

Lodematic Ltd
Lodematic, Clitheroe
Phase 1 Land Quality Assessment

D1990-GR-01B

10 February 2015

PSA Design Limited
The Old Bank House
6 Berry Lane
Longridge
Preston PR3 3JA

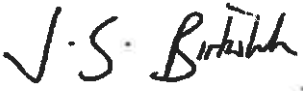
Tel. 01772 786066
Fax. 01772 786265

www.psadesign.co.uk
mail@psadesign.co.uk

Document Control Sheet

Lodematic, Clitheroe
Phase 1 Land Quality Assessment

Job	Date	Issue	Copy
D1990	10 th February 2015-02-10	D1990-GR-01-B	

Originator...  .. Dr JS Birtwhistle BSc PhD FGS CGeol

Checker...  .. DL Wallbank BEng CEng MICE

Approver...  .. Dr JS Birtwhistle BSc PhD FGS CGeol

Copyright PSA Design Ltd. All rights reserved.

No part of this report may be copied or reproduced by any means without prior written permission from PSA Design. If you have received this report in error, please destroy all copies in your possession or control and notify PSA Design.

This report has been prepared for the exclusive use of the commissioning party and unless otherwise agreed in writing by PSA Design, no other party may use, make use of or rely on contents of the report. No liability is accepted by PSA Design for any use of this report, other than for the purposes for which it was originally prepared and provided.

Opinions and information provided in the report are on the basis of PSA Design using due skill, care and diligence in the preparation of the same and no explicit warranty is provided as to their accuracy. It should be noted that and it is expressly stated that no independent verification of any of the documents or information supplied to PSA Design has been made.

CONTENTS

Chapter	Title
1	Preface
2	Introduction
3	Site Description
4	Historical Site Information
5	Environmental Setting
6	Hazard Assessment
7	Conclusions & Recommendations
8	Report Limitations

DRAWINGS

Drawing No.	Title
D1990-01	Regional Location Plan
D1990-02	Current Site Features Plan
D1990-03A	Proposed Development Plan
D1990-05	Preliminary Conceptual Model

APPENDICES

Appendix	Title
A	Groundwise Report- Historical information
B	Groundwise Report- EnviroInsight
C	Groundwise Report- GeoInsight
D	Environment Agency Website information
E	Risk Assessment Method
F	Photographs

1.0 PREFACE

The site is located at the Lodematic Works, Primrose Road, Clitheroe. BB7 1BS (NGR 373715E, 440750N). Site occupies an area of approximately 0.26 hectares.

PSA Design were commissioned by Lodematic Ltd to provide a Phase 1 Land Quality Assessment of the site, in accordance with likely planning requirements for a contamination survey of the site. It is understood that consideration is being given to the re-development of the site as a *residential* development.

PSA Design's investigation included a review of historical/environmental data and Environment Agency searches. A summary of salient geo-environmental issues is provided in the table below.

Issue	Remarks
Former uses	Site has originally been a print works, followed by paper mill, with recent activity being an engineering works.
Hazardous Gas	The presence of on-site infill and off site landfill and an infilled mill pond within 250m of the site represents a low/medium risk of ground gas generation. Therefore, in accordance with CIRIA C665, and in view of the nature of the residential development, it is recommended that a minimum of six gas monitoring visits be undertaken over a three month period.
Mining & Quarrying	No evidence of coal seams or workings in the vicinity of the development. No quarrying in the vicinity of the development.
Flooding & Drainage	The site does not lie within an Environment Agency River Flood Plain and is not likely to flood in extreme flood events. Site drainage is likely to enter the existing drainage network.
Anticipated Ground Conditions	Drift deposits – Alluvium over Glacial Till [Boulder Clay]. Rock – Mudstone/Limestone [Clitheroe Limestone & Hodder Mudstone – Carboniferous].
Contamination	Several potential sources, but following risk assessment, three low/medium contamination risks to sensitive receptors, from contaminated infill and engineering/print works/mill sources across site, which will need a suitable ground investigation. The likely contamination risk can be managed by a suitable condition set out by the regulator in the planning permission.
Preparatory Works	Demolition/site clearance of structures prior to construction and conversion. Breaking up of remaining hardstand across the site. Excavation and screening of localised Made Ground across the site to remove relic structures and oversized materials, which may present obstruction to foundations of proposed buildings. Earthworks cut/fill exercise to create final landform.
Anticipated Foundation Solutions	Various options are likely dependent upon the location of the proposed structures. Piled deep foundations or deep trench fill to competent bearing strata are anticipated to be the most economic foundation solutions across the site, subject to confirmatory site investigation.
Recommendations for Ground Investigation	Intrusive investigation comprising trial pits and window sampler boreholes, plus core holes in concrete slab across site, including installation of gas/ groundwater monitoring wells, with geotechnical and chemical soils analysis.
Geotechnical Issues	1. Depth, extent and variation in made ground deposits causing potential differential settlement. 2. Obstructions at depth within made ground deposits and potential unknown underground services. 3. Compressible nature of alluvial deposits affecting pavement and foundation construction. 4. Steep slope – retaining solutions. 5. Demolition/conversion issues related to off site properties – party wall. 6. Conversion of building will need structural assessment

At this stage, anticipated significant developer abnormal costs relating to geo-environmental issues at the site are:

- Demolition of buildings;
- Grubbing up of remaining hardstand across the site;
- Removal of relict structures, crushing of hard materials and possible re-engineering of fill materials for shallow foundations and highways;
- Capping of proposed gardens and landscaped areas with uncontaminated subsoil/topsoil, possibly re-used from site won sources or imported;
- Removal and treatment/disposal of localised contaminated soils, if present;
- Provisional Gas Protection Measures;
- Retaining structures of for new development due to sloping site.

Some further work is required, most notably:

- Intrusive ground investigation
- Services Search
- Asbestos Survey
- Structural Survey
- Party Wall advice

2.0 INTRODUCTION

2.1 *Terms of Reference*

2.1.1 PSA Design were commissioned by Lodematic Ltd to carry out a Phase 1 Land Quality Assessment of the proposed development at the Lodematic Works, Clitheroe.

2.1.2 The agreed scope of works included:

- A site walkover and inspection
- An assessment of land use history
- Determination of the site's environmental setting
- Assessment of anticipated ground conditions, including potential contaminants
- Assessment of anticipated foundation, road pavement and engineering issues associated with redevelopment for a *residential* end-use
- Provision of recommendations for an appropriate ground investigation

2.2 *Proposed Development*

2.2.1 It is understood that consideration is being given to the re-development of the site to residential properties with related infrastructure and gardens/landscaping. The works will involve the partial demolition of the northern parts of the main building, conversion of the remainder, with some new build construction within the grounds.

2.2.2 A development layout plan has been provided, which is included in this report as Drawing No. D1990-03A.

3.0 SITE DESCRIPTION

3.1 General

3.1.1 The site location is shown on Drawing Number D1990-01. Site details are summarised in the Table below. Current site layout plan shown in Drawing Number D1990-02. The site is situated in a *semi-urban* location.

Detail	Remarks
Location	Within SW outskirts of Clitheroe (Dwg D1990-01).
Address	Lodematic Works, Primrose Road, Clitheroe. BB7 1BS.
NGR	373715E, 440750N.
Area	0.260 ha
Known services	No services plans have been provided/made available for the scheme.

3.2 Site Features

3.2.1 A PSA Design Engineer completed a walkover survey of the site on the 18th September 2014 and the salient features are presented below. A selection of site photographs are included in the report as Appendix F.

3.2.2 The site is currently an engineering works, manufacturing precision metallic components for engineering use. The site area is an irregular shape, a stretched polygon (E-W), which has a large ground level change from N to S. The works layout is set out in three main building units, running E-W, on multiple levels. The buildings are currently connected but have been connected together over time from (at least) three original structures. The S building is a multi storey structure constructed of stone, with the upper two N buildings built of similar materials, but with fewer floors and lower roof height differential, reflecting the changes in ground levels from S to N. The two most northern units are large open rooms, which house the main manufacturing areas. A separate outer works building is located in the NE corner of the site, adjacent to (an off-site) electrical sub-station. The works building generally has concrete floors throughout, which in localised areas show signs of staining from oils. A disused derelict stone cottage building is connected to the W edge of the N main building unit, with an overgrown associated garden found in the NW corner of the site, bounded to the W by a stone wall.

3.2.3 Tarmac and concrete surfacing throughout yard/parking areas. Various service covers throughout, with an assumed complex underground drainage system.

3.2.4 Minor vegetation observed, generally wild growth of scrub species within small pockets of disused land surrounding the building, mainly prevalent in the NW and NE corners of the site.

3.2.5 Ground drops significantly, N to S across site, from approximately 72.5mAOD along the N building boundary down to 64.5mAOD in the lower staff car park. The level changes

have been accommodated within the original building construction, with the lower S building set on a lower (basement) level (66.5mAOD), which is still approximately 2m higher than the outer car park level, to the S. The general operating plant floor, housing the main works, occurs on a higher level (approximately 70.5mAOD).

- 3.2.6 Access to the site is from the highway, Primrose Road to the E. The access road to the lower level car park has a steep gradient. Ramped vehicle access into N building unit. Various pedestrian entrances into building, generally by steps, accommodating the change in levels across the site, from N to S.
- 3.2.7 Disused above ground oil tank located outside the NE access of the main building.
- 3.2.8 A large housing development is occurring to the N of the site, up-slope. Part of the S boundary is made up of the office building of Primrose Studios, with Primrose House, residence to the SW. The large ex-mill building, Primrose Business Park, hosts many different businesses (carpet storage, gym etc), located down-slope, S and E of the site. A mill race runs along the S edge of the access road, at a lower level, fed from the reservoir to the NE, flowing to the SW.
- 3.2.9 Existing salient features are summarised in the Table below and shown in Drawing Number D1990-02.

Feature	Remarks
Approximate areas	1,500 m ² – existing buildings 350 m ² – grassland 750 m ² – hard-standing
Surrounding land uses	N- Highway/Residential S&E-Commercial W-Residential/Open land

3.3 Site Operations

- 3.3.1 There are various current site operations that are considered to represent a potential source of current ground contamination. Various oils are used in the manufacturing process that, although the works area will have a drainage/cleaning process to prevent major leakages, will potentially have permeated into the upper surface of the concrete floors over time. Oil drums were present within the lower basement area of the S building along with a boiler room. The central building housed a paint shop within the W area of the building.

4.0 HISTORICAL SITE INFORMATION

4.1 In order to investigate the development history and previous land uses at the site and immediate surrounding land, site centred extracts from Ordnance Survey (OS) plans dating back to 1846 were examined. These plans are presented in Appendix A to this report. The table below provides a summary of the salient points relating to the history of the site with respect to the proposed end use. It is not the intention of this report to describe in detail all the changes that have occurred on or adjacent to the site. Significant former uses/operations are highlighted in bold text for ease of reference.

Date(s)	Site	Surrounding Land
1846	Site area is shown as developed, part of the NW area of Primrose Print Works . Two large long thin rectangular buildings E-W across full length of site with small buildings in NW corner.	Land uses throughout the immediate surrounding area are mixed Greenfield, with industrial to the E, Primrose Calico Works , consisting of a large water body, lodge to the NE and smaller pond E and various buildings to the E and S. Pendelton Brook running E-W, 80m S of site. Railway running NE-SW, 200m W of site.
1884-1894	Additional building constructed connecting two large buildings. Part of E edge of N building demolished.	Print Works re-named Paper Mills and developed further to SE. Filter beds 80m E of site. Weir from lodge 10m E of site. Cotton Mills 10m & 70m N of site.
1906-08	No significant changes within site.	No significant changes within surrounding area.
1912	No significant changes within site.	Filter beds to E infilled . Residential development to N. Some re-construction of Primrose Works to the S. Primrose House 20m SW of site.
1930-32	No significant changes within site.	No significant changes within surrounding area.
1938	No significant changes within site.	No significant changes within surrounding area.
1950-55	No significant changes within site.	Commercial Mill demolished to N.
1964	No significant changes within site.	Primrose Works to SE disused . Residential development 120m E and 180m NW of site. Primrose Cotton Mill to N now a storage depot. Engineering Works 75m NE of site.
1971-73	No significant changes within site.	No significant changes within surrounding area.
1976-77	No significant changes within site.	Large building to SW renamed Works .
1990-93	No significant changes within site.	Two large buildings to N renamed Government Building and Depot .
2002	No significant changes within site.	No significant changes within surrounding area.
2010	No significant changes within site.	No significant changes within surrounding area.
2014	No significant changes within site.	E pond infilled . Works renamed Business Park . Building to N demolished. Large housing development to the N.

Lodematic Ltd
Lodematic, Clitheroe
Phase 1 Land Quality Assessment

5.0 ENVIRONMENTAL SETTING

5.1 Background Information
5.1.1 Environmental and Geotechnical information is presented in the Groundwise EnviroInsight Report (Appendix B), GeoInsight Report (Appendix C), Environment Agency Website (Appendix D) and other sources set out below.

Issue	Data reviewed	Summary
Geology	1:50,000 BGS map (Sheet 68) Solid & Drift BGS Memoir Clitheroe	Drift – Alluvium over Glacial Till [boulder clay]. Solid – Limestone/mudstone (Clitheroe Limestone & Hodder Mudstone Formation undifferentiated, Carboniferous)
Landfills	Historical OS Plans EA Website	Historic landfill 161m NW of site, small of unknown waste type, Stalwart Dying Company, Kemple View.
Mining	BGS maps/OS Maps	None.
Quarrying	Historical OS Plans	None.
Radon	BRE Report BR211 BGS Stage 2 Report HPA Report RPD-033 Indicative Atlas of Radon in England & Wales	Less than 1% of homes are above the Radon Action Level, therefore no protective measures are necessary in the construction of new dwellings or extensions.
Hydrogeology	Environment Agency Groundwater Vulnerability map (Sheet 10, Central Lancashire)	The site is not located within a groundwater source protection zone. Site underlain by <i>Secondary Unproductive</i> superficial aquifer & <i>Secondary (B)</i> bedrock aquifer. No groundwater abstraction within 2km but nearest surface water abstraction 53m NE of site (general usage).
Hydrology	OS Map	Nearest watercourse(s) – Mearley Brook engineered watercourse 12m E of site fed from reservoir to NE. Nearest watercourse, Pendleton Brook 67m S of site. 2No. pollution incidents within 500m of site, closest 259m SW of site, minor impact from crude sewage into Pendleton Brook. 1No. active discharge consent within a 250m radius, 14m S of site, from Primrose Lodge, trade discharge.
Potential Contaminated Land Usage	Historical OS Plans EA Website	On site – manufacturing of metal components, with oils usage and paint spraying, although concrete floors throughout and standard H&S protocols in place for any pollution incidents. 1No. above ground tank on site. Electrical sub-station on NE boundary of site.
Flood Risk	Environment Agency	Site not within a floodplain.

6.0 HAZARD ASSESSMENT

6.1 Sources

6.1.1 The industrial processes and activities undertaken on or adjacent to the site that may act as potential historical or current sources of environmental hazard are shown in the Table below.

Type of Issue	SOURCE-Specific Issue	HAZARD-Remarks
Potential on-site contamination sources HISTORICAL	1. Print Works. 2. Paper Mill. 3. Fuel Tank. 4. Made Ground beneath site.	1-4. Potential sources of contamination from metalloids, hydrocarbons & PAH into soil and groundwater. 4. Risk of ground gas production (CO ₂ & CH ₄).
Potential off-site contamination sources HISTORICAL	1. Print Works to S&E. 2. Cotton Mills to N. 3. Infilled filter beds and lodge to E and landfill to NW.	1,2&4. Potential sources of migration of metalloids, sulphates, hydrocarbons PCB & PAH into soil and groundwater. 3. Risk of ground gas production (CO ₂ & CH ₄).
Potential on-site contamination sources CURRENT	1. Engineering Plant 2. Asbestos in building fabric.	1. Potential sources of contamination from metalloids, hydrocarbons SVOC, VOC & PAH into soil and groundwater. 2. Asbestos represents human health risk (inhalation).
Potential off-site contamination sources CURRENT	1. Electricity Sub-Station.	1. Potential sources of migration of metalloids, hydrocarbons & PCB into soil and groundwater.
Potential geotechnical hazards	1. Possible fill beneath site. 2. Steeply sloping site. 3. Conversion & demolition. 4. Underground services & relict foundations. 5. Proximity of adjoining properties.	1. Deeper foundation for building. 2. Possible retaining structures required and slope stability issues. 3. Stability issues for new development require structural assessment. 4. Obstructions. 5. Stability & party wall concerns.

