

SP ASSOCIATES

**GEOTECHNICAL ASSESSMENT
PROPOSED ENERGY FACILITY
COOPERS LANE
LIVERPOOL**

Client: Harbour Energy

Report Number: S1650

January 2020

**GEOTECHNICAL ASSESSMENT
PROPOSED ENERGY FACILITY
COOPERS LANE
LIVERPOOL**

Prepared for : Harbour Energy

S P Associates
1 Market Place
Warwick
CV34 4SA

Tel : 01926 494271

REPORT No S1649

**GEOTECHNICAL ASSESSMENT
PROPOSED ENERGY FACILITY
COOPERS LANE
LIVERPOOL**

CONTENTS

1. INTRODUCTION	6
2. THE SITE	7
2.1 LOCATION AND SURFACE CONDITIONS	7
2.2 HISTORY	7
2.3 GEOLOGY	7
2.4 HYDROGEOLOGY AND HYDROLOGY	8
2.5 POTENTIALLY CONTAMINATING ACTIVITIES	8
2.6 FUEL STATION ENTRIES	8
2.7 HISTORICAL TANKS AND ENERGY FACILITIES AND POTENTIALLY CONTAMINATIVE PAST INDUSTRIAL USES	9
2.8 RADON GAS	9
2.9 GROUND STABILITY	9
3 CONCEPTUAL MODEL	10
4 GROUND INVESTIGATION	11
4.1 GENERAL	11
4.2 WINDOWLESS SAMPLER BOREHOLES AND DYNAMIC PROBES	11
4.3 LABORATORY TESTING	11
4.4 MONITORING	12
5. GROUND CONDITIONS	13

5.1 MADE GROUND	13
5.2 GLACIAL TILL	13
5.3 CHESTER FORMATION	13
5.4 GROUNDWATER	13
6 GEOTECHNICAL ASSESSMENT	15
6.1 GENERAL	15
6.2 FOUNDATIONS	15
6.3 PAVEMENTS	15
6.4 BURIED CONCRETE	16
7 ENVIRONMENTAL CONSIDERATIONS	17
7.1 SOIL CONTAMINATION	17
7.1.1 GENERAL APPROACH	17
7.1.2 RISK SCREENING	17
7.1.2.1 HUMAN SITE OCCUPIERS AND CONSTRUCTION WORKERS	17
7.1.3 PROPOSED SOIL REMEDIAL MEASURES	17
7.2 GROUND GAS	17

TABLES

1. Gas and Groundwater Readings
2. Human Health Screening Values for an Industrial Land Use versus Measured Values – Soils

FIGURES

- 1 Site Location Plan
- 2 Borehole Location Plan

APPENDICES

- A Historical Ordnance Survey Map Extracts
- B Factual Environmental Data
- C Borehole and Dynamic Probing Logs
- D Laboratory Test Results

EXECUTIVE SUMMARY

The Site	The site is located off Coopers Lane in the Kirby area of Liverpool at approximate National Grid Reference 343690 397150 (refer Figure 1). The site is irregularly shaped and about 0.58Ha in area. At the time of the ground investigation it comprised an area of undeveloped land predominantly occupied by rough grasses and shrubs. An electricity sub-station lies to the north with Coopers Lane and an industrial estate to the west. Undeveloped land comprising rough grasses, shrubs and trees lie to the east and south. The Knowsley Brook flowing roughly east to west lies about 20m to the south. Ground levels fall across the site from north to south towards the brook.
History	The site has historically comprised agricultural and open, undeveloped land.
Geology	The site is underlain by Glacial Till overlying Chester Formation sandstone.
Hydrogeology	The Chester Formation is classified as a Principle Aquifer.
Potentially Contaminating Activities	The site has been utilised as agricultural land and has more recently remained undeveloped.
Radon Gas	The site is in a Lower Probability radon area where less than 1% of properties are above the Radon action level. Radon protection will not be required.
Ground Investigation	Boreholes : A total of 6no windowless sampler boreholes were sunk at the site. Standard Penetration Tests were carried out at 1m intervals within each hole with continuous liner soil samples being recovered for soil description and testing requirements. Gas and groundwater monitoring standpipes were installed within three of the boreholes. Dynamic Probing: A total of 4no dynamic probes were carried out across the site, each to a depth of 3m. Laboratory Testing: The soil chemical testing program comprised the following suite of tests: Asbestos, phenols, heavy metals, inorganic chemicals, Speciated Petroleum Hydrocarbons and PAHs. Index tests were carried out on three samples of the cohesive formation. Standpipe Monitoring: Concentrations of methane, carbon dioxide, oxygen, hydrogen sulphide and carbon monoxide gas have been measured within the three borehole standpipes on three occasions within the period 5th December to the 19th December 2019.
Ground Conditions	Made Ground: Deposits of Made Ground were encountered within Boreholes 1 and 3. Within Borehole 1 the Made Ground comprised 0.3m of soft, gravelly clay (topsoil) overlying 0.7m of loose gravel with brick, concrete and clinker fragments. Within Borehole 3 it comprised 0.4m of soft, gravelly clay (topsoil) overlying sand with brick and concrete fragments to a depth of 0.6m. Made Ground was absent from the remaining boreholes. Glacial Till: Glacial Till was encountered beneath the topsoil and made ground horizons within each of the boreholes. The formation predominantly comprises cohesive soils although granular horizons were encountered within Borehole 1. The cohesive formation is predominantly firm although soft horizons were encountered at 1m and 3.4m depth in Borehole 1 and at 1m depth in Borehole 3. Within Borehole 1 the granular formation comprises sandy gravel that

	was medium dense in consistency at a depth of 2m becoming loose and wet at a depth of 2.9m. Chester Formation: Fragments of weak, red brown sandstone were encountered at the base of the Glacial Till in Boreholes 1, 3, 5 and 6 at depths of between 3.1m (Borehole 6) and 4m (Borehole 1). The boreholes encountered effective refusal within this formation with SPT N values ranging from 49 to 60+. Groundwater: Groundwater levels within the borehole standpipes varied across the site from north to south. Groundwater levels within Borehole 1, which is the northern most standpipe location, were measured essentially at ground surface at depths of between 0.05m and 0.09m below ground level. Within Borehole 3 they ranged from 0.96m to 0.99m below ground surface, and within Borehole 5, the southern most standpipe location, they ranged from 2.51m to 2.56m below ground surface. The variation in groundwater depths across the site is a reflection of the perched nature of the groundwater regime within the Glacial Till. The permanent groundwater table is likely to lie at depth within the Chester Formation sandstone.
Foundations	Shallow, lightly reinforced strip footings could be adopted if the formation were to be firstly improved by the implementation of a program of vibro-replacement. Foundations on such improved grade can conventionally be designed using an allowable bearing capacity of 100 kPa. Based upon the findings of the boreholes the Chester Formation sandstone lies at a depth of between about 3m and 4m and full depth vibro treatment should therefore be relatively easily and economically achieved. It is recommended that specialist contractors are contacted for specific design advice as proprietary methods of installation can influence the performance of such systems. As an alternative to ground improvement it would also be feasible to adopt piled foundations. Conventional bored piles designed as end bearing units within the Chester Formation sandstone would likely prove the most economic solution although it should also be possible to utilise driven piles which should achieve a set at a relatively shallow depth within the sandstone. Again, it is recommended that specialist contractors are contacted for specific design advice.
Pavements	A recommended CBR value for design of less than 2 for a thin layered pavement construction is recommended.
Below Ground Concrete	Below ground conditions with respect to concrete specification conform with Class DS-1 as defined in BRE Special Digest 1, 'Concrete in aggressive ground', 2005', with a corresponding ACEC class of AC-1s.
Soil Remedial Measures	None required as it is understood that there are no proposals for areas of soft landscaping. However, fragments of asbestos board have been observed to be present within the Made Ground formation as encountered within Borehole 3 and it is therefore recommended that during the site enabling stage of the works contaminated ground construction practices are adopted in order to protect site workers from airborne fragments of soil and dust that might contain fragments of asbestos. In addition, any excavated Made Ground materials that are to leave site will need to be tested for the presence of asbestos in order to determine an appropriate disposal route.
Gas Membranes	No gas protection measures should be required at the site.

REPORT No S1649

**GEOTECHNICAL ASSESSMENT
PROPOSED ENERGY FACILITY
COOPERS LANE
LIVERPOOL**

1. INTRODUCTION

SP Associates (SPA) has been appointed by Barnsley Marshall, Consulting Engineers on behalf of Harbour Energy Ltd to carry out a Geotechnical Assessment at the site of a proposed energy facility located off Coopers Lane, Kirby Liverpool, L33 7TT. We understand that the facility will comprise a gas fired electricity generating facility comprising a number of gas engines, radiators and transformers.

The scope of the investigation that forms the basis for this report is as follows:

- Desk Study of archive environmental and land use data;
- Boreholes sunk using a windowless sampler drilling rig;
- Dynamic Probing;
- Borehole instrumentation comprising gas and groundwater monitoring standpipe;
- Standpipe monitoring for ground gas and groundwater;
- Testing of selected soil samples in the laboratory for chemical and geotechnical parameters;
- Analysis of data and reporting.

The investigation was implemented in order to assess the geotechnical and geo-environmental conditions at the site and to identify potential geotechnical and geo-environmental issues related the development of the site for the proposed industrial use. The report presents the factual data from the investigation and makes recommendations on foundations and pavement design along with issues associated with soil and ground gas contamination.

2. THE SITE

2.1 LOCATION AND SURFACE CONDITIONS

The site is located off Coopers Lane in the Kirby area of Liverpool at approximate National Grid Reference 343690 397150 (refer Figure 1).

The site is irregularly shaped and about 0.58Ha in area. At the time of the ground investigation it comprised an area of undeveloped land predominantly occupied by rough grasses and shrubs. An electricity sub-station lies to the north with Coopers Lane and an industrial estate to the west. Undeveloped land comprising rough grasses, shrubs and trees lie to the east and south. The Knowsley Brook flowing roughly east to west lies about 20m to the south. Ground levels fall across the site from north to south towards the brook.

The site is accessed from Coopers Lane to the west.

2.2 HISTORY

Copies of historical Ordnance Survey maps for the site and its immediate surrounds are included within Appendix A. The site's history based upon a study of those maps is summarised below:

Date	Site Usage	Nearby Features
1850	The site comprised agricultural land and was part of a field system.	The site was surrounded predominantly by fields bounded by hedgerows. A pump was operational immediately to the north adjacent to the 'Moorcroft Pits'. A well was located about 200m beyond that.
1993	The site remained as agricultural land although many of the surrounding hedgerows had been removed.	A small sand pit had been developed just to the east of Moorcroft Pits. Knowsley Water Works had been developed about 200m to the east. Hewitt's Pits are present to the south of the Knowsley Brook.
1937	The site remained as open undeveloped land.	Hewitt's Pits were no longer shown to be present. The East Lancashire Road had been constructed to the south.
1959	The site remained as undeveloped land.	An industrial facility had been developed to the west of Coopers Lane, whilst the construction a works building and the beginnings of the sub-station had commenced to the north.
1968 - 1977	The site remained as undeveloped land.	The sub-station to the north had been fully developed.
1990	The site remained as undeveloped land.	Additional industrial development had taken place to the north-west over Coopers Lane.

2.3 GEOLOGY

The site is shown on British Geological Survey (BGS) records to be underlain by the Chester Formation of Triassic age. This formation predominantly consists of red brown sandstone.

The solid strata is shown on geological maps to be overlain with Glacial deposits comprising gravelly sands and sandy, gravelly clay.

2.4 HYDROGEOLOGY AND HYDROLOGY

The nearest significant surface water feature is the westerly flowing Knowsley Brook which lies about 20m to the south of the site.

The Chester Formation is classified by the Environment Agency (EA) as a Principle Aquifer, former Major Aquifer. These are formations that are likely to be highly permeable and which may contain significantly important groundwater resources at both a local and national level.

The Sitecheck report (Appendix B) indicates that the site lies within Zone II of a Source Protection Zone.

There are no Water Abstraction licences within 250m of the site.

The Environment Agency website indicates that the site is free from the effects of flooding from river or sea.

2.5 POTENTIALLY CONTAMINATING ACTIVITIES

The Sitecheck Data report has indicated the following:

- There are no records of Licensed Waste Management Facilities within 250m of the site.
- There are no records of Registered Waste Transfer sites within 250m of the site.
- There are no records of Registered Waste Treatment or Disposal site licences within 250m of the site.
- There are no records of Local Authority Pollution Prevention and Control Licences within 250m of the site.
- There is one COMAH site located within 250m of the property. The operator is Euroliters located in Horn House Lane to the west of the subject property; however, records indicate that it is no longer active.
- There are no records of Integrated Pollution Controls within 250m of the site.
- There are records of 7no Contemporary Trade Directory entries within 250m of the site, only 2no of which are active. The active entries are both located within the Knowsley Industrial Park and relate to Mersey Spares Ltd who trade in hardware and Hil Installations who supply and install cladding. Neither of them are considered to have a negative environmental influence upon the study site.
- There are records of two discharge consents within 250m of the site. One is held by National Grid Transco and the other by Scottish Power both for the discharge of surface water one to the east of the site the other to the south.
- There are no records of BGS recorded Mineral Sites within 250m of the property.

2.6 FUEL STATION ENTRIES

There are no records of fuel station entries within 250m of the site.

2.7 HISTORICAL TANKS AND ENERGY FACILITIES AND POTENTIALLY CONTAMINATIVE PAST INDUSTRIAL USES

The electricity facility located to the north of the site is considered to be potentially contaminating and there are potentially contaminating factory or works buildings located to the west.

There are records of potentially infilled land, probably a pond, to the west.

2.8 RADON GAS

The site lies in a Lower Probability radon area where less than 1% of homes are estimated to be at or above the action level. The Sitecheck report indicates that no radon protection measures will be required for the proposed new facility.

2.9 GROUND STABILITY

The Sitecheck Report indicates that the risks to the site from collapsible ground, compressible ground, ground dissolution, landslides, running sand and shrinking or swelling ground are very low.

3 CONCEPTUAL MODEL

The development of a Conceptual Model for the site involves the determination of potential pollutant linkages through the identification of likely sources of contamination from previous and current site uses and the identification of potential targets such as site users and controlled waters. The Sitecheck environmental data report and historical Ordnance Survey map record indicate that the site has not been subject to a contaminative use and therefore, in accordance with DEFRA, EA and SEPA recommendations a Conceptual Site Model has not been compiled for the site.

4 GROUND INVESTIGATION

4.1 GENERAL

The fieldwork was carried out generally where relevant in accordance with BS5930 (1999) 'Code of Practice for Site Investigations', BS10175 Investigation of Potentially Contaminated Sites, and the Association of Geotechnical and Geoenvironmental Specialist Guidelines for Good Practice in Site Investigations (1998).

4.2 WINDOWLESS SAMPLER BOREHOLES AND DYNAMIC PROBES

A total of 5no boreholes were sunk across the site. Boreholes 1, 2 and 2A were sunk on the 8th November 2019; however, further drilling was not possible on that day due to the saturated nature of the site surface and consequential difficulties experienced with manoeuvring the drilling rig and maintaining its stability. A second visit was made to the site on the 21st November 2019 and by utilising bog mats and wooden boards it was possible to sink a further 3no boreholes. It was not possible however, to sink Borehole 4 as that part of the site was under standing water.

Boreholes 2 and 2A were terminated at 0.5m below ground surface due to an impenetrable obstruction at that depth. Boreholes 1, 3, 5 and 6 were taken to depths of between 3.45m and 4.25m where they were terminated on assumed Chester Formation sandstone. Standard Penetration Tests were carried out at 1m intervals within each borehole with continuous liner soil samples being recovered for soil description and testing requirements.

Borehole logs are enclosed within Appendix C with their locations shown on Figure 2.

Upon the completion of drilling, ground gas and groundwater monitoring standpipes were installed within the following boreholes:

Borehole	Depth to Base (m)	Response Zone (m bgl)	Pipe Diameter (mm)	Gas Valve/Lockable Cover
1	3.8	1.0 – 2.0 (sandy clay) 2.0 – 3.4 (sandy gravel) 3.4 – 3.8 (sandy, gravelly clay)	50	Yes
3	3.8	1.0 – 3.8 (sandy, gravelly clay)	50	Yes
5	2	1.0 – 3.0 (sandy clay)	50	Yes

The site works were carried out during a period of prolonged and heavy rainfall and the site surface was consequently very soft and wet. Surface conditions were such that conventional CBR testing equipment would have failed to gain access and as a consequence dynamic probes were carried out at the Borehole 1, 3, 5 and 6 locations on the 21st November 2019. They were implemented so as to provide a continuous strength with depth profile from ground surface to 3m depth. Test results are enclosed within Appendix C.

4.3 LABORATORY TESTING

The Phase I environmental database has indicated that the site has remained undeveloped and was originally given over to agriculture. Land bordering the site to the north and west has been developed for industrial purposes and there remains the

possibility that some Made Ground materials may have found their way onto the site during the development process. Consequently, the following list of potential contaminants of concern has been specified for the laboratory testing program:

Asbestos, phenols, heavy metals, inorganic chemicals, Speciated Petroleum Hydrocarbons and PAHs.

Selected soil samples from the borehole investigation have been tested in the laboratories of Chemtest for the above range of chemical determinants.

In addition to the chemical testing programme three samples of the formation that displayed cohesive behaviour have been tested for Index properties in the laboratories of Socotec.

All test results are enclosed within Appendix D.

4.4 MONITORING

Concentrations of methane, carbon dioxide, oxygen, hydrogen sulphide and carbon monoxide gas have been measured within the borehole standpipes on three occasions within the period 5th December 2019 to the 19th December 2019. Total gas concentrations were taken using an infra-red GA 94 S/N 2916 meter with atmospheric pressure meter. The rate of gas flow from the standpipes were measured using a flow meter.

Groundwater levels within the standpipes were also measured at each monitoring visit.

The results obtained from the monitoring exercise are summarised on Table 1.

5. GROUND CONDITIONS

The site investigation has confirmed the expected natural geological formation of Glacial Till overlying Chester Formation.

5.1 MADE GROUND

Deposits of Made Ground were encountered within Boreholes 1 and 3. Within Borehole 1 the Made Ground comprised 0.3m of soft, gravelly clay (topsoil) overlying 0.7m of loose gravel with brick, concrete and clinker fragments. Within Borehole 3 it comprised 0.4m of soft, gravelly clay (topsoil) overlying sand with brick and concrete fragments to a depth of 0.6m. Made Ground was absent from the remaining boreholes.

5.2 GLACIAL TILL

Glacial Till was encountered beneath the topsoil and made ground horizons within each of the boreholes. The formation predominantly comprises cohesive soils although granular horizons were encountered within Borehole 1. The cohesive formation is predominantly firm although soft horizons were encountered at 1m and 3.4m depth in Borehole 1 and at 1m depth in Borehole 3.

Within Borehole 1 the granular formation comprises sandy gravel that was medium dense in consistency at a depth of 2m becoming loose and wet at a depth of 2.9m.

SPT N values achieved within the formation are summarised below:

Depth Below Ground Surface (m)	SPT 'N' Values
1	6, 8, 10, 13
2	7, 11, 22, 24,
3	4, 16, 50+, 49
3.8	60+, 60+,

Index tests that have been carried out on samples of the cohesive formation have resulted in Liquid Limit values in the range 26% to 43% and Plasticity Index values in the range 10% to 23% when factored for the volume of material passing the 425 micron sieve. This classifies the cohesive formation as Intermediate Plasticity with Medium Shrinkage potential.

5.3 CHESTER FORMATION

Fragments of weak, red brown sandstone were encountered at the base of the Glacial Till in Boreholes 1, 3, 5 and 6 at depths of between 3.1m (Borehole 6) and 4m (Borehole 1). The boreholes encountered effective refusal within this formation with SPT N values ranging from 49 to 60+ as illustrated within the table shown in Section 5.2.

5.4 GROUNDWATER

Groundwater levels within the borehole standpipes varied across the site from north to south. Groundwater levels within Borehole 1, which is the northern most standpipe location, were measured essentially at ground surface at depths of between 0.05m and 0.09m below ground level. Within Borehole 3 they ranged from 0.96m to 0.99m below ground surface, and within Borehole 5, the southern most standpipe location, they ranged from 2.51m to 2.56m below ground surface.

The variation in groundwater depths across the site is a reflection of the perched nature of the groundwater regime within the Glacial Till. The permanent groundwater table is likely to lie at depth within the Chester Formation sandstone.

6 GEOTECHNICAL ASSESSMENT

6.1 GENERAL

It is understood that the proposed development will consist of a gas fired electricity generating facility that comprises a number of gas engines, radiators and transformers situated on a concrete slab. We understand that the size of the engines can vary up to a maximum size of about 100 tonnes in weight and that the larger engines need to be housed within a prefabricated structure.

6.2 FOUNDATIONS

The near surface natural formation comprises Glacial Till that is predominantly cohesive in nature but which includes some beds of granular soils as encountered within Borehole 1. The cohesive formation varies in consistency from soft to soft to firm to firm. The granular formation within Borehole 1 is medium dense grading to loose at a depth of 2.9m. The perched groundwater within the Till was encountered within the borehole standpipes effectively at ground surface in Borehole 1 and then at 0.99m in Borehole 3 and 2.56m in Borehole 5.

Over the northern part of the site (BHs 1 and 3) the near surface Till that lies beneath the Made Ground formation is variable in strength and where soft or loose usually coincides with the presence of a high perched groundwater table. Whilst the adoption of deep strips or pads would be feasible in terms of bearing capacity and settlement criteria their construction over the northern part of the site would likely prove to be difficult due to the presence of perched groundwater and the attendant difficulties associated with keeping deeper excavations dry and stable in the soft and loose formation which, in Borehole 1, extends to a depth of 4m below ground surface.

Shallow, lightly reinforced strip footings could be adopted if the formation were to be firstly improved by the implementation of a program of vibro-replacement. Foundations on such improved grade can conventionally be designed using an allowable bearing capacity of 100 kPa. Based upon the findings of the boreholes the Chester Formation sandstone lies at a depth of between about 3m and 4m and full depth vibro treatment should therefore be relatively easily and economically achieved. It is recommended that specialist contractors are contacted for specific design advice as proprietary methods of installation can influence the performance of such systems.

