Type: IPC application for process that was regulated by HMIP for air releases under previous legislation Description: 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variation	10	EA	343000 396700



Map ID	Details	Estimated Distance from Site	Source	NGR
81	Integrated Pollution Control Name Contract Chemicals (knowsley)ltd Location Penrhyn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference AQ4772 Dated 28th April 1995 Process Type IPC minor (non-substantial) variation to previous variation Description 4.4 A (D) processes involving Halogens within the Chemical Industry Status Authorisation superseded by a substantial or non substantial variation	10	EA	343000 396700
81	Integrated Pollution Control Name Contract Chemicals (knowsley)ltd Location Penrhyn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference AR0748 Dated 30th November 1998 Process Type IPC minor (non-substantial) variation to previous variation Description 4.4 A (D) processes involving Halogens within the Chemical Industry Status Authorisation superseded by a substantial or non substantial variation	10	EA	343000 396700
81	Integrated Pollution Control Name Contract Chemicals (knowsley)ltd Location Penrhyn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference AM7940 Dated 6th March 1995 Process Type IPC minor (non-substantial) variation to previous variation Description 4.4 A (D) processes involving Halogens within the Chemical Industry Status Authorisation superseded by a substantial or non substantial variation	10	EA	343000 396700
81	Integrated Pollution Control Name Contract Chemicals (knowsley)ltd Location Penrhyn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference AL9220 Dated 14th March 1996 Process Type IPC new application Description 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry Status Authorisation superseded by a substantial or non substantial variation	10	EA	343000 396700
81	Integrated Pollution Control Name Contract Chemicals (knowsley)ltd Location Penrhyn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference AS0871 Dated 25th September 1995 Process Type IPC minor (non-substantial) variation to previous variation Description 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry Status Authorisation superseded by a substantial or non substantial variation	10	EA	343000 396700
81	Integrated Pollution Control Name Contract Chemicals (knowsley)ltd Location Penrhyn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference AT5496 Dated 9th July 1996 Process Type IPC minor (non-substantial) variation to previous variation Description 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry Status Authorisation superseded by a substantial or non substantial variation	10	EA	343000 396700
81	Integrated Pollution Control Name Contract Chemicals (knowsley)ltd Location Penrhyn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference AF7096 Dated 5th April 1994 Process Type IPC new application Description 4.4 A (D) processes involving Halogens within the Chemical Industry Status Authorisation superseded by a substantial or non substantial variation	10	EA	343000 396700
81	Integrated Pollution Control Name Contract Chemicals (knowsley)ltd Location Penrhyn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference AV0568 Dated 8th July 1996 Process Type IPC minor (non-substantial) variation to previous variation Description 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry Status Authorisation superseded by a substantial or non substantial variation	10	EA	343000 396700
81	Integrated Pollution Control Name Contract Chemicals (knowsley)ltd Location Penrhyn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference AW0440 Dated 30th November 1998 Process Type IPC minor (non-substantial) variation to previous variation Description 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry Status Authorisation superseded by a substantial or non substantial variation	10	EA	343000 396700



Map ID	Details	Estimated Distance from Site	Source	NGR
81	Integrated Pollution Control Name Contract Chemicals (knowsley) Ltd Location Penrhyn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference AW0458 Dated 30th November 1998 Process Type IPC minor (non-substantial) variation to previous variation Description 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry Status Authorisation superseded by a substantial or non substantial variation	10	EA	343000 396700
81	Integrated Pollution Control Name Contract Chemicals (knowsley) Ltd Location Penrhyn Road, Knowsley Industrial Park, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference AZ7505 Dated 30th November 1998 Process Type IPC new application Description 4.5 A (M) Inorganic Chemical processes within the Chemical Industry Status Authorisation superseded by a substantial or non substantial variation	10	EA	343000 396700
81	Integrated Pollution Control Name Contract Chemicals (Knowsley) Ltd Location Penrhyn Road, Knowsley Industrial Park, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference BA6119 Dated 25th February 1998 Process Type IPC new application Description 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry Status Application has met the requirements for authorisation (but not yet authorised)	10	EA	343000 396700
81	Integrated Pollution Control Name Contract Chemicals (Knowsley) Ltd Location Penrhyn Road, Knowsley Industrial Park, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference BA9509 Dated 23rd April 1998 Process Type IPC major (substantial) variation Description 4.5 A (M) Inorganic Chemical processes within the Chemical Industry Status Application has met the requirements for authorisation (but not yet authorised)	10	EA	343000 396700
81	Integrated Pollution Control Name Contract Chemicals (knowsley) Ltd Location Penrhyn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference BD1326 Dated 30th November 1998 Process Type IPC minor (non-substantial) variation to previous variation Description 4.4 A (D) processes involving Halogens within the Chemical Industry Status Application has been authorised and any conditions apply to the operator	10	EA	343000 396700
81	Integrated Pollution Control Name Contract Chemicals (knowsley) Ltd Location Penrhyn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference BD1130 Dated 30th November 1998 Process Type IPC minor (non-substantial) variation to previous variation Description 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry Status Application has been authorised and any conditions apply to the operator	10	EA	343000 396700
81	Integrated Pollution Control Name Contract Chemicals (knowsley) Ltd Location Penrhyn Road, Knowsley Industrial Park, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference BD6352 Dated 30th November 1998 Process Type IPC minor (non-substantial) variation to previous variation Description 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry Status Application has been authorised and any conditions apply to the operator	10	EA	343000 396700
81	Integrated Pollution Control Name Contract Chemicals (knowsley) Ltd Location Penrhyn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference BD6379 Dated 30th November 1998 Process Type IPC minor (non-substantial) variation to previous variation Description 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry Status Application has been authorised and any conditions apply to the operator	10	EA	343000 396700
81	Integrated Pollution Control Name Contract Chemicals (knowsley) Ltd Location Penrhyn Road, Knowsley Industrial Park, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference BC2149 Dated 1st March 1999 Process Type IPC new application Description 4.4 A (D) processes involving Halogens within the Chemical Industry Status Application has been authorised and any conditions apply to the operator	10	EA	343000 396700



Map ID	Details	Estimated Distance from Site	Source	NGR
81	Integrated Pollution Control Name Contract Chemicals (Knowsley) Ltd Location Penryn Road, Knowsley Industrial Park, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference BE1259 Dated 30th November 1998 Process Type IPC minor (non-substantial) variation to previous variation Description 4.5 A (M) Inorganic Chemical processes within the Chemical Industry Status Application has been authorised and any conditions apply to the operator	10	EA	343000 396700
82	Registered Radioactive Substance Name Delco Electronics Overseas Corporation Location Moorgate Road, Liverpool, Merseyside L33 7XL Authority Environment Agency North West Region Permit Reference AC0621 Dated 23rd April 1992 Process Type Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description Registration under S7 or S10 RSA for 1 or more closed sources =< 4 Terabecquerels also for storage in transit Status Authorisation superseded by a substantial or non substantial variation	960	EA	342500 397500
82	Registered Radioactive Substance Name Delco Electronics Overseas Corporation Location Moorgate Road, Liverpool, Merseyside L33 7XL Authority Environment Agency North West Region Permit Reference AX6575 Dated 25th February 1997 Process Type Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description Registration under S7 or S10 RSA for 1 or more closed sources =< 4 Terabecquerels also for storage in transit Status Application has been authorised and any conditions apply to the operator	960	EA	342500 397500
83	Registered Radioactive Substance Name Accident Repair Centre Ltd Location Unit 5 Abercrombie Road, Britonwood Trading Estate, Kirkby, Liverpool, Merseyside L33 7YN Authority Environment Agency North West Region Permit Reference AT4341 Dated 25th September 1995 Process Type Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description Registration under S7 or S10 RSA for 1 or more closed sources =< 4 Terabecquerels also for storage in transit Status Authorisation either revoked or cancelled	750	EA	342900 397400
83	Registered Radioactive Substance Name Accident Repair Centre Ltd Location Unit 5, Abercrombie Road, Britonwood Trading Estate, Liverpool, Merseyside L33 7YN Authority Environment Agency North West Region Permit Reference AX4726 Dated 11th February 1997 Process Type Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description Registration under the Act of an open source which is also the subject of an authorisation Status Application has been authorised and any conditions apply to the operator	750	EA	342900 397400
84	Registered Radioactive Substance Name Makro Self Service Wholesalers Ltd Location Britonwood Trading Estate, Horn House Lane, Kirkby, Liverpool, Merseyside L33 7YQ Authority Environment Agency North West Region Permit Reference AR9362 Dated 4th July 1995 Process Type Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description Registration under S7 or S10 RSA for 1 or more closed sources =< 4 Terabecquerels also for storage in transit Status Application has been authorised and any conditions apply to the operator	620	EA	343200 397300
85	Registered Radioactive Substance Name Kelco Biospecialities Ltd Location Penryn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Authority Environment Agency North West Region Permit Reference AS1746 Dated 1st April 1991 Process Type Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description Registration under S7 or S10 RSA for 1 or more closed sources =< 4 Terabecquerels also for storage in transit Status Application has been authorised and any conditions apply to the operator	170	EA	343200 396700



Map ID	Details	Estimated Distance from Site	Source	NGR
85	Registered Radioactive Substance Name: Kelco Biospecialities Ltd Location: Penrhyn Road, Knowsley Industrial Park South, Prescot, Merseyside L34 9HY Authority: Environment Agency North West Region Permit Reference: AS2556 Dated 1st April 1991 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under S7 or S10 RSA for 1 or more closed sources =< 4 Terabecquerels also for storage in transit Status: Application has been authorised and any conditions apply to the operator	170	EA	343200 396700
86	Planning Hazardous Substance Consent Name: Go Gas Co Ltd Location: Ainsworth Lane, Knowsley Industrial Park South, Knowsley, Merseyside L34 9EU Authority: Knowsley Metropolitan Borough Council Application Ref.: KHSC/2 Hazardous Substance: Part C, Flammable Substance (Not in Parts A&B), Liquefied petroleum gas held at >1.4 bar where amount held is greater than or equal to 25 tonnes Amount: 260 tonnes Application Date: 2nd September 1992 Decision: Deemed consent granted between June 1992 and November 1992	430	LA	342600 396600
87	Planning Hazardous Substance Consent Name: Total Gas Location: Ainsworth Lane, Kirby, Prescot, Merseyside L34 9EU Authority: Knowsley Metropolitan Borough Council Application Ref.: HSC/95/00644 Hazardous Substance: Part C, Flammable Substance (Not in Parts A&B), Liquefied petroleum gas held at >1.4 bar where amount held is greater than or equal to 25 tonnes Amount: 360 tonnes Application Date: 2nd November 1995 Decision: 14th June 1996 : New application granted conditionally	440	LA	342600 396600
88	Planning Application (of possible contaminative use) Name: Factory (Extension) Location: Moorgate Road, Kirkby, Liverpool, Merseyside L33 7XL Authority: Knowsley Metropolitan Borough Council Description: Heavy Industrial Application Ref.: 95/564 Dated 14th September 1995 Status: Detailed Plans Submitted Site Area: n/a	970	LA	342500 397500
88	Planning Application (of possible contaminative use) Name: Industrial Units Location: Moorgate Road, Kirkby, Liverpool, Merseyside L33 7XJ Authority: Knowsley Metropolitan Borough Council Description: Light Industrial Application Ref.: APP/97/00265 Dated 11th June 1997 Status: Detailed Plans Submitted Site Area: n/a	970	LA	342500 397500
89	Planning Application (of possible contaminative use) Name: Industrial Location: Penrhyn Road, Knowsley Ind. Estate, Knowsley, Prescot, Merseyside L34 9HY Authority: Knowsley Metropolitan Borough Council Description: Heavy Industrial Application Ref.: APP/96/00196 Dated 15th April 1996 Status: Detailed Plans Submitted Site Area: n/a	80	LA	343100 396700
90	Planning Application (of possible contaminative use) Name: Light Industrial(Extension) Location: North West Cables Ltd, School Lane, Knowsley, Prescot, Merseyside L34 9HD Authority: Knowsley Metropolitan Borough Council Description: Light Industrial Application Ref.: APP/95/00281 Dated 22nd May 1995 Status: Detailed Plans Submitted Site Area: 1.00 hectares	830	LA	342300 396300
91	Planning Application (of possible contaminative use) Name: Industrial (Extension) Location: Randles Road, Knowsley Business Park, Prescot, Merseyside L34 9EZ Authority: Knowsley Metropolitan Borough Council Description: Light Industrial Application Ref.: 98/00014 Dated 5th March 1998 Status: Detailed Plans Submitted Site Area: 6.00 hectares	970	LA	342100 396400