6.2 Pathways and Receptors

6.2.1 Five pollutant receptors have been identified for the site, and are listed in the table below, together with the pathways through which they may be linked to pollutant sources.

Receptor	Pathways
HUMAN HEALTH Re-development workers End users-residents	Inhalation, ingestion, skin contact
WATER ENVIRONMENT Controlled Waters	Groundwater
FAUNA & FLORA Landscaping	Root uptake
BUILT ENVIRONMENT Buildings and services	Diffusion of vapours through ground. Diffusion of landfill gas through ground and collection in confined spaces. Direct contact with contaminated soil and groundwater.

6.3 Conceptual Model and Qualitative Risk Assessment

6.3.1 A preliminary conceptual model of pollutant linkages is given in the table below, together with a qualitative risk assessment for each linkage. The risk assessment uses the method of risk evaluation set out in CIRIA 552 'Contaminated Land Risk Assessment'. The scale of risk is determined from a matrix that combines the *consequence* of a hazard with the *likelihood* of the event happening. Details of the assessment method are included in

Appendix E. A schematic summary of the conceptual model is given in Drawing No. D1990-05.

Lodematic Ltd
Lodematic, Clitheroe
Phase 1 Land Quality Assessment

Source	Pathway	Receptor	Consequence	Probability	Risk Classification
On-site historic sources of ground contamination arising from fuel tank & fuel/oil spillage from Print Works/Paper Mill including metalloids, PAHs, hydrocarbons, SVOC & VOC's	Inhalation, Ingestion, skin contact	Re-development workers	medium	low	Low/medium risk
	Root Uptake	End users- residents	medium	low	Low/medium risk
	Groundwater	Landscaping Vegetation	minor	likely	low risk
	Diffusion of vapour	Controlled Waters	medium	unlikely	low risk
	Direct Contact	Buildings and Services	minor	likely	low risk
		Buildings and Services	medium	low	Low/moderate risk

Source	Pathway	Receptor	Consequence	Probability	Risk Classification
On-site current sources of ground contamination arising from Lodematic Engineering Plant including metalloids, PAHs, hydrocarbons, SVOC & VOC's	Inhalation, Ingestion, skin contact	Re-development workers	medium	low	Low/medium risk
	Root Uptake	End users- residents	medium	low	Low/medium risk
	Groundwater	Landscaping Vegetation	minor	likely	low risk
	Diffusion of vapour	Controlled Waters	medium	unlikely	low risk
	Direct Contact	Buildings and Services	minor	likely	low risk
		Buildings and Services	medium	low	Low/moderate risk

Lodematic Ltd

Lodematic, Clitheroe

Phase 1 Land Quality Assessment

Source	Pathway	Receptor	Consequence	Probability	Risk Classification
On & off-site sources of ground contamination (gas) arising from on site infill and off site infill to E & NW of site (CO ₂ and CH ₄ gas).	Inhalation, ingestion, skin contact	Re-development workers	Severe	unlikely	Low/moderate risk
		End users- residents	Severe	unlikely	Low/moderate risk
	Direct Contact	Buildings and Services	Medium	unlikely	Low risk

Source	Pathway	Receptor	Consequence	Probability	Risk Classification
On site sources of ground contamination from asbestos building materials.	Inhalation, ingestion, skin contact	Re-development workers	medium	low	Moderate/low risk
		End users	medium	unlikely	Low risk

Source	Pathway	Receptor	Consequence	Probability	Risk Classification
On-site historic sources of ground contamination arising from potential fill materials and relicts of historic building foundations including metaloids, PAHs.	Inhalation, ingestion, skin contact	Re-development workers	medium	low	Moderate/low risk
		End users- residents	medium	low	Moderate/low risk
	Root Uptake	Landscaping Vegetation	minor	likely	low risk
	Groundwater	Controlled Waters	medium	unlikely	low risk
	Direct Contact	Buildings and Services	medium	low	Moderate/low risk

Lodematic Ltd
Lodematic, Clitheroe
Phase 1 Land Quality Assessment

Source	Pathway	Receptor	Consequence	Probability	Risk Classification
Off-site historic & current sources of ground contamination arising from migration of leakages of Mills to M, Print Works S/E of site & electricity sub-station including metalloids, PAH, PCB & hydrocarbons	Inhalation, ingestion, skin contact	Re-development workers	medium	unlikely	Low risk
		End users- residents	medium	unlikely	Low risk
	Root uptake	Landscaping	minor	unlikely	Very low risk
	Groundwater	Controlled waters	medium	unlikely	Low risk
	Diffusion of vapour	Buildings and Services	minor	unlikely	Very low risk
	Direct Contact	Buildings and Services	medium	unlikely	Low risk

6.3.2 *On-site historic ground and groundwater contamination from print works/paper mill sources*

The risk classification for six pollutant linkages relating to potential sources of contamination in the Made Ground and natural materials from possible historic spillages varied between *low* risk to *moderate/low* risk. Investigation, if not already undertaken, is normally required in cases where the risk is classified as *moderate* or higher, and some remedial works may be required. The *five* receptors include human health (construction workers and end users-residents), surface water, landscaping vegetation and gardens, and buildings and services.

Three *low/moderate* risks were identified for the residents, re-development workers & services (water supply pipes) receptors via the pathway of direct contact with contaminated soil. The risks for these three elements can be reduced by suitable remedial measures such as suitable PPE for construction workers, potential removal of Made Ground/suitable barrier systems and sterile trenches. The evidence of concrete slabs throughout the buildings and tarmac/concrete surfacing in the yard areas will have protected the underlying ground from any major spillages. Further investigation of the ground conditions with suitable chemical testing will qualify whether further remedial measures are required to protect the health of the end users-residents. Three *low* risks were identified that were deemed less of a risk due to the *low* probability of the pollution linkage occurring. Reasons include the assumed lack of mobility of pollutants, due to ground and Made Ground composition, impermeable properties of local drift deposits and distance to receptor. The *low* risk was identified for landscaping/vegetation and gardens that were deemed less of a risk due to the *minor* consequences from pollution.

6.3.3 *On-site current ground and groundwater contamination from Lodematic engineering works sources*

The risk classification for six pollutant linkages relating to potential sources of contamination in the Made Ground and natural materials from possible current spillages varied between *low* risk to *moderate/low* risk. Investigation, if not already undertaken, is normally required in cases where the risk is classified as *moderate* or higher, and some remedial works may be required. The *five* receptors include human health (construction workers and end users-residents), surface water, landscaping vegetation and gardens, and buildings and services.

Three *low/moderate* risks were identified for the residents, re-development workers & services (water supply pipes) receptors via the pathway of direct contact with contaminated soil. The risks for these three elements can be reduced by suitable remedial measures such as suitable PPE for construction workers, potential removal of Made Ground/suitable barrier systems and sterile trenches. The evidence of concrete slabs throughout the buildings and tarmac/concrete surfacing in the yard areas will have protected the underlying ground from any major spillages. Current health and safety protocols will reduce the potential for major pollution incidents, with spillage clean up kits and general cleaning of the floor areas as part of regular maintenance duties of the company. Further investigation of the ground conditions with suitable chemical testing will qualify whether further remedial measures are required to protect the health of the end users-residents. Three *low* risks were identified that were deemed less of a risk due to the

low probability of the pollution linkage occurring. Reasons include the assumed lack of mobility of pollutants, due to ground and Made Ground composition, impermeable properties of local drift deposits and distance to receptor. The *low* risk was identified for landscaping/vegetation and gardens that were deemed less of a risk due to the *minor* consequences from pollution.

6.3.4

Gas Risk from historic infill on-site, and off site landfill

The potential hazard of gas from on and off-site infill, has been linked with several receptors, which include construction workers and end-users and the built environment. For moderate risk receptors (Re-development Construction Workers and End Users) the consequences of gas inhalation are necessarily *severe*, but the probability of such an event is considered to be *unlikely*. Risk to the receptor Buildings and Services is classed *low*. The consequence of damage from gas is necessarily *medium*, but the probability of such an event is estimated to be *unlikely* for similar reasons to those stated above. The probability of such an event occurring is considered to be *unlikely* due to several factors, leading to a likely generation potential of the source being *very low* for the *low* sensitivity of the development. The potential extent of the on-site infill is relatively small, likely to be under the southern building only, with the fill being placed at least 168 years ago. The external infill located to the E of the historic filter beds was relatively small, giving a relatively small volume of source material for gas generation from decomposition. The likely fill type would be inert, rather than putrescible. The landfill to the NW and recent infilled mill pond to the E are >100m from the site, which will, combined with ground conditions hinder potential migration. Aerial photographs of the area showed no discolouration of the area. In addition, the likely ground conditions found within the regional area are a drift deposit layer comprising of thin alluvium over glacial till, which generally will constitute of clay (classified as having an average permeability of 1×10^{-9} m/s, which is relatively impermeable), with minor sand layers, which will prove to be a poor pathway for the migrating gas and in essence act as a buffer. Thus the probability of such an event occurring is considered to be of *moderate/low risk*. Buildings and Services (Low). The consequences of a damage from gas is necessarily *medium*, but the probability of such an event is estimated to be *unlikely* for similar reasons to those stated above, giving a classification of *low*.

6.3.5

On-site contamination from hazardous building materials ie asbestos

The potential hazards from building materials have been linked with the human health receptor, which includes construction workers and end-users. The risk classification is based on there being a potential source of asbestos.

The risk classification for construction workers is considered to be *moderate* risk. This is based on a *medium-low* assessment of consequence (chronic damage) in combination with a *low* classification of probability. The risk for end-users is assumed to be slightly less (*low*) because clearance of these materials from the site in preparation for redevelopment is likely to remove the most significant potential sources. The walkover survey did not encounter any obvious signs of asbestos. It is assumed that an initial asbestos survey will be carried out for the buildings to be demolished and converted. Should any material be found it would be expected that the asbestos removal will be carried out by a specialist

demolition/removal company and as such various checks and procedures will be carried out to ensure that all traces of asbestos material are removed from site.

6.3.6 *On-site ground and groundwater contamination from infill material*

The risk classification for *five* pollutant linkages relating to potential sources of contamination in the underlying ground and groundwater from infill contamination sources, varied between medium/*low* risk to *low* risk. Investigation, if not already undertaken, is normally required in cases where the risk is classified as *moderate* or higher, and some remedial works may be required.

Three *low/medium* risks were identified for the re-development workers, residents and services receptors and two *low* risks for the vegetation and groundwater via the pathway of direct contact with contaminated soil/groundwater. The risk of pollution from the historic fill under the southern building source was assumed to be relatively *low* risk due to various factors. These included likely thickness <3.0m, ground conditions, hard standing surfacing, and likely engineering property of underlying fill being inert granular fill, no major pavement deterioration, backing up previous statement and hydrogeology.

6.3.7 *Soil/groundwater contamination from off-site historic mill and print works sources, plus current electrical sub station, through plume migration.*

The risk classification for *six* pollutant linkages relating to potential sources of contamination in the underlying ground and groundwater from migration of historic off-site contamination sources, N & S/E of the site varied between *low* risk to *very low* risk. Investigation, if not already undertaken, is normally required in cases where the risk is classified as *moderate* or higher, and some remedial works may be required.

Four *low* risks were identified for the residents, re-development workers, services and controlled waters receptors via the pathway of direct contact with contaminated soil/groundwater. The risk of pollution from the contamination migration was assumed to be relatively *low* risk due to various factors. These include distance from the site, topography, ground conditions – any spillages will tend to drain vertically into the underlying glacial deposits, impermeable clay acting as a buffer to migration, working practices reducing pollution linkages and hydrogeology. The *very low* risks was identified for landscaping/gardens & buildings that were deemed less of a risk due to the *minor/mild* consequences from pollution.

6.3.8 *Uncertainties*

There remains the possibility that some historical occupation of the site has not been identified, which could lead to unforeseen ground contamination.

7.0 CONCLUSIONS/RECOMMENDATIONS

7.1 General

7.1.1 It is understood that consideration is being given to the re-development of the site as new and converted residential buildings with associated infrastructure and garden.

7.1.2 The main issues considered in this report, and in particular in Sections 4, 5 and 6 are based on a review of historical data and available information. The report provides a preliminary assessment of potential geo-environmental issues and implications for the current and proposed use of the site, together with issues associated with the proposed re-development of the site.

7.2 Contamination

7.2.1 Several potential sources of contamination have been identified for the site, which are associated with:

- the potential risk of contamination from the on-site *historical* sources (print works/paper mill) is assessed as of low/medium risk for several receptors across the site;
- the potential risk of contamination from the on-site *current* sources (engineering works) is assessed as of low/medium risk for several receptors across the site;
- the potential presence of asbestos within the fabric of the buildings poses a risk which can be overcome by an initial survey and, if found, careful disposal and clearance of the site by a specialist contractor;
- the potential for unknown contaminated fill deposits beneath the surface of the site area. The likely presence of contaminated shallow Made Ground is considered to be at relatively low/moderate risk of elevated levels of localised contaminants and should be investigated further;
- the potential for migration of off-site historic sources (print works/mills). The presence of contaminated material on the site from this source is considered unlikely due to various reasons, reducing the probability of migration.

7.2.2 It is advised that further investigation works are required to assess soil contamination within the site, as it has been assessed of being at a *low/medium* risk from soils contamination. A targeted investigation of the various potential pollutant sources should be conducted to resolve the uncertainty of contamination affecting the sensitive receptors.

7.2.3 The likely contamination risk can be managed by a suitable condition set out by the regulator in the planning permission.

7.3 Hazardous Gas

7.3.1 The presence of infilled ground on and off-site landfill would suggest that further investigation is required to assess the gas risk at the site.

- 7.3.2 Based on the nature of the proposed commercial development, and with reference to CIRIA C665 and the Ground Gas Handbook [2009], it is recommended that *six* monitoring visits must be undertaken over a *three* month monitoring period (*High* sensitivity and *very low* generation potential of source (*CIRIA 2007 Recommended Monitoring Periods*)).
- 7.3.3 Provision of gas protection measures in the building development should be considered but not specified until full monitoring results are analysed.

7.4 Mining & Quarrying

- 7.4.1 The site is not in a mining area. There are no quarries within 250m of the site.

7.5 Foundations

- 7.5.1 At present, no geotechnical ground investigation data is available for the site. Consequently it is only possible to estimate the ground conditions. Before firm foundation recommendations can be given, it may be necessary to undertake an appropriate ground investigation. However, tentative recommendations are provided below.
- 7.5.2 The published geological data suggests the site is underlain by drift deposits, including alluvium and glacial till. The alluvium may not be a suitable founding material, due to its potential for compressibility and material variance, whilst the deeper glacial till deposit may provide a suitable founding stratum, subject to inspection of the formation.
- 7.5.3 The potential depth of fill, related to the southern building area should be taken into consideration when designing the depth of foundation. Made ground is not generally considered a suitable founding material and foundations should be taken through it, into underlying natural in-situ strata of adequate bearing capacity.
- 7.5.4 The steep slope will need to be assessed with careful consideration of options related to retaining structures of the proposed development. The close proximity of several properties near to the boundary edge may require consultation with a specialist party-wall surveyor, in particular regarding any proposed demolition works. In addition, the potential remaining building for conversion will need a structural assessment for future development to ensure long-term stability.

7.6 Highway, Drainage and External Works Issues

- 7.6.1 The main vehicle access to the site will be off Primrose Road.
- 7.6.2 It is assumed that surface water discharge from the proposed development and foul water drainage is likely to flow into the existing local drainage network in the vicinity of the site. It is recommended that the developer contact United Utilities with respect to capacity in existing foul and surface water sewers in the vicinity of the development area.
- 7.6.3 The site is sloping and it is anticipated that significant site re-grading will be required.

7.7 Potential Development Constraints

7.7.1 Full STATS information is required prior to the site development.

7.7.2 No risk of flooding on the site from rivers.

7.7.3 Asbestos survey required for building.

7.8 Further Investigation

7.8.1 Whilst the site is considered suitable for its current and proposed use, the proposed change in use will require intrusive investigation.

7.8.2 This would include window sampler borehole drilling and trial pits with associated geotechnical analysis, carried out to enable foundation recommendations and to determine near surface ground conditions including depth to competent strata, presence of buried obstructions, groundwater and stability. Core samples of the floors for any buildings that are proposed to be converted should also be taken and assessed both for structural and environmental issues.

7.8.3 An appropriate schedule of chemical testing and groundwater monitoring should be carried out on materials to assess the significance of any contamination within the soils and groundwater, if any, at the site as a result of former potentially contaminative land use.