As an alternative to ground improvement it would also be feasible to adopt piled foundations. Conventional bored piles designed as end bearing units within the Chester Formation sandstone would likely prove the most economic solution although it should also be possible to utilise driven piles which should achieve a set at a relatively shallow depth within the sandstone. Again, it is recommended that specialist contractors are contacted for specific design advice.

It should be noted that Boreholes 2 and 2A were terminated at very shallow depth upon an obstruction, and, although not considered to be extensive across the site the presence of other shallow obstructions within the Made Ground formation cannot be discounted.

6.3 PAVEMENTS

At the time of the ground investigation the site surface was saturated and very soft with areas of standing water and it was not possible to traffic the site with conventional in-situ CBR testing plant and equipment. In the circumstances, a number of dynamic probes

were carried out using a tracked rig the results of which have been interpreted using the following correlation after Huntley, 1999.

DOP Blows (per 100mm)	Classification (BS 5930)	Strength Cu (kPa) (BS 5930)	Equivalent SPT N (300mm)
<1	very soft	20	< 2
1 - 2	soft	20 - 40	2 - 4
3 - 4	firm	40 - 75	5 - 8
5 - 8	stiff	75 - 150	9 - 15
>8	Very stiff	>150	>16

The dynamic probe data in Appendix C can be summarised as follows:

DP1: Blows GL – 1m, 19

DP3: Blows GL – 1m, 32

DP5: Blows GL – 1m, 35

DP6: Blows GL – 1m, 19

The lower of the achieved values equates to a DCP Blows per 100mm of 1.9 which places the shallow formation in the soft category. Utilising that information in association with the recommendations provided within Interim Advice Note 73/06, 2009 for a clay with a PI value of 23 results in a recommended CBR value for design of less than 2 for a thin layered pavement construction.

6.4 BURIED CONCRETE

The results of Soluble Sulphate and pH tests carried out on samples of the formation are summarised below:

No. of Tested Samples	Range of Water Soluble Sulphate Values (g/l)	Range of pH Values
6	<0.010 – 0.28	8.0 – 8.8

The results fall within concrete Class DS-1 as defined in BRE Special Digest 1, 'Concrete in aggressive ground', 2005', with a corresponding ACEC class of AC-1s.

7 ENVIRONMENTAL CONSIDERATIONS

7.1 SOIL CONTAMINATION

7.1.1 GENERAL APPROACH

The UK approach to the assessment of contaminated land is based upon the principles of risk assessment. This is founded upon the 'source – pathway – target' model to establish the presence or potential presence of a pollutant linkage. The overall methodology is based upon a tiered approach to determine risk based remedial targets for soil involving site specific data collection.

Should the adopted criteria be exceeded, then two courses of action are available. Firstly, the pollutant link could be broken by undertaking remedial work such as providing clean soil cover. Alternatively, a more detailed risk assessment can be carried out to determine whether a statistically relevant pollutant link actually exists.

The proposal is for an industrial development and for the purposes of risk assessment an industrial land use has been adopted as the default land use category.

7.1.2 RISK SCREENING

7.1.2.1 HUMAN SITE OCCUPIERS AND CONSTRUCTION WORKERS

In terms of risk to human health, the results of the chemical testing data enclosed within Appendix D have been compared to the final chemical screening criteria for an industrial land use. A summary of the risk screening exercise is shown on Table 2. Reference to that table shows that none of the potential contaminants of concern that comprised the chemical testing suite were present at concentrations that were greater than their chemical acceptance criteria value. However, the testing has by visual inspection detected fragments of asbestos board within the Made Ground formation in Borehole 3.

The screening exercise has demonstrated that the risks to human health at the site from potential contaminants of concern within the near surface soils are low; however, there will be a requirement to take into account the potential presence of asbestos board fragments within the Made Ground formation at the site.

7.1.3 PROPOSED SOIL REMEDIAL MEASURES

It is understood that there are no proposals to include soft landscape areas within the proposed development site and consequently, there are no proposals to implement soil remedial measures as part of the development process. However, fragments of asbestos board have been observed to be present within the Made Ground formation as encountered within Borehole 3 and it is therefore recommended that during the site enabling stage of the works contaminated ground construction practices are adopted in order to protect site workers from airborne fragments of soil and dust that might contain fragments of asbestos. In addition, any excavated Made Ground materials that are to leave site will need to be tested for the presence of asbestos in order to determine an appropriate disposal route.

7.2 GROUND GAS

Table 1 shows that methane gas was effectively absent from the borehole standpipes whilst carbon dioxide was measured at a maximum concentration of 0.6%. Very low gas pressures were detected, whilst flow rates were negligible. It can be concluded therefore that the risks to site users from carbon dioxide and methane are very low.

The ground gas situation has been assessed using the methodology outlined in CIRIA Publication C665 'Assessing risks posed by hazardous ground gases to buildings'. Under that methodology, the site has been assessed as falling within the Characteristic Situation 1 category, where no special precautions are required with respect to carbon dioxide and methane in the ground. For these gases, the installation of a methane or carbon dioxide resistant membrane within enclosed site structures should not be required.

The Sitecheck Data report states that enclosed structures will not require a radon membrane.

TABLES

Table 1
Proposed Energy Facility, Coopers Lane, Liverpool
Gas and Groundwater Readings

Gas Readings

Date: 05/12/2019 Atmospheric Pressure: 1010mb

BH	Gas Flow (l/hr)	Borehole Pressure (mb)	Methane (%vol)		Methane (%LEL)		Carbon Dioxide (%vol)		Oxygen (%vol)		Other Gases (ppm)	
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	H2s	CO
1	<0.1	0.03	0.2	0.2	<2	<2	0.3	0.3	20.0	20.0	<1	<1
3	<0.1	0.02	0.2	0.2	<2	<2	0.5	0.5	19.8	19.8	<1	<1
5	<0.1	0.02	0.2	0.2	<2	<2	0.4	0.4	20.0	20.0	<1	<1

Date: 12/12/2019 Atmospheric Pressure: 1001mb

BH	Gas Flow (l/hr)	Borehole Pressure (mb)	Methane (%vol)		Methane (%LEL)		Carbon Dioxide (%vol)		Oxygen (%vol)		Other Gases (ppm)	
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	H2s	CO
1	<0.1	0.01	0.2	0.2	<2	<2	0.4	0.4	19.8	19.8	<1	<1
3	<0.1	0.02	0.2	0.2	<2	<2	0.3	0.3	19.7	19.7	<1	<1
5	<0.1	0.02	0.2	0.2	<2	<2	0.4	0.4	19.7	19.7	<1	<1

Date: 19/12/2019 Atmospheric Pressure: 995mb

BH	Gas Flow (l/hr)	Borehole Pressure (mb)	Methane (%vol)		Methane (%LEL)		Carbon Dioxide (%vol)		Oxygen (%vol)		Other Gases (ppm)	
			Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	H2s	CO
1	<0.1	0.03	0.2	0.2	<2	<2	0.4	0.4	19.6	19.6	<1	<1
3	<0.1	0.01	0.2	0.2	<2	<2	0.6	0.6	19.7	19.7	<1	<1
5	<0.1	0.02	0.2	0.2	<2	<2	0.4	0.4	19.8	19.8	<1	<1

Groundwater Readings (mbgl)

BH	05/12/2019	12/12/2019	19/12/2019
1	0.08	0.09	0.05
3	0.97	0.96	0.99
5	2.56	2.51	2.53

Gas and groundwater monitoring undertaken by: P. Cosgrove
 Equipment used: GA2000 S/N 7871 Flow pod S/N 419

Table 2

**Proposed Industrial Development, Coopers Lane, Kirby, Liverpool
Human Health Screening Values for a Commercial/Industrial Land
Use versus Measured Values - Soils**

Determinant	Final screening chemical acceptance criteria mg/kg	Derivation Tool	Range of Measured Values	No. of Values > acceptance criteria (location)
Asbestos	Presence		1 (Board Debris)	1 (BH3)
Phenols	1500	LQM/CIEH:S4UL	<0.3	0
US EPA Priority PAHs				
Acenaphthene	97000	LQM/CIEH:S4UL	<0.1	0
Acenaphthylene	97000	LQM/CIEH:S4UL	<0.1	0
Anthracene	54000	LQM/CIEH:S4UL	<0.1 – 0.29	0
Benzo(a)Anthracene	170	LQM/CIEH:S4UL	<0.1 – 0.47	0
Benzo (a)pyrene	77	DEFRA:C4SL	<0.1	0
Benzo (b)flouranthene	44	LQM/CIEH:S4UL	<0.1	0
Benzo(k)flouranthene	1200	LQM/CIEH:S4UL	<0.1	0
Benzo(g,h,i) perylene	4000	LQM/CIEH:S4UL	<0.1	0
Chrysene	350	LQM/CIEH:S4UL	<0.1 – 0.69	0
Di-benzo(a,h)anthracene	3.6	LQM/CIEH:S4UL	<0.1	0
Indeno)1,2,3-cd)pyrene	510	LQM/CIEH:S4UL	<0.1	0
Flouranthene	23000	LQM/CIEH:S4UL	<0.1 – 1.2	0
Flourene	68000	LQM/CIEH:S4UL	<0.1	0
Napthalene	400	LQM/CIEH:S4UL	<0.1	0
Phenanthrene	22000	LQM/CIEH:S4UL	<0.1 – 1.2	0
Pyrene	64000	LQM/CIEH:S4UL	<0.1 – 1.2	0
Heavy Metals/ Metalloids				
Arsenic	640	DEFRA C4SL	8.2 - 20	0
Cadmium	420	DEFRA C4SL	0.11 – 0.36	0
Chromium	86000	LQM/CIEH:S4UL	14 - 27	0
Copper	68000	LQM/CIEH:S4UL	20 - 180	0
Lead	1100	DEFRA C4SL	13 - 82	0
Mercury	1100	LQM/CIEH:S4UL	<0.1 – 0.14	0
Nickel	980	LQM/CIEH:S4UL	16 - 40	0
Selenium	12000	LQM/CIEH:S4UL	<0.2 – 0.34	0
Zinc	730000	LQM/CIEH:S4UL	24 - 51	0

Petroleum Hydrocarbons				
TPH Aliphatic C5-6	5900	LQM/CIEH:S4UL	<0.1	0
C6-8	7800	LQM/CIEH:S4UL	<0.1	0
C8-10	4800	LQM/CIEH:S4UL	<0.1	0
C10-12	23000	LQM/CIEH:S4UL	<1	0
C12-16	82000	LQM/CIEH:S4UL	<1	0
C16-21	1700000	LQM/CIEH:S4UL	<1	0
C21-35	170000	LQM/CIEH:S4UL	<1	0
C35-44	1700000	LQM/CIEH:S4UL	<1	0
TPH Aromatic C5-7	46000	LQM/CIEH:S4UL	<0.1	0
C7-8	110000	LQM/CIEH:S4UL	<0.1	0
C8-10	8100	LQM/CIEH:S4UL	<0.1	0
C10-12	28000	LQM/CIEH:S4UL	<1	0
C12-16	37000	LQM/CIEH:S4UL	<1	0
C16-21	28000	LQM/CIEH:S4UL	<1	0
C21-35	28000	LQM/CIEH:S4UL	<1	0
C35-44	28000	LQM/CIEH:S4UL	<1	0

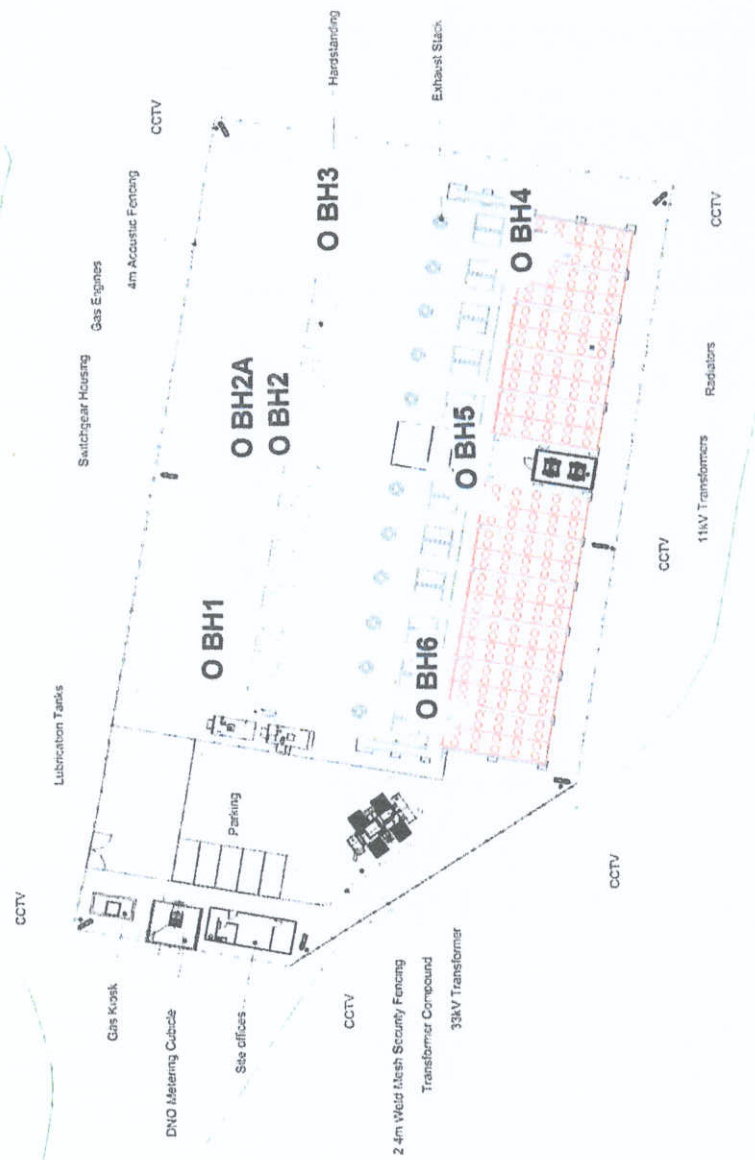
1% SOM adopted for SGV calculation

FIGURES



Site Location Plan

SP ASSOCIATES	Report: S1650	Site: Coopers Lane, Liverpool	Figure: 1
--------------------------	--------------------------	--	----------------------



Borehole Location Plan

SP ASSOCIATES	Report No. S1650	Project: Coopers Lane, Liverpool	Figure: 2
--------------------------	-----------------------------	---	----------------------

APPENDIX A

Historical Ordnance Survey Maps

Historical Mapping Legends

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

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

Ordnance Survey Plan 1:10,000

Chalk Pit, Clay Pit or Quarry	Gravel Pit	Disused Pit or Quarry	Lake, Loch or Pond	Boulders	Non-Confiferous Trees	Confiferous Trees	Orchard	Scrub	Heath	Reeds	Saltings	Direction of Flow of Water	Building	Glasshouse	Sloping Masonry	Pylon	Electricity Transmission Line	Pole
																		
Standard Gauge Multiple Track	Standard Gauge Single Track	Siding, Tramway or Mineral Line	Narrow Gauge	Geographical County	Administrative County, County Borough or County of City	Municipal Borough, Urban or Rural District, Borough or District Council	Borough, Burgh or County Constituency	Civil Parish	Shown alternately when coincidence of boundaries occurs									
																		
BP, BS	Boundary Post or Stone	Church	Club House	Fire Engine Station	Foot Bridge	Fountain	Guide Post	Mail Post	Police Station	Post Office	Public Convenience	Public House	Signal Box	Spring	Telephone Call Box	Telephone Call Post	Well	

1:10,000 Raster Mapping

Gravel Pit	Refuse tip or slag heap	Rock (scattered)	Boulders (scattered)	Mud	Sand Pit	Top of cliff	Underground detail	Narrow gauge railway	Single track railway	Civil, parish or community boundary	District, Unitary, Metropolitan, London Borough boundary	Area of wooded vegetation	Non-confiferous trees (scattered)	Confiferous trees	Positioned tree	Coppice or Osiers	Heath	Marsh, Salt Marsh or Reeds	Flow arrows	Mean low water (springs)	Electricity transmission line (with poles)	Triangulation station	Pylon, flare stack or lighting tower	Glasshouse	Important Building
Gravel Pit	Refuse tip or slag heap	Rock (scattered)	Boulders (scattered)	Mud	Sand Pit	Top of cliff	Underground detail	Narrow gauge railway	Single track railway	Civil, parish or community boundary	District, Unitary, Metropolitan, London Borough boundary	Area of wooded vegetation	Non-confiferous trees (scattered)	Confiferous trees	Positioned tree	Coppice or Osiers	Heath	Marsh, Salt Marsh or Reeds	Flow arrows	Mean low water (springs)	Electricity transmission line (with poles)	Triangulation station	Pylon, flare stack or lighting tower	Glasshouse	Important Building

Sitecheck Historical Maps

Ordnance Survey mapping included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1850	3
Lancashire And Furness	1:2,500	1893	4
Lancashire And Furness	1:10,560	1894	5
Lancashire And Furness	1:2,500	1908	6
Lancashire And Furness	1:10,560	1909	7
Lancashire And Furness	1:2,500	1927	8
Lancashire And Furness	1:10,560	1928	9
Lancashire And Furness	1:2,500	1937 - 1939	10
Ordnance Survey Plan	1:10,560	1956	11
Ordnance Survey Plan	1:1,250	1959	12
Additional SIMs	1:1,250	1959 - 1991	13
Ordnance Survey Plan	1:2,500	1960	14
Ordnance Survey Plan	1:10,560	1966	15
Ordnance Survey Plan	1:1,250	1968 - 1977	16
Ordnance Survey Plan	1:2,500	1970	17
Ordnance Survey Plan	1:10,000	1978	18
Additional SIMs	1:1,250	1981 - 1991	19
Ordnance Survey Plan	1:10,000	1990	20
Additional SIMs	1:1,250	1991	21
Large-Scale National Grid Data	1:1,250	1993	22
10K Raster Mapping	1:10,000	1999	23
10K Raster Mapping	1:10,000	2006	24
VectorMap Local	1:10,000	2019	25

Order Details

Order Number: 224449884_2_1
Customer Ref: S1650
National Grid Reference: 343640_397130
Site Area (Ha): 0.58

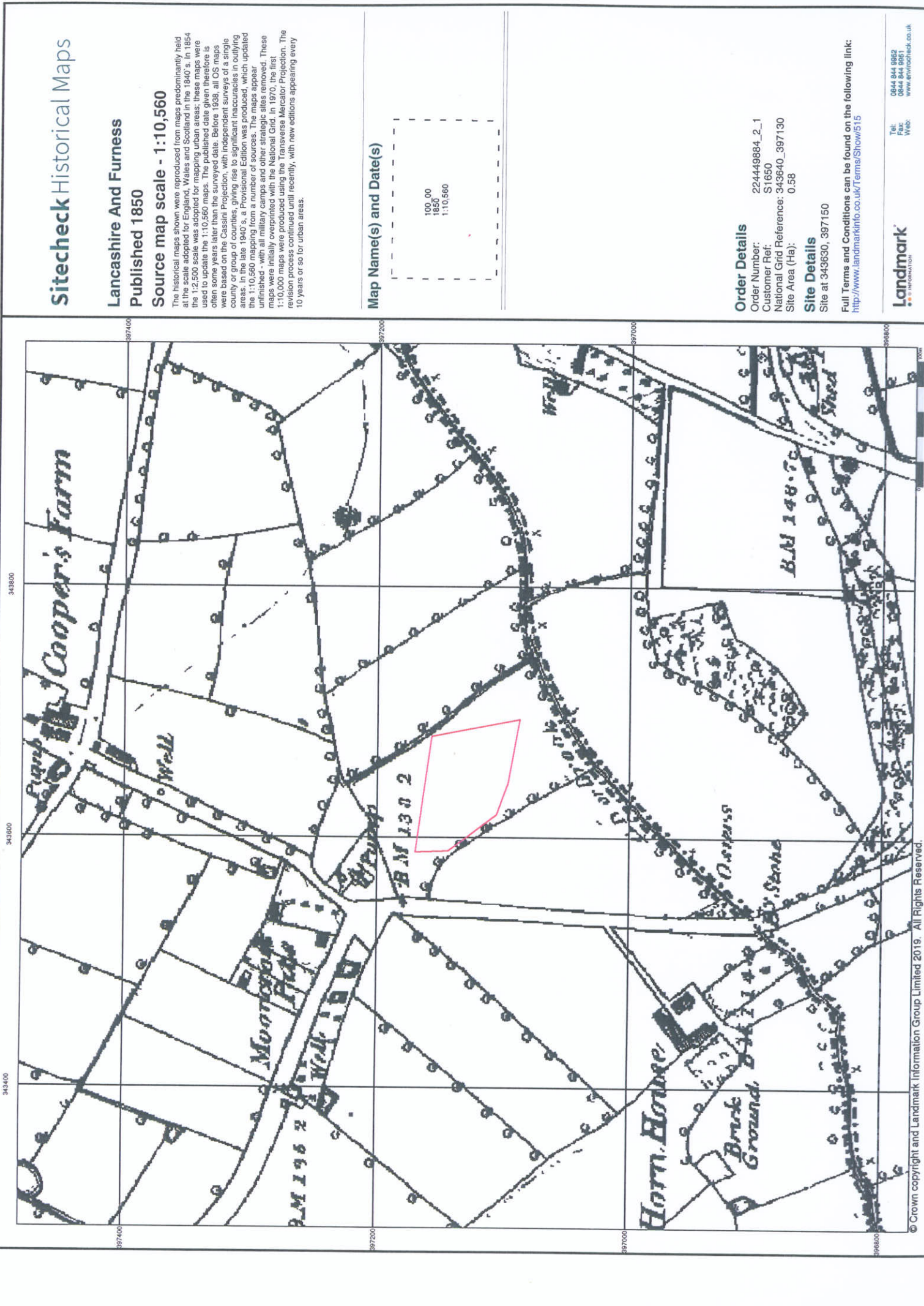
Site Details

Site at 343630, 397150

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

Landmark

Tel: 0844 844 9852
Fax: 0844 844 9951
Web: www.landmark.co.uk



Sitecheck Historical Maps

Lancashire And Furness

Published 1850

Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Order Details

Order Number: 224449884_2_1
Customer Ref: S1650
National Grid Reference: 343840_397130
Site Area (Ha): 0.58