Map ID	Details	Estimated Distance from Site	Source	NGR
92	Planning Application (of possible contaminative use) Name: Factory (Extension) Location: Nutrasweet Leco Co, Penrhyn Road, Knowsley, Prescot, Merseyside L34 9HY Authority: Knowsley Metropolitan Borough Council Description: Heavy Industrial Application Ref: 97/00066 Dated 20th February 1997 Status: Detailed Plans Submitted Site Area: n/a	180	LA	343200 396700
93	Planning Application (of possible contaminative use) Name: Industrial Location: Kitting Road, Knowsley Business Park, Prescot, Merseyside L34 Authority: Knowsley Metropolitan Borough Council Description: Factories/Spec Ind Application Ref: 98/00570 Dated 19th October 1998 Status: Detailed Plans Submitted Site Area: 1.00 hectares	340	LA	343000 396300
94	Planning Application (of possible contaminative use) Name: Sub-Station Location: Caddick Road, Knowsley Business Park, Prescot, Merseyside L34 9 Authority: Knowsley Metropolitan Borough Council Description: Power/Sub Stations Application Ref: 98/00599 Dated 12th November 1998 Status: Detailed Plans Submitted Site Area: n/a	570	LA	342800 396200
95	Potentially Contaminative Industrial Use Name: Totalgaz Location: Ainsworth Lane, Knowsley, Prescot, Merseyside L34 9EU Classification: Gas manufacture & distribution	430	Thomsons Trade Directory 1997	342600 396600
96	Potentially Contaminative Industrial Use Name: Colomatrix Uk Ltd Location: 9 Unity Grove, Knowsley Ind Park South, Prescot, Merseyside L34 9GT Classification: Paints, varnishes, printing inks, mastics & sealants [manufacture]	600	Thomsons Trade Directory 1995	342500 396500
97	Potentially Contaminative Industrial Use Name: Wallis Manufacturing Chemists Location: Randles Road, Knowsley Ind Park South, Prescot, Merseyside L34 9HX Classification: Pharmaceuticals manufacturing	780	Thomsons Trade Directory 1995	342400 396200
98	Potentially Contaminative Industrial Use Name: Dawson Colourmatch Ltd Location: 19 Ainsworth Lane, Knowsley Ind Park South, Prescot, Merseyside L34 9EU Classification: Paints, varnishes, printing inks, mastics & sealants [manufacture]	380	Thomsons Trade Directory 1995	342800 396400
99	Potentially Contaminative Industrial Use Name: Rotofinish Rosler Location: 1 Unity Grove, School Lane, Knowsley Ind Park, Prescot, Merseyside L34 9GT Classification: Metals: treatment & coating inc. electroplating	680	Thomsons Trade Directory 1997	342400 396500

**British Geological Survey Information Services Group**

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Nottingham
Nottinghamshire
NG12 5GG

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Fax 0115 936 3200

Environment Agency - North West Region South Area

Appleton House
430 Birchwood Boulevard
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Fax 01925 852260

Environment Agency North West Region

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Knutsford Road
Warrington
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WA4 1HG

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Fax 01925 415961

Institute of Hydrology

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Knowsley Metropolitan Borough Council

Archway Road
Huyton
Liverpool
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L36 9YU

Telephone 0151 489 6000
Fax 0151 443 2298

National Radiological Protection Board

Chilton
Didcot
Oxfordshire
OX11 0RQ

Telephone 01235 831600
Fax 01235 833891

Ordnance Survey

Romsey Road
Southampton
Hampshire
SO16 4GU

Telephone 023 8079 2000
Fax 023 8079 2404

Report Reference: 23807-1**Site Address:** Contract Chemicals Ltd, Pentwyn Road, Knowsley Bus**Company Name:****Grid Reference:** 343032 396683

EA (Water) Prosecutions

The following company(s) have been prosecuted as shown below, however, from the information supplied, Landmark is unable to provide a National Grid Reference for the record(s).

Name	Sterling Colours Limited
Address	Ditton Brook, Greensbridge Lane, Tarbock Green, PRESCOT, Merseyside, L35 1QH
Authority	Environment Agency, North West Region
Details	EA News Release 05/03/99, Caused polluting matter (namely blue dye) to enter Ditton Brook on 4th August 1998.
Hearing Date	05-Mar-99
Verdict	Guilty
Fine	£4,000.00
Costs	£1,120.82

**EnviroCheck Report on:**

Contract Chemicals Ltd
Penrhyn Road
Knowsley Business Park
PRESCOT
Merseyside
L34 9HY

National Grid Reference :

343032, 396683

Prepared For :

AIG Consultants Limited
PIER HOUSE
WALLGATE
WIGAN
WN3 4AL

Your Reference :

Robert Tinsley

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**Ordnance Survey County Series Published 1850**

County	Mapsheet	Scale	Year
Lancashire And Furness	100_00	1:10,560	1850
Lancashire And Furness	107_00	1:10,560	1850

Ordnance Survey County Series Published 1894

County	Mapsheet	Scale	Year
Lancashire And Furness	100_SW	1:10,560	1894
Lancashire And Furness	107_NW	1:10,560	1894

Ordnance Survey County Series Published 1909

County	Mapsheet	Scale	Year
Lancashire And Furness	100_SW	1:10,560	1909
Lancashire And Furness	107_NW	1:10,560	1909

Ordnance Survey County Series Published 1928

County	Mapsheet	Scale	Year
Lancashire And Furness	100_SW	1:10,560	1928
Lancashire And Furness	107_NW	1:10,560	1928

Ordnance Survey Plan Published 1956

National Grid Series	Mapsheet	Scale	Year
Sheet	SJ49NW	1:10,560	1956

Ordnance Survey Plan Published 1966

National Grid Series	Mapsheet	Scale	Year
Sheet	SJ49NW	1:10,560	1966

Ordnance Survey Plan Published 1978

National Grid Series	Mapsheet	Scale	Year
Sheet	SJ49NW	1:10,000	1978



Ordnance Survey Plan Published 1990

National Grid Series	Mapsheet	Scale	Year
Sheet	SJ49NW	1:10,000	1990

EnviroCheck Report on:

Contract Chemicals Ltd
Penrhyn Road
Knowsley Business Park
PRESCOT
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National Grid Reference :

343032, 396683

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Ordnance Survey County Series Published 1893

County	Mapsheet	Scale	Year
Lancashire And Furness	100_13	1:2,500	1893

Ordnance Survey County Series Published 1908

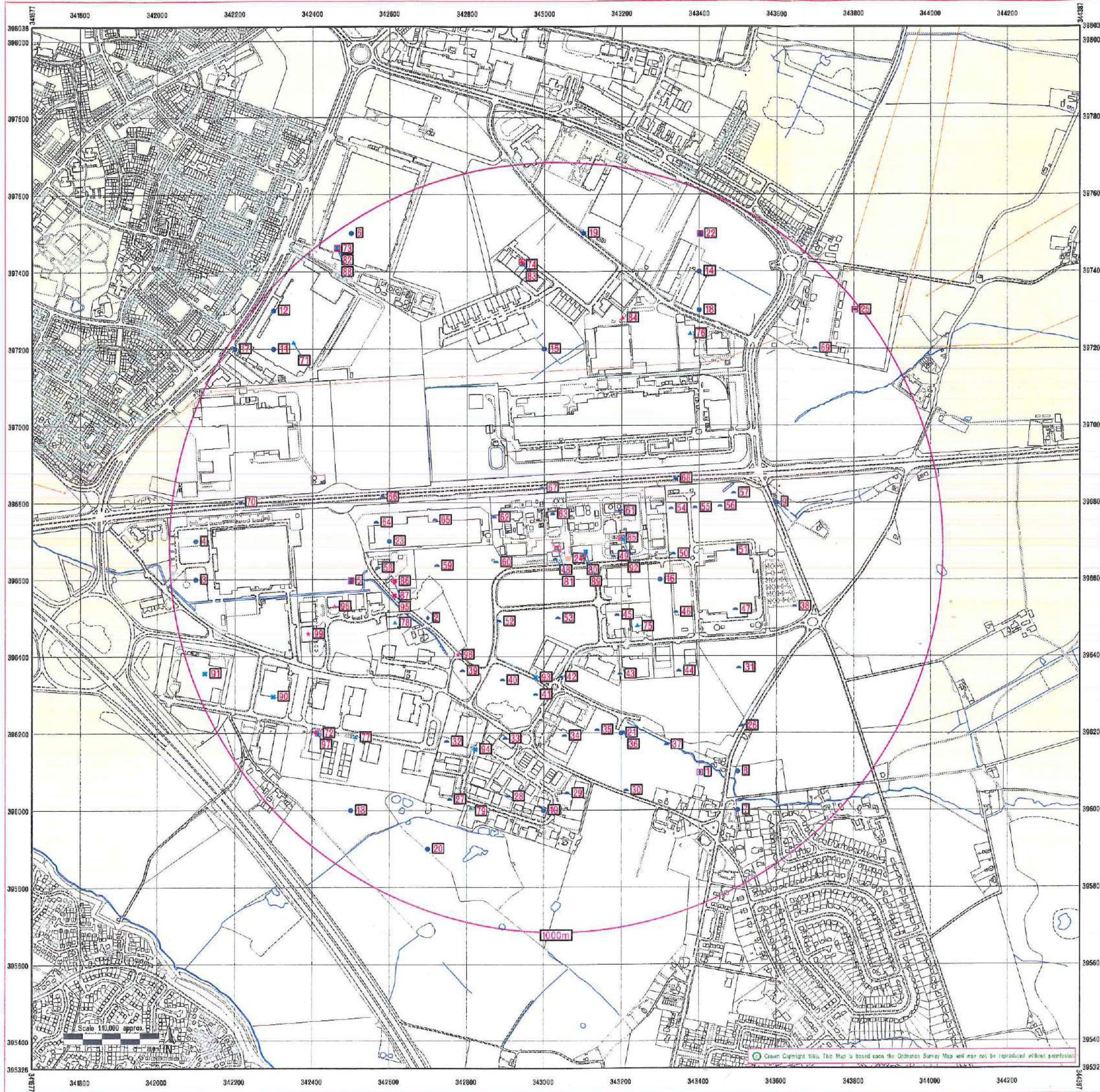
County	Mapsheet	Scale	Year
Lancashire And Furness	100_13	1:2,500	1908

Ordnance Survey County Series Published 1927

County	Mapsheet	Scale	Year
Lancashire And Furness	100_13	1:2,500	1927

Ordnance Survey County Series Published 1937

County	Mapsheet	Scale	Year
Lancashire And Furness	100_13	1:2,500	1937



CLIENT DETAILS

Order No. ES23807-1

Customer Ref: Robert Tinsley
AIG Consultants Limited
PIER HOUSE WALLGATE
WIGAN
WN3 4AL

SITE DETAILS

Grid Reference 343032 396683

Contract Chemicals Ltd
Penrhyn Road
Knowsley Business Park
PRESCOT
Merseyside L34 9HY

KEY TO THE LEGEND DATABASE

SITE SETTING

- × Specified Site
- Buffer
- 8 Reference Number
- Several of Type at Location
- Pylon or Mast