7.8.4 An appropriate ground investigation strategy is presented below.

Exploratory holes	Purpose
Window Sample Boreholes & Trial Pits	To determine the general nature of soils underlying the site, including the: • nature, distribution and thickness of made ground • nature, degree and extent of contamination • proportion of undesirable elements e.g. biodegradable matter, relic foundations etc • suitability of the ground for founding structures and highways
	To delineate any contamination hot spots.
	To retrieve geotechnical data from depth.
	To install monitoring wells across the sites in order to: • monitor for hazardous gas - retrieve representative groundwater samples, to determine water quality • determine groundwater levels and assess flow direction
Concrete Core Samples	To determine the degree and extent of contamination within ground floor slab to be converted.
	To retrieve geotechnical data for the concrete.

- 7.8.5 Proposed exploratory hole locations would be selected to provide a representative view of the strata beneath the site and to target potential areas of interest identified in the conceptual model. Additional exploratory locations would probably be scheduled by the site engineer in light of the ground conditions encountered. The number of representative samples taken would be reflective of the geological complexity encountered during the intrusive investigation. An assessment of potential contaminants associated with the former uses has been undertaken, which is based upon the professional judgement of PSA Design. As a consequence of this assessment, anticipated potential contaminants, within soil and/or groundwater include: Localised inorganic contaminants, elevated PAH concentrations and hydrocarbons, SVOC, VOC and sulphates across of the site.
- 7.8.6 Gas installation, monitoring and assessment should make reference to the CIRIA Publication C665 *"Assessing risks posed by hazardous ground gases to buildings"*, 2007 and NHBC document *"Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present"*, Ed 4, March 2007 and BS8576:2013 *"Guidance on investigations for ground gas. Permanent gases and Volatile Organic Compounds"*.
- 7.8.7 Following completion of the site investigation, it will be necessary to undertake a quantitative risk assessment, and dependent upon the outcome provide a remediation statement for approval by the regulatory authorities. A validation report will be required to demonstrate that the remedial measures have been undertaken in accordance with the approved plan.

8.0 REPORT LIMITATIONS

- 8.1 PSA Design believes that providing information with regard to limitations is essential to assist *the client* identify and therefore manage its risks. The ground is a product of continuing natural and artificial processes and, as a result, may exhibit a variety of characteristics which may vary from place to place, and with time. The risks associated with these variations may be mitigated by appropriate investigations, but cannot be eliminated.
- 8.2 This report contains interpretations of information which has been gathered from published sources and observations. Such information is only relevant to the ground at the published sources and observations. The information from these is interpreted here in good faith and is believed to be accurate. PSA Design cannot guarantee the authenticity of data obtained from external sources.
- 8.3 An interpretation or recommendation based on this information and given in this report is based on our judgment and experience of this information and not on any greater knowledge that might be implied.
- 8.4 The interpretations and recommendations contained herein represent our opinions which are provided for the sole use of our client in accordance with a specific brief. As such these do not necessarily address all aspects of ground behaviour at the site. Should these interpretations be used by any third party to assess ground conditions then verification should be made by reference to the appropriate factual information.

Lodematic Ltd
Lodematic, Clitheroe
Phase 1 Land Quality Assessment

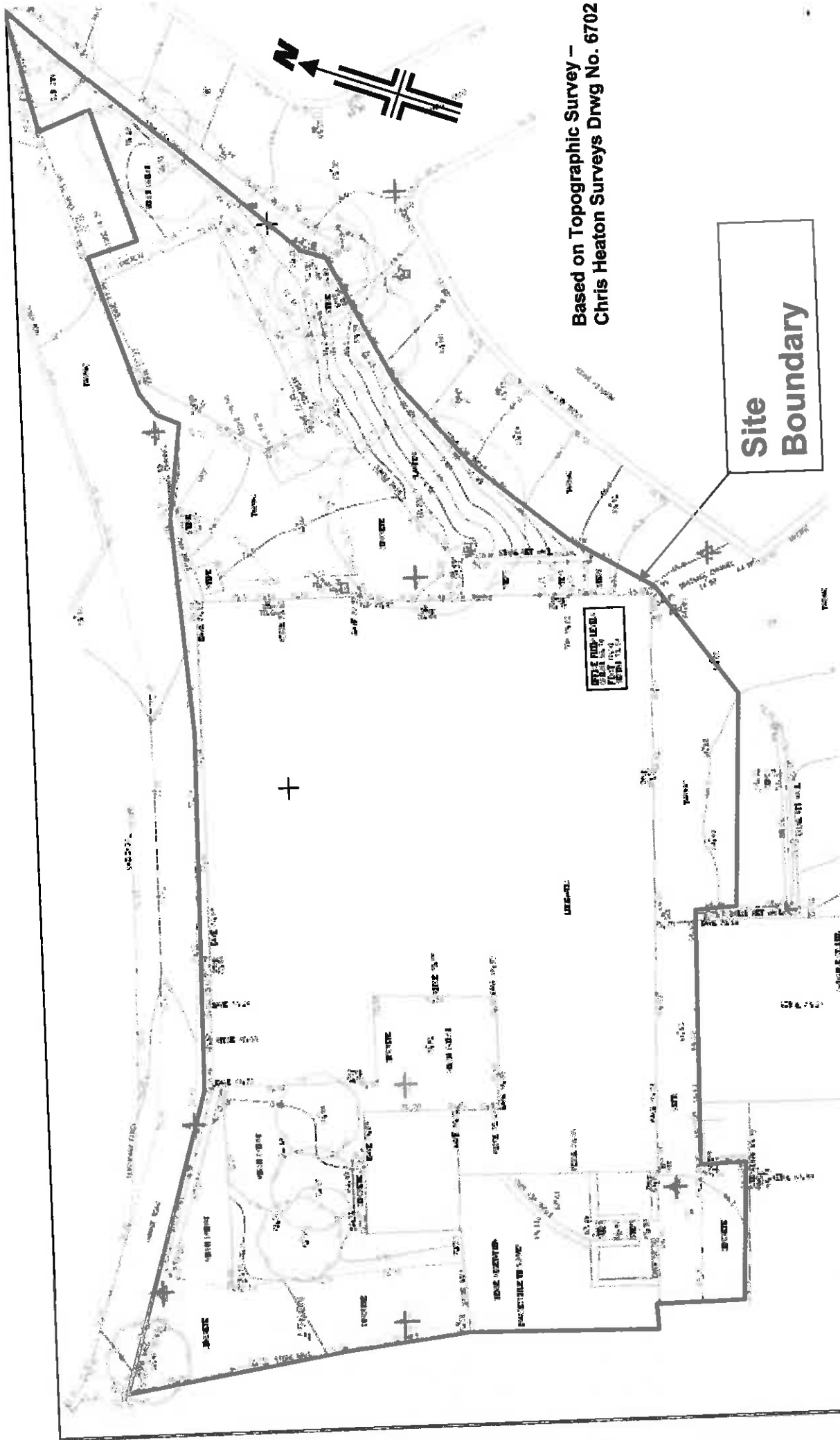
DRAWINGS





© Crown Copyright. All rights reserved.
 Licence number AL100034996.

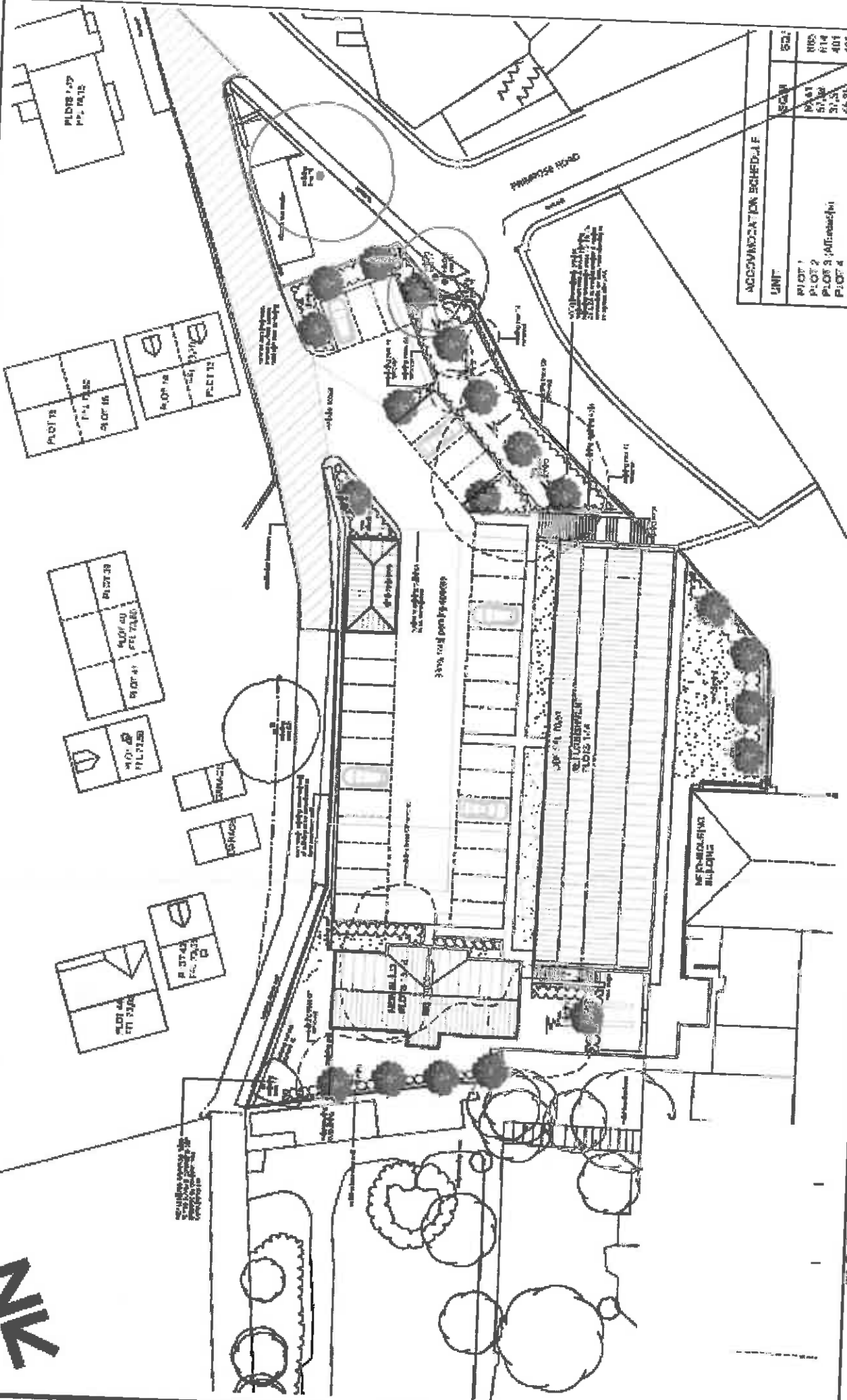
PSA Design The Old Bank House 6 Berry Lane, Longridge Preston, PR3 3JA Tel. 01772 786086	Client	Lodematic Ltd			Drawing No. D1990-01		Rev																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
--	--------	---------------	--	--	-------------------------	--	-----	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--



Based on Topographic Survey –
Chris Heaton Surveys Drwg No. 6702

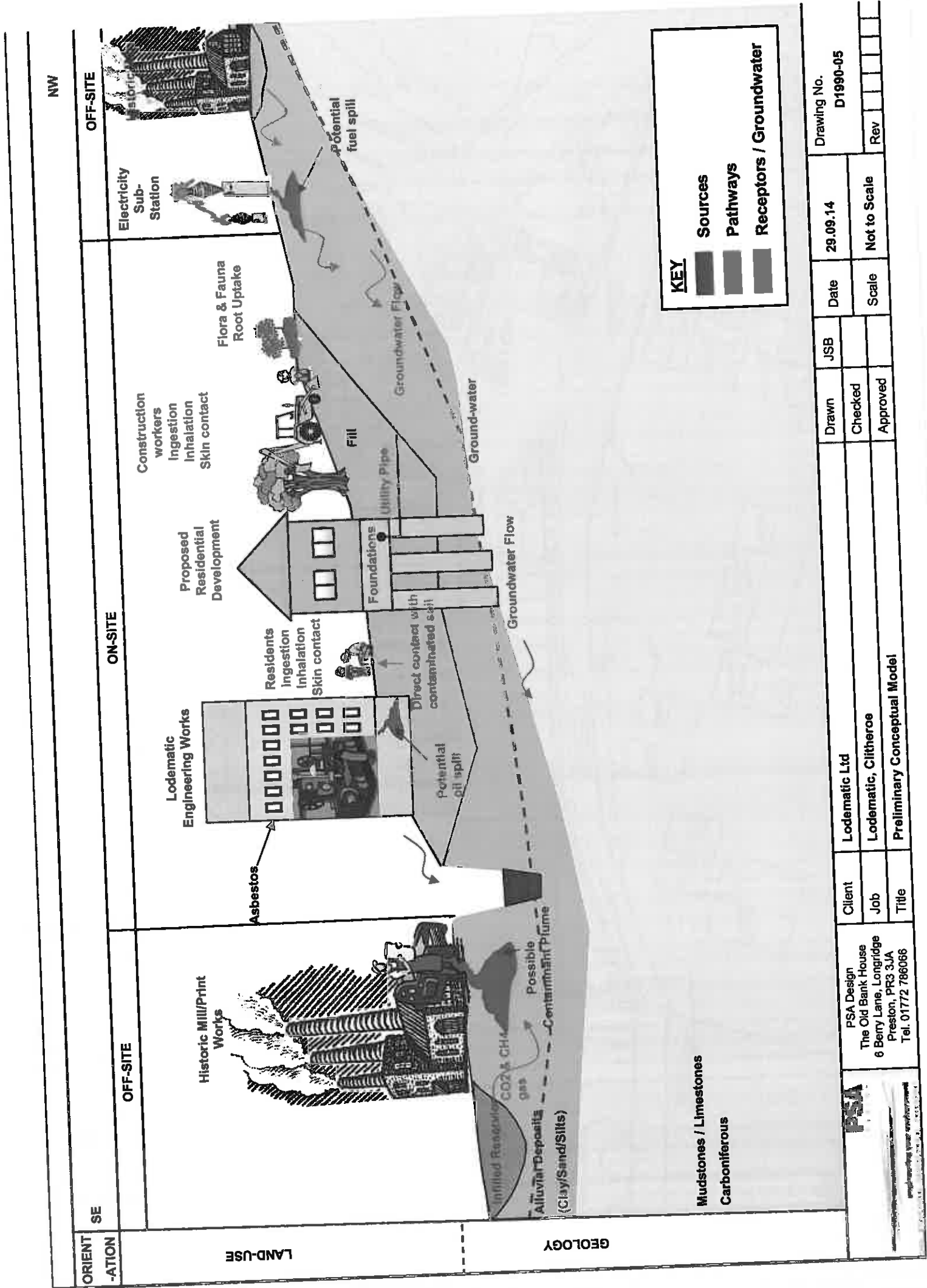
	PSA Design The Old Bank House 6 Berry Lane, Longridge Preston, PR3 3JA Tel. 01772 788066		Client	Lodematic Ltd		Drawn	JB	Date	29-09-2014	Drawing No. D1990-02				
			Job	Lodematic, Clitheroe				Checked						Scale
			Title	Current Site Features Plan		Approved					Rev			

N



ACCOMMODATION SCHEDULE			
UNIT	NO.	NO.	NO.
PLOT 1	821	822	823
PLOT 2	824	825	826
PLOT 3	827	828	829
PLOT 4	830	831	832
PLOT 5	833	834	835
	836	837	838
	839	840	841
	842	843	844
	845	846	847
	848	849	850
	851	852	853
	854	855	856
	857	858	859
	860	861	862
	863	864	865
	866	867	868
	869	870	871
	872	873	874
	875	876	877
	878	879	880
	881	882	883
	884	885	886
	887	888	889
	890	891	892
	893	894	895
	896	897	898
	899	900	901
	902	903	904
	905	906	907
	908	909	910
	911	912	913
	914	915	916
	917	918	919
	920	921	922
	923	924	925
	926	927	928
	929	930	931
	932	933	934
	935	936	937
	938	939	940
	941	942	943
	944	945	946
	947	948	949
	950	951	952
	953	954	955
	956	957	958
	959	960	961
	962	963	964
	965	966	967
	968	969	970
	971	972	973
	974	975	976
	977	978	979
	980	981	982
	983	984	985
	986	987	988
	989	990	991
	992	993	994
	995	996	997
	998	999	1000

 PSA Design engineering your environment Civil, Structural, Geotechnical, Transport	PSA Design The Old Bank House 6 Berry Lane, Longridge Preston, PR3 3JA Tel. 01772 786066	Client Lodematic Ltd	Job Lodematic, Clitheroe	Title Development Proposal	Drawn JB	Date 10-02-2015	Drawing No. D1990-03
				Checked Approved	Scale NTS	Rev A	A
				Approved	Scale	Rev	A
				Approved	Scale	Rev	A