Site Details

Site at 343830, 397150

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

Landmark
INFORMATION

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

Sitecheck Historical Maps

Lancashire And Furness

Published 1893

Source map scale - 1:2,500

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

Map Name(s) and Date(s)

100_09 1893 1:2,500	100_10 1893 1:2,500
100_13 1893 1:2,500	100_14 1893 1:2,500

Order Details

Order Number: 224449884_2_1
Customer Ref: S1650
National Grid Reference: 343640_397130
Site Area (Ha): 0.58

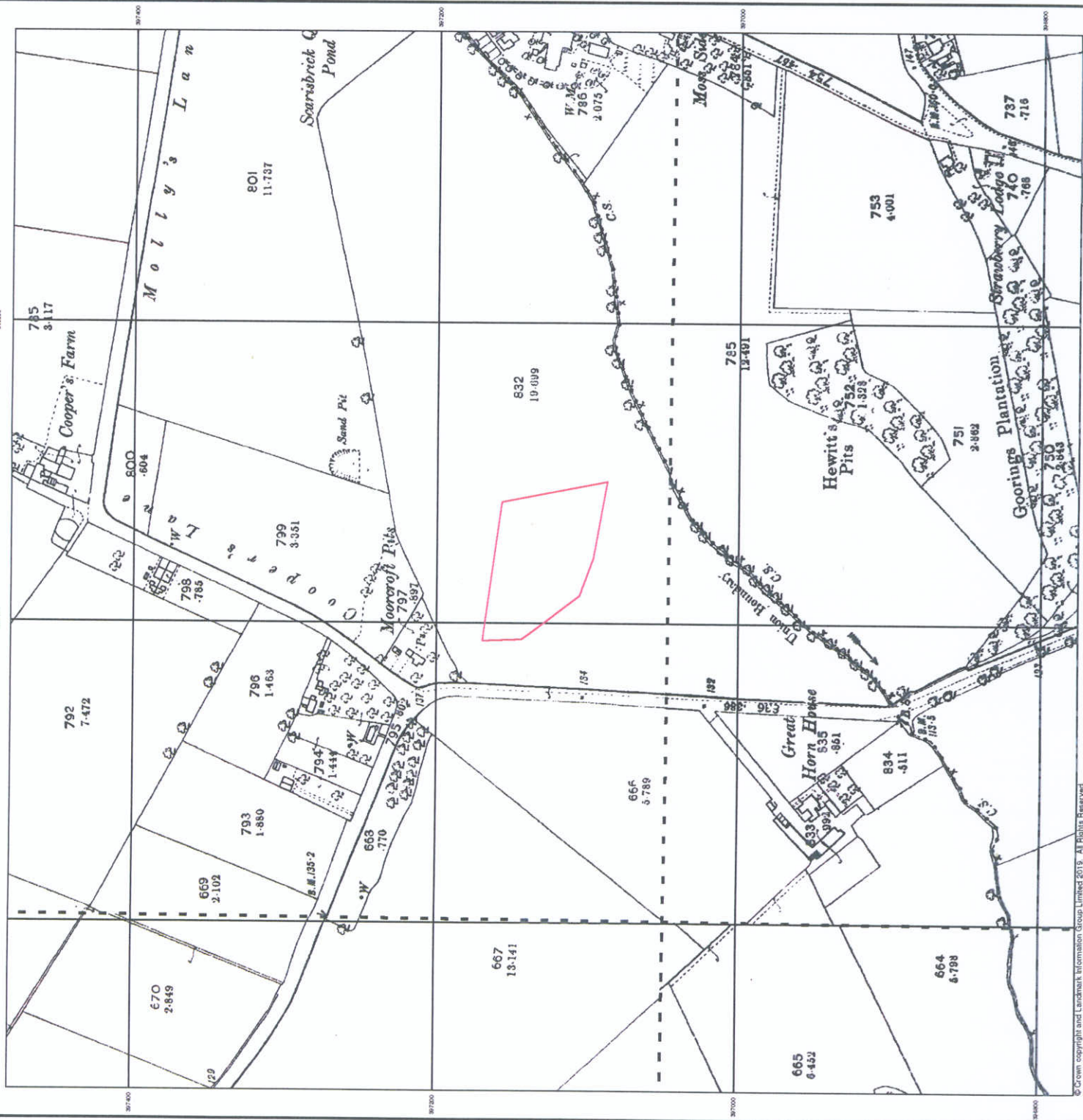
Site Details

Site at 343630, 397150

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

Landmark

Tel: 0844 844 0939
Fax: 0844 844 0951
Web: www.envirocheck.co.uk



Sitecheck Historical Maps

Lancashire And Furness

Published 1894

Source map scale - 1:10,560

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

Map Name(s) and Date(s)

100 SW
1894
1:10,560

Order Details

Order Number: 224449884_2_1
Customer Ref: S1650
National Grid Reference: 343640_397130
Site Area (Ha): 0.58

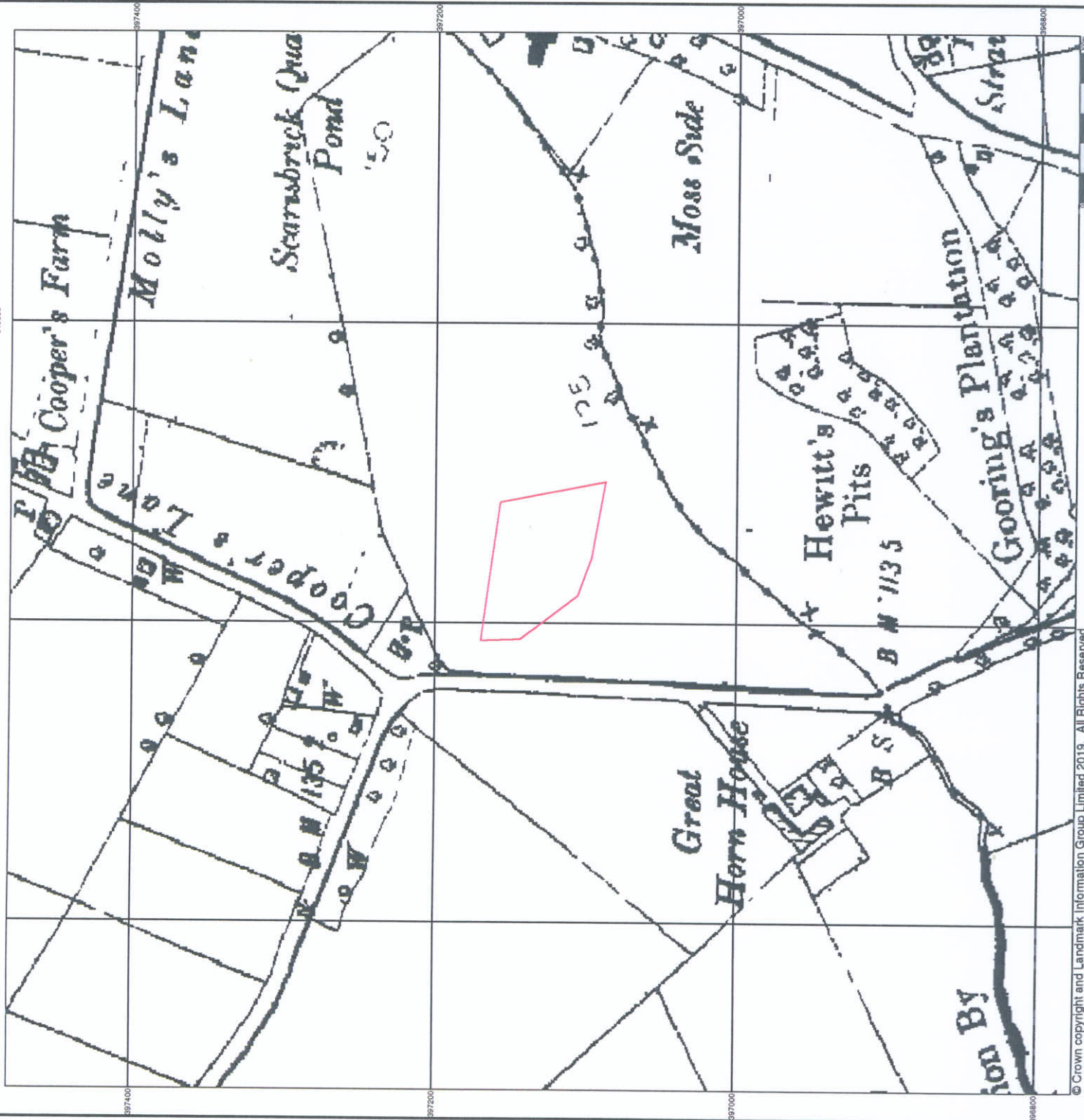
Site Details

Site at 343630, 397150

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

Landmark
© Crown copyright and Landmark Information Group Limited 2019. All Rights Reserved.

Tel: 0844 844 0852
Fax: 0844 844 0851
Web: www.envirocheck.co.uk



Sitecheck Historical Maps

Lancashire And Furness

Published 1908

Source map scale - 1:2,500

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

Map Name(s) and Date(s)

100_09	100_10
100_08	100_08
100_07	100_06
100_06	100_05
100_05	100_04
100_04	100_03
100_03	100_02
100_02	100_01
100_01	100_00
100_00	100_99
100_99	100_98
100_98	100_97
100_97	100_96
100_96	100_95
100_95	100_94
100_94	100_93
100_93	100_92
100_92	100_91
100_91	100_90
100_90	100_89
100_89	100_88
100_88	100_87
100_87	100_86
100_86	100_85
100_85	100_84
100_84	100_83
100_83	100_82
100_82	100_81
100_81	100_80
100_80	100_79
100_79	100_78
100_78	100_77
100_77	100_76
100_76	100_75
100_75	100_74
100_74	100_73
100_73	100_72
100_72	100_71
100_71	100_70
100_70	100_69
100_69	100_68
100_68	100_67
100_67	100_66
100_66	100_65
100_65	100_64
100_64	100_63
100_63	100_62
100_62	100_61
100_61	100_60
100_60	100_59
100_59	100_58
100_58	100_57
100_57	100_56
100_56	100_55
100_55	100_54
100_54	100_53
100_53	100_52
100_52	100_51
100_51	100_50
100_50	100_49
100_49	100_48
100_48	100_47
100_47	100_46
100_46	100_45
100_45	100_44
100_44	100_43
100_43	100_42
100_42	100_41
100_41	100_40
100_40	100_39
100_39	100_38
100_38	100_37
100_37	100_36
100_36	100_35
100_35	100_34
100_34	100_33
100_33	100_32
100_32	100_31
100_31	100_30
100_30	100_29
100_29	100_28
100_28	100_27
100_27	100_26
100_26	100_25
100_25	100_24
100_24	100_23
100_23	100_22
100_22	100_21
100_21	100_20
100_20	100_19
100_19	100_18
100_18	100_17
100_17	100_16
100_16	100_15
100_15	100_14
100_14	100_13
100_13	100_12
100_12	100_11
100_11	100_10
100_10	100_09
100_09	100_08
100_08	100_07
100_07	100_06
100_06	100_05
100_05	100_04
100_04	100_03
100_03	100_02
100_02	100_01
100_01	100_00
100_00	100_99
100_99	100_98
100_98	100_97
100_97	100_96
100_96	100_95
100_95	100_94
100_94	100_93
100_93	100_92
100_92	100_91
100_91	100_90
100_90	100_89
100_89	100_88
100_88	100_87
100_87	100_86
100_86	100_85
100_85	100_84
100_84	100_83
100_83	100_82
100_82	100_81
100_81	100_80
100_80	100_79
100_79	100_78
100_78	100_77
100_77	100_76
100_76	100_75
100_75	100_74
100_74	100_73
100_73	100_72
100_72	100_71
100_71	100_70
100_70	100_69
100_69	100_68
100_68	100_67
100_67	100_66
100_66	100_65
100_65	100_64
100_64	100_63
100_63	100_62
100_62	100_61
100_61	100_60
100_60	100_59
100_59	100_58
100_58	100_57
100_57	100_56
100_56	100_55
100_55	100_54
100_54	100_53
100_53	100_52
100_52	100_51
100_51	100_50
100_50	100_49
100_49	100_48
100_48	100_47
100_47	100_46
100_46	100_45
100_45	100_44
100_44	100_43
100_43	100_42
100_42	100_41
100_41	100_40
100_40	100_39
100_39	100_38
100_38	100_37
100_37	100_36
100_36	100_35
100_35	100_34
100_34	100_33
100_33	100_32
100_32	100_31
100_31	100_30
100_30	100_29
100_29	100_28
100_28	100_27
100_27	100_26
100_26	100_25
100_25	100_24
100_24	100_23
100_23	100_22
100_22	100_21
100_21	100_20
100_20	100_19
100_19	100_18
100_18	100_17
100_17	100_16
100_16	100_15
100_15	100_14
100_14	100_13
100_13	100_12
100_12	100_11
100_11	100_10
100_10	100_09
100_09	100_08
100_08	100_07
100_07	100_06
100_06	100_05
100_05	100_04
100_04	100_03
100_03	100_02
100_02	100_01
100_01	100_00
100_00	100_99
100_99	100_98
100_98	100_97
100_97	100_96
100_96	100_95
100_95	100_94
100_94	100_93
100_93	100_92
100_92	100_91
100_91	100_90
100_90	100_89
100_89	100_88
100_88	100_87
100_87	100_86
100_86	100_85
100_85	100_84
100_84	100_83
100_83	100_82
100_82	100_81
100_81	100_80
100_80	100_79
100_79	100_78
100_78	100_77
100_77	100_76
100_76	100_75
100_75	100_74
100_74	100_73
100_73	100_72
100_72	100_71
100_71	100_70
100_70	100_69
100_69	100_68
100_68	100_67
100_67	100_66
100_66	100_65
100_65	100_64
100_64	100_63
100_63	100_62
100_62	100_61
100_61	100_60
100_60	100_59
100_59	100_58
100_58	100_57
100_57	100_56
100_56	100_55
100_55	100_54
100_54	100_53
100_53	100_52
100_52	100_51
100_51	100_50
100_50	100_49
100_49	100_48
100_48	100_47
100_47	100_46
100_46	100_45
100_45	100_44
100_44	100_43
100_43	100_42
100_42	100_41
100_41	100_40
100_40	100_39
100_39	100_38
100_38	100_37
100_37	100_36
100_36	100_35
100_35	100_34
100_34	100_33
100_33	100_32
100_32	100_31
100_31	100_30
100_30	100_29
100_29	100_28
100_28	100_27
100_27	100_26
100_26	100_25
100_25	100_24
100_24	100_23
100_23	100_22
100_22	100_21
100_21	100_20
100_20	100_19
100_19	100_18
100_18	100_17
100_17	100_16
100_16	100_15
100_15	100_14
100_14	100_13
100_13	100_12
100_12	100_11
100_11	100_10
100_10	100_09
100_09	100_08
100_08	100_07
100_07	100_06
100_06	100_05
100_05	100_04
100_04	100_03
100_03	100_02
100_02	100_01
100_01	100_00
100_00	100_99
100_99	100_98
100_98	100_97
100_97	100_96
100_96	100_95
100_95	100_94
100_94	100_93
100_93	100_92
100_92	100_91
100_91	100_90
100_90	100_89
100_89	100_88
100_88	100_87
100_87	100_86
100_86	100_85
100_85	100_84
100_84	100_83
100_83	100_82
100_82	100_81
100_81	100_80
100_80	100_79
100_79	100_78
100_78	100_77
100_77	100_76
100_76	100_75
100_75	100_74
100_74	100_73
100_73	100_72
100_72	100_71
100_71	100_70
100_70	100_69
100_69	100_68
100_68	100_67
100_67	100_66
100_66	100_65
100_65	100_64
100_64	100_63
100_63	100_62
100_62	100_61
100_61	100_60
100_60	100_59
100_59	100_58
100_58	100_57
100_57	100_56
100_56	100_55
100_55	100_54
100_54	100_53
100_53	100_52
100_52	100_51
100_51	100_50
100_50	100_49
100_49	100_48
100_48	100_47
100_47	100_46
100_46	100_45
100_45	100_44
100_44	100_43
100_43	100_42
100_42	100_41
100_41	100_40
100_40	100_39
100_39	100_38
100_38	100_37
100_37	100_36
100_36	100_35
100_35	100_34
100_34	100_33
100_33	100_32
100_32	100_31
100_31	100_30
100_30	100_29
100_29	100_28
100_28	100_27
100_27	100_26
100_26	100_25
100_25	100_24
100_24	100_23
100_23	100_22
100_22	100_21
100_21	100_20
100_20	100_19
100_19	100_18
100_18	100_17
100_17	100_16
100_16	100_15
100_15	100_14
100_14	100_13
100_13	100_12
100_12	100_11
100_11	100_10
100_10	100_09
100_09	100_08
100_08	100_07
100_07	100_06
100_06	100_05
100_05	100_04
100_04	100_03
100_03	100_02
100_02	100_01
100_01	100_00
100_00	100_99
100_99	100_98
100_98	100_97
100_97	100_96
100_96	100_95
100_95	100_94
100_94	100_93
100_93	100_92
100_92	100_91
100_91	100_90
100_90	100_89
100_89	100_88
100_88	100_87
100_87	100_86
100_86	100_85
100_85	100_84
100_84	100_83
100_83	100_82
100_82	100_81
100_81	100_80
100_80	100_79
100_79	100_78
100_78	100_77
100_77	100_76
100_76	100_75
100_75	100_74
100_74	100_73
100_73	100_72
100_72	100_71
100_71	100_70
100_70	100_69
100_69	100_68
100_68	100_67
100_67	100_66
100_66	100_65
100_65	100_64
100_64	100_63
100_63	100_62
100_62	100_61
100_61	100_60
100_60	100_59
100_59	100_58
100_58	100_57
100_57	100_56
100_56	100_55
100_55	100_54
100_54	100_53
100_53	100_52
100_52	100_51
100_51	100_50
100_50	100_49
100_49	100_48
100_48	100_47
100_47	100_46
100_46	100_45
100_45	100_44
100_44	100_43
100_43	100_42
100_42	100_41
100_41	100_40
100_40	100_39
100_39	100_38
100_38	100_37
100_37	100_36
100_36	100_35
100_35	100_34
100_34	100_33
10	

Sitecheck Historical Maps

Lancashire And Furness

Published 1909

Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1940's. In 1954 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

100_SW
1909
1:10,560

Order Details

Order Number: 224449884_2_1
Customer Ref: S1650
National Grid Reference: 343640_397130
Site Area (Ha): 0.58

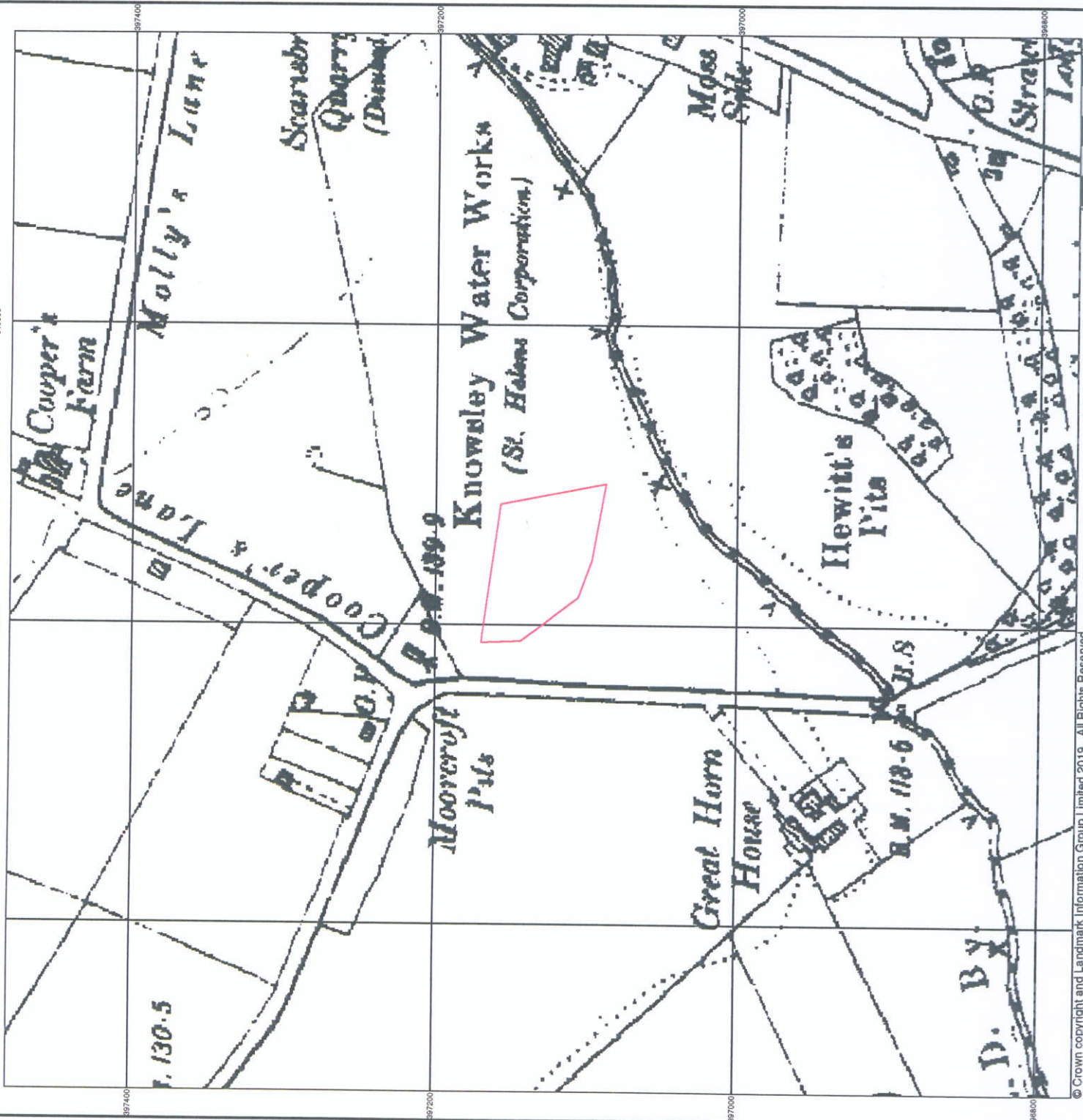
Site Details

Site at 343630, 397150

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

Landmark
a division of

Tel: 0844 844 9552
Fax: 0844 844 9551
Web: www.landmarkinfo.co.uk



Sitecheck Historical Maps

Lancashire And Furness

Published 1927

Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1886 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