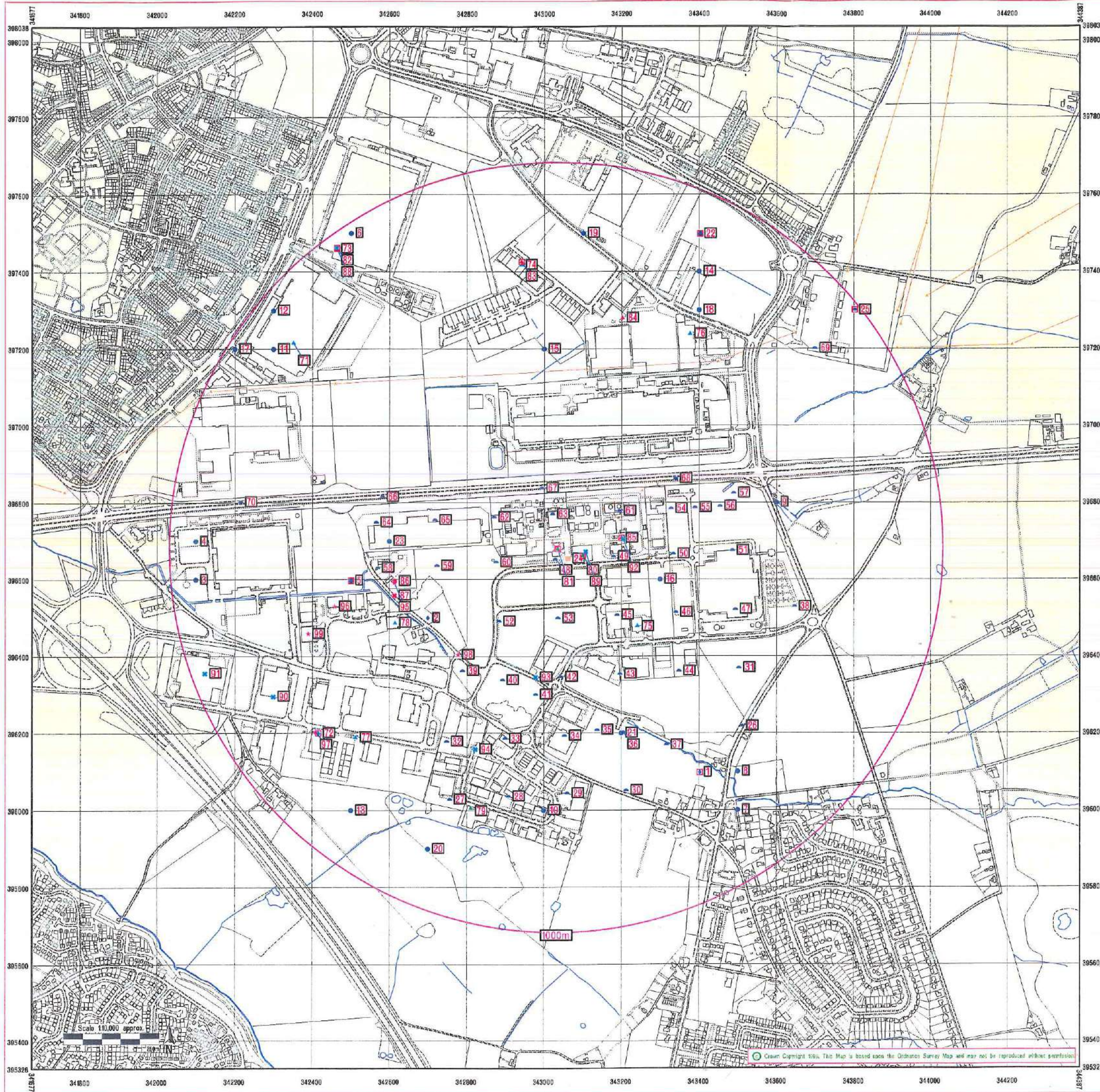
ENVIRONMENTAL SETTING

- Landfill
- BGS Recorded Landfill Site
- BGS Recorded Mineral Site
- BGS Borehole
- River Network and Water Feature
- Water Abstraction
- Discharge Consent
- Site of Special Scientific Interest

INDUSTRIAL SETTING

- Integrated Pollution Control
- Air Pollution Control
- Red List Discharge Consent
- Enforcement or Prohibition Notice
- Prosecution Relating to Authorised Process
- Registered Radioactive Substance
- Planning Application (of Possible Contaminative Use)
- Waste Treatment or Disposal Site
- Waste Transfer Site
- Integrated Pollution Control Registered Waste Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement
- Potentially Contaminative Use
- Prosecution Relating to Controlled Waters
- Pollution Incident Relating to Controlled Waters

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Grid Reference 343032 396683

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Merseyside L34 9HY

KEY TO THE LEGEND DATABASE

SITE SETTING

- × Specified Site
- Buffer
- 8 Reference Number
- Several of Type at Location
- Pylon or Mast

ENVIRONMENTAL SETTING

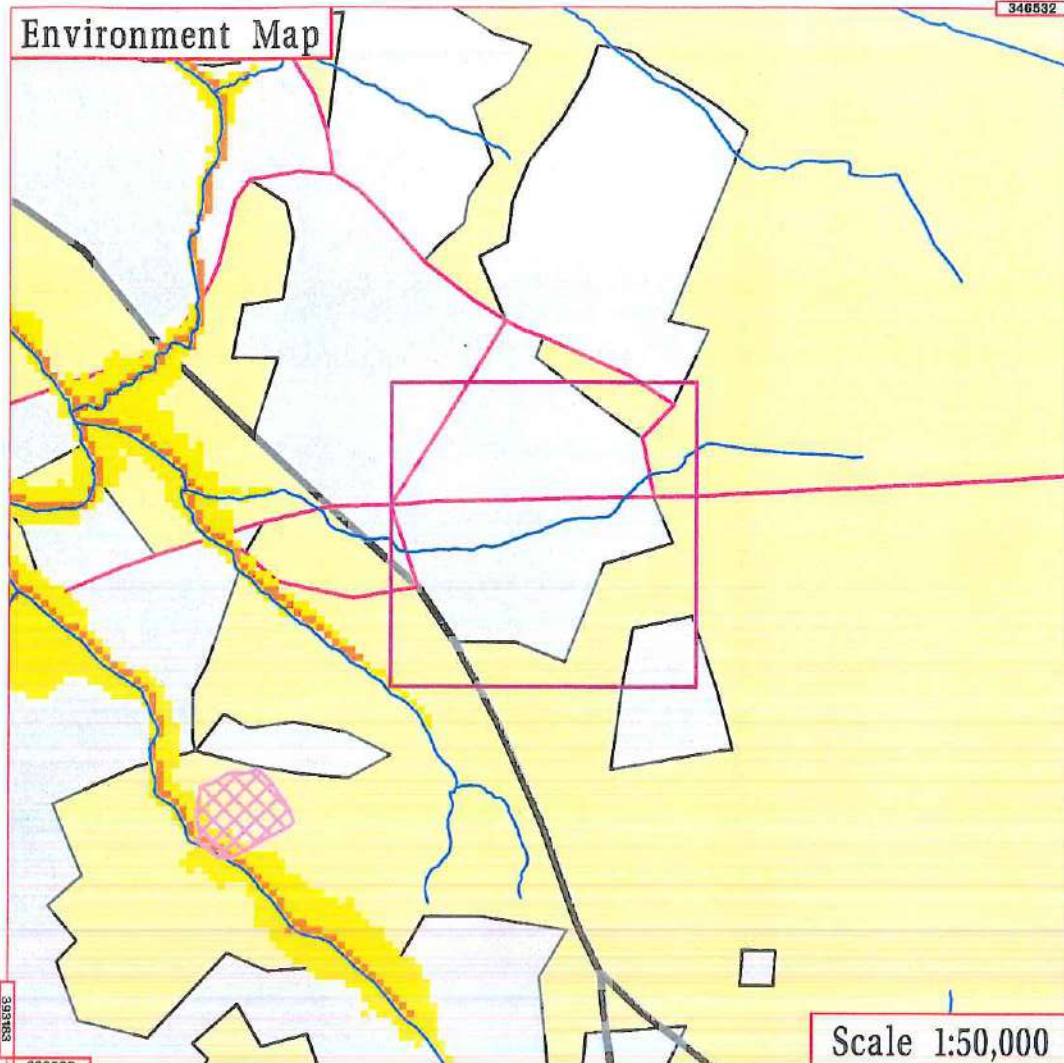
- Landfill
- BGS Recorded Landfill Site
- BGS Recorded Mineral Site
- BGS Borehole
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- Water Abstraction
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- Pollution Incident Relating to Controlled Waters

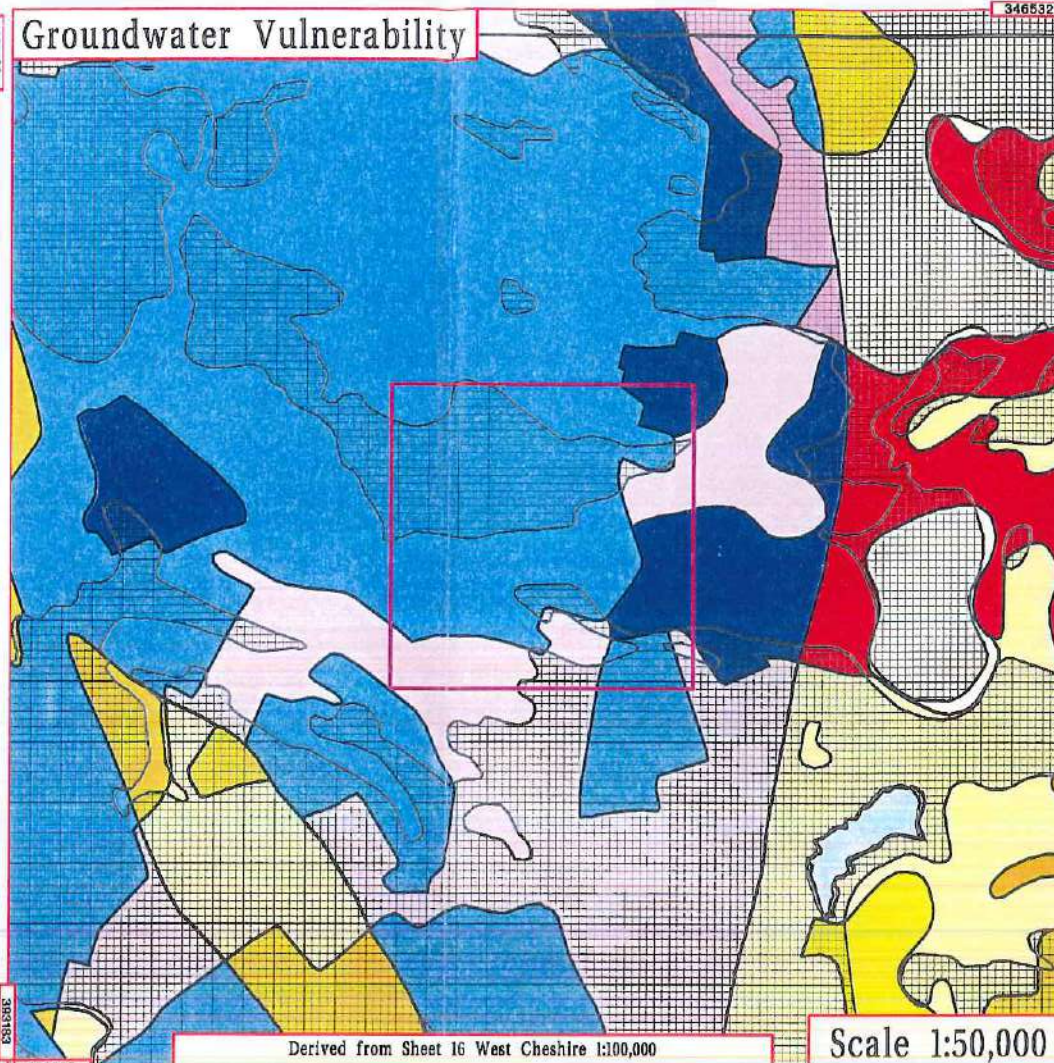
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Environment Map