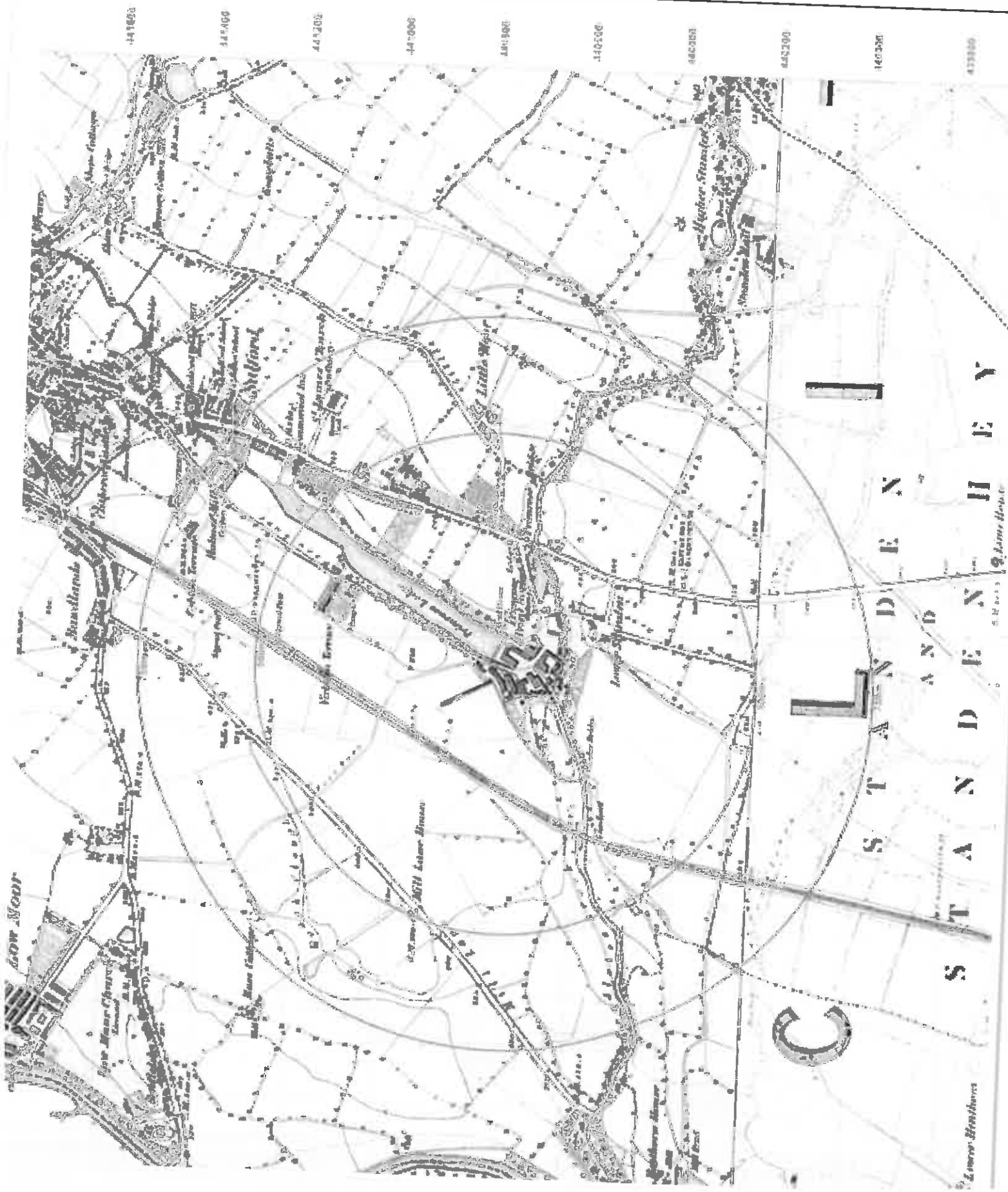


Drawing No.	29.09.14		D1990-05	
	Date	JSB	Scale	Rev
Lodematic Ltd		Checked	Not to Scale	
Lodematic, Clitheroe		Approved		
Preliminary Conceptual Model				
PSA Design The Old Bank House 6 Berry Lane, Longridge Preston, PR3 3JA Tel. 01772 786066				

APPENDICES

APPENDIX A GROUNDSURE REPORT-HISTORICAL INFORMATION

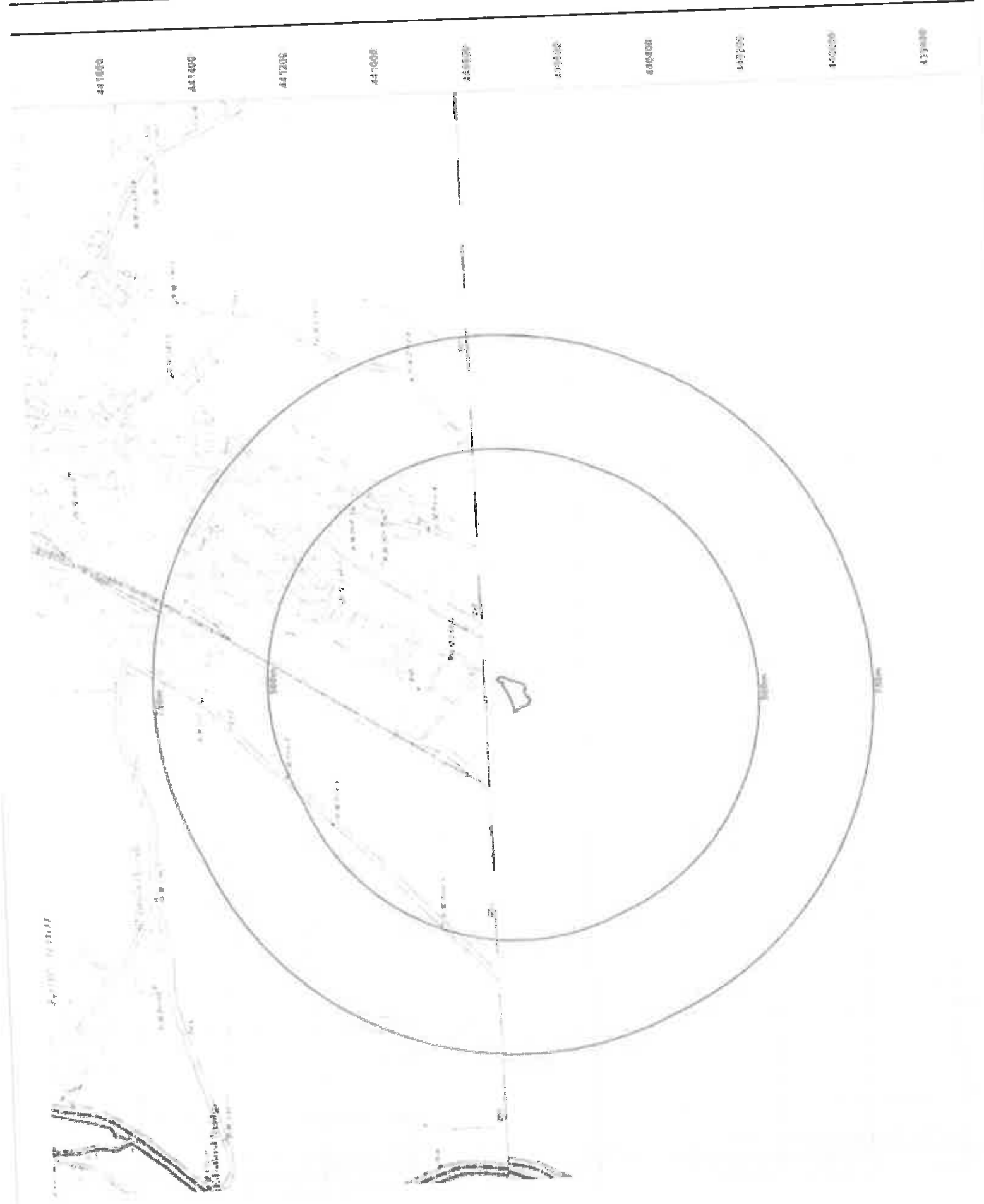
Printed at: 1:10,560



LODEMATIC (COMP
LTD, PRIMROSE
ROAD, CLITHEROE,

Client Ref: D1990 - I
Report Ref: HMD-336
Grid Ref: 373715, .

Map Name: County S
Map date: 1890-1895
Scale: 1:10,560
Printed at: 1:10,560



LODEMATIC (COMP
LTD, PRIMROSE
ROAD, CLITHEROE,

Client Ref: D1990 - 1
Report Ref: HMD-338
Grid Ref: 373715, .

Map Name: County S

Map date: 1892

Scale: 1:10,560

Printed at: 1:10,560

Surveyed 188
Revised 1892
Edition N/A
Copyright N/A
Levelled N/A



441600

441400

441200

441000

440800

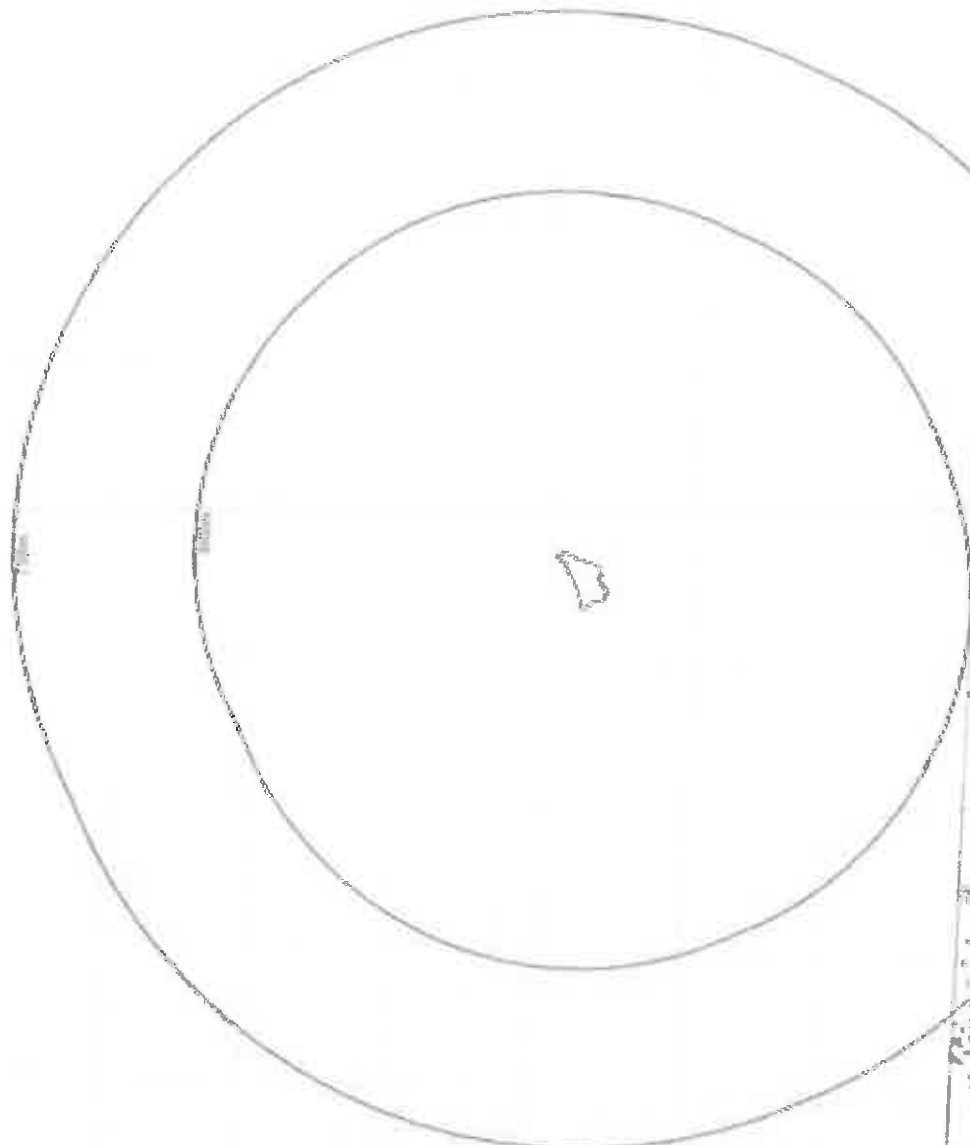
440600

440400

440200

440000

439800



LODEMATIC (COMP
LTD, PRIMROSE
ROAD, CLITHEROE,

Client Ref: D1990 - 1
Report Ref: HMD-336
Grid Ref: 373715, 1

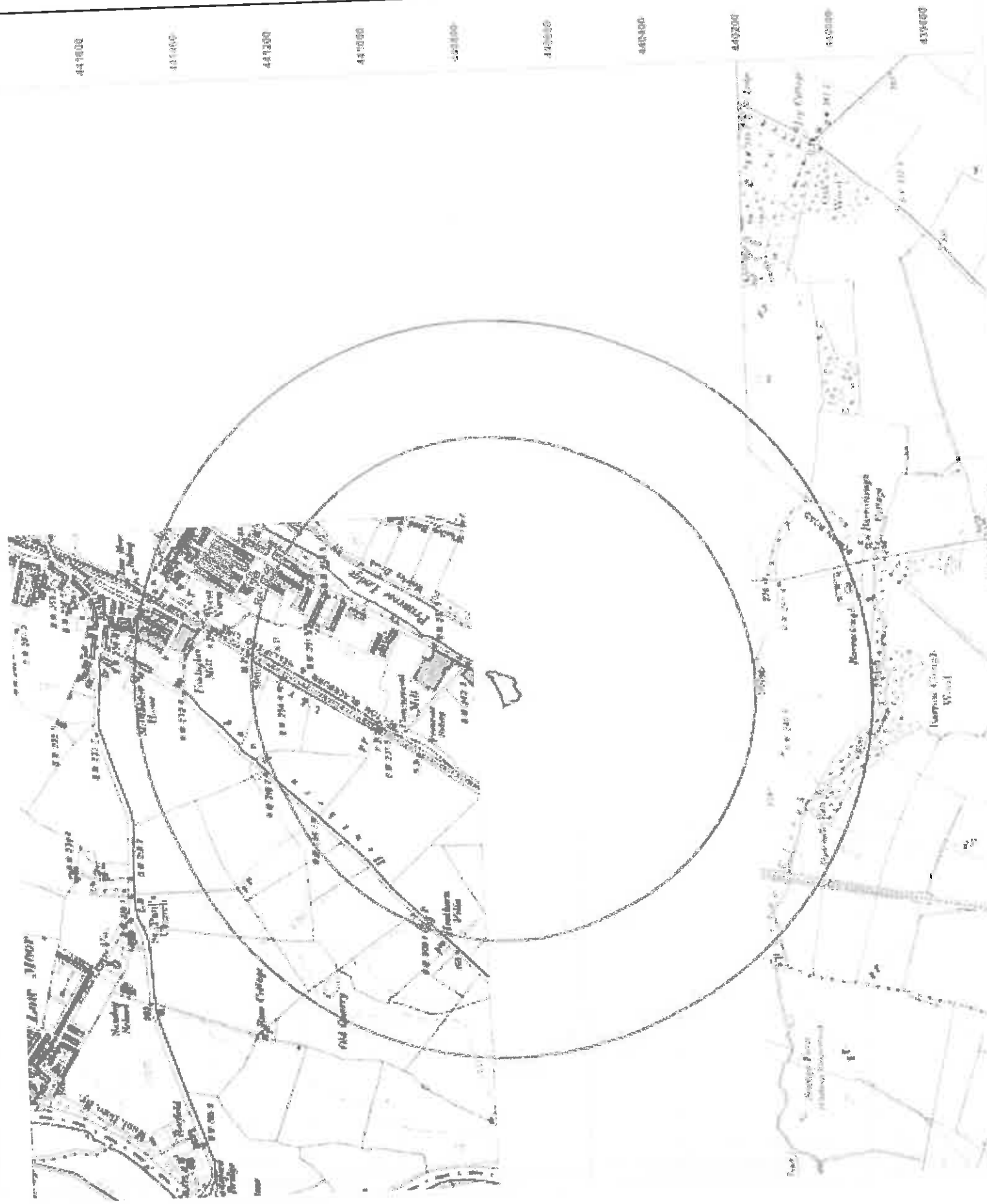
Map Name:	County S
Map date:	1906-191
Scale:	1:10,560
Printed at:	1:10,560