100.09 1927 1:2,500	100.10 1927 1:2,500
100.13 1927 1:2,500	100.14 1927 1:2,500

Order Details

Order Number: 224449884_2_1
Customer Ref: S1650
National Grid Reference: 343640_397130
Site Area (Ha): 0.58

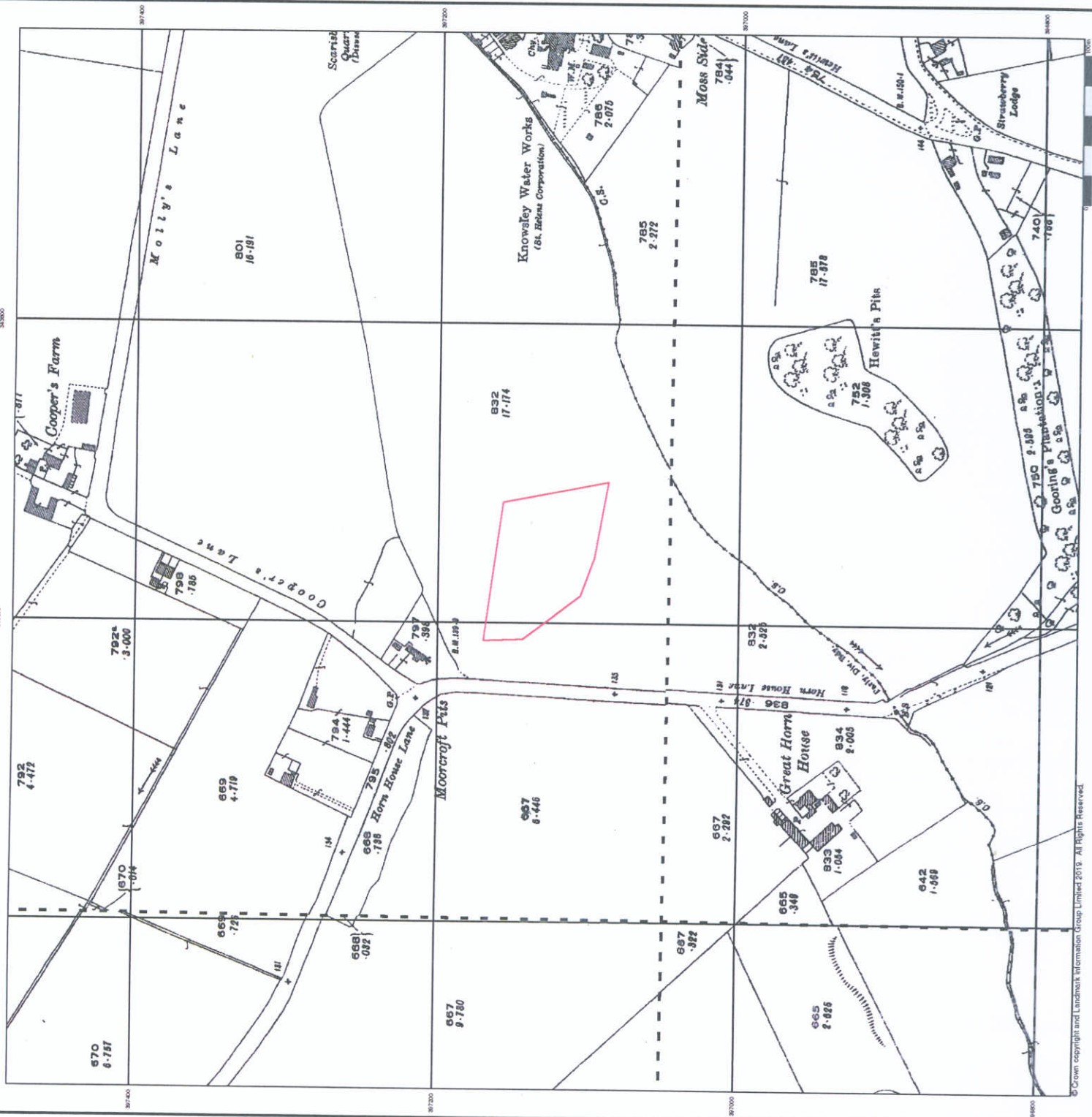
Site Details

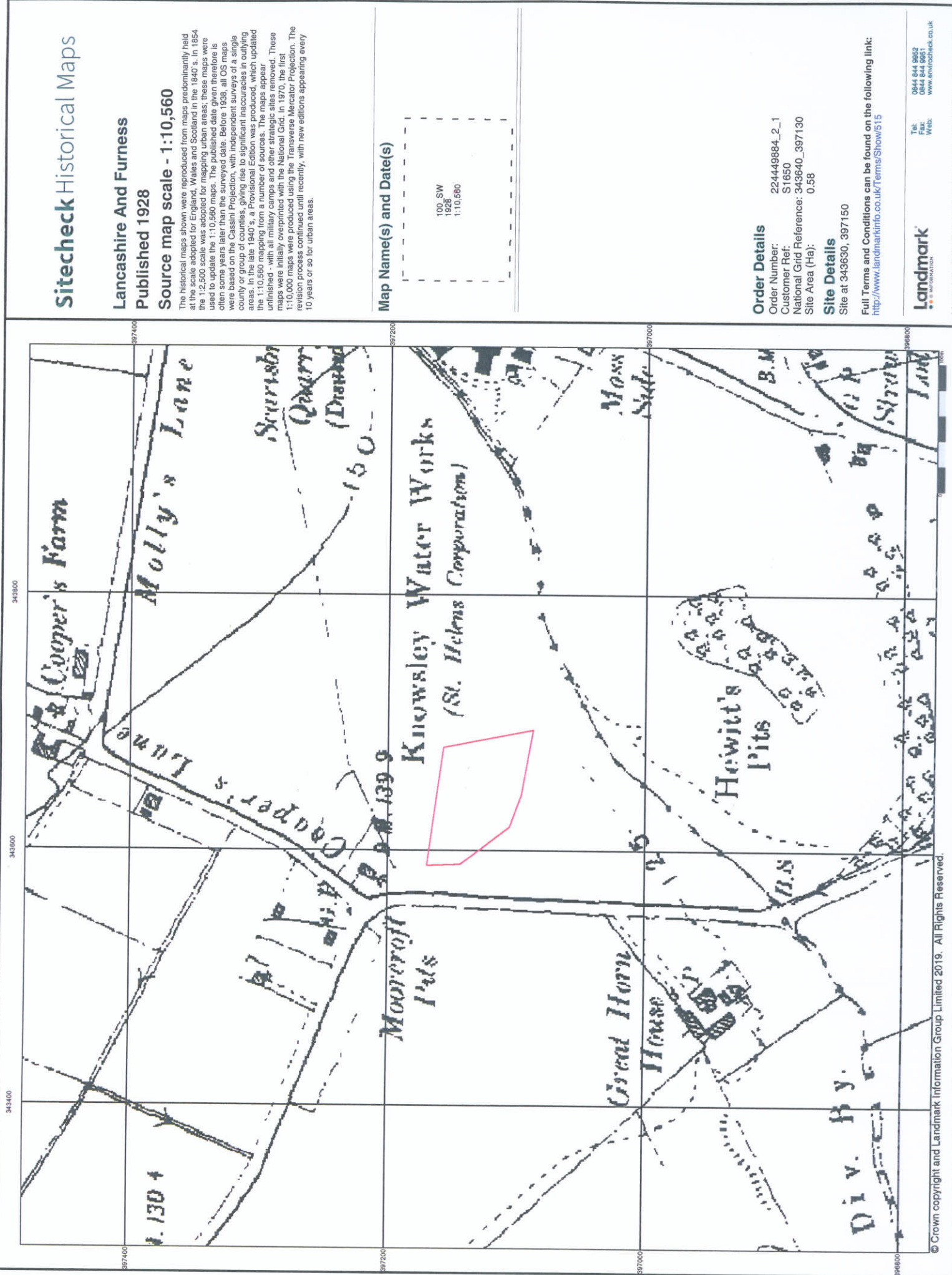
Site at 343630, 397150

Full Terms and Conditions can be found on the following link:
<http://www.landmarkinfo.co.uk/Terms/Show515>

Landmark
Information

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





Sitecheck Historical Maps

Lancashire And Furness Published 1937 - 1939

Source map scale - 1:2,500

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

Map Name(s) and Date(s)

100.10 1939 1:2,500	100.13 1937 1:2,500
100.14 1937 1:2,500	

Order Details

Order Number: 224449884_2_1
Customer Ref: S1650
National Grid Reference: 343640_397130
Site Area (Ha): 0.58

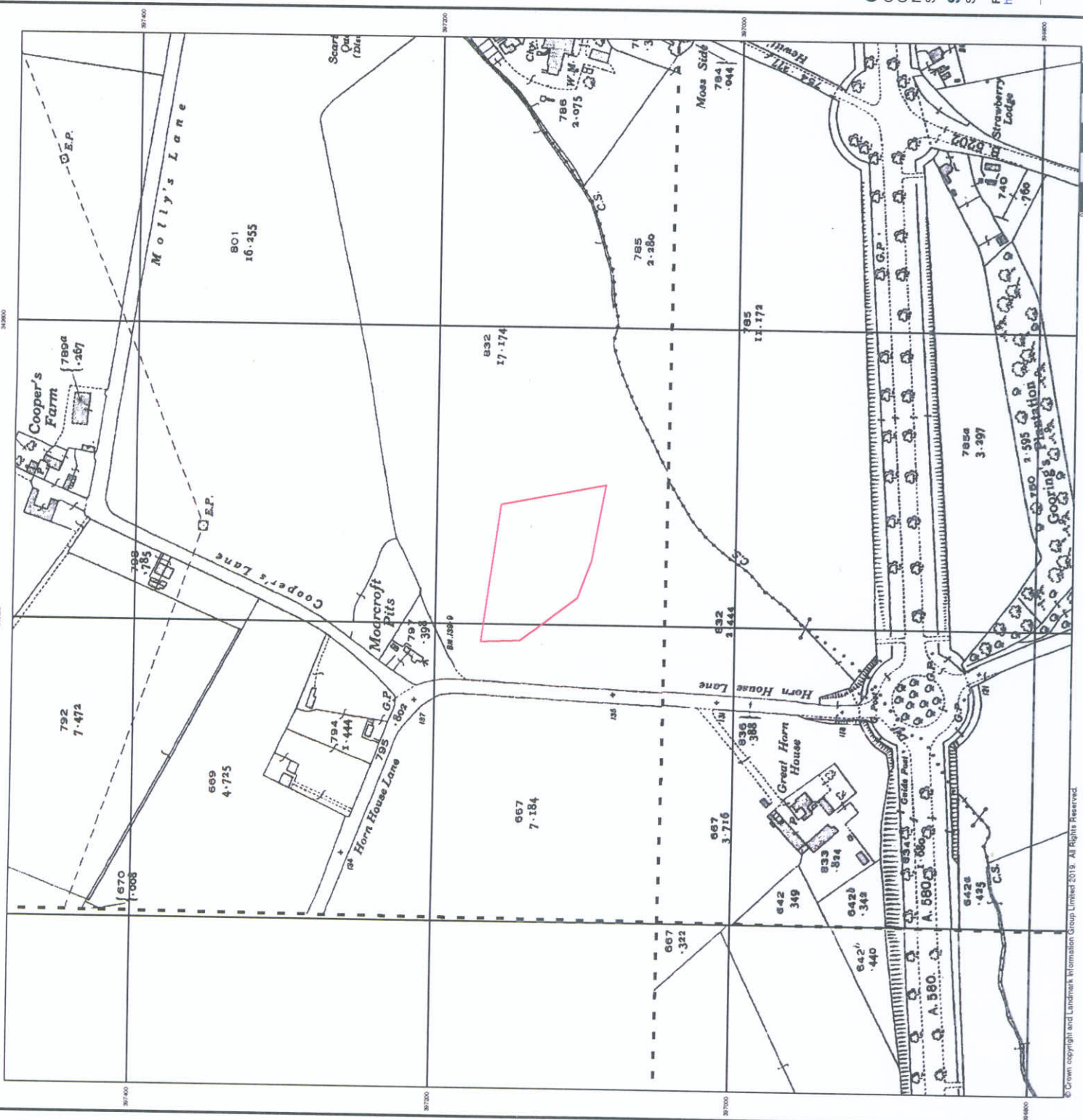
Site Details

Site at 343630, 397150

Full Terms and Conditions can be found on the following link:
<http://www.landmarkinfo.co.uk/Terms/Show515>

Landmark
Information Group

Tel: 0844 844 9552
Fax: 0844 844 9551
Web: www.landmarkinfo.co.uk



Sitecheck Historical Maps

Ordnance Survey Plan

Published 1956

Source map scale - 1:10,560

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

Map Name(s) and Date(s)

SI49NW
1956
1:10,560

Order Details

Order Number: 224449884_2_1
Customer Ref: S1650
National Grid Reference: 343640_397130
Site Area (Ha): 0.58

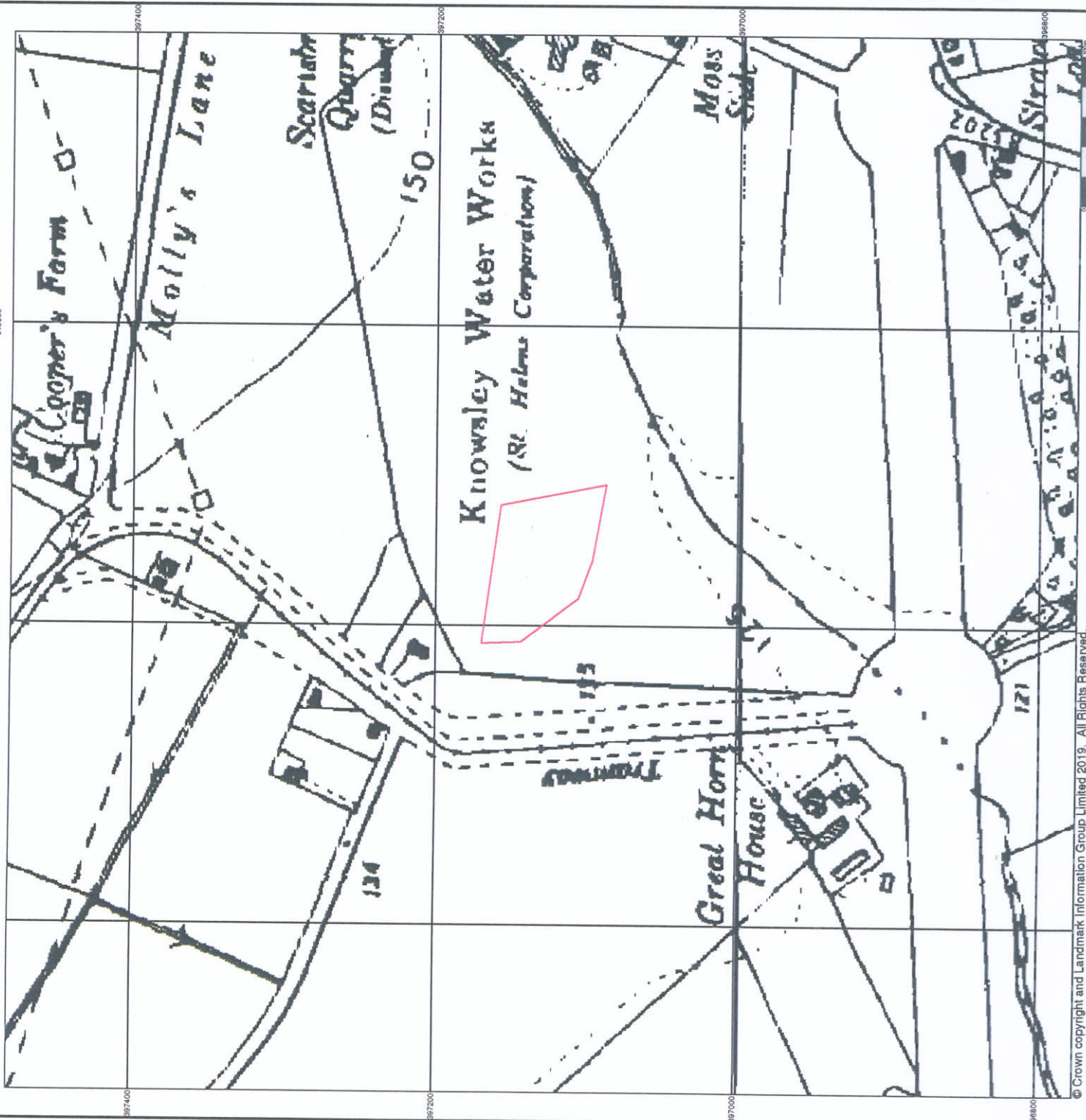
Site Details

Site at 343630, 397150

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

Landmark
INFORMATION GROUP

Tel: 0844 844 8939
Fax: 0844 844 8931
Web: www.envirocheck.co.uk



Sitecheck Historical Maps

Ordnance Survey Plan

Published 1959

Source map scale - 1:1,250

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

Map Name(s) and Date(s)

SJ4397SW	1959	1:1,250
SJ4397SE	1959	1:1,250
SJ4396NW	1959	1:1,250
SJ4396NE	1959	1:1,250

Order Details

Order Number: 224449884_2_1
Customer Ref: S1650
National Grid Reference: 343640_397130
Site Area (Ha): 0.58

Site Details

Site at 343630, 397150

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

Landmark
INFORMATION

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

Sitecheck Historical Maps

Additional SIMs

Published 1959 - 1991

Source map scale - 1:1,250

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

Map Name(s) and Date(s)

---	---	---	---
SJ4396NW	SJ4396NE		
1959	1991		
1:1,250	1:1,250		
---	---	---	---

Order Details

Order Number: 224449884_2_1
Customer Ref: S1650
National Grid Reference: 343640_397130
Site Area (Ha): 0.58

Site Details

Site at 343630, 397150

Full Terms and Conditions can be found on the following link:
<http://www.landmarkinfo.co.uk/Terms/Show515>

Landmark
INFORMATION

Tel: 0844 844 9852
Fax: 0844 844 9851
Web: www.sitecheck.co.uk

Sitecheck Historical Maps

Ordnance Survey Plan Published 1960

Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1856 it covered the whole of what is now considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938 all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SL4397	1960
1:2,500	
SL4396	1960
1:2,500	

Order Details

Order Number: 224449884_2_1
Customer Ref: S1650
National Grid Reference: 343640_397130
Site Area (Ha): 0.58

Site Details

Site at 343630, 397150

Full Terms and Conditions can be found on the following link:
<http://www.landmarkinfo.co.uk/terms/Show515>

Landmark
INFORMATION GROUP

Tel: 0844 844 9863
Fax: 0844 844 9861
Web: www.landmarkinfo.co.uk



Sitecheck Historical Maps

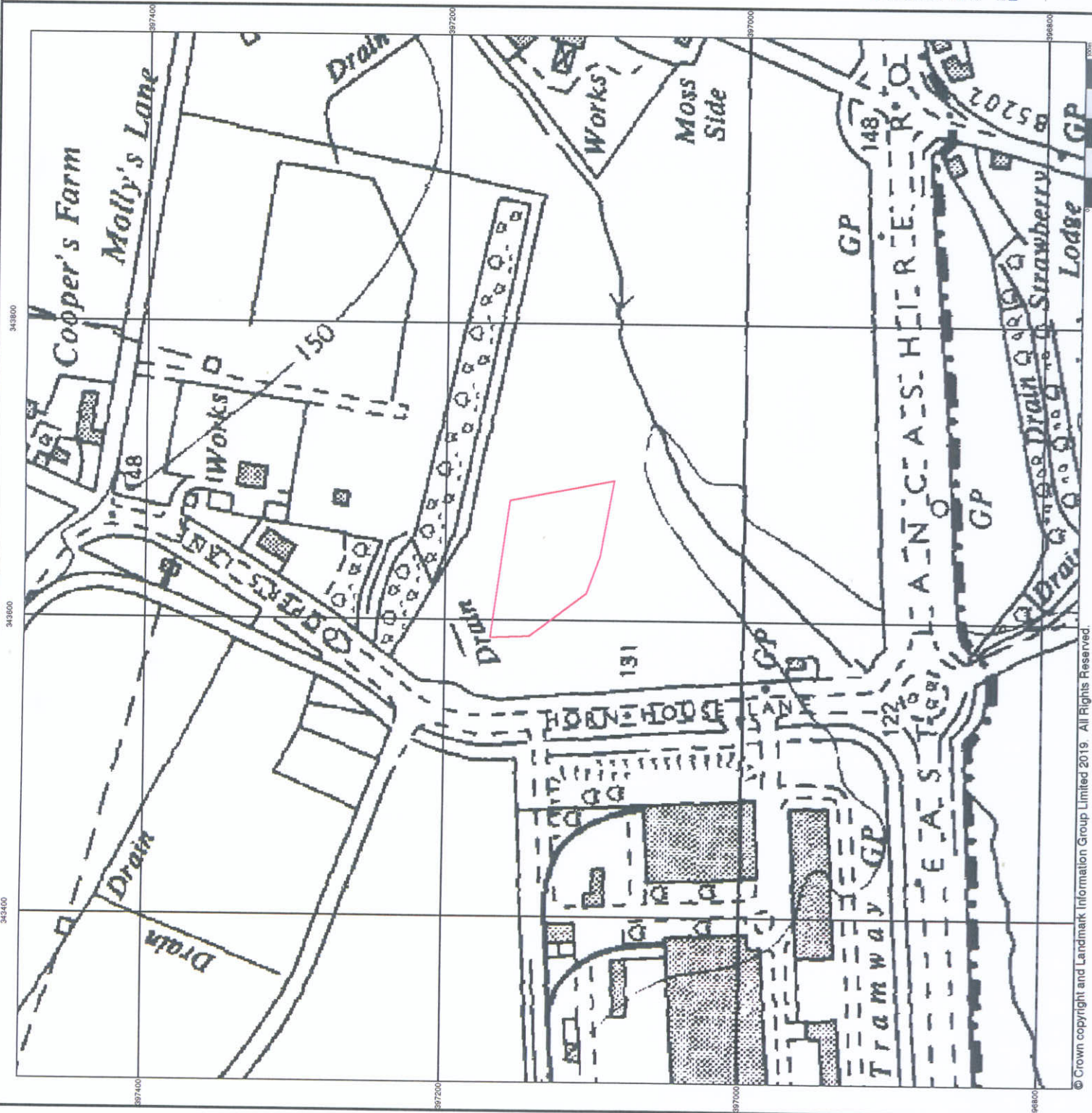
Ordnance Survey Plan

Published 1966

Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Order Details

Order Number: 224449884_2_1
Customer Ref: S1650
National Grid Reference: 343640_397130
Site Area (Ha): 0.58