Scale 1:50,000

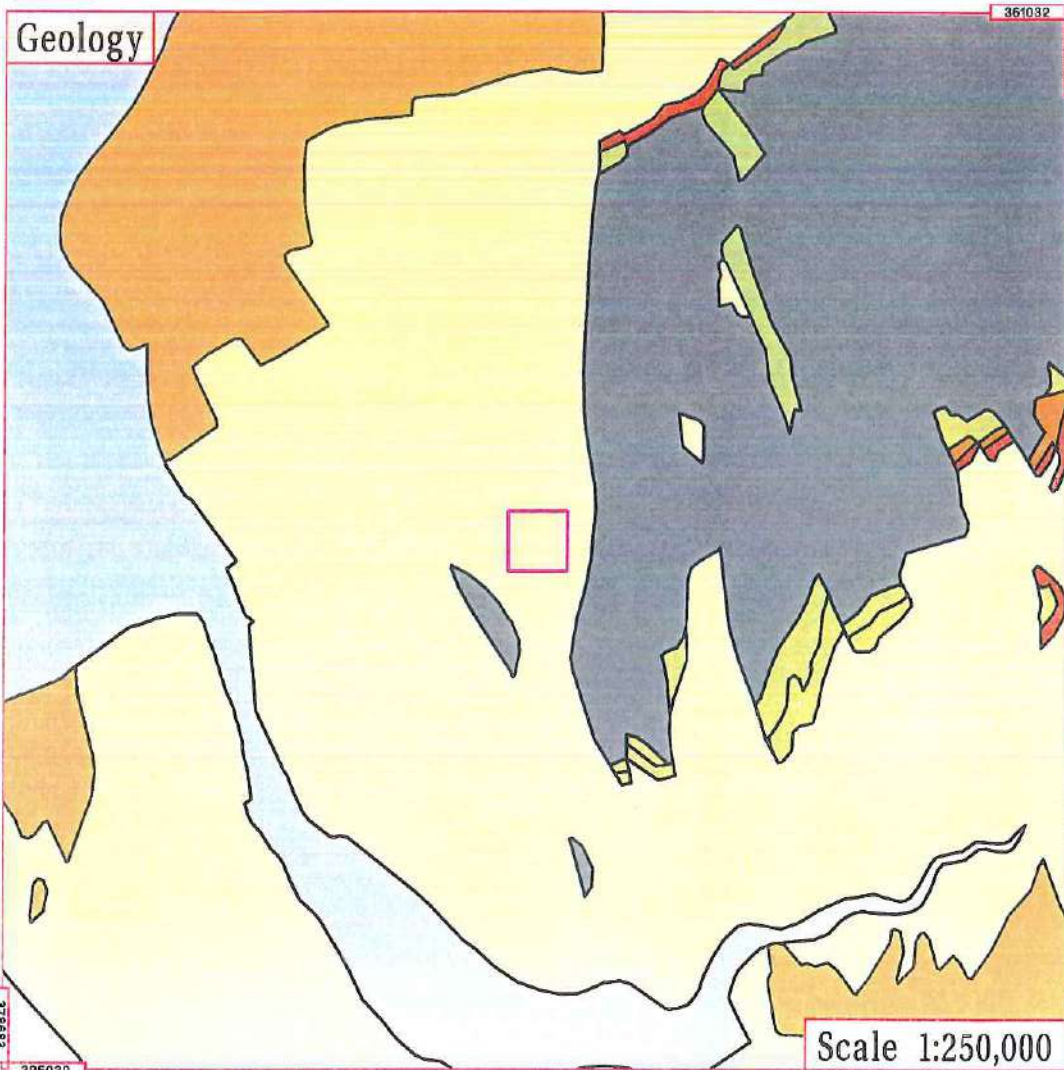
Groundwater Vulnerability



Derived from Sheet 16 West Cheshire 1:100,000

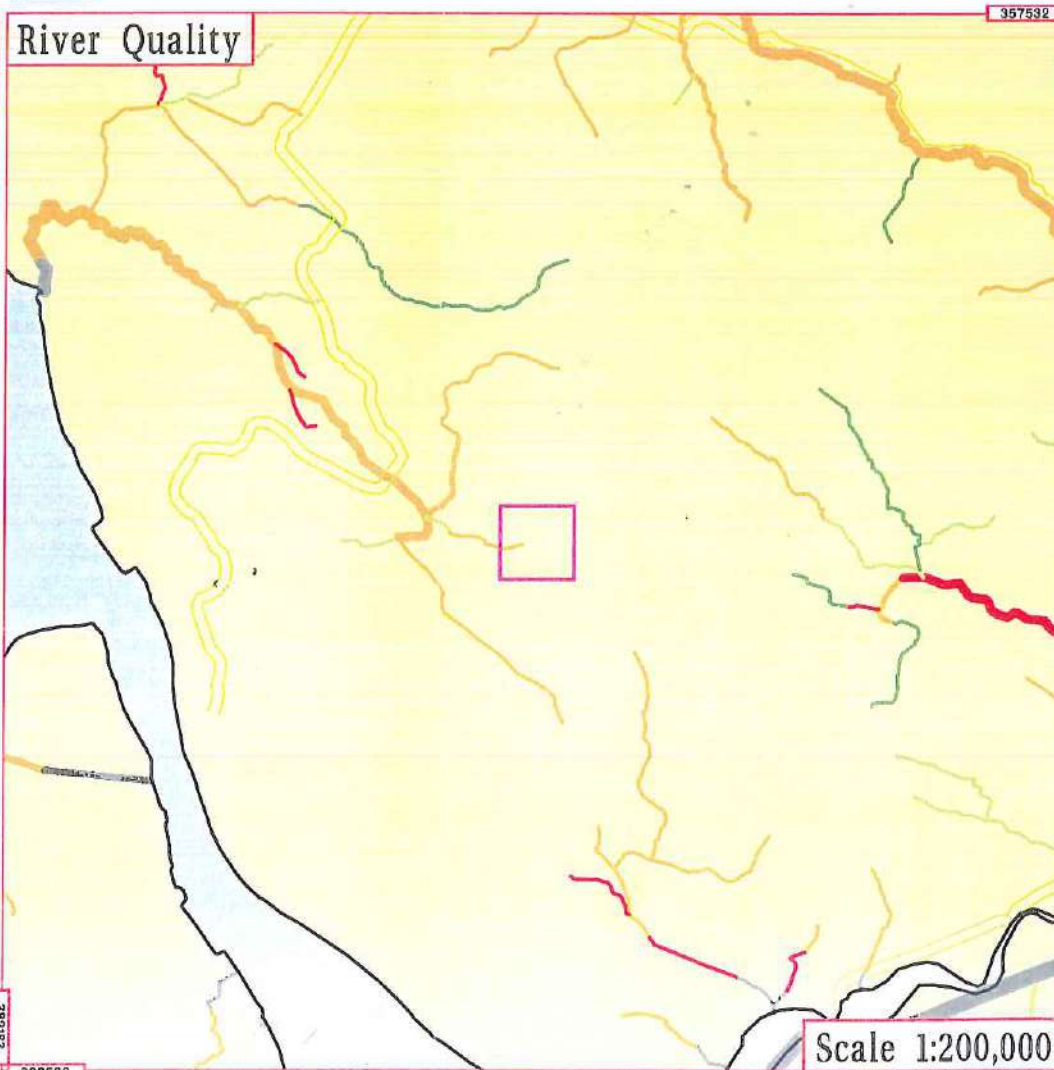
Scale 1:50,000

Geology



Scale 1:250,000

River Quality



Scale 1:200,000



EnviroCheck

Environmental Site Sensitivity Data

CLIENT DETAILS

Order No. ES23807-1

Customer Ref: Robert Tinsley
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WN3 4AL

SITE DETAILS

Grid Reference 343032 396683

Contract Chemicals Ltd
Penrhyn Road
Knowsley Business Park
PRESCOT
Merseyside L34 9HY

Guide to the Environment Map

- | | | | |
|--------------------------------------|--------------------------------------|---------------------------------------|---------------------------------|
| Urban Areas | Motorways | 'A' Roads | Extent of Search |
| 0 - 1 m estimated 100 yr flood depth | 1 - 2 m estimated 100 yr flood depth | over 2 m estimated 100 yr flood depth | River Network and Water Feature |
- The flooded areas have been generated using a generalised technique and should not, by themselves, be used to infer that specific areas are or are not at risk of inundation. Flood risk at any specific location may be influenced by local factors - not least flood defences - that have not been taken into account.
- Local Nature Reserve

Guide to the Groundwater Vulnerability Map

Derived from Sheet 16 West Cheshire 1:100,000

- | | | |
|----------------------|------------------------------|------------------------------|
| Minor Aquifer High U | Minor Aquifer Low | Minor Aquifer Intermediate 2 |
| Minor Aquifer High 1 | Major Aquifer High U | Major Aquifer Low |
| Major Aquifer High 3 | Major Aquifer High 1 | Major Aquifer Intermediate 2 |
| Water | Minor Aquifer Intermediate 1 | Minor Aquifer High 3 |
| Drift Deposit | | |

Guide to the Geology Map

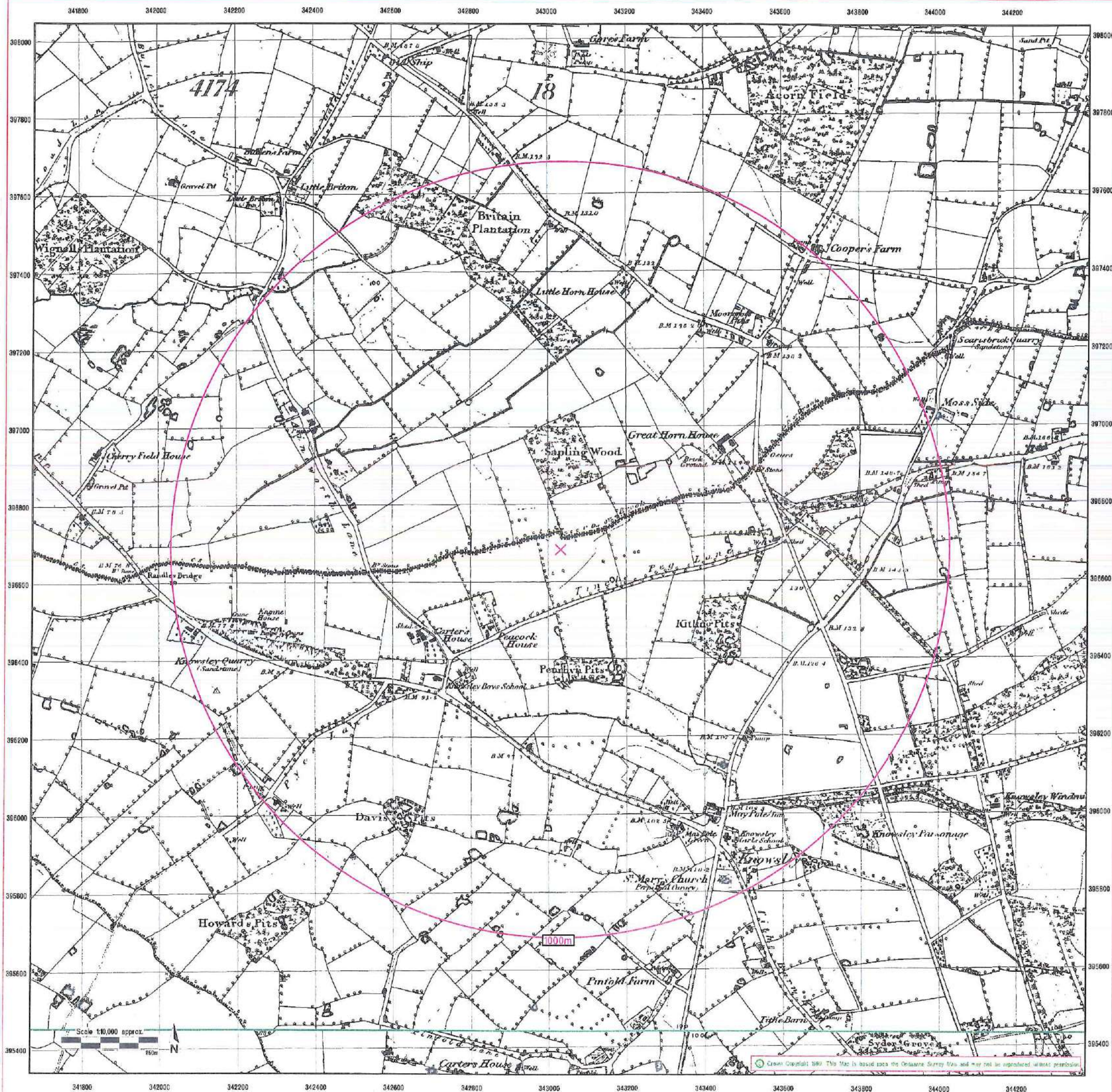
- | | | |
|--|--|---|
| Oxford Clay and Kelloways Beds | Permian and Triassic sandstones, undifferentiated, including Bunter and Keuper | Triassic mudstones (including Keuper Marl, Dolomitic and Rhaetic) |
| Ludlow | Namurian (Millstone Grit Series) | Lower Westphalian (mainly Productive Coal Measures) |
| Westphalian and Stephanian, undivided, of Barren Red lithology | Upper Westphalian (including Pennine Measures) | Permian mudstones (including Middle and Upper Marls, Eden and St Bees shales) |
| Permian basal breccias, sandstones and mudstones | Water / Unclassified Geology | |

Guide to the River Quality Map

- | | | |
|--------------------|--------------------------|-----------------|
| River Quality E | River Quality C | Canal Quality D |
| River Quality D | River Quality F | Canal Quality E |
| Unclassified River | Unclassified Tidal River | Sea |



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Environmental Site Sensitivity Data

CLIENT DETAILS

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WIGAN
WN3 4AL

SITE DETAILS

Grid Reference 343032 396683

Contract Chemicals Ltd
Penrhyn Road
Knowsley Business Park
PRESCOT
Merseyside L34 9HY

Historical Map Legend

Quarry	Shingle	Railway over Road	Road over Railway
Gravel Pit	Sand Pit	Level Crossing	Railway over River
Other Pits	Mixed Wood	Road over River or Canal	Road over Stream
Rough Pasture	Marsh	Sunken Road	Raised Road
Arrow denotes flow of water		Sketched Contour	Instrumental Contour