Sustained	N/A
Revised	N/A
Edison	N/A
Copyright	N/A
Licensed	N/A

Surveyed 12
 Revised 191
 Edition 114
 Copyright 11
 Licensed 11



Licensed Partner



LODEMAT (COMP
LTD, PRIMROSE
ROAD, CLITHEROE,

Client Ref: D1990 -
Report Ref: HMD-33
Grid Ref: 373715,

Map Name: County S

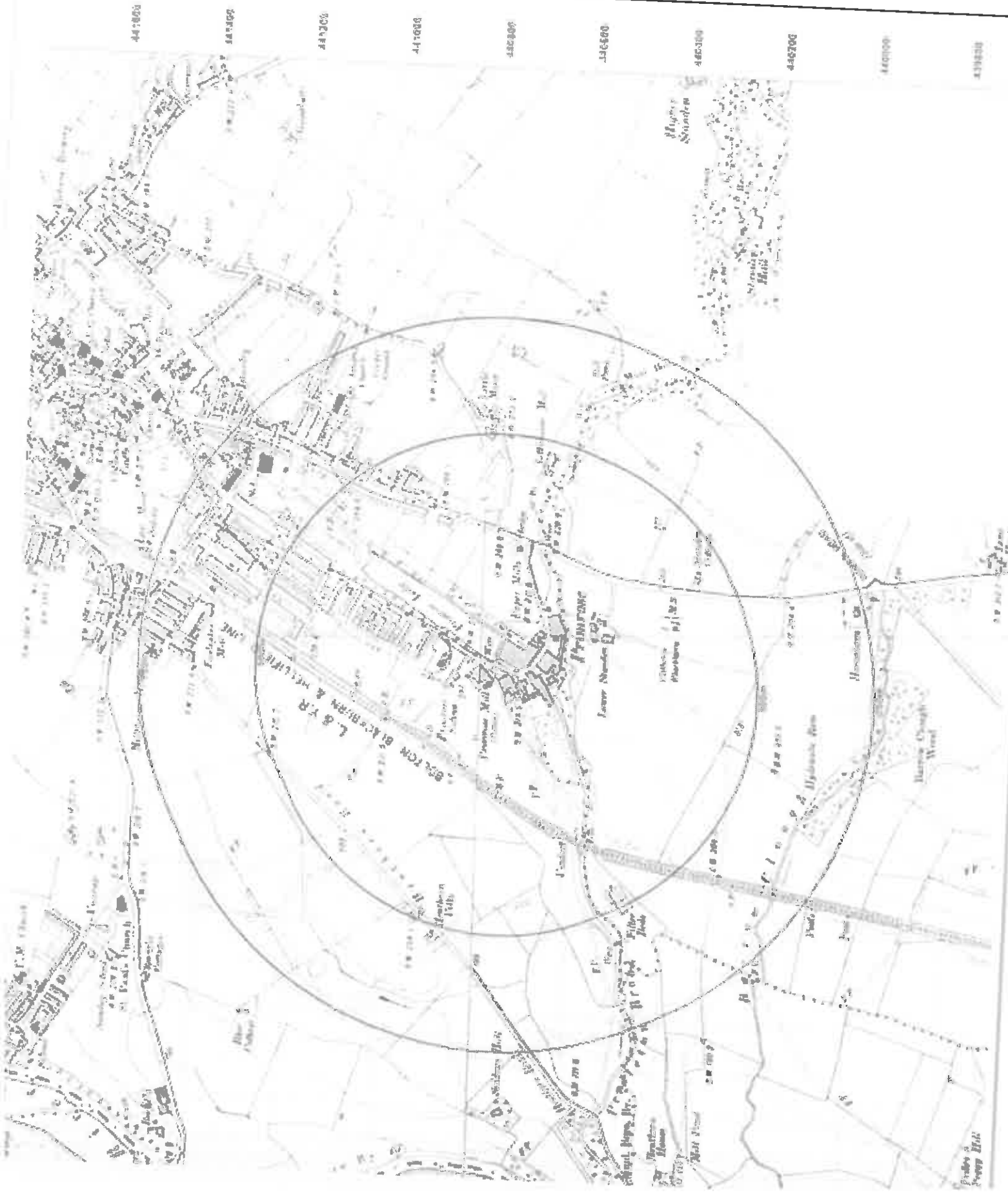
Map date: 1910-191

Scale: 1:10,560

Printed at: 1:10,560

Surveyed 18-
Revised 191
Edition A/A
Copyright N/A
Lodged N/A

Surveyed 1847
Revised 191
Edition N/A
Copyright N/A
Lodged N/A

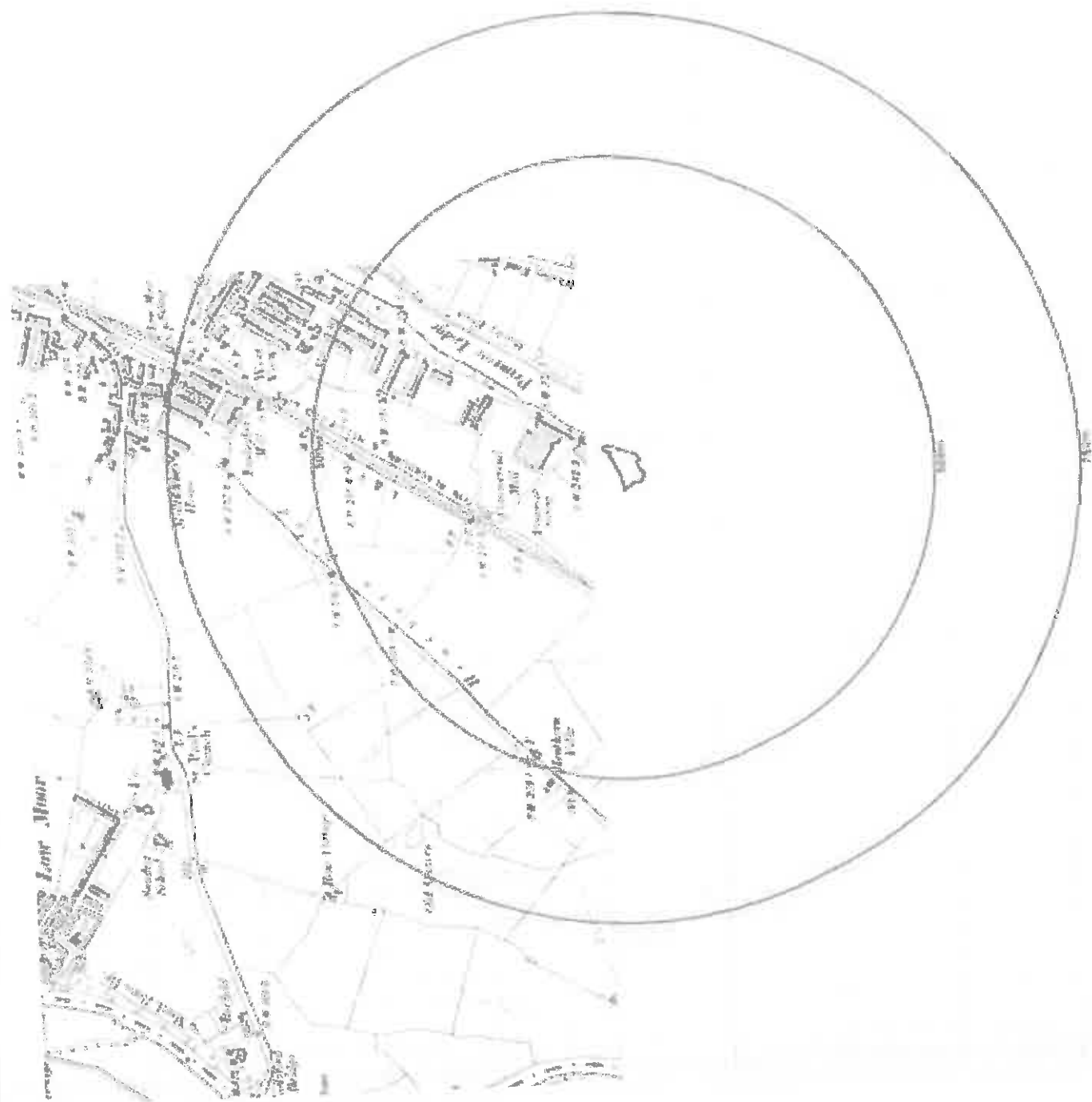


LODEMATIC (COMP
LTD, PRIMROSE
ROAD, CLITHEROE,

Client Ref: D1990 -1
Report Ref: HMD-336
Grid Ref: 373715,

Map Name: County S
Map date: 1911
Scale: 1:10,560
Printed at: 1:10,560

Survived 1847
Revised 1911
Edition N/A
Copyright N/A
Lowest N/A



441000

442000

443000

444000

445000

446000

447000

448000

449000

450000

LODEMATIC (COMP
LTD, PRIMROSE
ROAD, CLITHEROE,

Client Ref: D1990 - I
Report Ref: HMD-336
Grid Ref: 373715, .

Map Name: County S

Map date: 1930-1933

Scale: 1:10,560

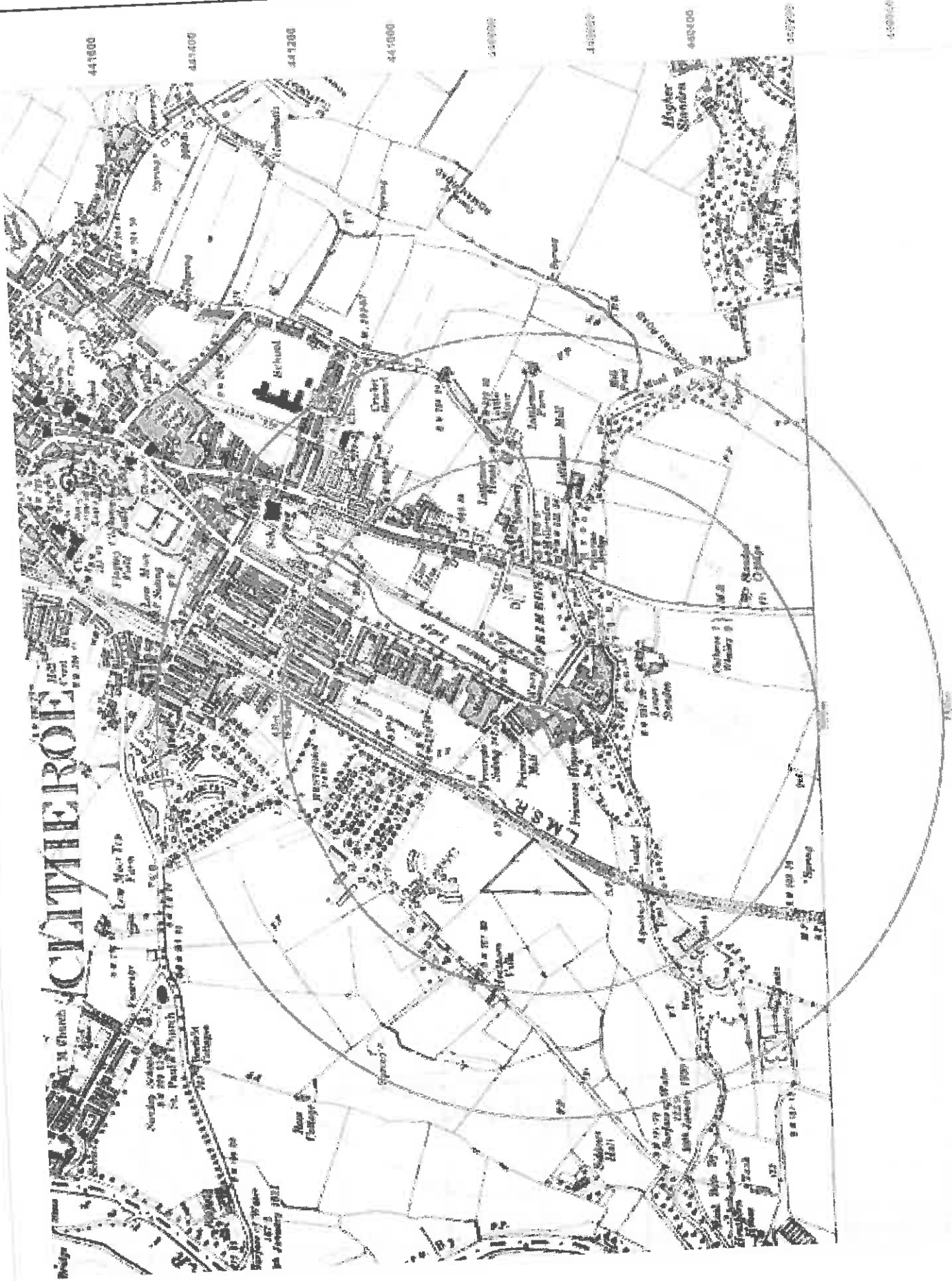
Printed at: 1:10,560

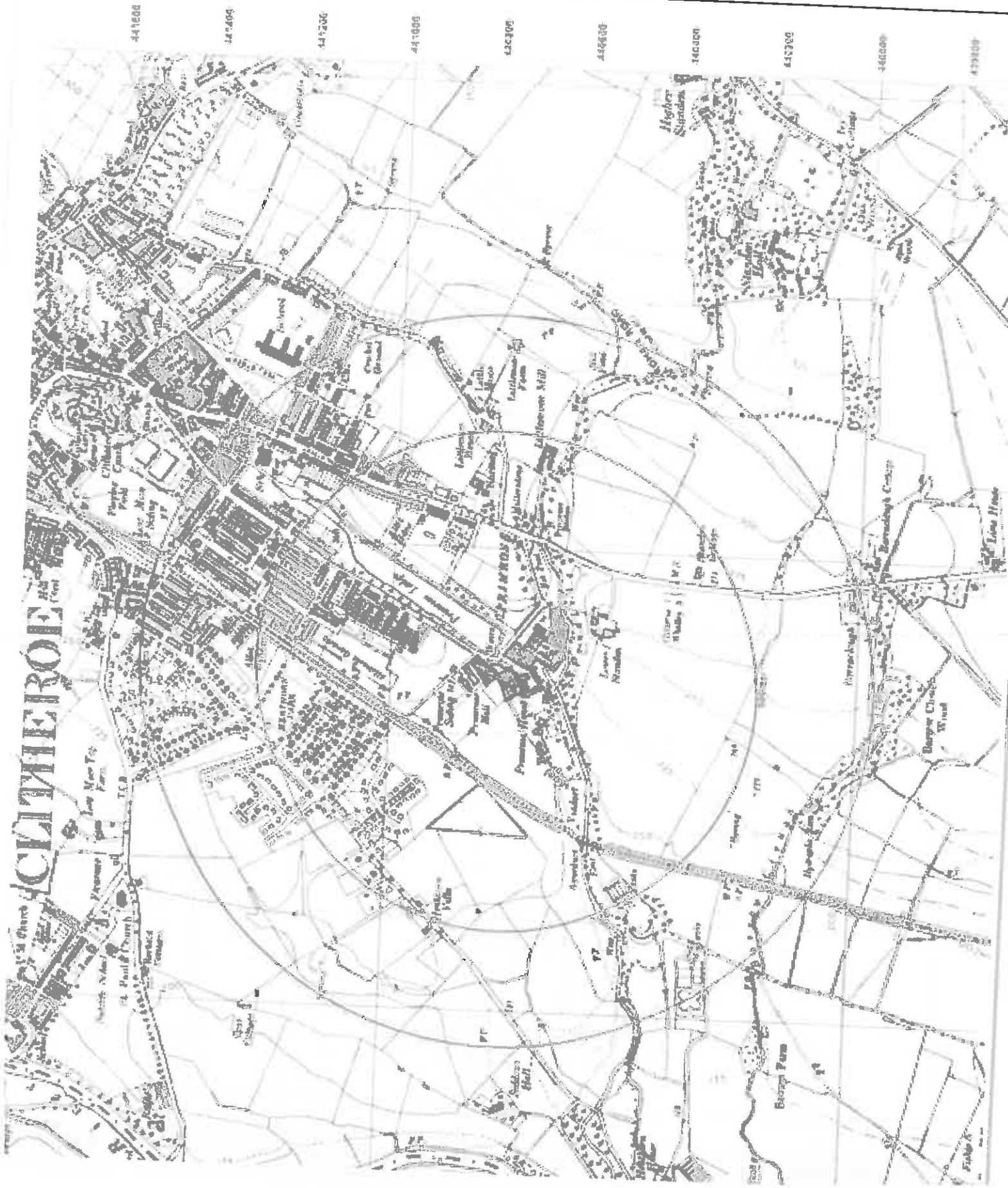
Surveyed 123
Revised 123
Edition 11A
Copyright 1977
Levelled N77

1914
 1913
 1912
 1911
 1910

Client Ref: D1990 - I
Report Ref: HMD-336
Grid Ref: 373715, 1

Map Name:	County S
Map date:	1938
Scale:	1:10,560
Printed at:	1:10,560

[illegible]