Site Details

Site at 343630, 397150

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

Landmark
INFORMATION

Tel: 0844 844 0959
Fax: 0844 844 0951
Web: www.landmarkinfo.co.uk

Sitecheck Historical Maps

**Ordnance Survey Plan
Published 1968 - 1977**

Source map scale - 1:1,250

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

Map Name(s) and Date(s)

SJ4397SW	SJ4397SE
1975	1968
1:1,250	1:1,250
SJ4396NE	
1977	
1:1,250	

Order Details

Order Number: 224449884_2_1
Customer Ref: S1650
National Grid Reference: 343640_397130
Site Area (Ha): 0.58

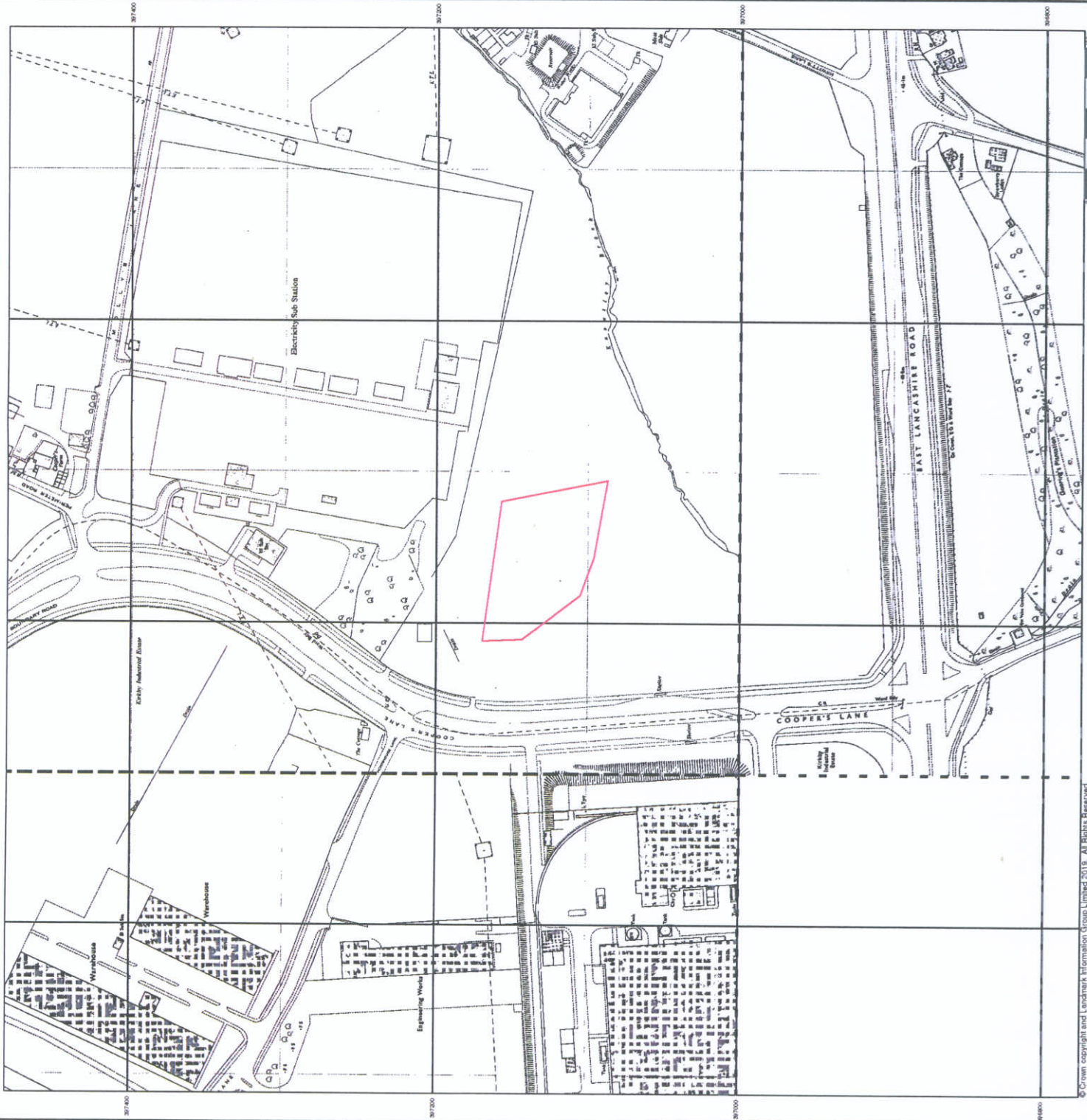
Site Details

Site at 343630, 397150

Full Terms and Conditions can be found on the following link:
<http://www.landmarkinfo.co.uk/Terms/Show515>

Landmark
INFORMATION

Tel: 0844 844 9652
Fax: 0844 844 9651
Web: www.sitecheck.co.uk



Sitecheck Historical Maps

Ordnance Survey Plan Published 1970

Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Order Details

Order Number: 224449884_2_1

Customer Ref: S1650

National Grid Reference: 343640_397130

Site Area (Ha): 0.58

Site Details

Site at 343630, 397150

Full Terms and Conditions can be found on the following link:
<http://www.landmarkinfo.co.uk/Terms/Show515>

Landmark
A LANDMARK INFORMATION GROUP COMPANY

Tel: 0844 844 0852
Fax: 0844 844 0851
Web: www.envirocheck.co.uk

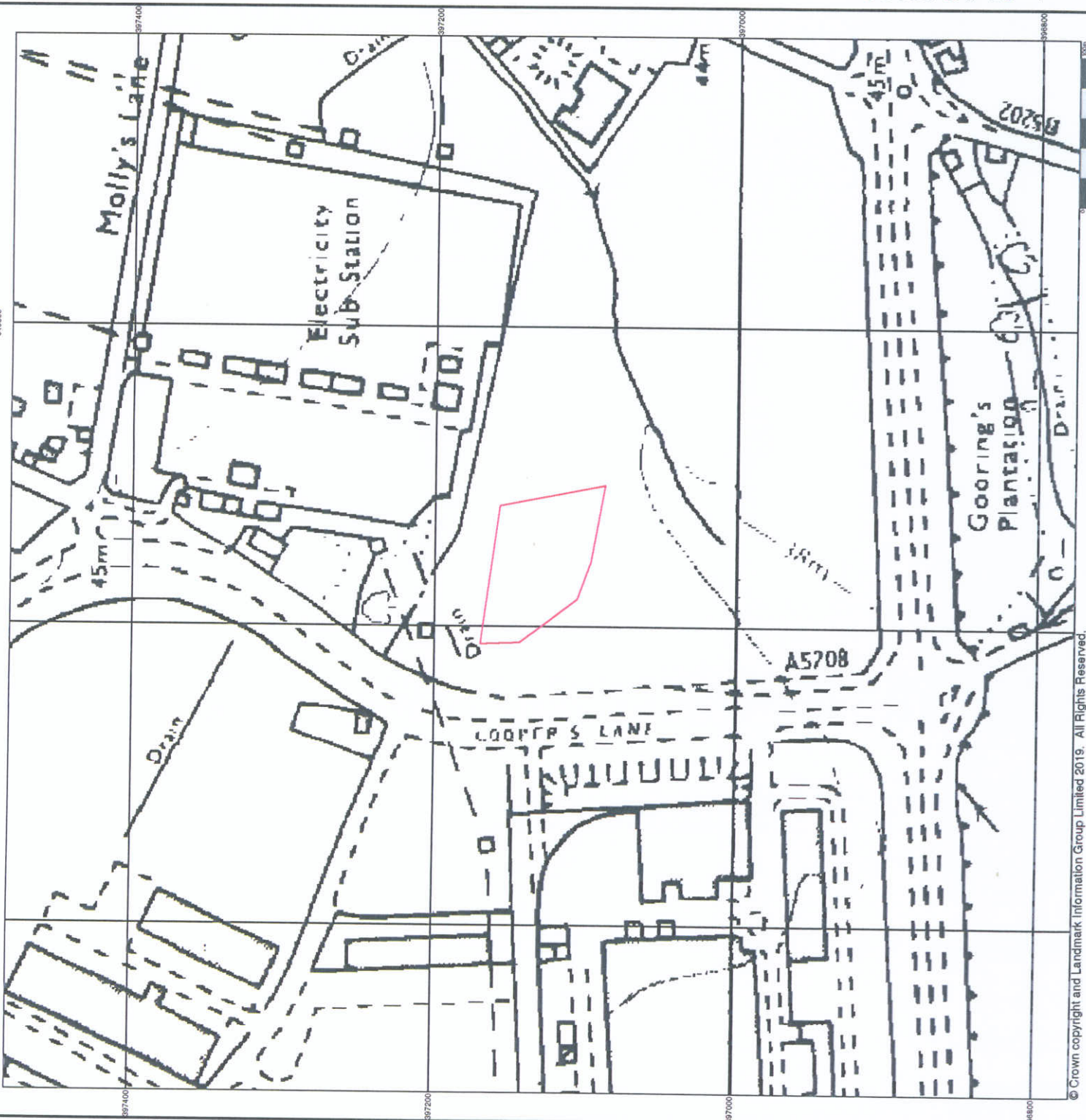
Sitecheck Historical Maps

Ordnance Survey Plan Published 1978

Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the Ordnance Survey archives. The maps were produced using the 1:25,000 scale which was adopted for mapping urban areas; these maps were used to produce the 1:10,000 maps. The published date given therefore is often based on the date of the original map. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties. Following the Second World War, the maps were updated to the 1:10,000 scale using the Transverse Mercator Projection. These maps were initially overlaid with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Order Details

Order Number: 224449884_2_1
Customer Ref: S1650
National Grid Reference: 343640_397130
Site Area (Ha): 0.58

Site Details

Site at 343630, 397150

Full Terms and Conditions can be found on the following link:
<http://www.landmarkinfo.co.uk/Terms/Show515>

Landmark
INFORMATION

Tel: 0844 844 0892
Fax: 0844 844 0851
Web: www.landmarkinfo.co.uk

Sitecheck Historical Maps

Additional SIMs

Published 1981 - 1991

Source map scale - 1:1,250

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

Map Name(s) and Date(s)

---	---	---	---
SJ4368NW	SJ4368NE		
1981	1991		
1:1,250	1:1,250		
---	---	---	---

Order Details

Order Number: 224449884_2_1

Customer Ref: S1650

National Grid Reference: 343640_397130

Site Area (Ha): 0.58

Site Details

Site at 343630, 397150

Full Terms and Conditions can be found on the following link:
<http://www.landmarkinfo.co.uk/terms/show515>

Landmark
INFORMATION

Tel: 0844 844 9852
Fax: 0844 844 9851
Web: www.envirocheck.co.uk

Sitecheck Historical Maps

Ordnance Survey Plan
Published 1990

Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Order Details

Order Number: 224449884_2_1
Customer Ref: S1650
National Grid Reference: 343640_397130
Site Area (Ha): 0.56

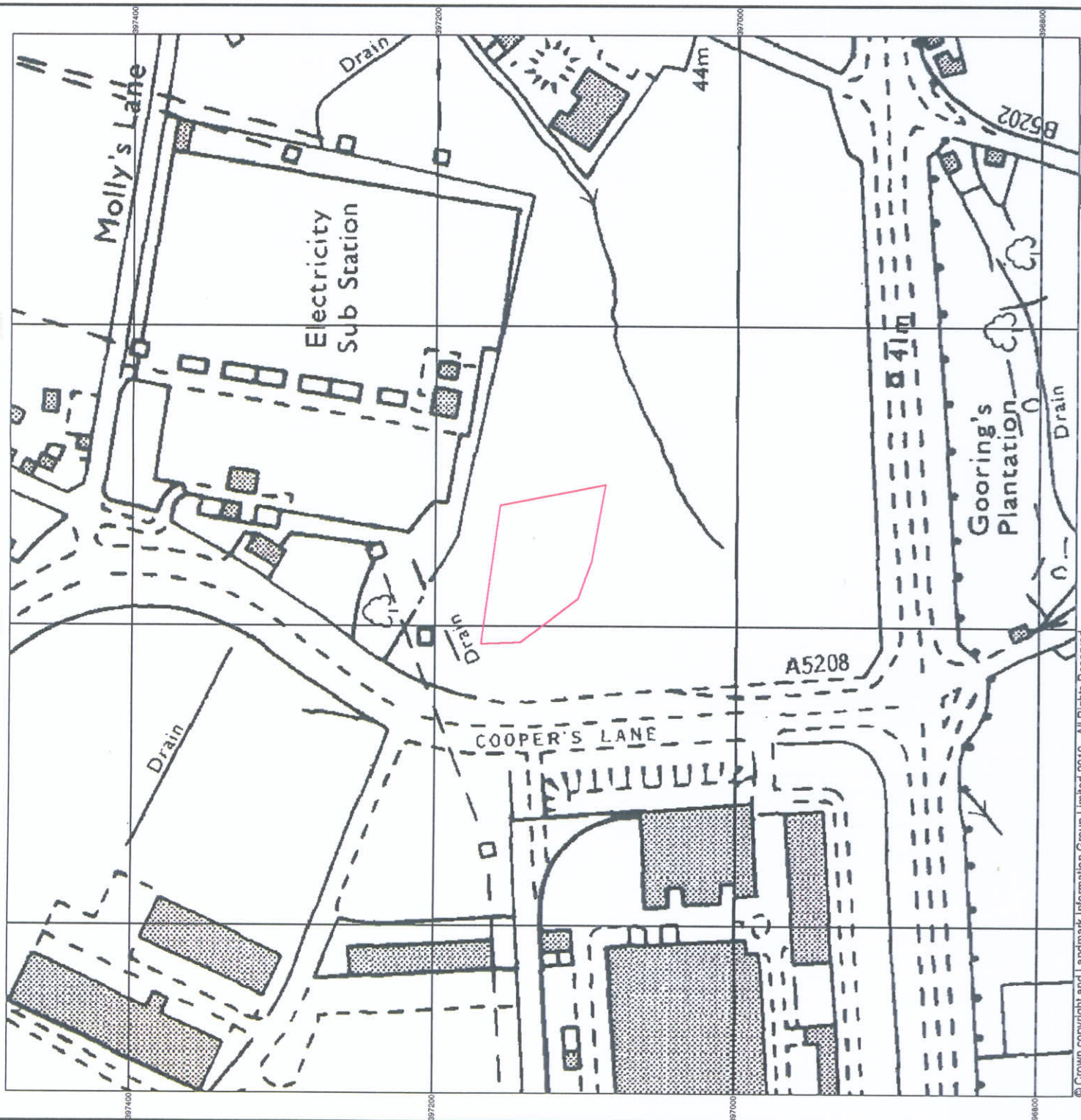
Site Details

Site at 343630, 397150

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

Landmark
INFORMATION

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



Sitecheck Historical Maps

Additional SIMs

Published 1991

Source map scale - 1:1,250

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

Map Name(s) and Date(s)

SJ4396NW
1991
1:1,250

Order Details

Order Number: 224449884_2_1
Customer Ref: S1650
National Grid Reference: 343640_397130
Site Area (Ha): 0.58

Site Details

Site at 343630, 397150

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

Landmark
INFORMATION

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

Large-Scale National Grid Data Published 1993

Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1993. These maps were the forerunners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SJ4397SW	SJ4397SE
1993	1993
1:1,250	1:1,250
SJ4396NW	SJ4396NE
1993	1993
1:1,250	1:1,250

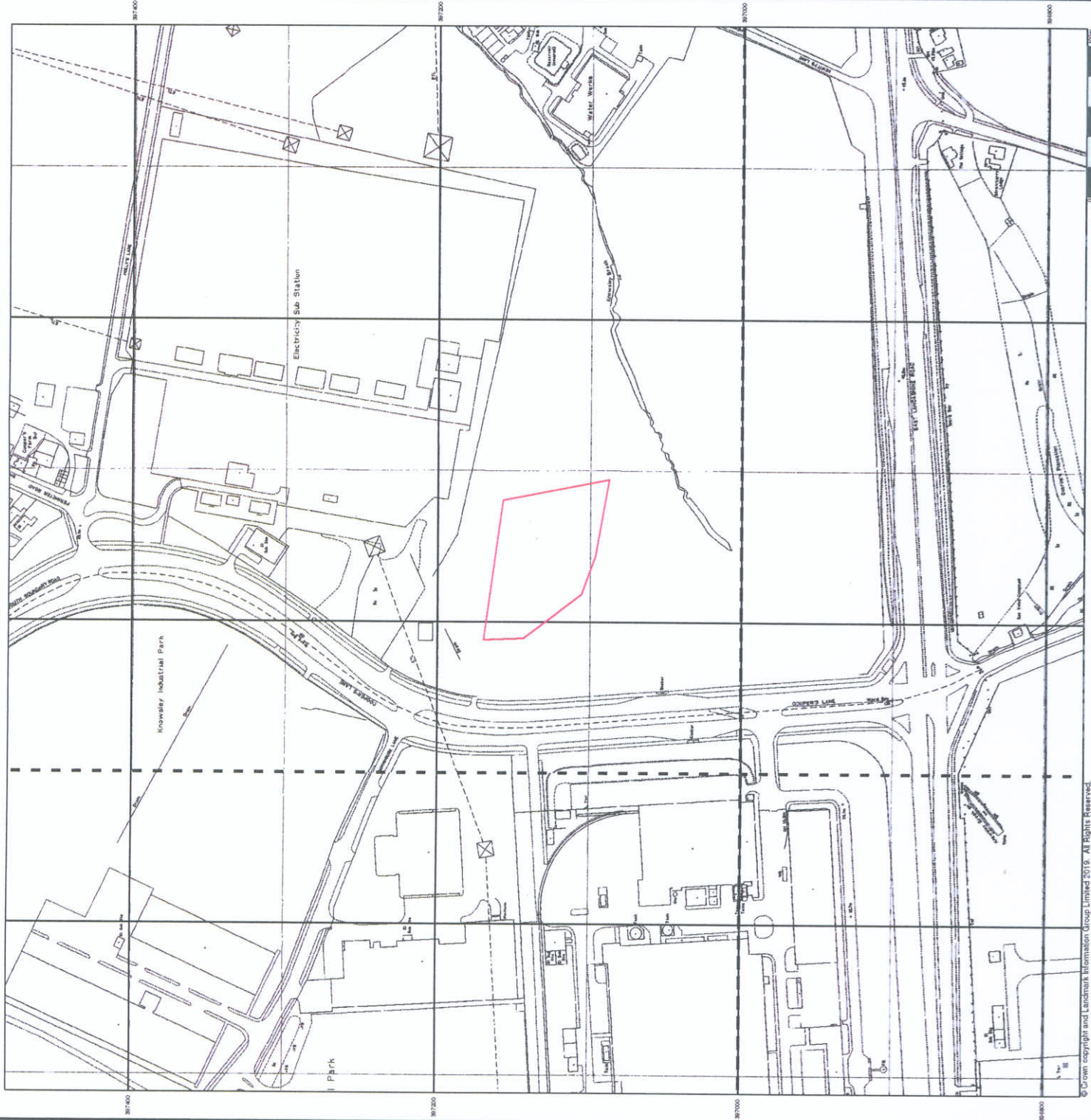
Order Details

Order Number: 224449884_2_1
Customer Ref: S1650
National Grid Reference: 343640_397130
Site Area (Ha): 0.58

Site Details

Site at 343630, 397150

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



Sitecheck Historical Maps

10K Raster Mapping

Published 1999

Source map scale - 1:10,000

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

Map Name(s) and Date(s)

SJ46NW
1999
1:10,000

Order Details

Order Number: 224449884_2_1
Customer Ref: S1650
National Grid Reference: 343640_397130
Site Area (Ha): 0.58