LANCASHIRE AND FURNESS county

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1850

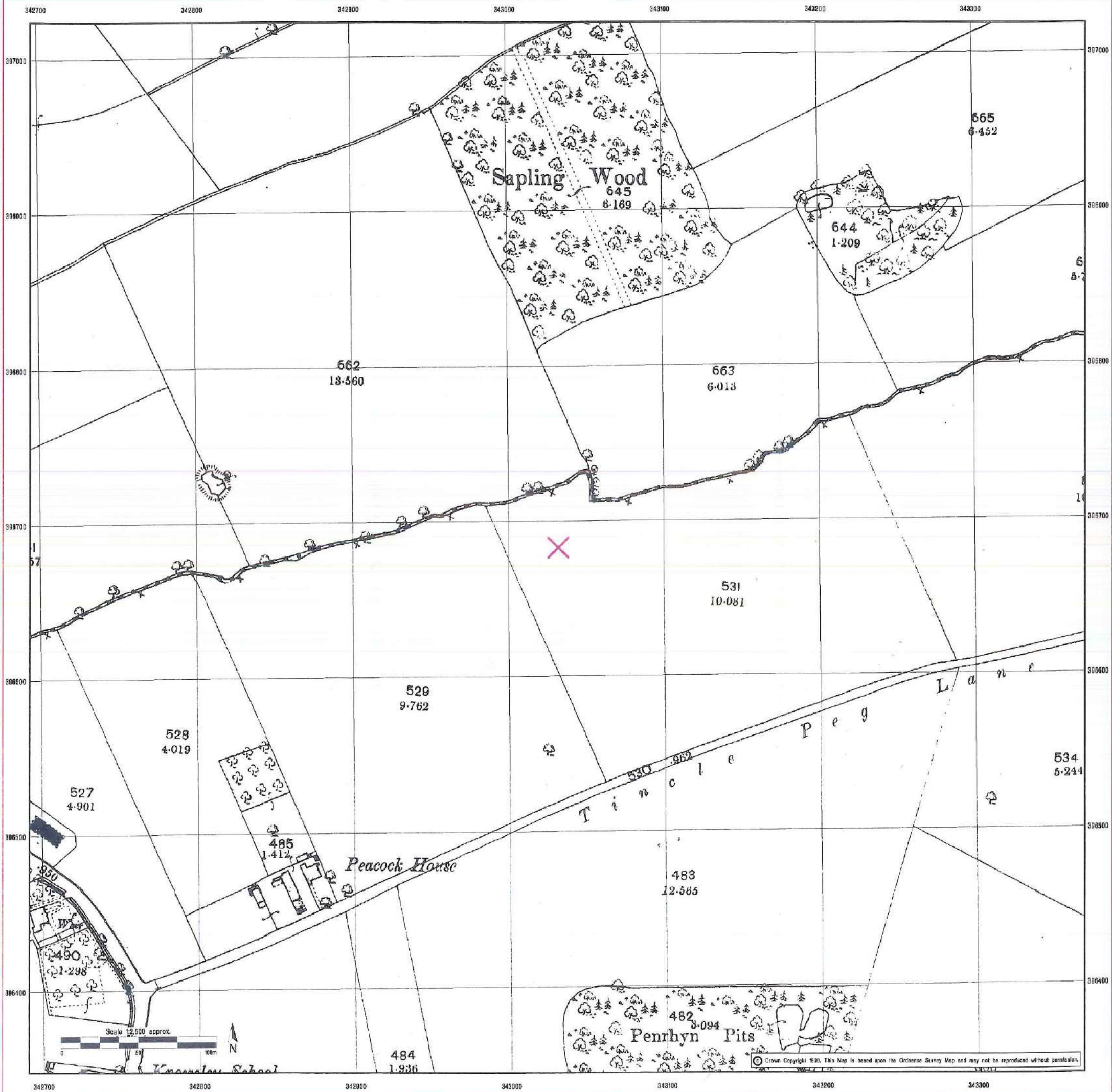
1850

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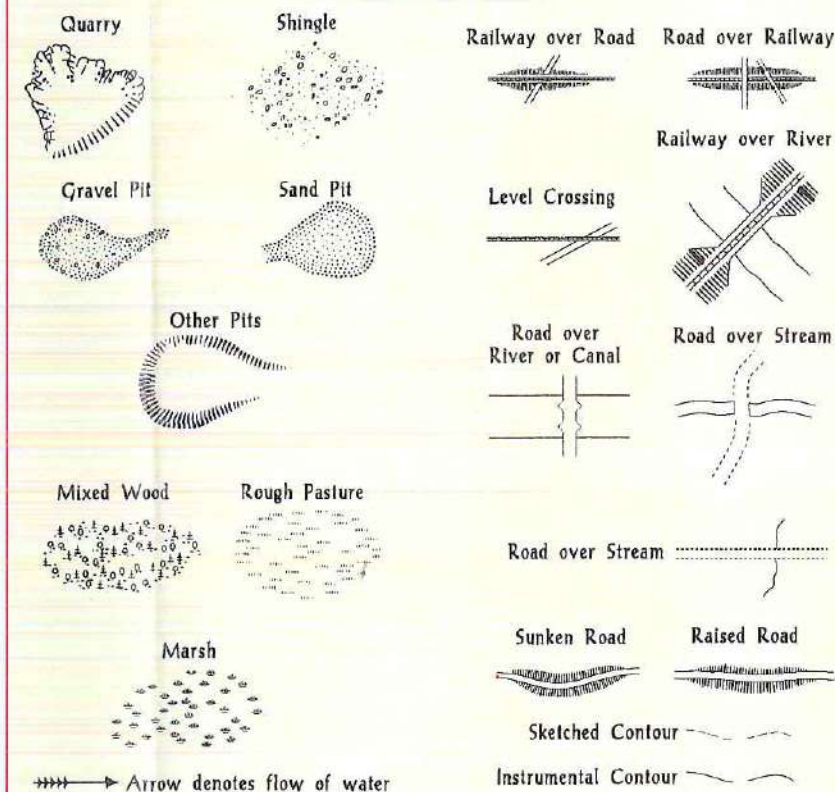
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Historical Map Legend



Lancashire And Furness

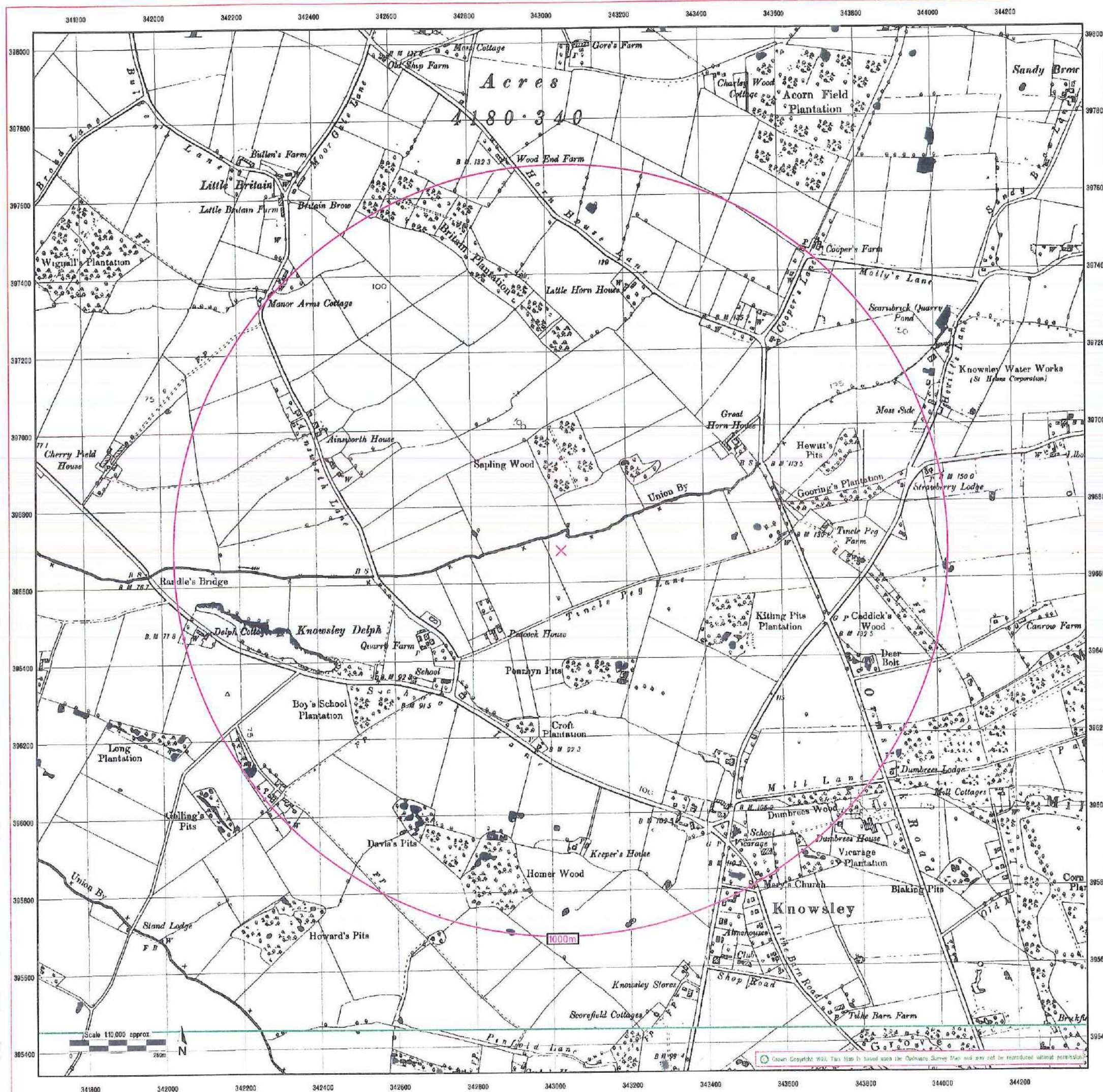
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1893

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SITE DETAILS Grid Reference 343032 396683

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Historical Map Legend

Quarry	Shingle	Railway over Road	Road over Railway
Gravel Pit	Sand Pit	Level Crossing	Railway over River
Other Pits		Road over River or Canal	Road over Stream
Mixed Wood	Rough Pasture	Road over Stream	Sunken Road
Marsh		Raised Road	Sketched Contour
		Instrumental Contour	

→ Arrow denotes flow of water

LANCASHIRE AND FURNESS county

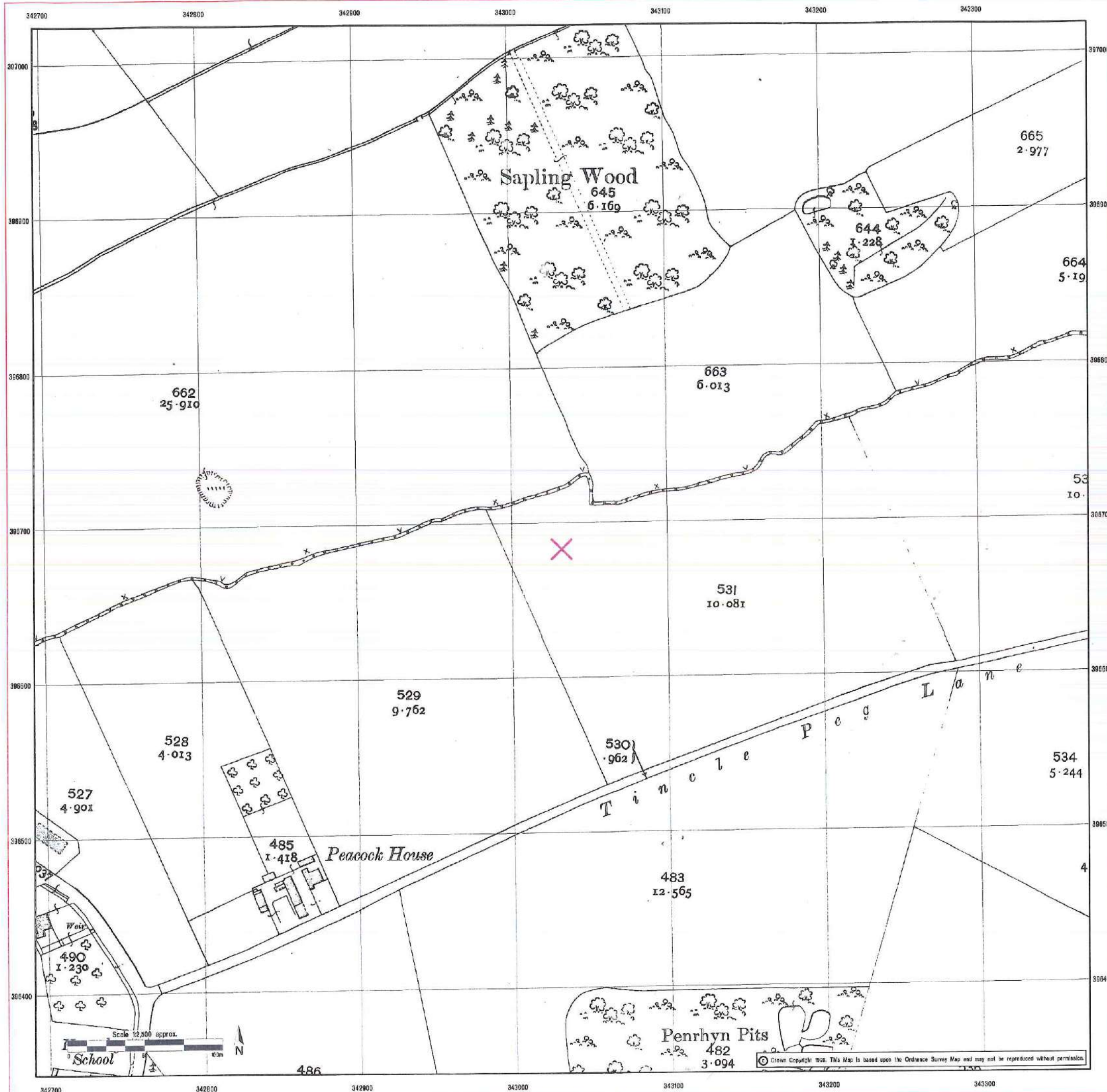
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1894