LODEMATIC (COMP
LTD, PRIMROSE
ROAD, CLITHEROE,

Client Ref: D1990 - 1
Report Ref: HMD-33
Grid Ref: 373715, 373715

Map Name: Provior

Map date: 1950-1950

Scale: 1:10,560

Printed at: 1:10,560

Surveyed 1950
Revised 1950
Edition N/A
Copyright 1950
Levelled N/A

Surveyed 1950
Revised 1950
Edition N/A
Copyright 1950
Levelled N/A

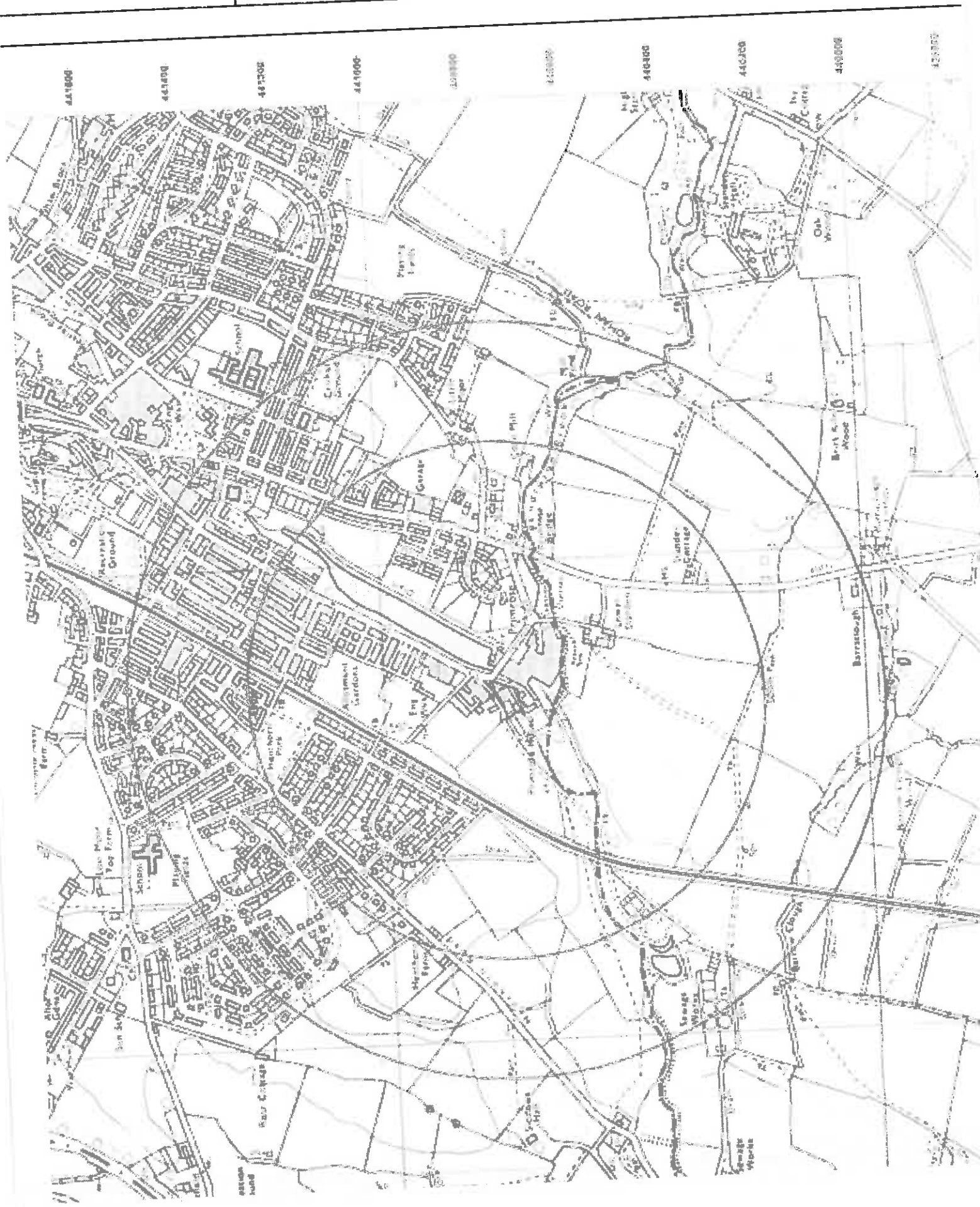
LODEMATIC (COMP
LTD, PRIMROSE
ROAD, CLITHEROE,

Client Ref: D1990 -1
Report Ref: HMD-336
Grid Ref: 373715,

Map Name: National
Map date: 1971-197
Scale: 1:10,000
Printed at: 1:10,000

Surveyed 1971
Revised 1971
Edition N/A
Copyright N/A
Licensed N/A

Surveyed 1972
Revised 1973
Edition N/A
Copyright N/A
Licensed N/A



LODEMATIC (COMP
LTD, PRIMROSE
ROAD, CLITHEROE,

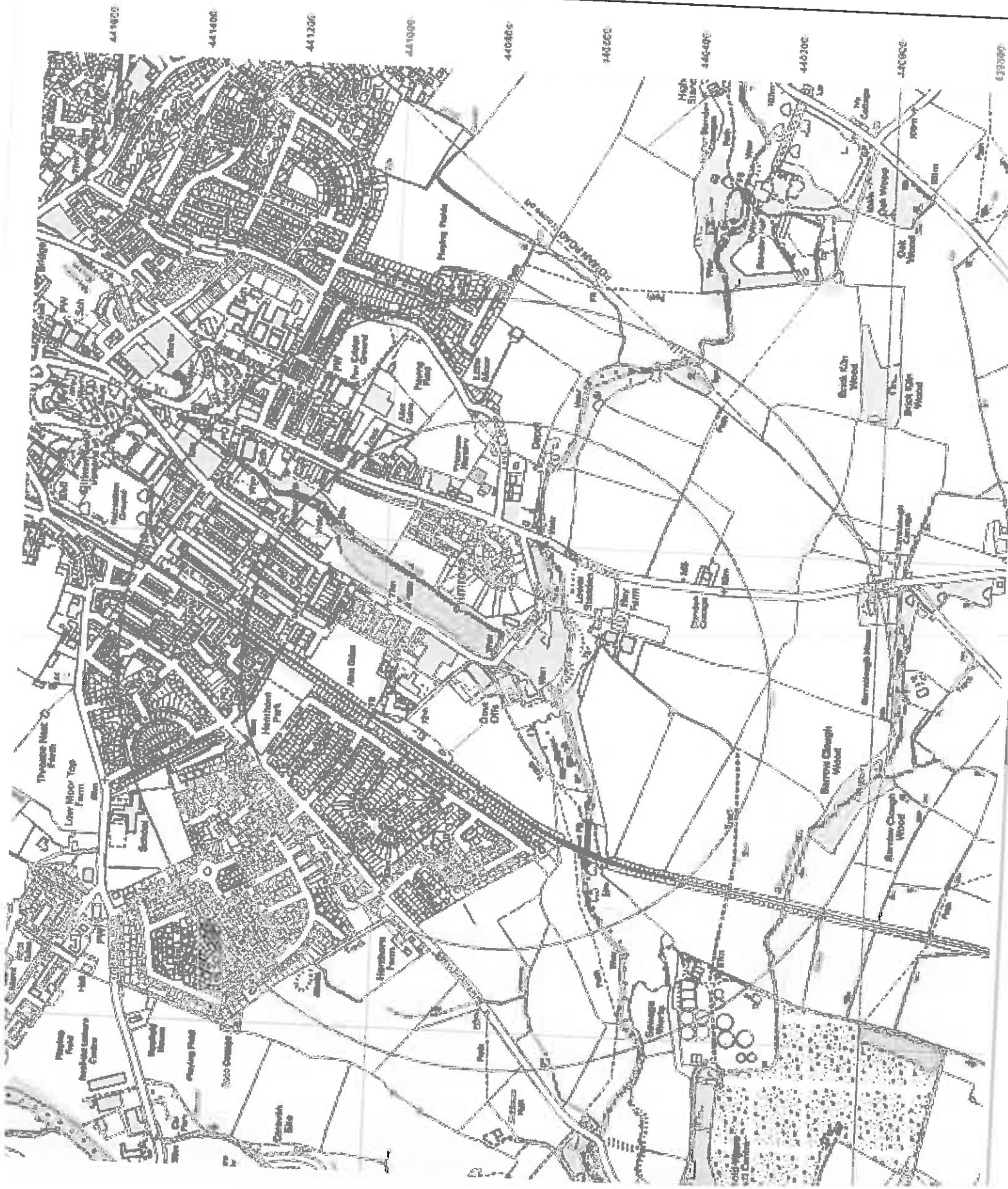
Client Ref: D1990 - I
Report Ref: HMD-336
Grid Ref: 373715, .

Map Name: 1:10,000

Map date: 2002

Scale: 1:10,000

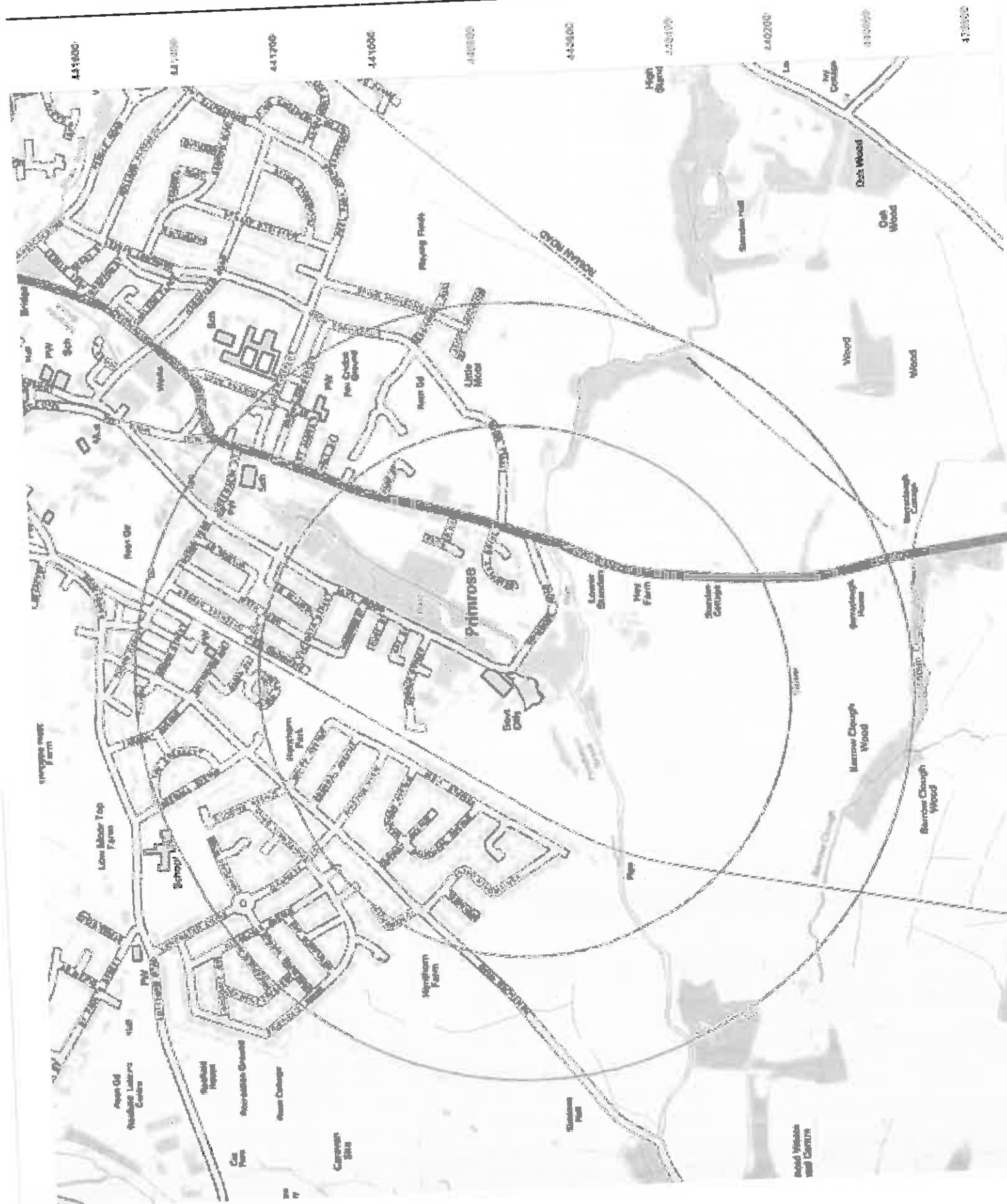
Printed at: 1:10,000



LODEMATIC (COMP
LTD, PRIMROSE
ROAD, CLITHEROE,

Client Ref: D1990 - 1
Report Ref: HMD-336
Grid Ref: 373715,

Map Name: National
Map date: 2010
Scale: 1:10,000
Printed at: 1:10,000



LODEMATIC (COMP
LTD, PRIMROSE
ROAD, CLITHEROE,

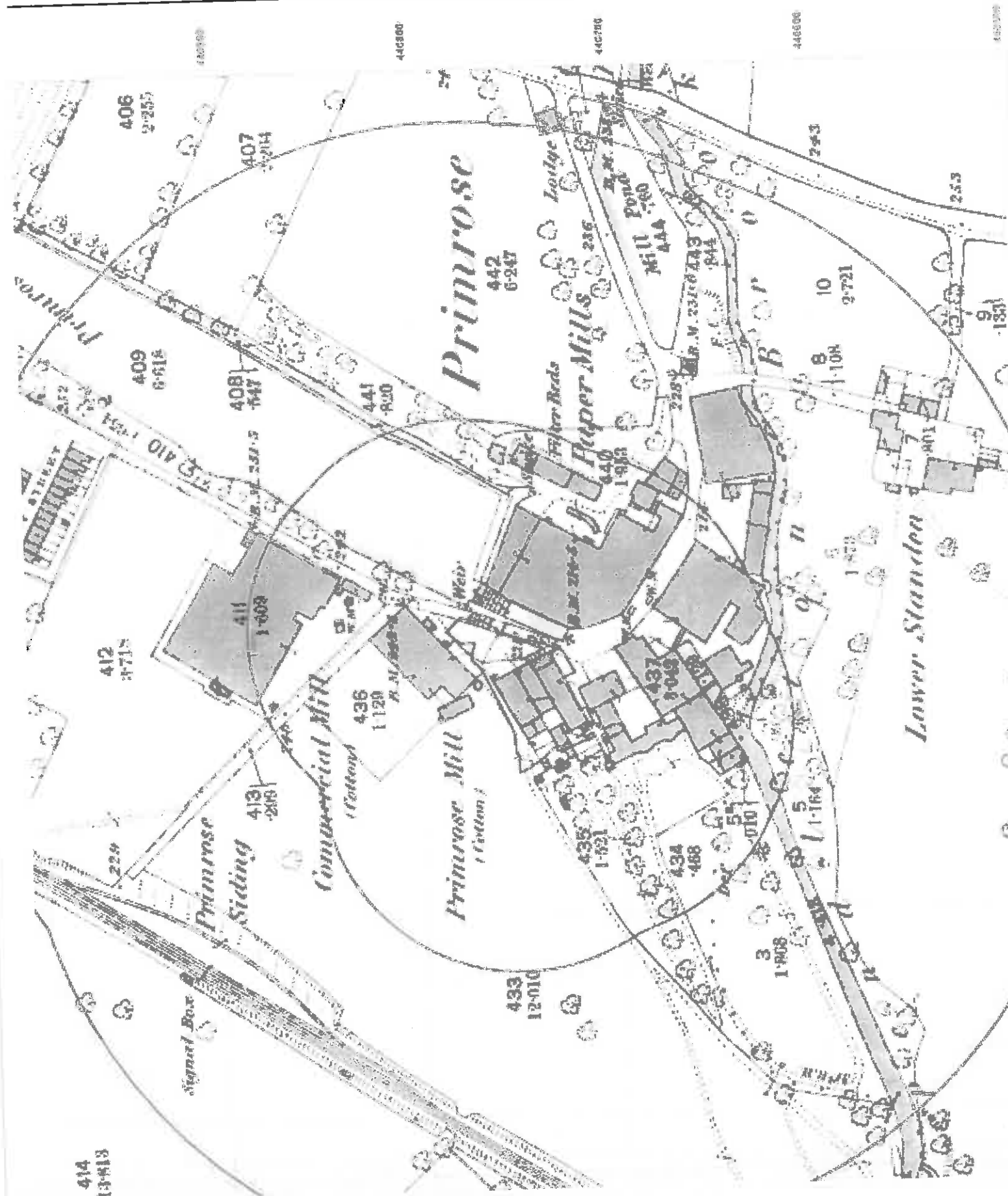
Client Ref: D1990 - I
Report Ref: HMD-336
Grid Ref: 373715,