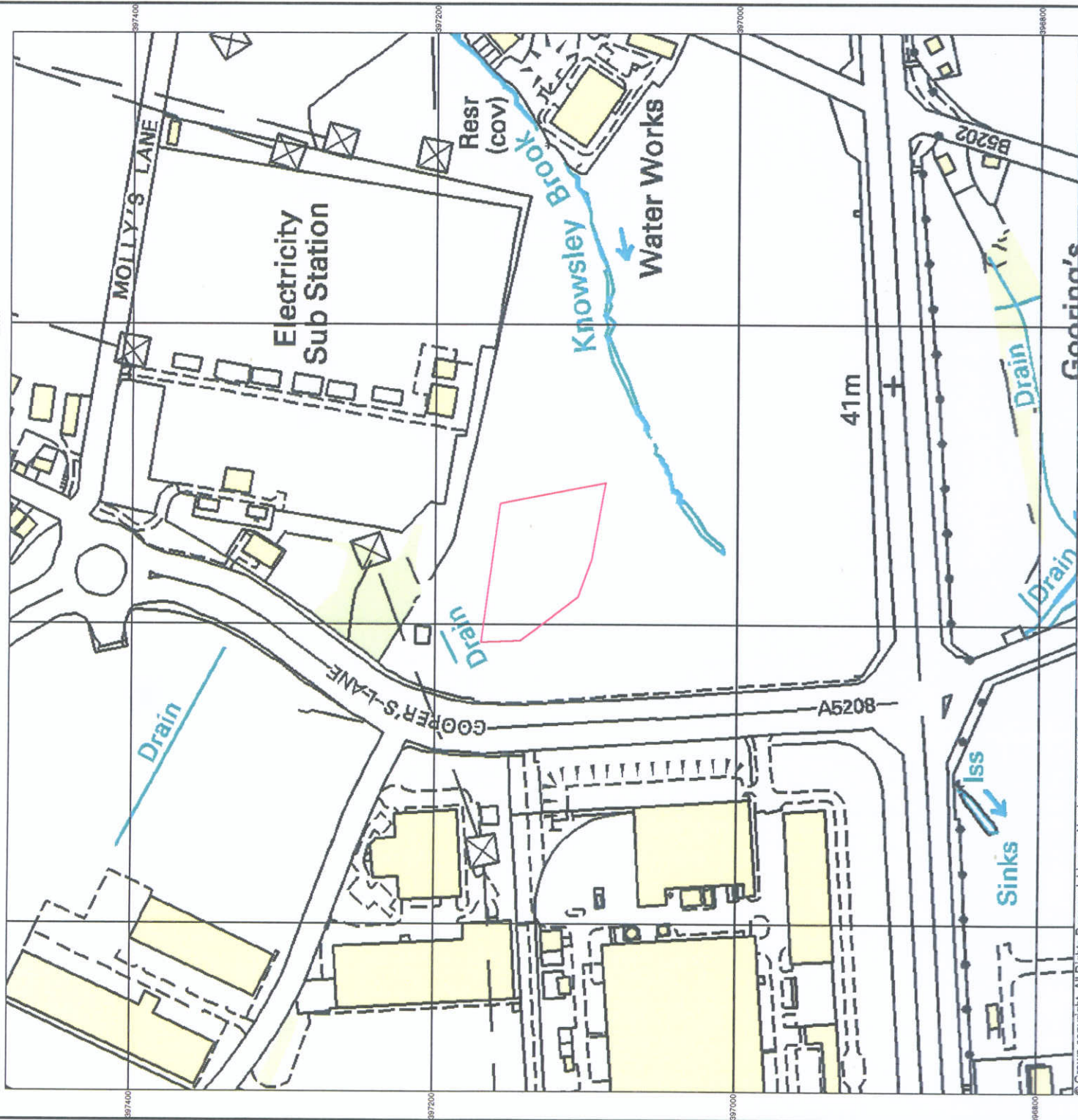
Site Details

Site at 343630, 397150

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

Landmark
INFORMATION

Tel: 0844 844 0852
Fax: 0844 844 0851
Web: www.landmark.co.uk



Sitecheck Historical Maps

10K Raster Mapping
Published 2006

Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Order Details

Order Number: 224449884_2_1
Customer Ref: S1650
National Grid Reference: 343640_397130
Site Area (Ha): 0.58

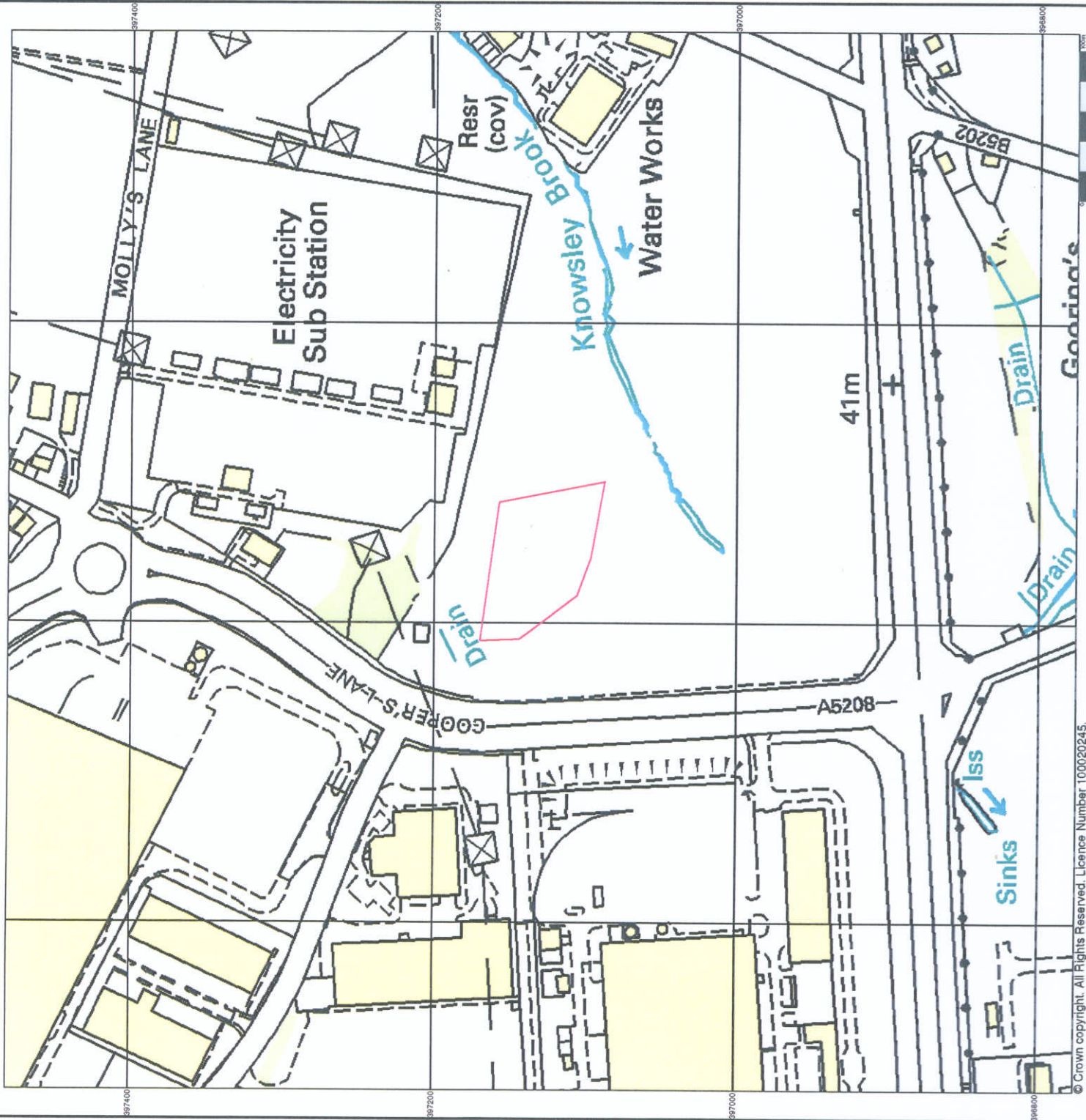
Site Details

Site at 343630, 397150

Full Terms and Conditions can be found on the following link:
<http://www.landmarkinfo.co.uk/terms/Show515>

Landmark
INFORMATION

Tel: 0844 844 9852
Fax: 0844 844 9851
Web: www.envirocheck.co.uk



VectorMap Local

Published 2019

Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating high resolution maps at 1:2500 scale (covering major towns and cities), 1:25000 scale (smaller towns, villages and developed rural areas), and 1:100,000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

SL49NW
2019
Variable

Order Details

Order Number: 224449884_2_1
 Customer Ref: S1650
 National Grid Reference: 343640_397130
 Site Area (Ha): 0.58

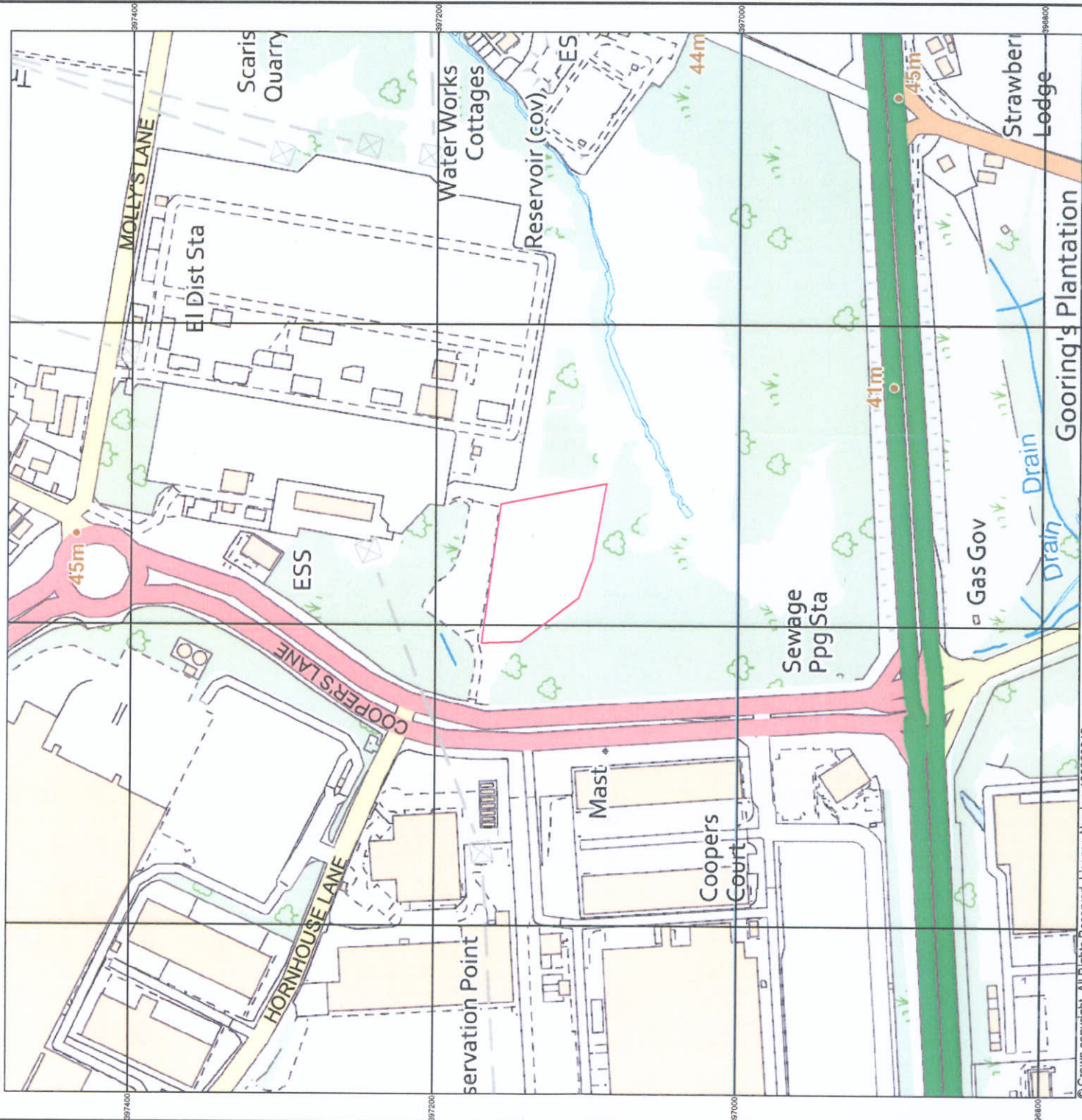
Site Details

Site at 343630, 397150

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

Landmark
 INFORMATION

Tel: 0844 844 9853
 Fax: 0844 844 9851
 Web: www.envirocheck.co.uk



APPENDIX B

Sitecheck Environmental Data Report

Sitecheck Data

Site at 343630, 397150

Prepared for:

Mr S Peters
Steven Peters Associates
1 Market Place
Warwick
CV34 4SA

Report Reference: SCD_224449884_1_1

Report Date: 08-NOV-2019

Customer Reference: S1650

National Grid Reference: 343640 397130

Site Area: 5784 m²



If you have any questions on the contents of this Report please contact Landmark Customer Helpdesk which is open from 9:00am - 5:30pm, Monday - Friday, via one of the following channels:

Telephone: 0844 844 9966

Fax: 0844 844 9980

Email: info@landmarkinfo.co.uk

Website: www.sitecheck.co.uk

Report Sections and Details	Page
Summary of Site	-
This section comprises contaminant, pathway and receptor information found on site. Other factors which may affect the site are also included.	
Aerial Photo	1
The aerial photo gives an overall view of the area. The smaller large-scale Ordnance Survey map includes the site boundary and search zone buffer at 250m.	
Location Map	2
The large-scale Ordnance Survey map includes the site boundary and search zone buffer at 250m. The smaller aerial photo also includes the site boundary.	
Summary Table	3
This section comprises of a summary table of the information found on site and in its vicinity.	
Current Land Use	7
This section contains a map, which shows current land use features. The following pages detail these features and identify the Reference Number and direction.	
Historical Land Use	10
This section contains a map, which shows historical land use features. The following pages detail these features and identify the Reference Number and direction. A table listing all the maps used to source this information is included.	
Sensitivity	13
This section contains a map, which shows pathway and receptor features. The following pages detail these features and identify the Reference Number and direction. This section also contains a separate Flood Map and flood details.	
Other Factors	16
This section contains information on other factors which may affect the site and its vicinity.	
Useful Information	17
This section contains information which may be of use when interpreting the report.	
Useful Contacts	18
All textual information is linked by the 'Contact Ref' to this quick reference list of contacts. These contacts may be able to supply additional information or answer any subsequent query relating to that record.	

Sensitivity	Page No.	Reference Number (Map ID)
Environmentally Sensitive Receptors		
Source Protection Zones		
Not Supplied, Reference: Not Supplied, Type: Zone III (Total Catchment): The total area needed to support the discharge from the protected groundwater source., Contact Ref: 1	15	-
Not Supplied, Reference: Not Supplied, Type: Zone II (Outer Protection Zone): Either 25% of the source area or a 400 day travel time whichever is greater., Contact Ref: 1	15	-

Other Factors	Page No.	Reference Number (Map ID)
Geological		
Radon Potential - Radon Affected Areas		
Affected Areas: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level)., Source: British Geological Survey, National Geoscience Information Service, Contact Ref: 3	16	-
Radon Potential - Radon Protection Measures		
Radon Protection Measures: None, Source: British Geological Survey, National Geoscience Information Service, Contact Ref: 3	16	-
Potential for Landslide Ground Stability Hazards		
Hazard Potential: Very Low, Contact Ref: 3	16	-
Potential for Running Sand Ground Stability Hazards		
Hazard Potential: Very Low, Contact Ref: 3	16	-
Potential for Shrinking or Swelling Clay Ground Stability Hazards		
Hazard Potential: Very Low, Contact Ref: 3	16	-
Potential for Collapsible Ground Stability Hazards		
Hazard Potential: Very Low, Contact Ref: 3	16	-



Site

Site at 343630, 397150

Grid Reference

343640, 397130

Report Reference

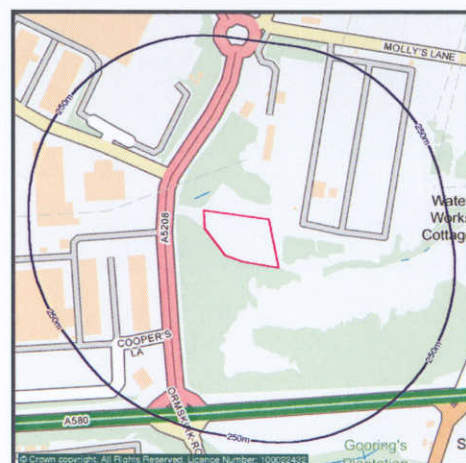
SCD_224449884_1_1

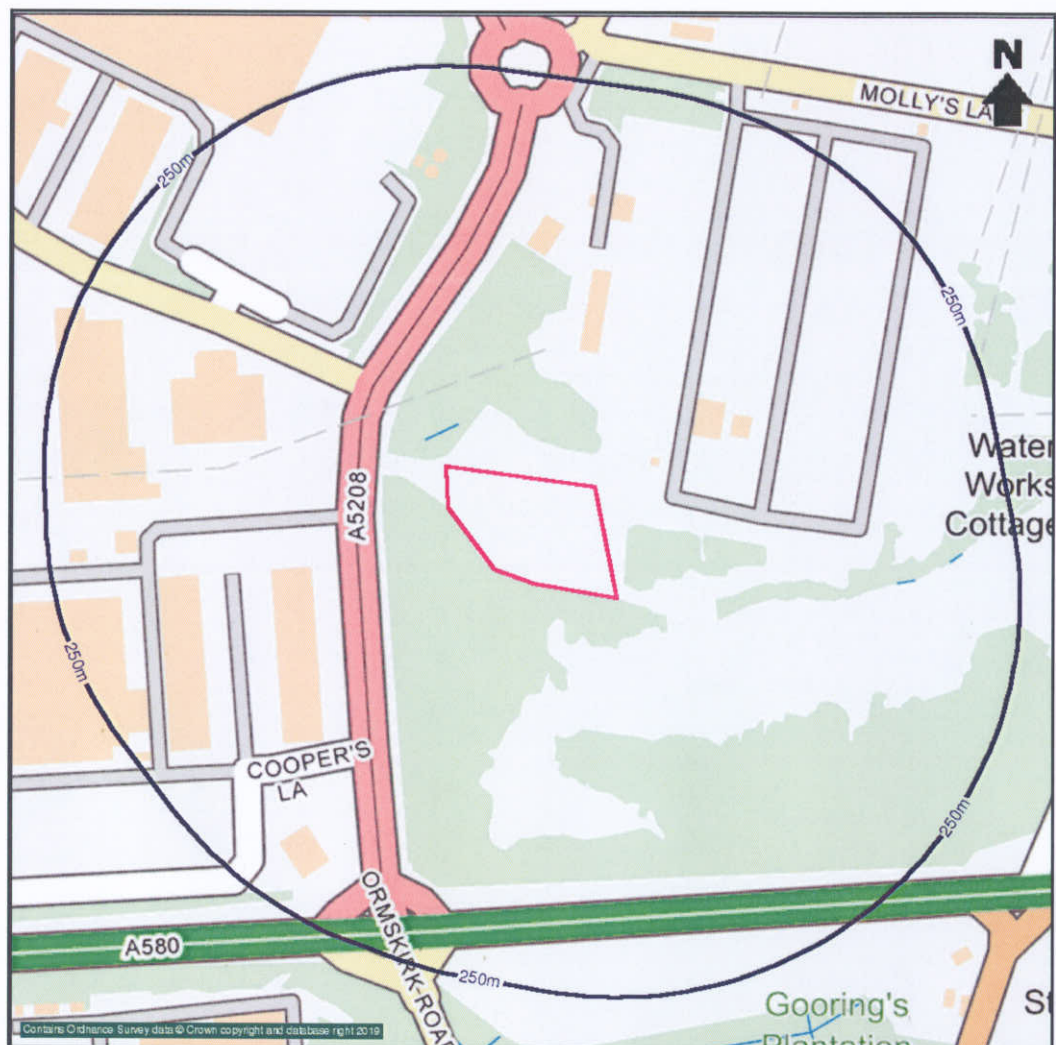
Customer Reference

S1650

Size of Site

5784 m²





Site

Site at 343630, 397150

Grid Reference

343640, 397130

Report Reference

SCD_224449884_1_1

Customer Reference

S1650

Size of Site

5784 m²



Current Land Use	On Site	0-250m
Contaminants	0	10
Waste / Landfill Sites		
BGS Recorded Landfill Sites	0	0
Licensed Waste Management Facilities (Landfill Boundaries)	0	0
Licensed Waste Management Facilities (Locations)	0	0
Local Authority Recorded Landfill Sites	0	0
Registered Landfill Sites	0	0
Registered Waste Transfer Sites	0	0
Registered Waste Treatment or Disposal Sites	0	0
Statutory Authorisations		
Local Authority Pollution Prevention and Controls	0	0
Contaminated Land Register Entries and Notices	0	0
Registered Radioactive Substances	0	0
Discharge Consents		
Discharge Consents	0	2
Water Industry Act Referrals	0	0
Industrial Processes		
Integrated Pollution Controls	0	0
Integrated Pollution Control Registered Waste Sites	0	0
Integrated Pollution Prevention And Control	0	0
Local Authority Integrated Pollution Prevention And Control	0	0
Storage of Hazardous Substances		
Control of Major Accident Hazards Sites (COMAH)	0	1
Explosive Sites	0	0
Notification of Installations Handling Hazardous Substances (NIHHS)	0	0
Planning Hazardous Substance Consents	0	0
Contraventions		
Local Authority Pollution Prevention and Control Enforcements	0	0
Enforcement and Prohibition Notices	0	0
Planning Hazardous Substance Enforcements	0	0
Prosecutions Relating to Authorised Processes	0	0
Prosecutions Relating to Controlled Waters	0	0
Substantiated Pollution Incident Register	0	0

Current Land Use	On Site	0-250m
Contaminants	0	10
Potentially Contaminative Uses		
Contemporary Trade Directory Entries	0	7
Fuel Station Entries	0	0
Miscellaneous		
BGS Recorded Mineral Sites	0	0

Historical Land Use	On Site	0-250m
Contaminants	0	12
Potentially Contaminative Uses		
Historical Tanks And Energy Facilities	0	9
Potentially Contaminative Industrial Uses (Past Land Use)	0	2
Potentially Infilled Land		
Former Marshes	0	0
Potentially Infilled Land (Non-Water)	0	0
Potentially Infilled Land (Water)	0	1

Sensitivity	On Site	0-250m
Pathways and Receptors	2	4
Pathways		
Historical Flood Liabilities	0	0
Extreme Flooding from Rivers or Sea without Defences	0	1
Flooding from Rivers or Sea without Defences	0	1
Areas Benefiting from Flood Defences	0	0
Flood Water Storage Areas	0	0
Flood Defences	0	0

Sensitivity	On Site	0-250m
Pathways and Receptors	2	4
Environmentally Sensitive Receptors		
Areas of Outstanding Natural Beauty	0	0
Environmentally Sensitive Areas	0	0
Local Nature Reserves	0	0
Marine Nature Reserves	0	0
National Nature Reserves	0	0
Nearest Surface Water Feature	0	1
Ramsar Sites	0	0
Sites of Special Scientific Interest	0	0
Source Protection Zones	2	1
Special Areas of Conservation	0	0
Special Protection Areas	0	0
Water Abstractions	0	0
Protected Countryside Areas		
Forest Parks	0	0
National Parks	0	0
National Scenic Areas	0	0

Other Factors	On Site	0-250m
Geological	8	3
Brine Compensation Area	0	n/a
Coal Mining Affected Areas	0	n/a
Mining Instability	0	0
Man-Made Mining Cavities	0	0
Natural Cavities	0	0
Potential for Collapsible Ground Stability Hazards	1	0
Radon Potential - Radon Affected Areas	1	n/a
Radon Potential - Radon Protection Measures	1	n/a
Potential for Compressible Ground Stability Hazards	1	1
Potential for Ground Dissolution Stability Hazards	1	0
Potential for Landslide Ground Stability Hazards	1	0
Potential for Running Sand Ground Stability Hazards	1	1
Potential for Shrinking or Swelling Clay Ground Stability Hazards	1	1
Non Coal Mining Areas of Great Britain	0	0