1894

Date(s) of Publication



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Environmental Site Sensitivity Data

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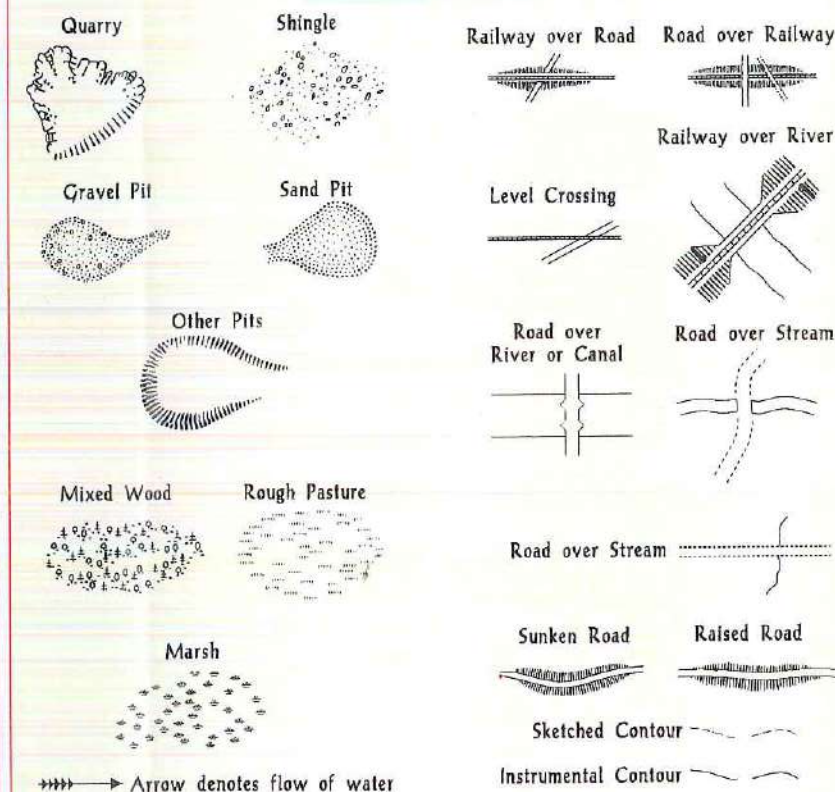
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Historical Map Legend



Lancashire And Furness

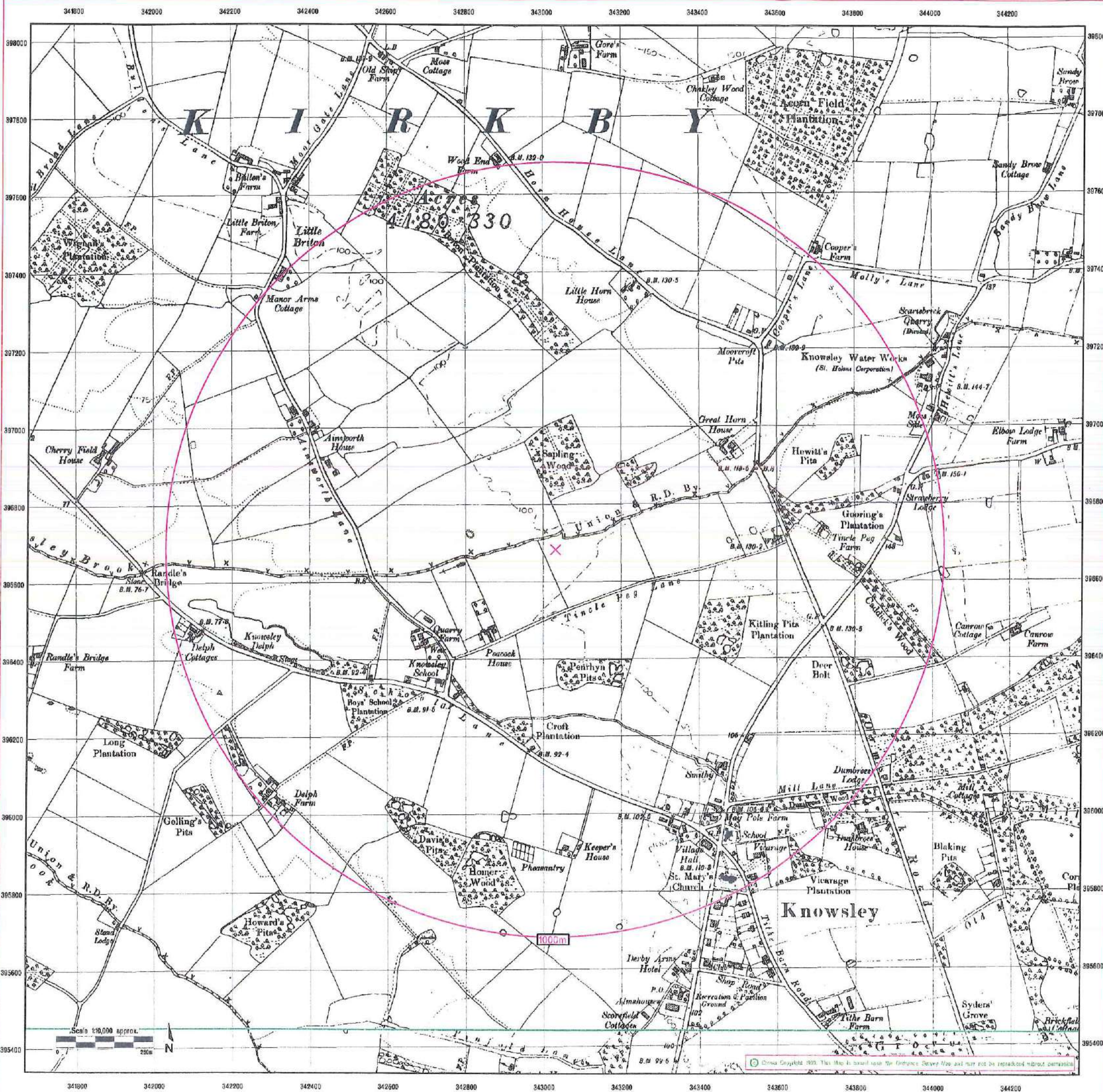
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1908

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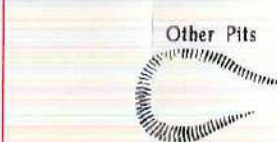
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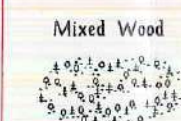
Quarry



Gravel Pit



Other Title

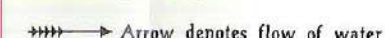


Mixed Wood

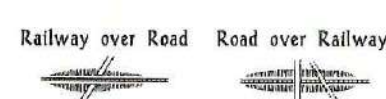


Rough Pasture

Marsh



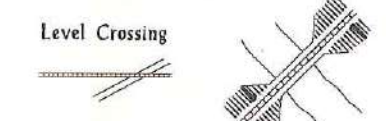
→ Arrow denotes flow of water



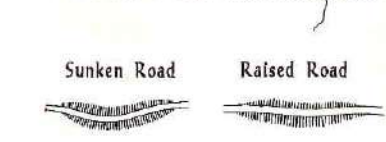
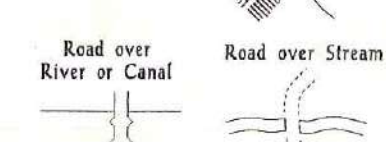
Railway over Road	Road over Railway
	



Railway over River



Level Crossing



1



Sketched Contour

Instrumental Contour — —

LANCASHIRE AND FURNESS county

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1900

1000

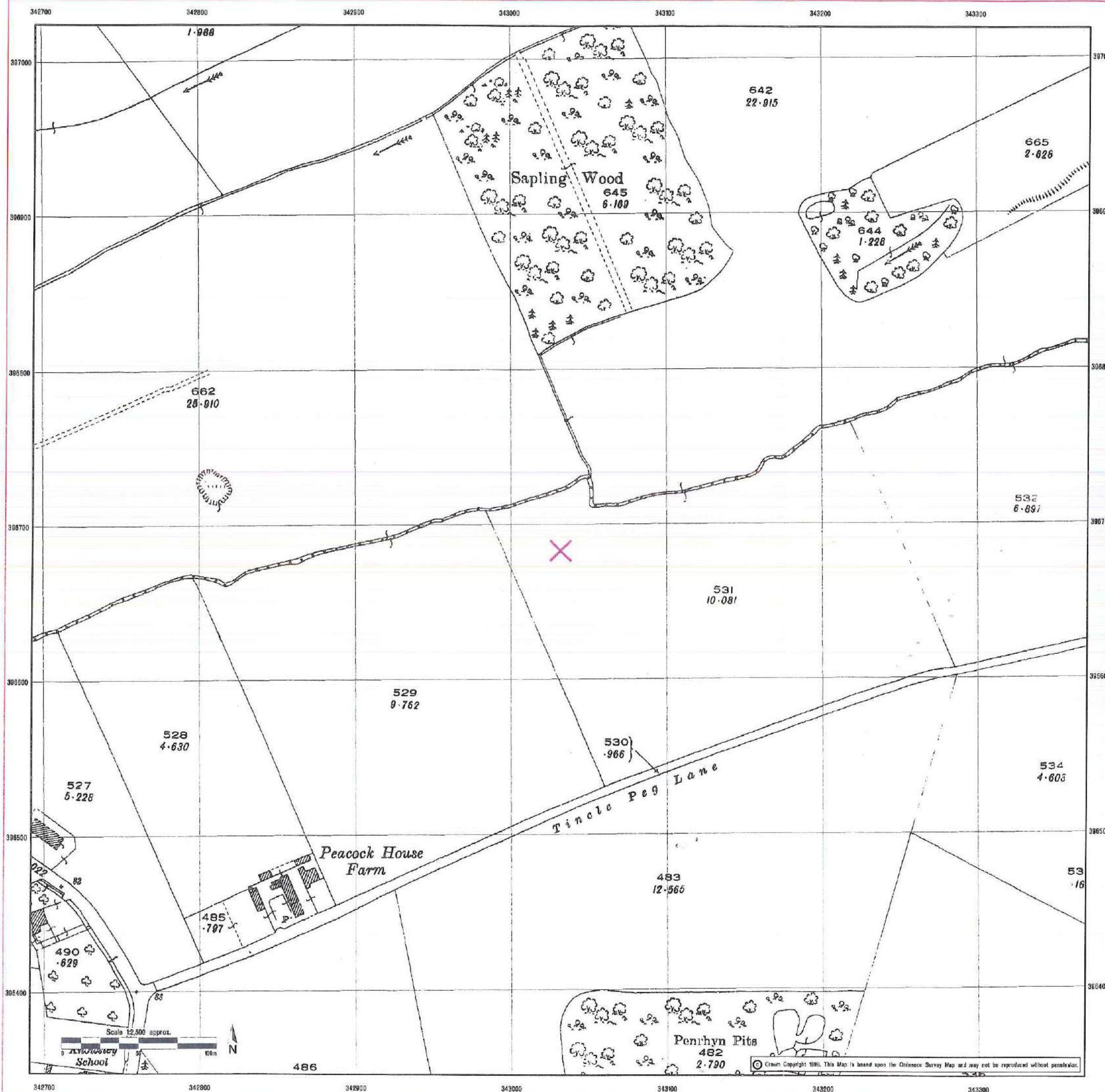
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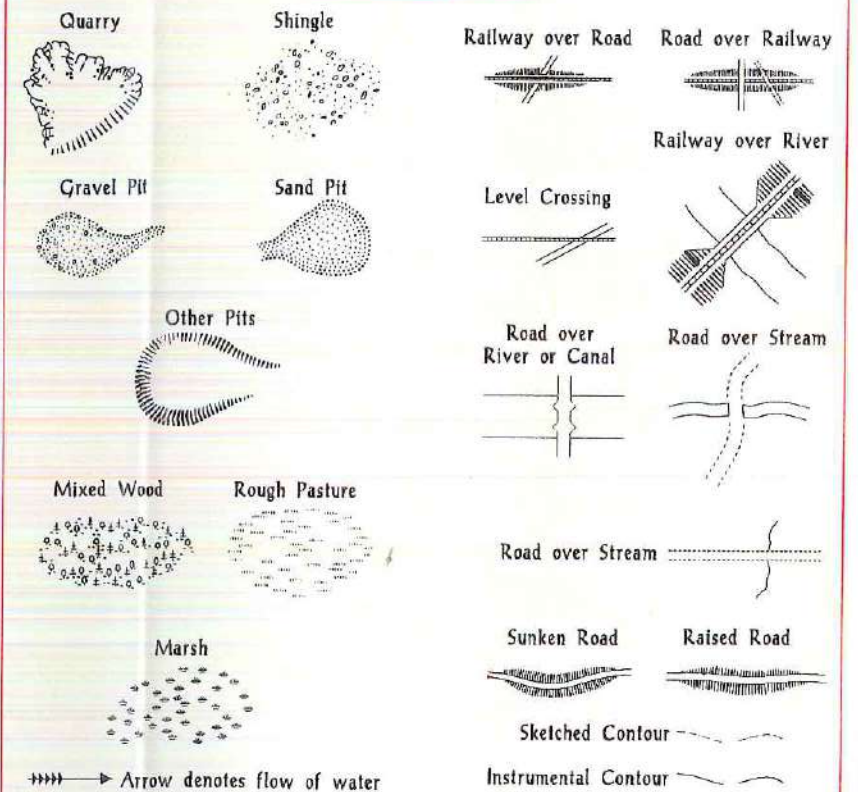
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SITE DETAILS