Map Name: National
Map date: 2014
Scale: 1:10,000
Printed at: 1:10,000



Client Ref: D1990 -
Report Ref: HMD-33
Grid Ref: 373715,

Map Name: County S
Map date: 1884
Scale: 1:2,500
Printed at: 1:2,500



LODEMATIC (COMP
LTD, PRIMROSE
ROAD, CLITHEROE,

Client Ref: D1990 -1
Report Ref: HMD-336
Grid Ref: 373715,

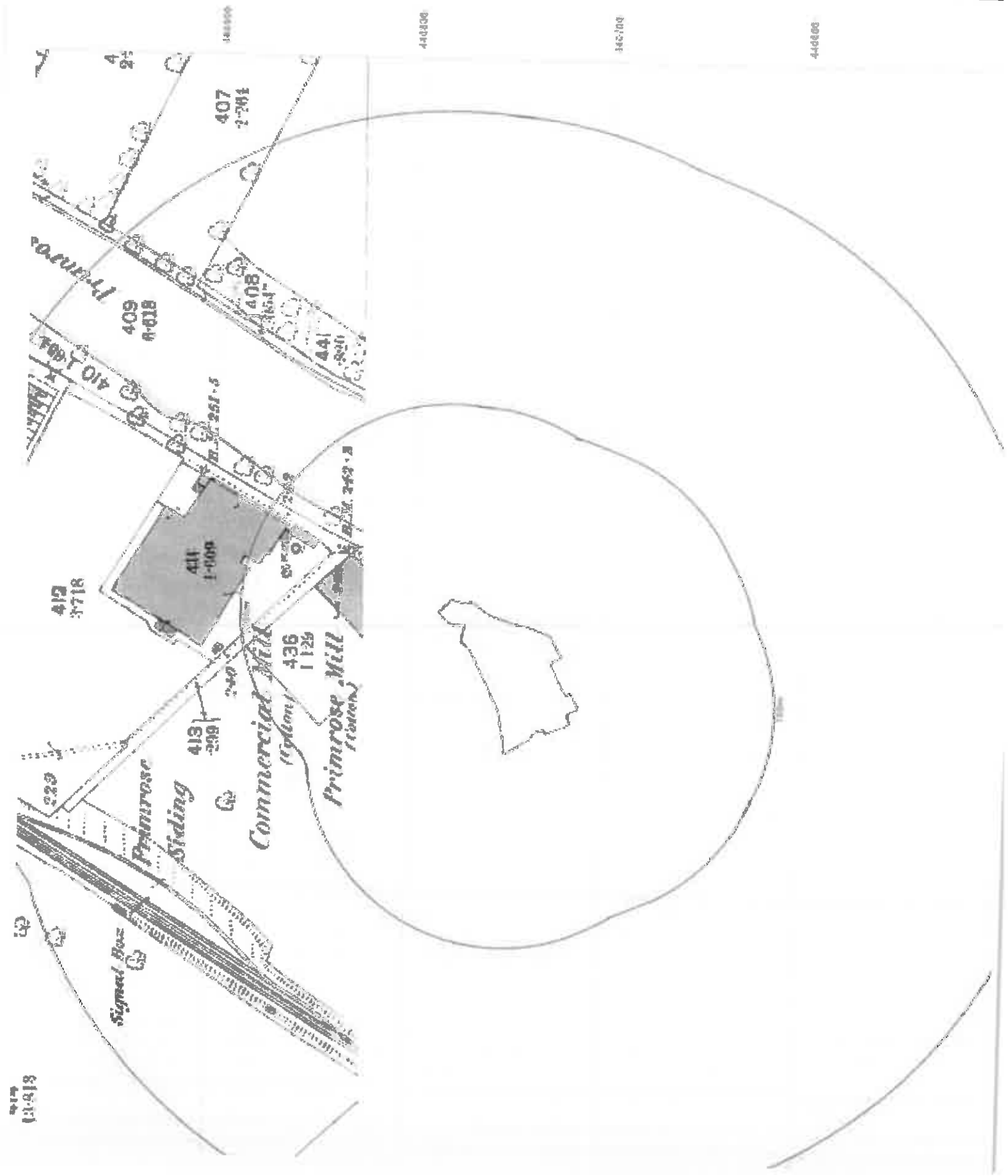
Map Name: County S

Map date: 1886

Scale: 1:2,500

Printed at: 1:2,500

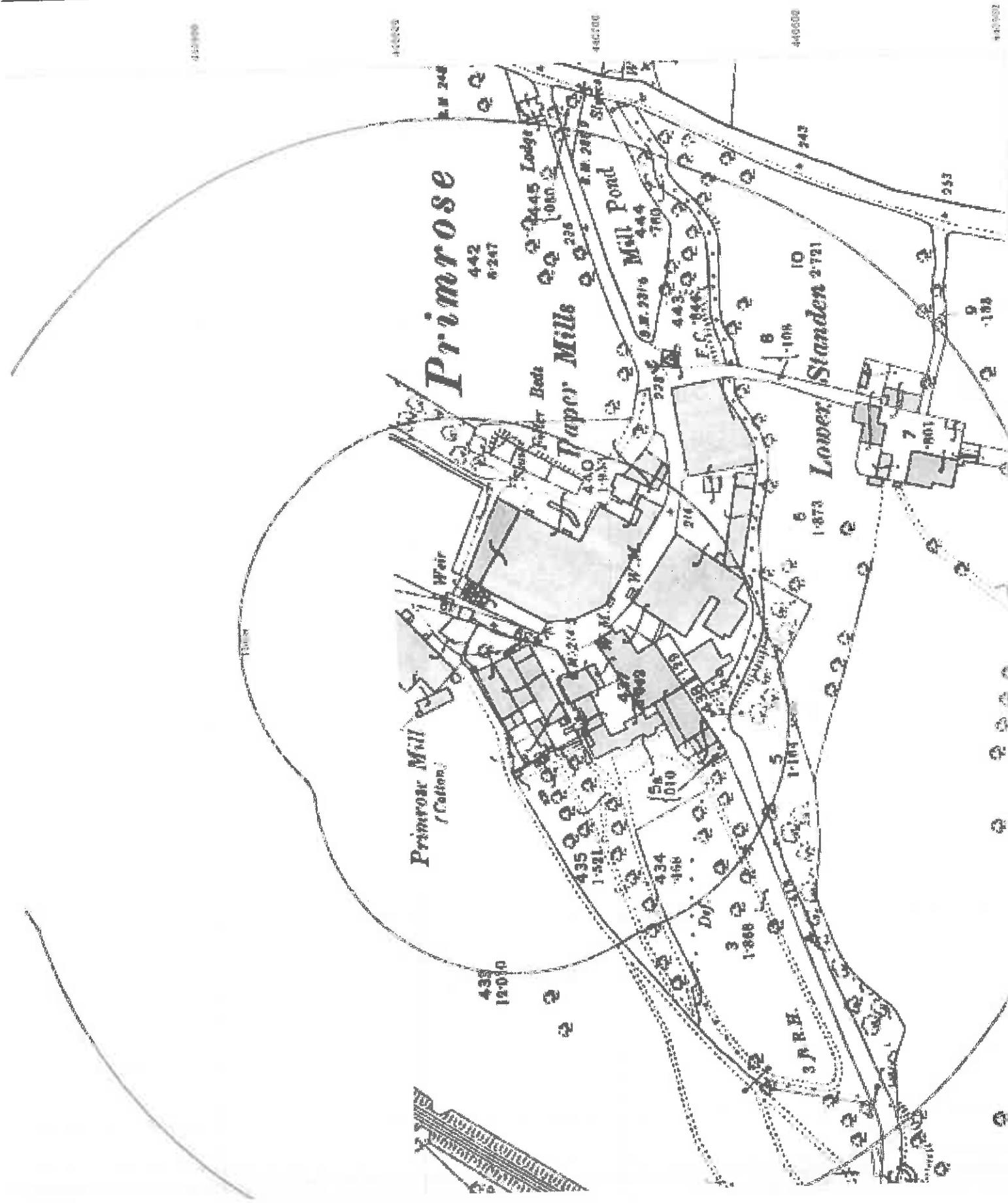
Surveyed 1886
Revised 1886
Edition N/A
Copyright N/A
Licensed N/A



Client Ref: D1990 - I
Report Ref: HMD-338
Grid Ref: 373715, .

Map Name: County S
Map date: 1894
Scale: 1:2,500
Printed at: 1:2,500

Surveyed 1894
Revised 1894
Edition N/A
Copyright N/A
Levelled N/A



LODEMATIC (COMP
LTD, PRIMROSE
ROAD, CLITHEROE,

Client Ref: D1990 - I
Report Ref: HMD-336
Grid Ref: 373715,

Map Name: County S

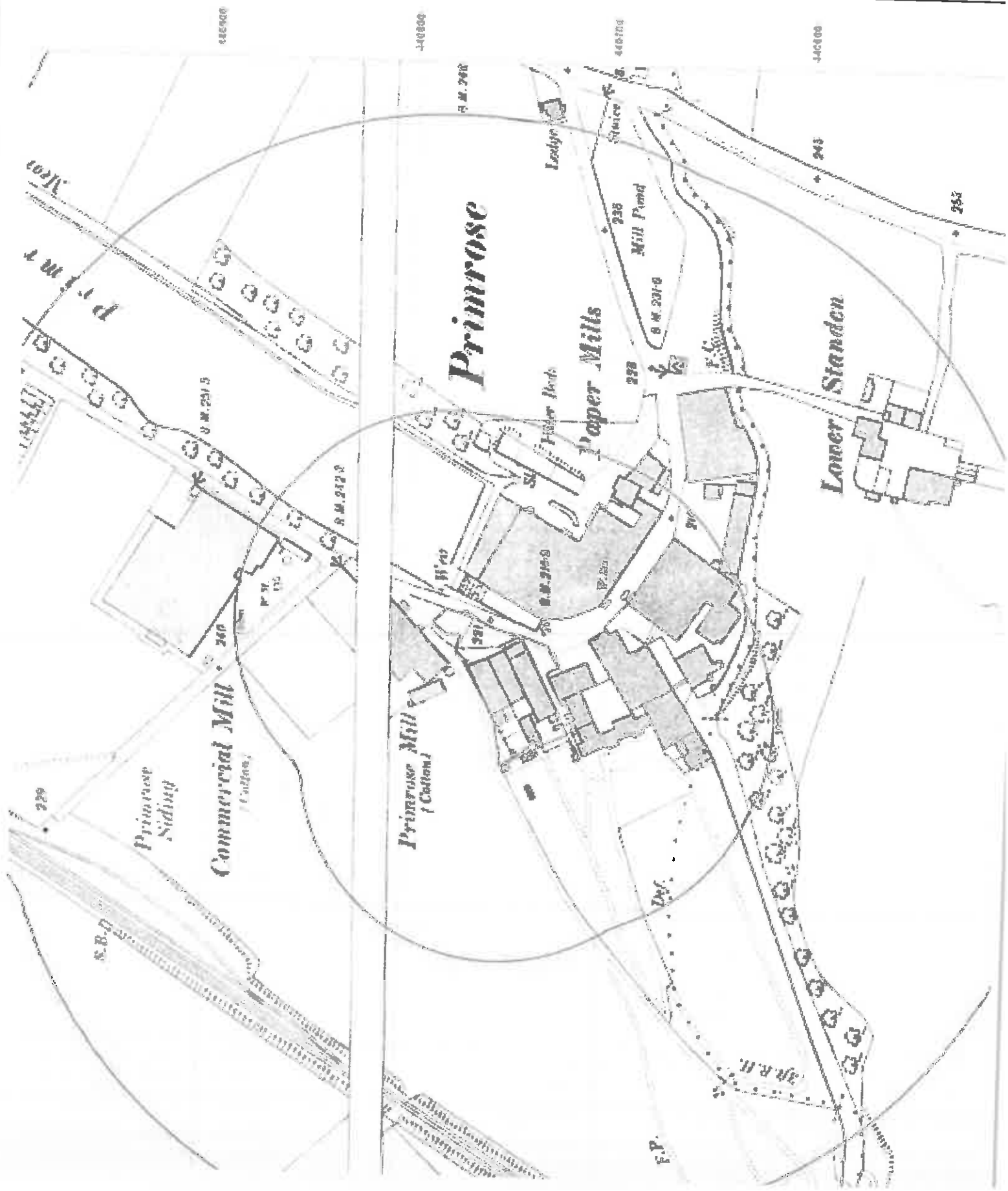
Map date: 1908

Scale: 1:2,500

Printed at: 1:2,500

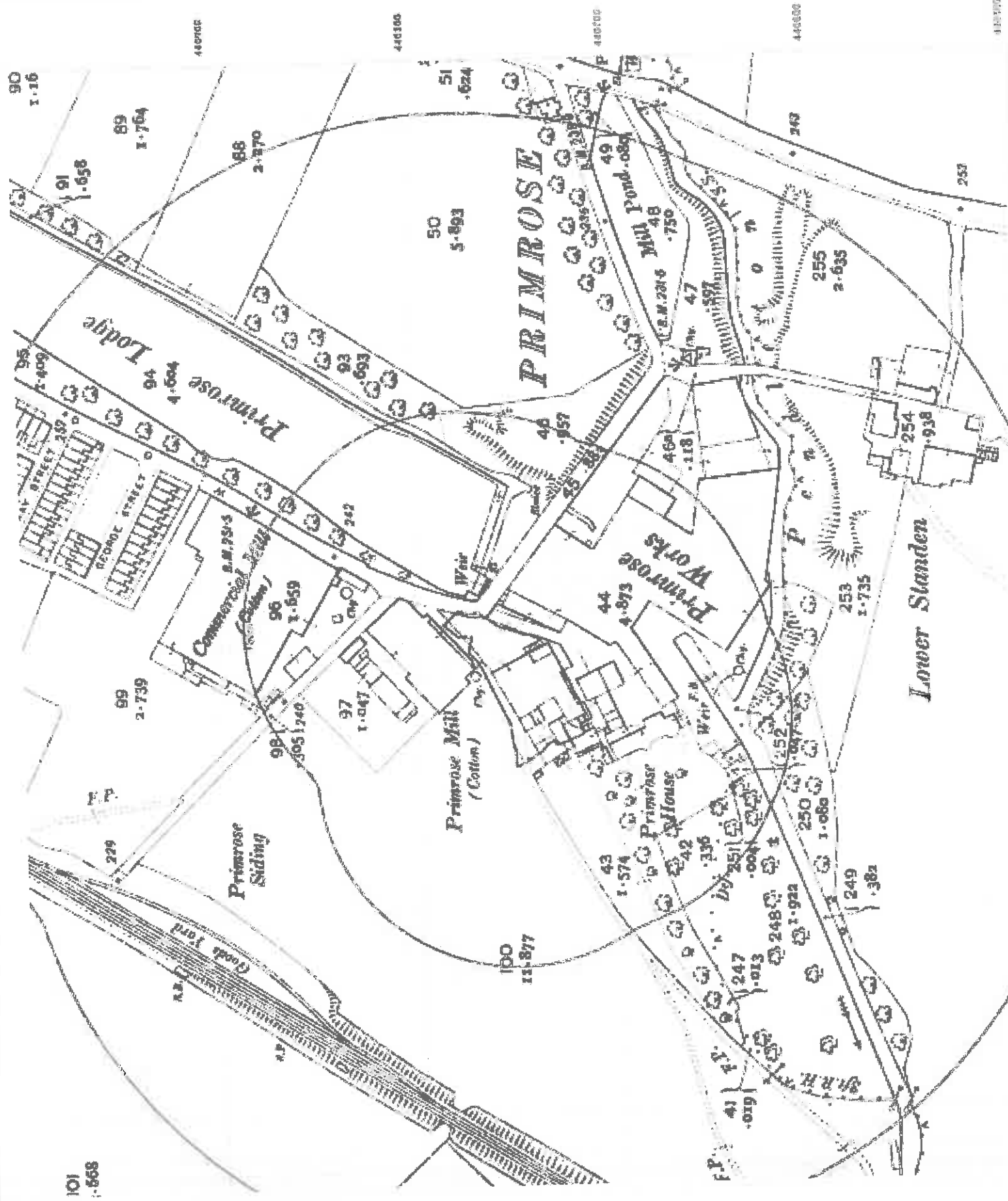
Surveyed 1908
Revised 1908
Edition N/A
Copyright N/A
Licensed N/A

Surveyed 1908
Revised 1908
Edition N/A
Copyright N/A
Licensed N/A



Client Ref: D1990 -
Report Ref: HMD-33
Grid Ref: 373715,

Map Name: County S
Map date: 1912
Scale: 1:2,500
Printed at: 1:2,500



**LODEMATIIC (COMP
LTD, PRIMROSE
ROAD, CLITHEROE,**

Client Ref: D1990 - I
Report Ref: HMD-336
Grid Ref: 373715, .