General	Waste/Landfill Sites		Contraventions	Storage Of Hazardous Substances	Statutory Authorisations
 Site Boundary	 BGS Recorded Landfill Site	 BGS Recorded Landfill Site (Point)	 Local Authority Pollution Prevention and Control Enforcement	 COMAH	 Local Authority Pollution Prevention and Control
 Search Buffer	 Licensed Waste Management Facilities (Landfill)	 Licensed Waste Management Facilities (Location)	 Planning Hazardous Substance Enforcement	 Planning Hazardous Substance Consent	 Contaminated Land Register Entry or Notice (Point)
 Bearing Reference Point	 Local Authority Recorded Landfill Site	 Local Authority Recorded Landfill Site (Point)	 Prosecution Relating to Authorised Processes	 Explosive Site	 Contaminated Land Register Entry or Notice
 Reference Number	 Registered Waste Transfer Site	 Registered Waste Transfer Site (Point)	 Enforcement and Prohibition Notice	 NHHS	 Registered Radioactive Substance
Miscellaneous	 Registered Waste Treatment or Disposal Site	 Registered Waste Treatment or Disposal Site (Point)	 Substantiated Pollution Incident Register	 Industrial Processes	 Integrated Pollution Control
 BGS Recorded Mineral Site	 Registered Landfill Site	 Potential Landfill Buffer	 Prosecution Relating to Controlled Waters	 Integrated Pollution Prevention Control	 Integrated Pollution Prevention Control Registered Waste Site
Potentially Contaminative Use	 Point Location of Registered Landfill Site			 Local Authority Integrated Pollution Prevention and Control	 Discharge Consents
 Potentially Contaminative Use					 Discharge Consent
					 Water Industry Act Referral

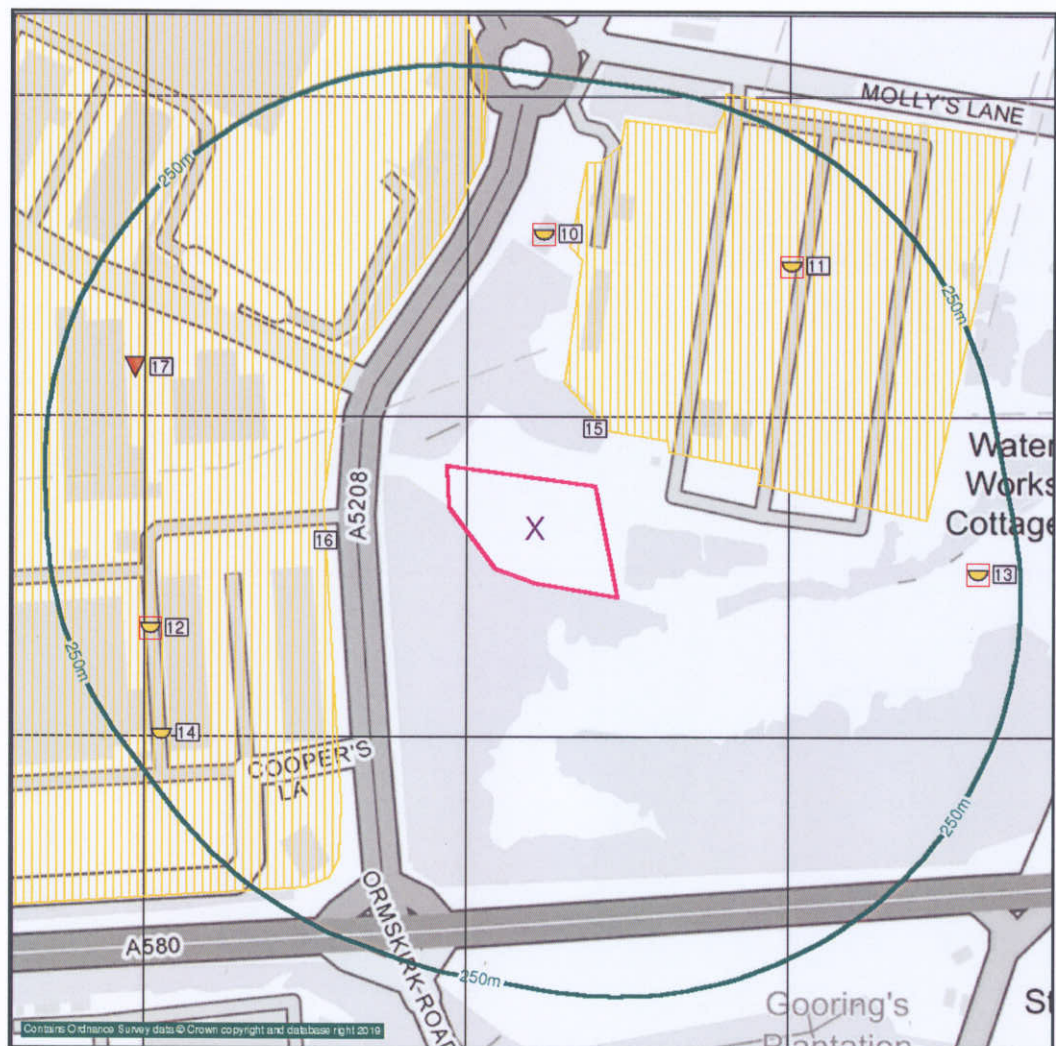
Contaminants	Ref No.	Search Buffer	Direction
Waste / Landfill Sites			
Local Authority Landfill Coverage			
Name: Knowsley Metropolitan Borough Council, - Has supplied landfill data, Contact Ref: 4	-	On Site	NE
Name: Merseyside Waste Disposal Authority, - Has supplied landfill data, Contact Ref: 5	-	On Site	NE

Discharge Consents	Ref No.	Search Buffer	Direction
Discharge Consents			
National Grid Transco Plc, Kirkby 275kv Substation Outfall 1 Mollys Lane, Off Coopers Lane, Kirkby, Liverpool, L33 7tt, Surface Water Discharge, Reference: 016997077, Version: 1, Status: Surrendered under EPR 2010, Positional Accuracy: Located by supplier to within 10m, Contact ref: 1	1	0-250m	E
Scottish Power, Kirkby 132kv Substation Outfall 2 Mollys Lane, Off Coopers Lane, Kirkby, Liverpool, L33 7tt, Surface Water Discharge, Reference: 016997076, Version: 1, Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995), Positional Accuracy: Located by supplier to within 10m, Contact ref: 1	2	0-250m	S

Storage of Hazardous Substances	Ref No.	Search Buffer	Direction
Control of Major Accident Hazards Sites (COMAH)			
Euroliters Limited, Horn House Lane, LIVERPOOL, Merseyside, L33 7YQ, Status: Record Ceased To Be Supplied Under COMAH Regulations, Positional Accuracy: Automatically positioned to the address, Contact Ref: 2	3	0-250m	W

Potentially Contaminative Uses	Ref No.	Search Buffer	Direction
Contemporary Trade Directory Entries			
Mersey Spares, Unit 13, Coopers Court, Coopers Lane, Knowsley Industrial Park, Liverpool, L33 7UB, Hardware, Status: Active, Positional Accuracy: Automatically positioned to the address	4	0-250m	W
Hil Installations, Unit 10, Coopers Court, Coopers Lane, Knowsley Industrial Park, Liverpool, L33 7UB, Cladding Suppliers & Installers, Status: Active, Positional Accuracy: Automatically positioned to the address	5	0-250m	SW
Mersey Spares, Unit 13, Coopers Court, Coopers Lane, Knowsley Industrial Park, Liverpool, L33 7UB, Hardware, Status: Inactive, Positional Accuracy: Automatically positioned to the address	6	0-250m	SW

Contaminants	Ref No.	Search Buffer	Direction
Potentially Contaminative Uses			
Contemporary Trade Directory Entries			
U Value Insulation, Unit 6, Coopers Court, Coopers Lane, Knowsley Industrial Park, Liverpool, L33 7UB, Insulation Materials, Status: Inactive, Positional Accuracy: Automatically positioned to the address	7	0-250m	W
Cellular Rigging & Electrical Ltd, Unit 3, Coopers Court, Coopers Lane, Knowsley Industrial Park, Liverpool, L33 7UB, Engineers - General, Status: Inactive, Positional Accuracy: Automatically positioned to the address	8	0-250m	SW
Euroliters Ltd, Hornhouse Lane, Knowsley Industrial Park, Liverpool, L33 7YQ, Chemicals & Allied Products, Status: Inactive, Positional Accuracy: Automatically positioned to the address	9	0-250m	W
Hansen Glass Processing Ltd, Hornhouse Lane, Knowsley Industrial Park, Liverpool, L33 7YQ, Glass Products - Manufacturers, Status: Inactive, Positional Accuracy: Automatically positioned to the address	9	0-250m	W



General	Potentially Contaminative Use	Potentially Infilled Land
Site Boundary	Point Feature	Point Feature
Search Buffer	Area Feature	Area Feature
Bearing Reference Point	Line Feature	Line Feature
Reference Number		

Contaminants	Ref No.	Search Buffer	Direction
Potentially Contaminative Uses			
Historical Tanks And Energy Facilities			
Electrical Sub Station Facilities, Scale of Mapping: 1:2,500, Date of Mapping: 1970	10	0-250m	N
Electrical Sub Station Facilities, Scale of Mapping: 1:1,250, Date of Mapping: 1968	10	0-250m	N
Electrical Sub Station Facilities, Scale of Mapping: 1:2,500, Date of Mapping: 1970	11	0-250m	NE
Electrical Sub Station Facilities, Scale of Mapping: 1:1,250, Date of Mapping: 1968	11	0-250m	NE
Tanks, Scale of Mapping: 1:1,250, Date of Mapping: 1975	12	0-250m	W
Tanks, Scale of Mapping: 1:1,250, Date of Mapping: 1975	12	0-250m	W
Tanks, Scale of Mapping: 1:2,500, Date of Mapping: 1970	13	0-250m	E
Tanks, Scale of Mapping: 1:1,250, Date of Mapping: 1968	13	0-250m	E
Tanks, Scale of Mapping: 1:1,250, Date of Mapping: 1975	14	0-250m	SW
Potentially Contaminative Industrial Uses (Past Land Use)			
Electricity production & distribution [inc large transformers], Date of Mapping: 1990	15	0-250m	NE
Factory or works - use not specified, Date of Mapping: 1990	16	0-250m	W

Potentially Infilled Land	Ref No.	Search Buffer	Direction
Potentially Infilled Land (Water)			
Unknown Filled Ground (Pond, marsh, river, stream, dock etc), Date of Mapping: 1850	17	0-250m	W

Map Details

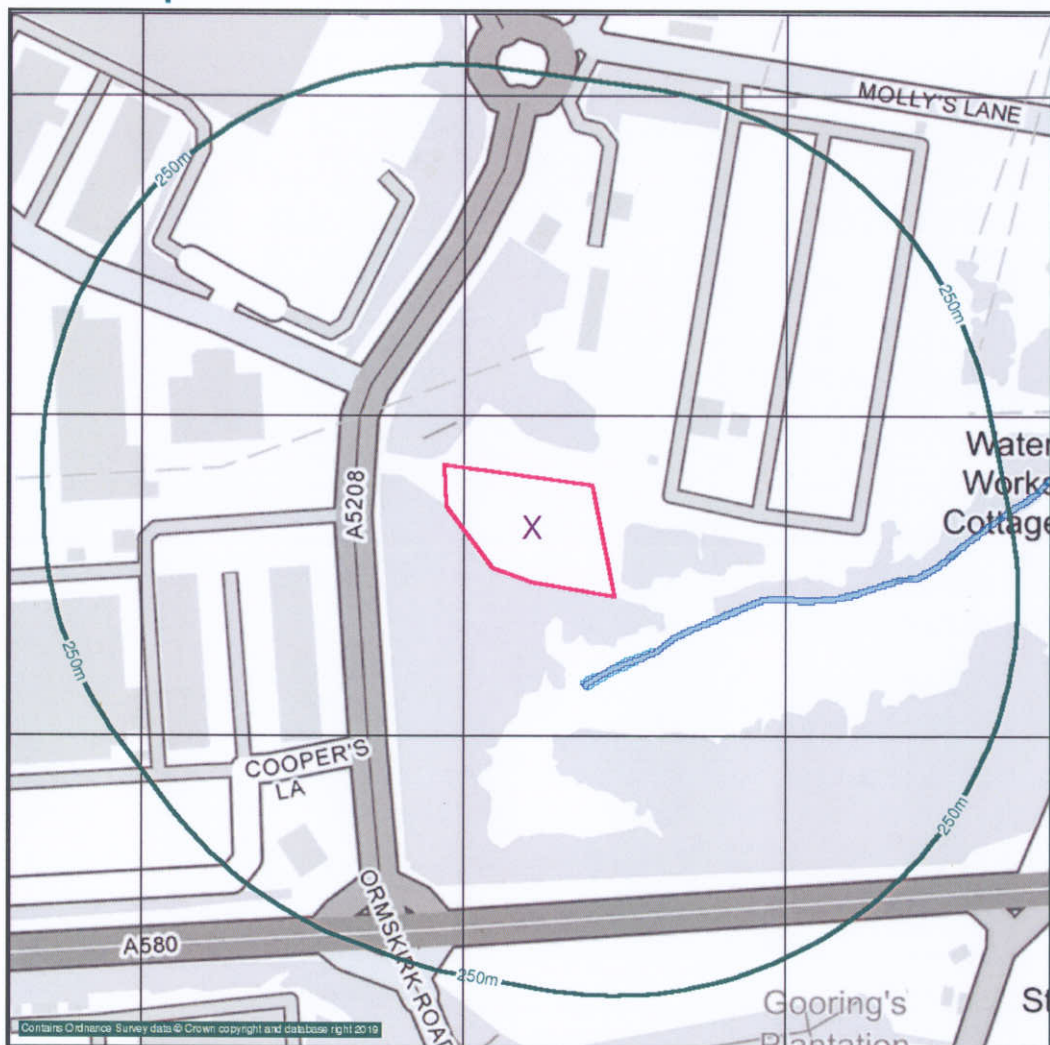
The following maps have been analysed for Historical Tanks and Energy Facilities

1:1,250	Mapsheet	Published
Ordnance Survey Plan	SJ4397SE	1959
Ordnance Survey Plan	SJ4397SE	1968
1:2,500	Mapsheet	Published
Ordnance Survey Plan	SJ4397	1960
Ordnance Survey Plan	SJ4397	1970

The following maps have been analysed for Potentially Contaminative Uses and Potentially Infilled Land information

1:10,000	Mapsheet	Published
Ordnance Survey Plan	SJ49NW	1990
1:10,560	Mapsheet	Published
Lancashire And Furness	100_00	1850
Lancashire And Furness	100_SW	1894
Lancashire And Furness	100_SW	1909
Lancashire And Furness	100_SW	1928
Ordnance Survey Plan	SJ49NW	1956

Flood Map



General		Area of Floodplain	
Site Boundary	Areas Benefiting from Flood Defences	Extreme Flooding from Rivers or Sea without Defences (Zone 2)	
Search Buffer	Flood Water Storage Areas	Flooding from Rivers or Sea without Defences (Zone 3)	
Bearing Reference Point	Flood Defences		
Reference Number			

Sensitivity Map



General	Environmentally Sensitive Land Use	Protected Countryside Areas
- Site Boundary - Search Buffer - Bearing Reference Point - Reference Number	- Area of Outstanding Natural Beauty - Environmentally Sensitive Area - Local Nature Reserve - Marine Nature Reserve - National Nature Reserve - Ramsar Site	- Site of Special Scientific Interest - Special Area of Conservation - Special Protection Area - Nearest Surface Water Feature - Water Abstractions - Forest Park - National Park - National Scenic Area

Pathways and Receptors	Ref No.	Search Buffer	Direction
Pathways			
Extreme Flooding from Rivers or Sea without Defences			
Type: Extent of Extreme Flooding from Rivers or Sea without Defences, Flood Plain Type: Fluvial Models, Contact Ref: 1	-	0-250m	S
Flooding from Rivers or Sea without Defences			
Type: Extent of Flooding from Rivers or Sea without Defences, Flood Plain Type: Fluvial Models, Contact Ref: 1	-	0-250m	SE
Areas Benefiting from Flood Defences			
None	-		-
Flood Water Storage Areas			
None	-		-
Flood Defences			
None	-		-

Environmentally Sensitive Receptors	Ref No.	Search Buffer	Direction
Nearest Surface Water Feature			
Distance: 21m	-	0-250m	NW
Source Protection Zones			
Not Supplied, Reference: Not Supplied, Type: Zone III (Total Catchment): The total area needed to support the discharge from the protected groundwater source., Contact Ref: 1	-	On Site	NE
Not Supplied, Reference: Not Supplied, Type: Zone II (Outer Protection Zone): Either 25% of the source area or a 400 day travel time whichever is greater., Contact Ref: 1	-	On Site	NE
Not Supplied, Reference: Not Supplied, Type: Zone I (Inner Protection Zone): Travel time of 50 days or less to the groundwater source., Contact Ref: 1	-	0-250m	E

Other Factors	Search Buffer	Direction
Geological		
Brine Compensation Area		
No		-
Coal Mining Affected Areas		
In an area which may not be affected by Coal Mining		-
Non Coal Mining Areas of Great Britain		
No Hazard		-
Radon Potential - Radon Affected Areas		
Affected Areas: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level)., Source: British Geological Survey, National Geoscience Information Service, Contact Ref: 3	On Site	NE
Radon Potential - Radon Protection Measures		
Radon Protection Measures: None, Source: British Geological Survey, National Geoscience Information Service, Contact Ref: 3	On Site	NE
Potential for Collapsible Ground Stability Hazards		
Hazard Potential: Very Low Contact Ref: 3	On Site	NE
Potential for Compressible Ground Stability Hazards		
Hazard Potential: No Hazard, Contact Ref: 3	On Site	NE
Hazard Potential: Very Low, Contact Ref: 3	0-250m	S
Potential for Ground Dissolution Stability Hazards		
Hazard Potential: No Hazard, Contact Ref: 3	On Site	NE
Potential for Landslide Ground Stability Hazards		
Hazard Potential: Very Low, Contact Ref: 3	On Site	NE
Potential for Running Sand Ground Stability Hazards		
Hazard Potential: Very Low Contact Ref: 3	On Site	NE
Hazard Potential: Low Contact Ref: 3	0-250m	SE
Potential for Shrinking or Swelling Clay Ground Stability Hazards		
Hazard Potential: Very Low Contact Ref: 3	On Site	NE
Hazard Potential: No Hazard Contact Ref: 3	0-250m	SE

Registered Landfill Sites

At present no complete national data set exists for landfill site boundaries, therefore a point grid reference, provided by the data supplier, is used for some landfill sites. In certain cases the point grid references supplied provide only an approximate position and can vary from the site entrance to the centre of the site. Where the exact position of the site is unclear, Landmark construct either a 100 metre or 250 metre "buffer" around the point to warn of the possible presence of landfill. The size of this "buffer" relates to the positional accuracy that can be attributed to the site. The "buffer" is shown on the map as an orange cross-hatched circle and is referred to in the map legend as Potential Landfill Buffer. Where actual boundaries are available, the landfill site area is shown on the map as a red diagonal hatched polygon and referred to in the map legend as Registered Landfill Site.

Local Authority Recorded Landfill Sites

Local Authority landfill data are sourced from individual local authorities that were able to provide information on sites operating prior to the introduction of the Control of Pollution Act (COPA) in 1974. Appropriate authorities are listed under Local Authority Landfill Coverage with an indication of whether or not they were able to make landfill data available. Details of any records identified are disclosed. You should be aware that if the local authority 'Had landfill data but passed it to the relevant environment agency' it does not necessarily mean that local authority landfill data is included in our other Landfill datasets. In addition if no data has been made available, for all or part of the search area, you should be aware that a negative response under 'Local Authority Recorded Landfill Sites' does not necessarily confirm that no local authority landfills exist.

Flooding

The Sitecheck report flood map plots all flood related features revealed within the search area as supplied by the relevant environment agency. However, to avoid confusion, the text entry in the body of the report only reveals the detail of the nearest feature in each flood data set. This is also reflected in the summary table where only a single entry is included to indicate the search buffer of the nearest occurrence.

Mining Instability The Mining Instability data was obtained on licence from Ove Arup & Partners Limited (for further information, contact mining.review@arup.com). No reproduction or further use of such Data is to be made without the prior written consent of Ove Arup & Partners Limited. The supplied Mining Instability data is derived from publicly available records and other third party sources and neither Ove Arup & Partners nor Landmark warrant the accuracy or completeness of such information or data.

Scottish Natural Heritage Contains SNH information licensed under the Open Government Licence v3.0.

Natural Resources Wales Contains Natural Resources Wales information © Natural Resources Wales and Database Right. All rights Reserved. Contains Ordnance Survey Data. Ordnance Survey Licence number 100019741. Crown Copyright and Database Right. Contains Natural Resources Wales information © Natural Resources Wales and Database Right. All rights Reserved. Some features of this information are based on digital spatial data licensed from the Centre for Ecology & Hydrology © NERC (CEH). Defra, Met Office and DARD Rivers Agency © Crown copyright. © Cranfield University. © James Hutton Institute. Contains OS data © Crown copyright and database right 2019. Land & Property Services © Crown copyright and database right.

The information in this Sitecheck Data Report is derived from a number of statutory and non-statutory sources. While every effort is made to ensure accuracy, Landmark cannot guarantee the accuracy or completeness of such information or data, nor to identify all the factors that may be relevant. If you are a private individual using this report Landmark recommend that you discuss its contents in full with your professional advisor. It is essential to read this report in conjunction with the Product User Guide and your attention is drawn to the scope of the report section within this guide. The Sitecheck Data User guide is available free of charge from our website www.sitecheck.co.uk. Landmark Information Group Limited 2019. All Rights Reserved. The copyright on the information and data and its format as contained in this Sitecheck Data Report ("Report") is the property of Landmark Information Group Limited ("Landmark") and several other Data Providers, including (but not limited to) Ordnance Survey, British Geological Survey, the Environment Agency/Natural Resources Wales and Natural England and must not be reproduced in whole or in part by photocopying or any other method, except as allowed by Landmark's Terms and Conditions. The Report is supplied under Landmark's Terms and Conditions accepted by the customer. The Copyright, design rights and any other intellectual rights shall remain the exclusive property of Landmark and/or other Data Providers, whose copyright material has been included in this Report.