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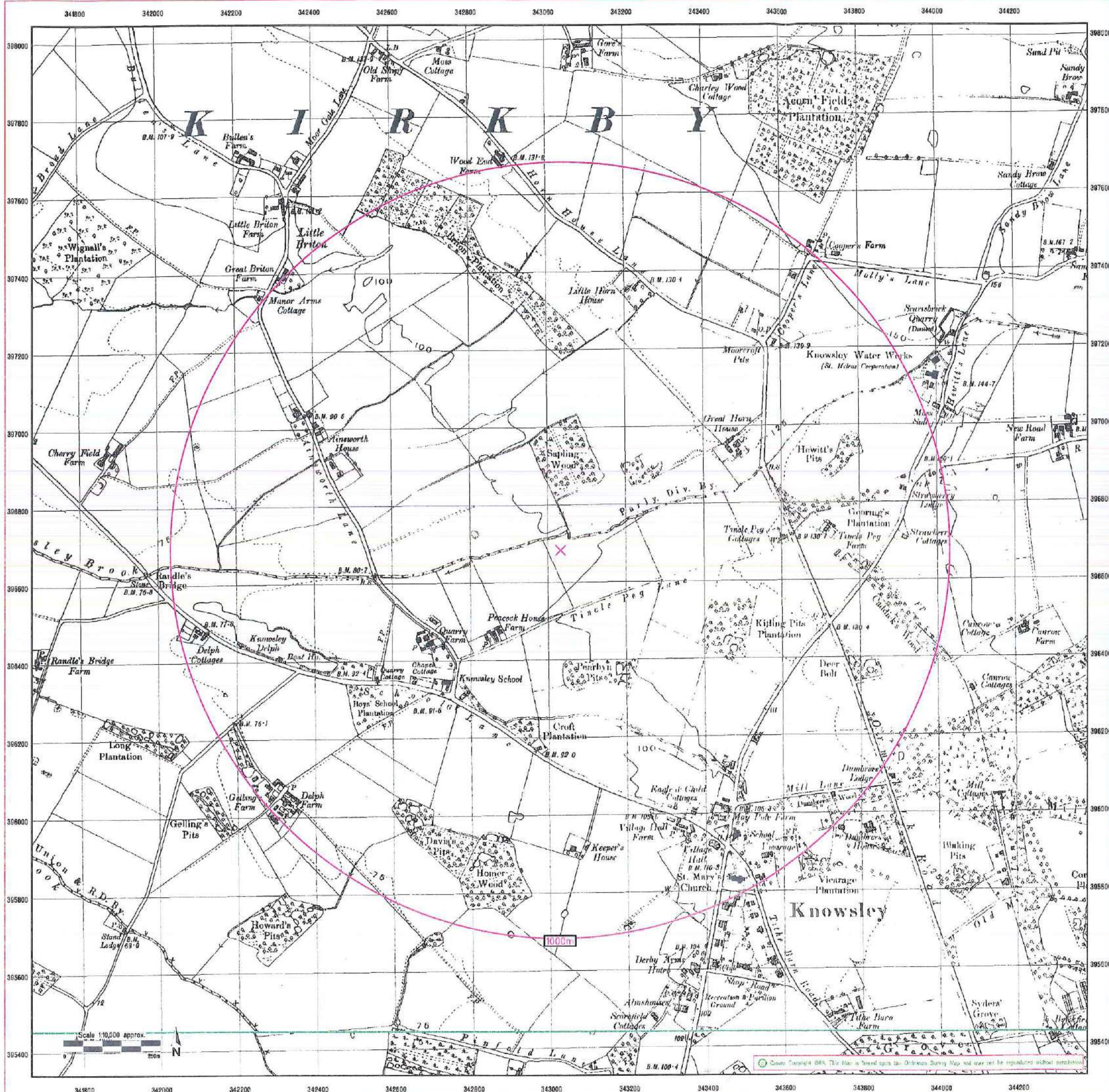
Historical Map Legend



Lancashire And Furness

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1927



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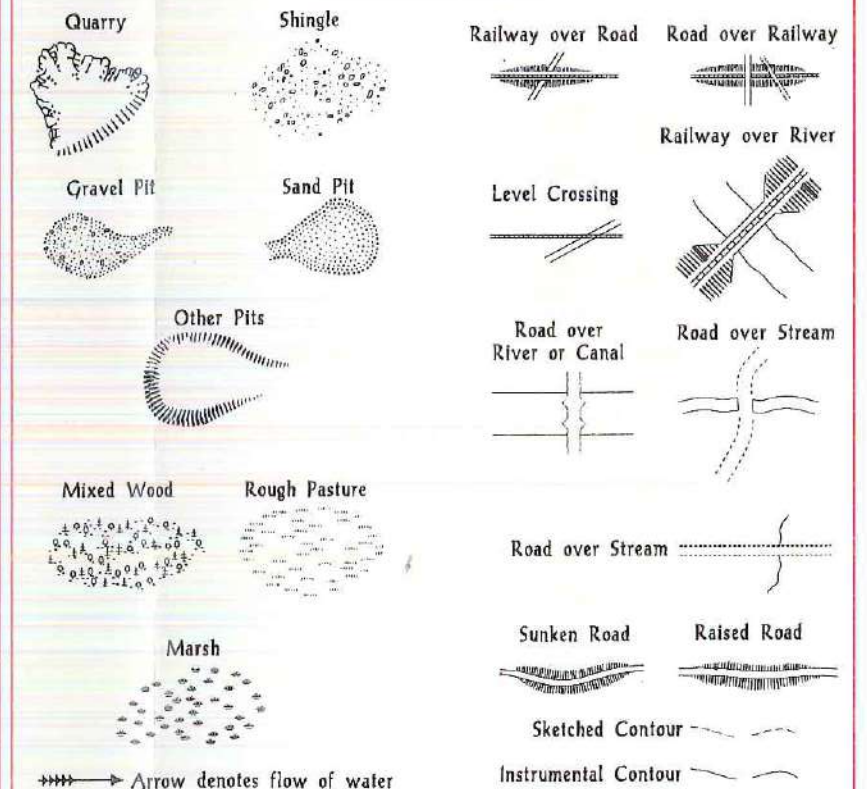
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Historical Map Legend



LANCASHIRE AND FURNESS county

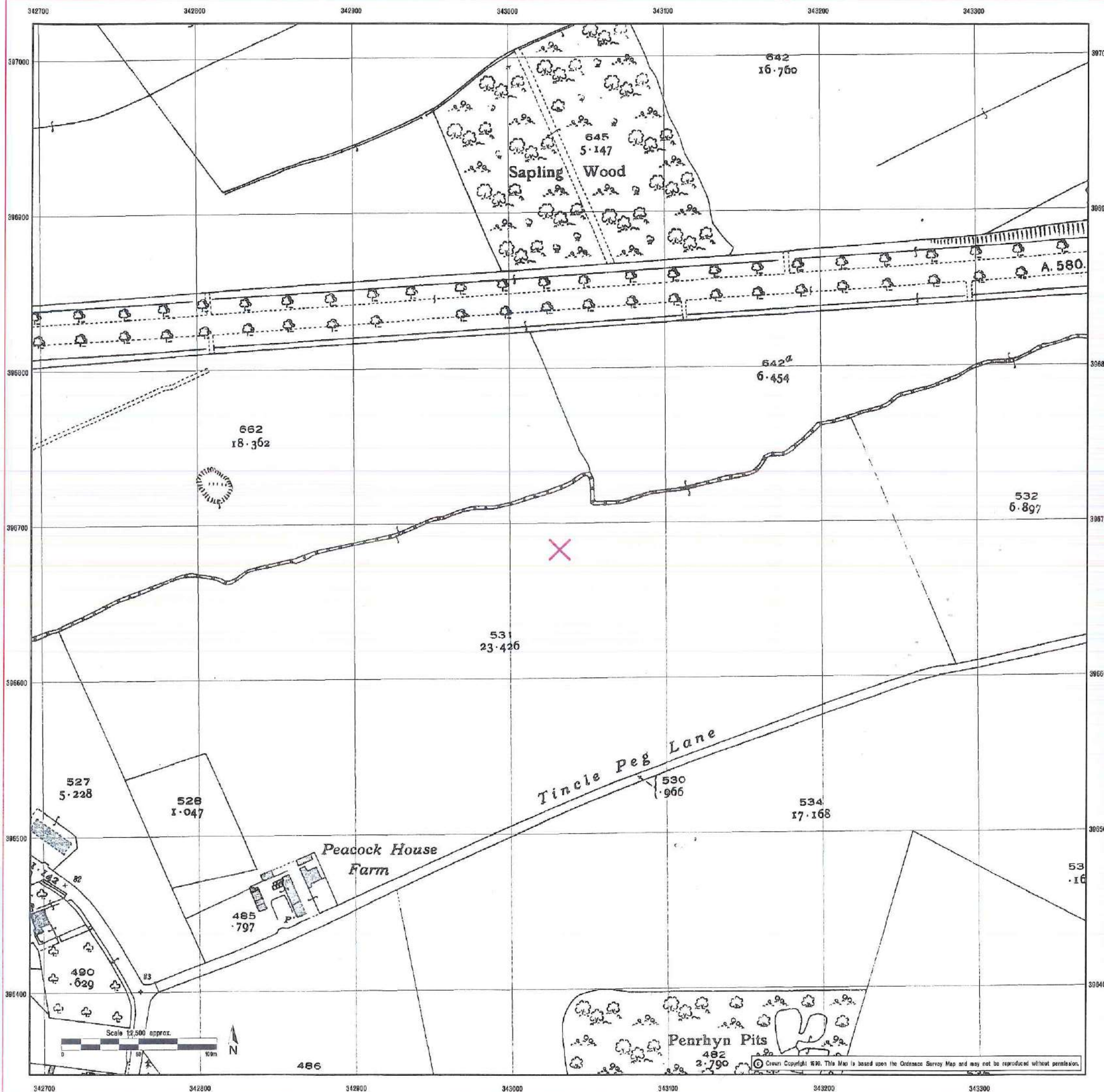
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1928

1928

Date(s) of Publication



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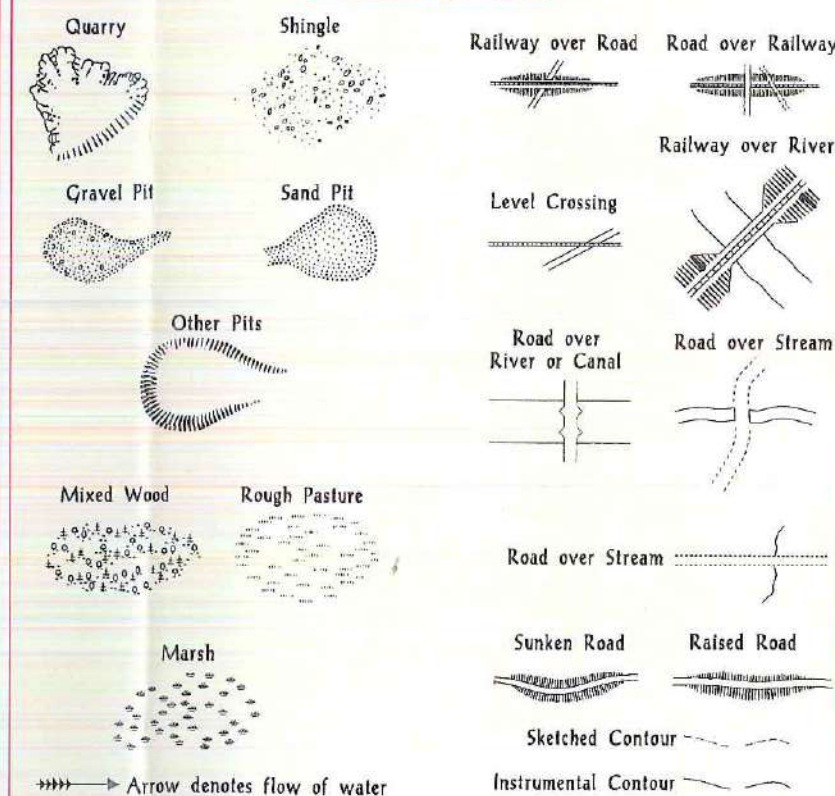
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Historical Map Legend



Lancashire And Furness

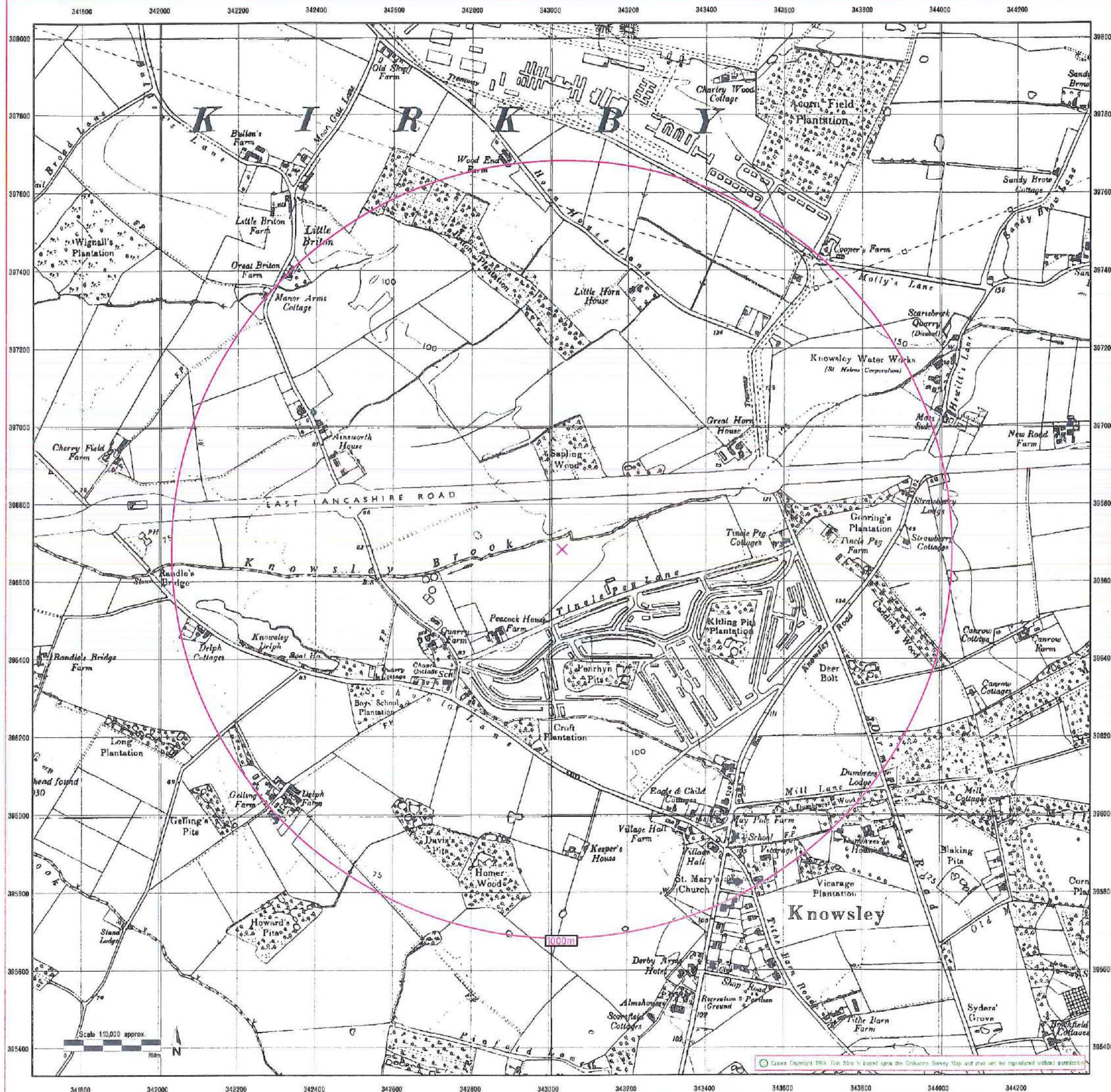
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1937

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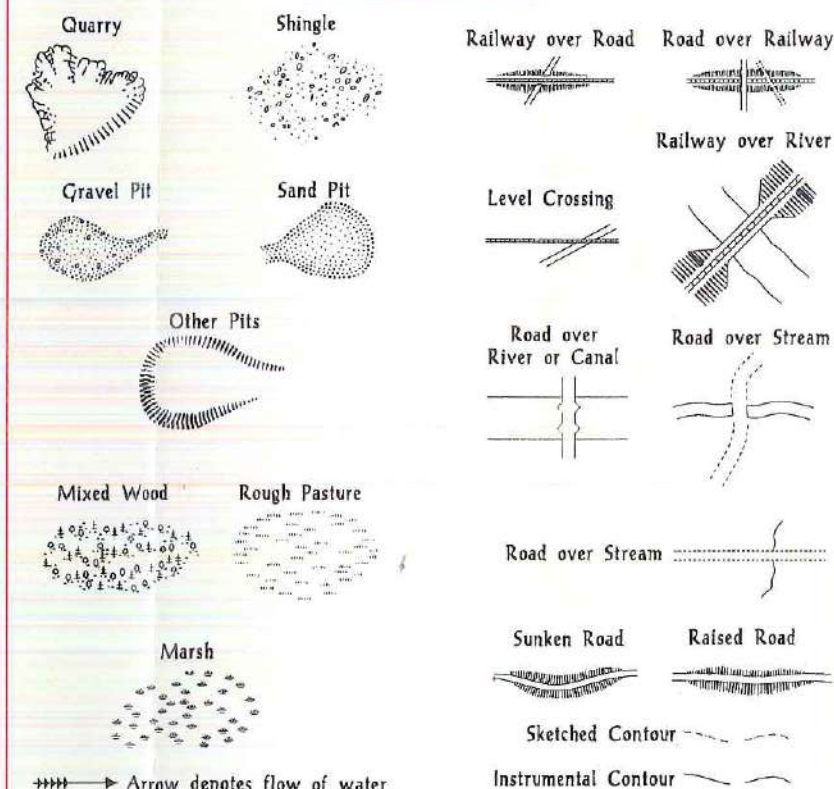
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Historical Map Legend



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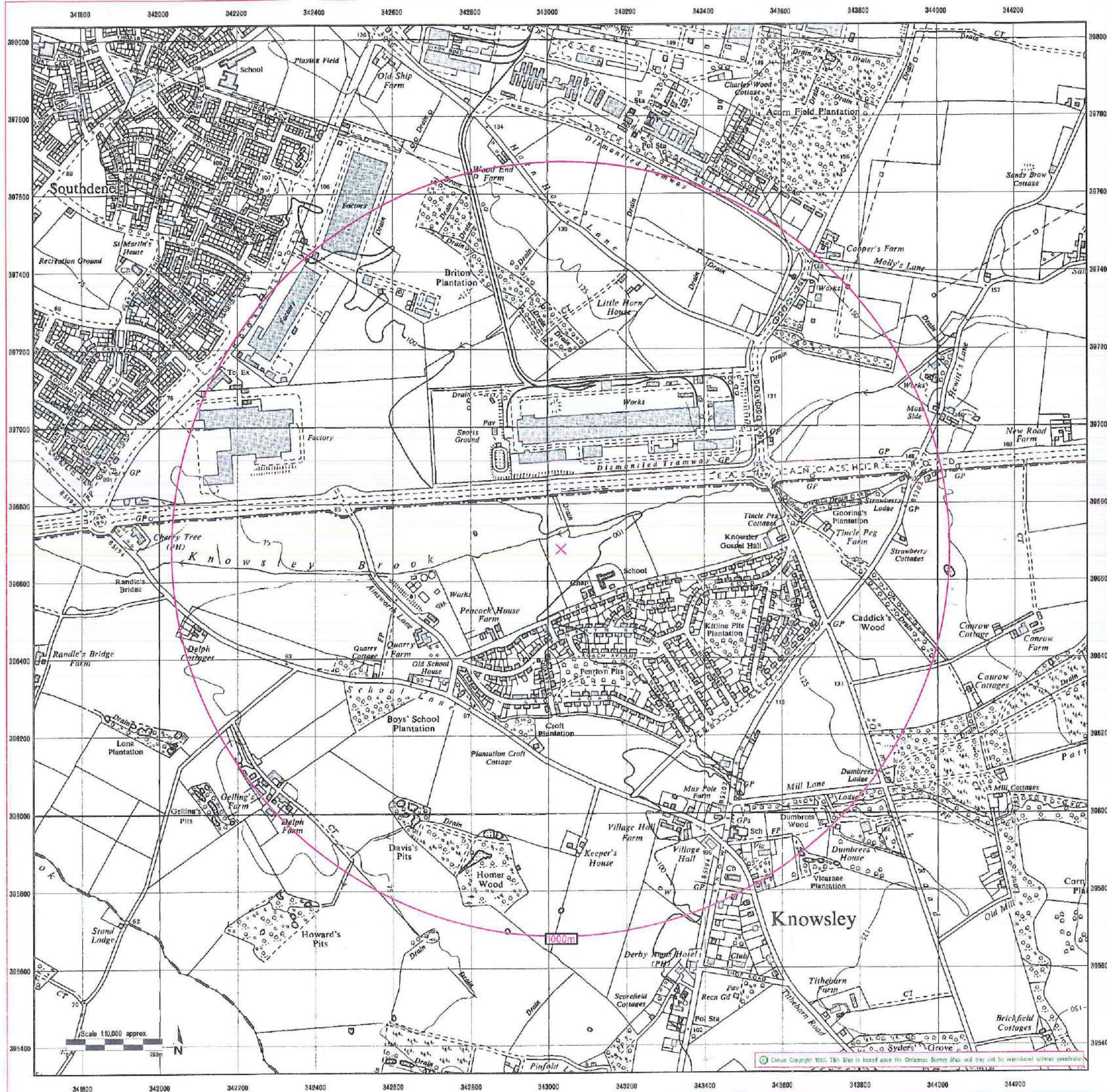
1956

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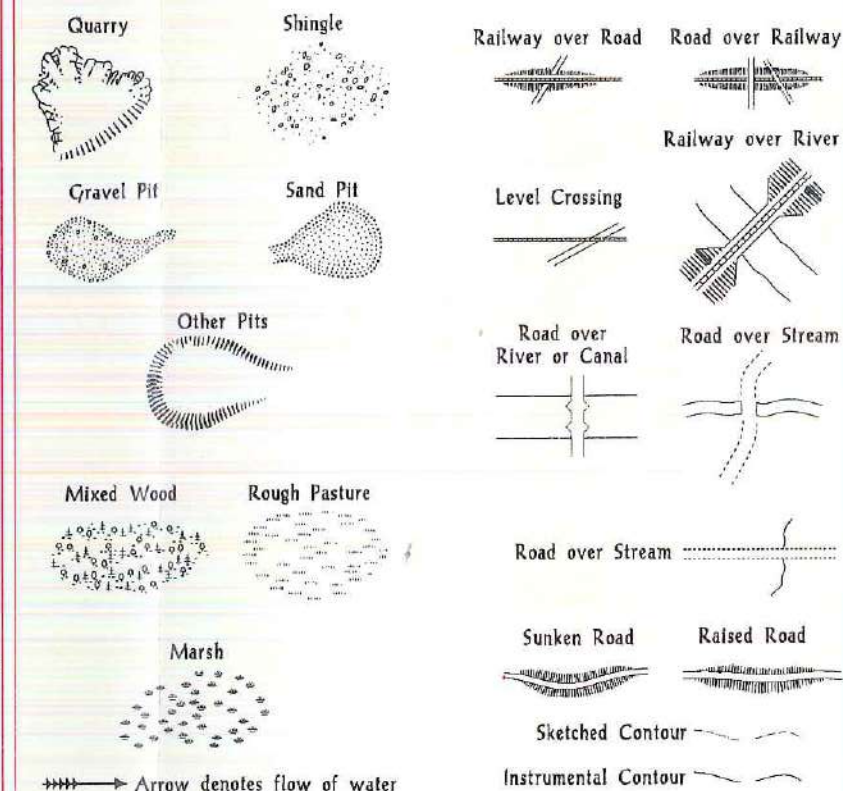
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Historical Map Legend



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1966

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