Contact Names and Addresses

1 Environment Agency National Customer Contact Centre (NCCC)

PO Box 544
Templeborough
Rotherham
S60 1BY

Telephone 03708 506 506

enquiries@environment-agency.gov.uk

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

2 Health and Safety Executive

5S.2 Redgrave Court
Merton Road
Bootle
L20 7HS

www.hse.gov.uk

3 British Geological Survey Enquiry Service

British Geological Survey
Environmental Science Centre
Keyworth
Nottingham
Nottinghamshire
NG12 5GG

Telephone 0115 936 3143
Fax 0115 936 3276

enquiries@bgs.ac.uk
www.bgs.ac.uk

4 Knowsley Metropolitan Borough Council

Archway Road
Huyton
Liverpool
Merseyside
L36 9YU

Telephone 0151 489 6000
Fax 0151 443 2298

www.knowsley.gov.uk

5 Merseyside Waste Disposal Authority

2nd Floor
North House
17 North John Street
Liverpool
Merseyside
L2 5QY

Telephone 0151 2551444
Fax 0151 2271848

enquiries@merseysidewda.gov.uk

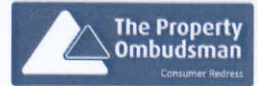
Other Contacts

Landmark Information Group Limited

Legal and Financial
Imperium
Imperial Way
Reading
Berkshire
RG2 0TD

Telephone 0844 844 9966
Fax 0844 844 9980

info@landmarkinfo.co.uk
www.landmarkinfo.co.uk



Search Code

IMPORTANT CONSUMER PROTECTION INFORMATION

This search has been produced by Landmark Information Group Ltd, Imperium, Imperial Way, Reading, Berkshire, RG2 0TD. Telephone: 0844 844 9966, Fax No: 0844 844 9980, email: helpdesk@landmark.co.uk which is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered search firms maintain compliance with the Code.

The Search Code:

- Provides protection for homebuyers, sellers, conveyancers and mortgage lenders who rely on the information included in property search reports undertaken by subscribers on residential and commercial property within the United Kingdom.
- Sets out minimum standards which firms compiling and selling search reports have to meet.
- Promotes the best practice and quality standards within the industry for the benefit of consumers and property professionals.
- Enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.

By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

The Code's core principles

Firms which subscribe to the Code will:

- Display the Code logo prominently on their search reports.
- Act with integrity and carry out work with due skill, care and diligence.
- At all times maintain adequate and appropriate insurance to protect consumers.
- Conduct business in an honest, fair and professional manner.
- Handle complaints speedily and fairly.
- Ensure that all search services comply with the law, registration rules and standards.
- Monitor their compliance with the Code.

COMPLAINTS

If you have a query or complaint about your search, you should raise it directly with the firm, and if appropriate ask for your complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award up to £5,000 to you if the Ombudsman finds that you have suffered actual financial loss and/or aggravation, distress or inconvenience as a result of your search provider failing to keep to the Code.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.

TPOs Contact Details:

The Property Ombudsman Scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP
Tel: 01722 333306
Fax: 01722 332296
Web site: www.tpos.co.uk
Email: admin@tpos.co.uk

You can get more information about the PCCB from www.propertycodes.org.uk.

PLEASE ASK YOUR SEARCH PROVIDER IF YOU WOULD LIKE A COPY OF THE SEARCH CODE



Search Code

COMPLAINTS PROCEDURE

If you want to make a complaint, we will:

- Acknowledge it within 5 working days of its receipt.
- Normally deal with it fully and provide a final response, in writing, within 20 working days of receipt.
- Keep you informed by letter, telephone or e-mail, as you prefer, if we need more time.
- Provide a final response, in writing, at the latest within 40 working days of receipt.
- Liaise, at your request, with anyone acting formally on your behalf.

Complaints should be sent to:

Head of Customer Relations
Landmark Information Group Ltd
Landmark UK Property
Imperium
Imperial Way
Reading
RG2 0TD

Telephone: 0844 844 9966

E-mail: helpdesk@landmark.co.uk

Fax: 0844 844 9980

If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman Scheme (TPOs): Tel: 01722 333306, E-mail: admin@tpos.co.uk.

We will co-operate fully with the Ombudsman during an investigation and comply with his final decision.

LANDMARK STANDARD TERMS & CONDITIONS

Full Terms and Conditions can be found on the following link:

<http://www.landmarkinfo.co.uk/Terms/Show/515>

APPENDIX C

Borehole and Dynamic Probe Logs

SP Associates

CLIENT Harbour Energy PROJECT NAME Coopers Lane, Liverpool
 PROJECT NUMBER S1650 PROJECT LOCATION Kirby, Liverpool
 DATE STARTED 8/11/19 COMPLETED 8/11/19 GROUND ELEVATION _____ HOLE SIZE _____
 DRILLING CONTRACTOR _____ GROUND WATER LEVELS:
 DRILLING METHOD Window Sampler AT TIME OF DRILLING ____
 LOGGED BY PVC CHECKED BY _____ AT END OF DRILLING ____
 NOTES Standpipe installed to 3.8m, 1m plain, 2.8m slotted. AFTER DRILLING ____

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
0.30	UD 1			Soft, brown CLAY with occasional fine to medium, angular gravel and occasional roots (Made Ground)
1.00				Loose, fine to medium, angular GRAVEL with some brick, concrete, and clinker fragments (Made Ground)
1.00	UD 2	SPT N @ 1m = 8		Soft to firm, brown CLAY (Glacial Till)
2.00				
2.90	UD 3	SPT N @ 2m = 24		Medium dense, fine to coarse, angular GRAVEL within a matrix of wet, red brown, silty sand (Glacial Till)
3.40	UD 4	SPT N @ 3m = 4		Loose, fine to coarse, angular GRAVEL in a matrix of wet, red brown, silty sand (Glacial Till)
4.00				Soft, red brown, sandy CLAY with occasional pockets of red brown sand and occasional fine to medium, angular to sub-rounded gravel (Glacial Till)
4.25	SPT 5	SPT N @ 3.8m = 60+		Fragments of weak, red brown SANDSTONE (Assumed Chester Formation)

Bottom of borehole at 4.25 meters.

SP Associates

CLIENT Harbour Energy PROJECT NAME Coopers Lane, Liverpool
 PROJECT NUMBER S1650 PROJECT LOCATION Kirby, Liverpool
 DATE STARTED 8/11/19 COMPLETED 8/11/19 GROUND ELEVATION _____ HOLE SIZE _____
 DRILLING CONTRACTOR _____ GROUND WATER LEVELS:
 DRILLING METHOD Window Sampler AT TIME OF DRILLING ---
 LOGGED BY PVC CHECKED BY _____ AT END OF DRILLING ---
 NOTES Borehole met refusal at 0.5m. AFTER DRILLING ---

DEPTH (m)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
0.50	UD 1		Soft to firm, brown CLAY with occasional fine to medium, angular gravel

Bottom of borehole at 0.50 meters.

BORING NUMBER BH2A

PAGE 1 OF 1

SP Associates

CLIENT Harbour Energy **PROJECT NAME** Coopers Lane, Liverpool
PROJECT NUMBER S1650 **PROJECT LOCATION** Kirby, Liverpool
DATE STARTED 8/11/19 **COMPLETED** 8/11/19 **GROUND ELEVATION** _____ **HOLE SIZE** _____
DRILLING CONTRACTOR _____ **GROUND WATER LEVELS:**
DRILLING METHOD Window Sampler **AT TIME OF DRILLING** ____
LOGGED BY PVC **CHECKED BY** _____ **AT END OF DRILLING** ____
NOTES Borehole met refusal at 0.5m. **AFTER DRILLING** ____

DEPTH (m)	SAMPLE TYPE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION
	UD 1		Soft to firm, brown CLAY with occasional fine to medium, angular gravel
		0.40 0.50	Red brown SAND with abundant fine to medium, angular gravel (Glacial Till)
			Bottom of borehole at 0.50 meters.

SP Associates

CLIENT Harbour Energy PROJECT NAME Coopers Lane, Liverpool
 PROJECT NUMBER S1650 PROJECT LOCATION Kirby, Liverpool
 DATE STARTED 21/11/19 COMPLETED 21/11/19 GROUND ELEVATION _____ HOLE SIZE _____
 DRILLING CONTRACTOR _____ GROUND WATER LEVELS:
 DRILLING METHOD Window Sampler AT TIME OF DRILLING ____
 LOGGED BY PVC CHECKED BY _____ AT END OF DRILLING ____
 NOTES Standpipe installed to 3.8m, 1m plain, 2.8m slotted. AFTER DRILLING ____

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
0.40	UD 1			Soft, brown CLAY with occasional fine to medium, angular gravel and occasional roots (Made Ground)
0.60				Medium dense, red brown SAND with some brick and clinker fragments (Made Ground)
1.00				Firm, occasionally stiff, red brown, sandy CLAY with occasional fine to medium, angular gravel (Glacial Till)
2.00	UD 2	SPT N @ 1m = 6		Soft, occasionally firm, brown CLAY with occasional fine to medium, angular gravel (Glacial Till)
3.00	UD 3	SPT N @ 2m = 22		Firm, brown, CLAY with occasional fine to medium, angular gravel (Glacial Till)
3.80	UD 4	SPT N @ 3m = 16		Firm, brown, sandy CLAY (Glacial Till)
4.25	SPT 5	SPT N @ 3.8m = 60+		Fragments of weak, red brown SANDSTONE (Assumed Chester Formation)

Bottom of borehole at 4.25 meters.

SP Associates

CLIENT Harbour Energy **PROJECT NAME** Coopers Lane, Liverpool
PROJECT NUMBER S1650 **PROJECT LOCATION** Kirby, Liverpool
DATE STARTED 21/11/19 **COMPLETED** 21/11/19 **GROUND ELEVATION** _____ **HOLE SIZE** _____
DRILLING CONTRACTOR _____ **GROUND WATER LEVELS:**
DRILLING METHOD Window Sampler **AT TIME OF DRILLING** ____
LOGGED BY PVC **CHECKED BY** _____ **AT END OF DRILLING** ____
NOTES Standpipe installed to 3m, 1m plain, 2m slotted. **AFTER DRILLING** ____

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION
				Soft, brown CLAY with occasional fine to medium, angular gravel and occasional roots
	UD 1			Firm, red brown, sandy CLAY with occasional fine to coarse, angular gravel (Glacial Till)
1				
	UD 2	SPT N @ 1m = 10		Firm, red brown occasionally grey, sandy CLAY (Glacial Till)
2				
	UD 3	SPT N @ 2m = 7		Firm, brown CLAY (Glacial Till)
3				
	SPT 4	SPT N @ 3m = 50+		Medium dense, red brown, sandy SILT with some fine gravel of weak, red brown sandstone fragments (Glacial Till)
				Fragments of weak, red brown SANDSTONE (Assumed Chester Formation)
Bottom of borehole at 3.45 meters.				

SP Associates

CLIENT Harbour Energy PROJECT NAME Coopers Lane, Liverpool
 PROJECT NUMBER S1650 PROJECT LOCATION Kirby, Liverpool
 DATE STARTED 21/11/19 COMPLETED 21/11/19 GROUND ELEVATION _____ HOLE SIZE _____
 DRILLING CONTRACTOR _____ GROUND WATER LEVELS:
 DRILLING METHOD Window Sampler AT TIME OF DRILLING _____
 LOGGED BY PVC CHECKED BY _____ AT END OF DRILLING _____
 NOTES Borehole met effective refusal at 3m AFTER DRILLING _____

DEPTH (m)	SAMPLE TYPE NUMBER	TESTS	GRAPHIC LOG	MATERIAL DESCRIPTION	
1	UD 1			0.40 Soft to firm, brown CLAY with occasional fine to medium, angular gravel and occasional roots	
				Firm, occasionally stiff, red brown, sandy CLAY with occasional fine to medium, angular gravel (Glacial Till)	
2	UD 2	SPT N @ 1m = 13		Firm, red brown CLAY (Glacial Till)	
3	UD 3	SPT N @ 2m = 11		2.30 Soft to firm, red brown CLAY with occasional fine to medium, angular gravel (Glacial Till)	
	SPT 4	SPT N @ 3m = 49		2.90 Medium dense, red brown, sandy SILT with soem fine gravel of weak, red brown sandstone fragments (Glacial Till)	
				3.10 Fragments of weak, red brown SANDSTONE fragments (Assumed Chester Formation)	
				3.45 Bottom of borehole at 3.45 meters.	

Coopers Lane, Liverpool

Dynamic Probing Results

BH1 (DP1)

DEPTH (m)	GL - 1	1 - 2	2 - 3
BLOWS	19	27	43

BH3 (DP3)

DEPTH (m)	GL -1	1 - 2	2 -3
BLOWS	32	24	45

BH5 (DP5)

DEPTH (m)	GL -1	1 - 2	2 -3
BLOWS	35	46	47

BH6 (DP6)

DEPTH (m)	GL -1	1 - 2	2 -3
BLOWS	19	45	31

APPENDIX D

Laboratory Test Results

SOCOTEC UK Limited
2 Newton Close
Drayton Fields Industrial Est.
Daventry
Northants
NN11 8RR
Telephone: +44(0) 1327 703828
Facsimile: +44(0) 1327 300154



TEST REPORT

Liquid and Plastic Limits and Plasticity Indices

Report No: DAM0077602/837/M2 **Report Date:** 20 December 2019

Client: SP ASSOCIATES LTD **Our Contract Ref:** 51054392

Address: 1 MARKET PLACE
WARWICK
WARWICKSHIRE
CV34 4SA
GB **Tested By:** SOCOTEC Daventry

Client Contact: Steve Peters **Date Sampled:** Not given

Site: Coopers Lane, Liverpool **Date Received:** 6 Dec 2019

Date Tested: 18 Dec 2019

Sample Type: BULK BAG

Sampling Certificate: Not Received

Samples Submitted by: Client

Sampled by: Client

Method of preparation: BS1377-1:1990 7.4.3 & BS 1377-2:1990 4.2

Results:

Sample Reference	Client's Ref	Location	Description	Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	% Passing on 425 µm
45363837	2	BH3 0.6-1m Surface	Firm to Stiff, Sandy, Silty, Dark Brown CLAY with gravel	14	43	25	18	**83

* Washed over 425µm BS Test Sieve

** As received, coarse particles removed by hand prior to test

Certified that the Liquid and Plastic Limits and Plasticity Indices were determined in accordance with BS1377-2: 1990
Clauses 4.4, 5.0 and 5.4 respectively
Certified that the Moisture Content was determined in accordance with BS1377-2: 1990: 3.2

Signed:

James Caiger - Field Services Manager
for and on behalf of SOCOTEC UK Limited

SOCOTEC UK Limited
2 Newton Close
Drayton Fields Industrial Est.
Daventry
Northants
NN11 8RR
Telephone: +44(0) 1327 703828
Facsimile: +44(0) 1327 300154



TEST REPORT

Liquid and Plastic Limits and Plasticity Indices

Report No: DAM0077602/838/M3

Report Date: 20 December 2019

Client: SP ASSOCIATES LTD

Our Contract Ref: 51054392

Address: 1 MARKET PLACE
WARWICK
WARWICKSHIRE
CV34 4SA
GB

Tested By: SOCOTEC Daventry

Client Contact: Steve Peters

Date Sampled: Not given

Site: Coopers Lane, Liverpool

Date Received: 6 Dec 2019

Date Tested: 18 Dec 2019

Method of preparation: BS1377-1:1990 7.4.3 & BS 1377-2:1990 4.2

Sample Type: BULK BAG

Sampling Certificate: Not Received

Samples Submitted by: Client

Sampled by: Client

Results:

Sample Reference	Client's Ref	Location	Description	Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	% Passing on 425 µm
45363838	3	BH6 1-2.3m Surface	Firm to Soft, Silty, Slightly Sandy, Reddish Brown CLAY	21	41	18	23	**100

* Washed over 425µm BS Test Sieve

** As received, coarse particles removed by hand prior to test

Certified that the Liquid and Plastic Limits and Plasticity Indices were determined in accordance with BS1377-2: 1990
Clauses 4.4, 5.0 and 5.4 respectively
Certified that the Moisture Content was determined in accordance with BS1377-2: 1990: 3.2

Signed:

James Caiger - Field Services Manager
for and on behalf of SOCOTEC UK Limited

SOCOTEC UK Limited
2 Newton Close
Drayton Fields Industrial Est.
Daventry
Northants
NN11 8RR
Telephone: +44(0) 1327 703828
Facsimile: +44(0) 1327 300154



TEST REPORT

Liquid and Plastic Limits and Plasticity Indices

Report No: DAM0077602/836/M1 **Report Date:** 20 December 2019

Client: SP ASSOCIATES LTD **Our Contract Ref:** 51054392

Address: 1 MARKET PLACE
WARWICK
WARWICKSHIRE
CV34 4SA
GB **Tested By:** SOCOTEC Daventry

Client Contact: Steve Peters **Date Sampled:** Not given

Site: Coopers Lane, Liverpool **Date Received:** 6 Dec 2019

Date Tested: 18 Dec 2019

Sample Type: BULK BAG

Sampling Certificate: Not Received

Samples Submitted by: Client

Sampled by: Client

Method of preparation: BS1377-1:1990 7.4.3 & BS 1377-2:1990 4.2

Results:

Sample Reference	Client's Ref	Location	Description	Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	% Passing on 425 µm
45363836	1	BH1 1-2m Surface	Firm, Sandy, V. Silty Brown/Black CLAY with occ. Gravels	19	26	16	10	**93

* Washed over 425µm BS Test Sieve

** As received, coarse particles removed by hand prior to test

Certified that the Liquid and Plastic Limits and Plasticity Indices were determined in accordance with BS1377-2: 1990
Clauses 4.4, 5.0 and 5.4 respectively
Certified that the Moisture Content was determined in accordance with BS1377-2: 1990: 3.2

Signed:

James Caiger - Field Services Manager
for and on behalf of SOCOTEC UK Limited



2183



Chemtest Ltd.

Depot Road

Newmarket

CB8 0AL

Tel: 01638 606070

Email: info@chemtest.com

Final Report

Report No.: 19-41013-1

Initial Date of Issue: 16-Dec-2019

Client SP Associates Ltd

Client Address: 1 Market Place
Warwick
Warwickshire
CV34 4SA

Contact(s): Steven Peters

Project S1650 Coopers Lane, Liverpool

Quotation No.:

Date Received: 09-Dec-2019

Order No.:

Date Instructed: 09-Dec-2019

No. of Samples: 6

Turnaround (Wkdays): 5

Results Due: 13-Dec-2019

Date Approved: 16-Dec-2019

Approved By:

Details: Glynn Harvey, Laboratory Manager

Results - Soil

Client: SP Associates Ltd	Chemtest Job No.: 19-41013									
Quotation No.:	Chemtest Sample ID.: 939347									
	Sample Location: BH1									
	Sample Type: SOIL									
	Top Depth (m) (\$): 0.3									
	Bottom Depth (m) (\$): 1.0									
	Date Sampled (\$): 28-Nov-2019									
	Asbestos Lab: DURHAM									
Determinand	Accred.	SOP	Units	LOD						
ACM Type	U	2192		N/A	-	-	-	Asbestos Board Debris	-	-
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	Amosite	No Asbestos Detected	No Asbestos Detected
ACM Detection Stage	U	2192		N/A	-	-	-	Stereo Microscopy	-	-
Moisture	N	2030	%	0.020	14	16	15	8.8	9.9	12
pH	U	2010		4.0	8.0	8.2	8.2	8.7	8.8	8.6
Sulphate (2:1 Water Soluble) as SO ₄	U	2120	g/l	0.010	< 0.010	0.013	< 0.010	0.28	< 0.010	0.041
Arsenic	U	2450	mg/kg	1.0	9.5	11	8.6	20	12	8.2
Cadmium	U	2450	mg/kg	0.10	0.36	0.31	0.25	0.25	0.11	0.16
Chromium	U	2450	mg/kg	1.0	20	19	16	16	27	14
Copper	U	2450	mg/kg	0.50	180	160	130	25	20	33
Mercury	U	2450	mg/kg	0.10	0.14	0.11	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	U	2450	mg/kg	0.50	18	17	16	19	40	20
Lead	U	2450	mg/kg	0.50	82	59	50	65	13	41
Selenium	U	2450	mg/kg	0.20	0.34	0.31	0.24	< 0.20	< 0.20	< 0.20
Zinc	U	2450	mg/kg	0.50	51	41	34	40	41	24
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C21-C35	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Soil

Client: SP Associates Ltd		Chemtest Job No.:		19-41013	19-41013	19-41013	19-41013	19-41013	19-41013
Quotation No.:		Chemtest Sample ID.:		939347	939348	939349	939350	939351	939352
		Sample Location:		BH1	BH2	BH2A	BH3	BH5	BH6
		Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m) (\$):		0.3	0.0	0.0	0.4	0.3	0.4
		Bottom Depth (m) (\$):		1.0	0.5	0.4	0.6	0.9	1.0
		Date Sampled (\$):		28-Nov-2019	28-Nov-2019	28-Nov-2019	28-Nov-2019	28-Nov-2019	28-Nov-2019
		Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD					
Acenaphthylene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	1.2	< 0.10
Anthracene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.29	< 0.10
Fluoranthene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	1.2	< 0.10
Pyrene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	1.2	< 0.10
Benzo[a]anthracene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.47	< 0.10
Chrysene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.69	< 0.10
Benzo[b]fluoranthene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	U	2700	mg/kg	2.0	< 2.0	< 2.0	< 2.0	5.1	< 2.0
Total Phenols	U	2920	mg/kg	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils (Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2680	TPH A/A Split	Aliphatics: >C5-C6, >C6-C8, >C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21-C35, >C35-C44 Aromatics: >C5-C7, >C7-C8, >C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21-C35, >C35-C44	Dichloromethane extraction / GCxGC FID detection
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[a,h]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and Trimethylphenols Note: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information**Key**

- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"
- \$ This information has been supplied by the client and can affect the integrity of test data.

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

E-MAIL TO:

GERRY. QUANE @ JHD PARTNERSHIP HOUSING, CO. UK