Map Name: County S

Map date: 1932

Scale: 1:2,500

Printed at: 1:2,500

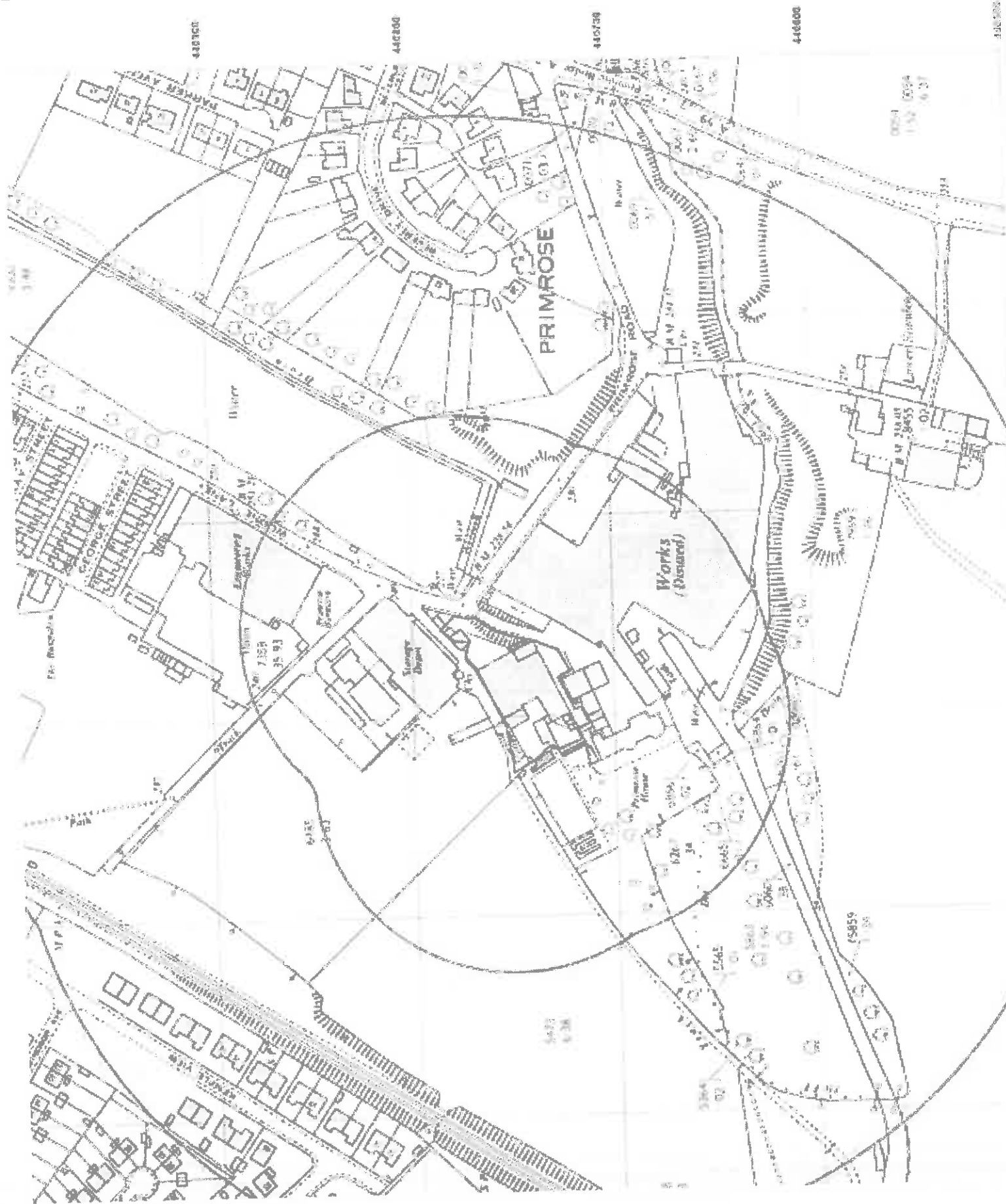
 Ordnance Survey

Client Ref: D1990 - I
Report Ref: HMD-336
Grid Ref: 373715, 1

Map Name: National
Map date: 1964
Scale: 1:2,500
Printed at: 1:2,500

1961: PATENTS
 1961: PUBLISHED
 1961: PATENTS
 1961: PUBLISHED

Survived 1964
Revised 1964
Edition N/A
Copyright 1964
Licensed 1964



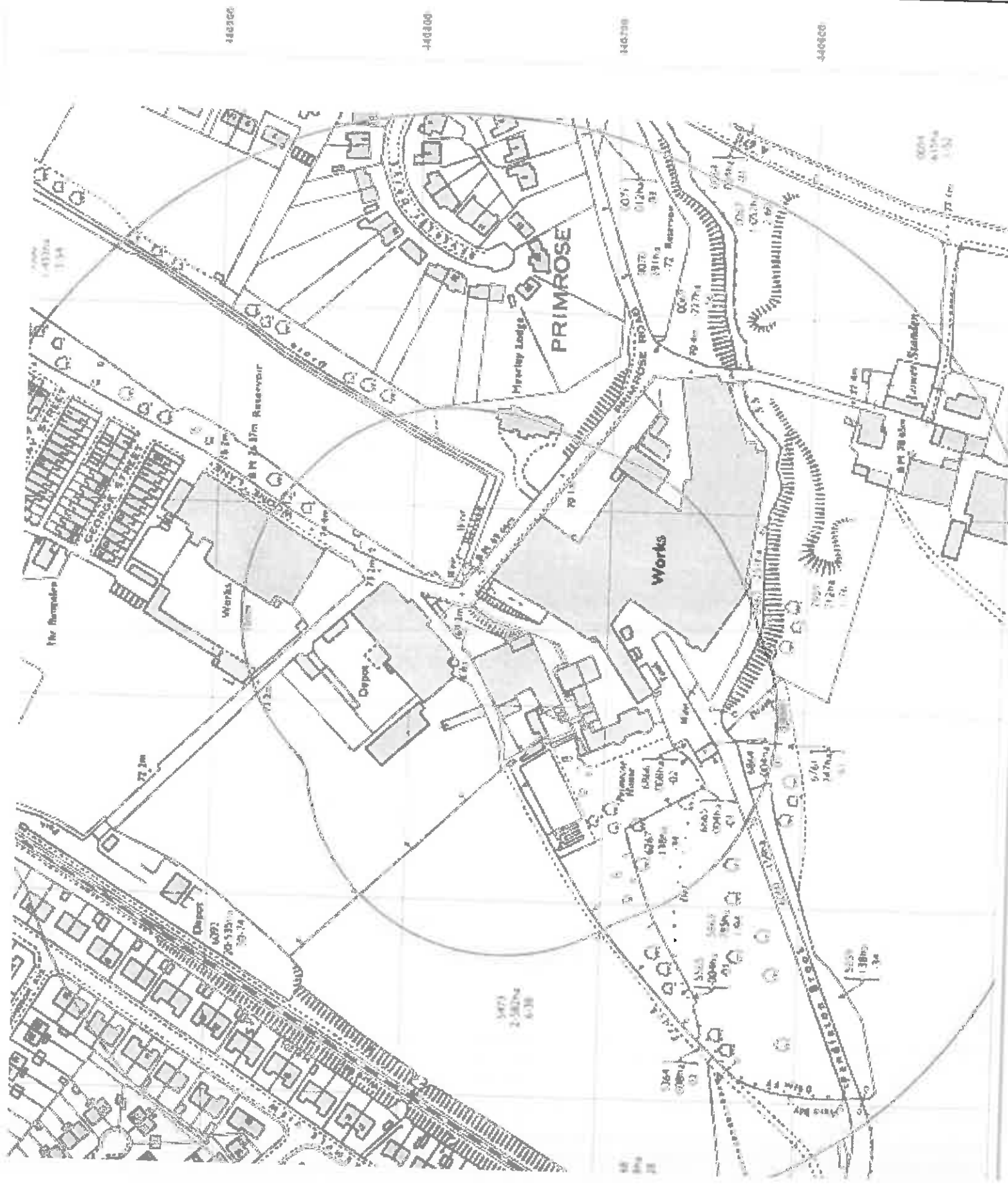
LODEMATIC (COMP
LTD, PRIMROSE
ROAD, CLITHEROE,

Client Ref: D1990 - I
Report Ref: HMD-33k
Grid Ref: 373715,

Map Name: National
Map date: 1976-197
Scale: 1:2,500
Printed at: 1:2,500

Surveyed 1964
Revised 1976
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 19
Revised 19
Edition N/A
Copyright 19
Levelled 19



LODEMATIC (COMP
LTD, PRIMROSE
ROAD, CLITHEROE,

Client Ref: D1990 - I
Report Ref: HMD-33x
Grid Ref: 373715,

Map Name: National
Map date: 1983
Scale: 1:2,500
Printed at: 1:2,500

Surveyed by
Revised by
Edition No.
Copyright 19
Levelled by

430000

435000

440000

445000

450000

LODEMATIIC (COMP
LTD, PRIMROSE
ROAD, CLITHEROE,

Client Ref: D1990 - I
Report Ref: HMD-336
Grid Ref: 373715, .

Map Name: National

Map date: 1983-198

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 19
Revised 19
Edition 50
Copyright 19
Levelling 19

Client Ref: D1990 -
Report Ref: HMD-33
Grid Ref: 373715,

Map Name: National
Map date: 1990-19
Scale: 1:2,500
Printed at: 1:2,500

Surveyed N
Revised N
Edition N
Copyright N
Levelled N

Surveyed N
Revised N
Edition N
Copyright N
Levelled N



LODEMATIC (COMP
LTD, PRIMROSE
ROAD, CLITHEROE,

Client Ref: D1990 - 1
Report Ref: HMD-330
Grid Ref: 373715,

Map Name: National

Map date: 1990-1991

Scale: 1:2,500

Printed at: 1:2,500

Surveyed by:
Revised by:
Edition No:
Copyright N:
Levelled N:

Surveyed by:
Revised by:
Edition No:
Copyright N:
Levelled N:



Client Ref: D1990 - I
Report Ref: HMD-336
Grid Ref: 373715, 373715, 373715

Map Name:	National
Map date:	1993-1995
Scale:	1:2,500
Printed at:	1:2,500

Surveyed 19
Revised 19
Edition 19
Copyright 19
Printed 19

Survived
Revised
Edition
Copyright

APPENDIX B GROUNDSURE REPORT-ENVIROINSIGHT

PSA Design

The Old Bank House, 6 Berry Lane,
Longridge,
Preston, PR33JA

GroundSure Reference: HMD-336-1660988

Your Reference: D1990 - Lodematic

Report Date 12 Sep 2014

Report Delivery Method: Email - pdf

GroundSure EnviroInsight

Address: LODEMATIC COMPONENTS LTD, PRIMROSE ROAD, CLITHEROE, BB7 1BS

Dear Sir/ Madam,

Thank you for placing your order with GroundSure. Please find enclosed the **GroundSure EnviroInsight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above GroundSure reference number.

Yours faithfully,



Managing Director
Groundsure Limited

Enc.
GroundSure EnviroInsight



GroundSure Envirolnsight

Address: LODEMATIC COMPONENTS LTD, PRIMROSE ROAD, CLITHEROE, BB7 1BS
Date: 12 Sep 2014
Reference: HMD-336-1660988
Client: PSA Design

NW

N

NE

W

E

SW

S

SE



Aerial Photograph Capture date: c.2002
Grid Reference: 373715,440750
Site Size: 0.26ha

Contents Page

Contents Page	3
Overview of Findings.....	5
Using this report.....	9
1. Environmental Permits, Incidents and Registers Map.....	10
1. Environmental Permits, Incidents and Registers.....	11
1.1 Industrial Sites Holding Licences and/or Authorisations.....	11
1.1.1 Records of historic IPC Authorisations within 500m of the study site:.....	11
1.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:.....	11
1.1.3 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:.....	11
1.1.4 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:.....	11
1.1.5 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:.....	11
1.1.6 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:.....	12
1.1.7 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:	12
1.1.8 Records of Category 3 or 4 Radioactive Substances Authorisations:.....	12
1.1.9 Records of Licensed Discharge Consents within 500m of the study site:.....	12
1.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:.....	13
1.2 Dangerous or Hazardous Sites.....	13
1.3 Environment Agency Recorded Pollution Incidents.....	13
1.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:.....	13
1.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:.....	14
1.4 Sites Determined as Contaminated Land under Part 2A EPA 1990.....	14
2. Landfill and Other Waste Sites Map.....	15
2. Landfill and Other Waste Sites.....	16
2.1 Landfill Sites.....	16
2.1.1 Records from Environment Agency landfill data within 1000m of the study site:	16
2.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:	16
2.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:.....	17
2.1.4 Records of Local Authority landfill sites within 1500m of the study site:.....	17
2.2 Other Waste Sites.....	17
2.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:	17
2.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:	17
3. Current Land Use Map.....	20
3. Current Land Uses.....	21
3.1 Current Industrial Data.....	21
3.2 Petrol and Fuel Sites.....	21
3.3 Underground High Pressure Oil and Gas Pipelines.....	21
4. Geology.....	22
4.1 Artificial Ground and Made Ground.....	22
4.2 Superficial Ground and Drift Geology	22
4.3 Bedrock and Solid Geology	22
5. Hydrogeology and Hydrology.....	23
5a. Aquifer Within Superficial Geology.....	23
5b. Aquifer Within Bedrock Geology and Abstraction Licenses.....	24
5c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses.....	25
5d. Hydrology – Detailed River Network and River Quality.....	26
5. Hydrogeology and Hydrology.....	27
5.1 Aquifer within Superficial Deposits.....	27
5.2 Aquifer within Bedrock Deposits.....	27
5.3 Groundwater Abstraction Licences.....	28
5.4 Surface Water Abstraction Licences.....	28

5.5 Potable Water Abstraction Licences.....	30
5.6 Source Protection Zones.....	30
5.7 Groundwater Vulnerability and Soil Leaching Potential.....	30
5.8 River Quality.....	30
5.8.1 Biological Quality.....	31
5.8.2 Chemical Quality.....	31
5.9 Detailed River Network.....	32
5.10 Surface Water Features	32
6. Environment Agency Flood Map for planning (from rivers and the sea).....	33
6. Flooding.....	34
6.1 Zone 2 Flooding.....	34
6.2 Zone 3 Flooding.....	34
6.3 Flood Defences.....	34
6.4 Areas benefiting from Flood Defences.....	35
6.5 Areas benefiting from Flood Storage.....	35
6.6 Groundwater Flooding Susceptibility Areas.....	35
6.6.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site?.....	35
6.6.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?.....	35
6.7 Groundwater Flooding Confidence Areas.....	35
7. Designated Environmentally Sensitive Sites Map.....	36
7. Designated Environmentally Sensitive Sites.....	37
7.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:.....	37
7.2 Records of National Nature Reserves (NNR) within 2000m of the study site:.....	37
7.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:.....	37
7.4 Records of Special Protection Areas (SPA) within 2000m of the study site:.....	37
7.5 Records of Ramsar sites within 2000m of the study site:.....	37
7.6 Records of Ancient Woodland within 2000m of the study site:	38
7.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:.....	38
7.8 Records of World Heritage Sites within 2000m of the study site:.....	38
7.9 Records of Environmentally Sensitive Areas within 2000m of the study site:	38
7.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:	38
7.11 Records of National Parks (NP) within 2000m of the study site:	38
7.12 Records of Nitrate Sensitive Areas within 2000m of the study site:.....	39
7.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:.....	39
8. Findings.....	40
Natural Hazards	
8.1 Detailed BGS GeoSure Data.....	40
8.1.1 Shrink Swell.....	40
8.1.2 Landslides.....	40
8.1.3 Soluble Rocks.....	40
8.1.4 Compressible Ground.....	41
8.1.5 Collapsible Rocks.....	41
8.1.6 Running Sand.....	41
9. Mining.....	43
9.1 Coal Mining.....	43
9.2 Shallow Mining.....	43
9.3 Brine Affected Areas	43
Contact Details.....	44
Standard Terms and Conditions.....	45

Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Environmental Permits, Incidents and Registers

	On-site	0-50m	51-250	251-500
1.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
1.1.1 Records of historic IPC Authorisations	0	0	0	0
1.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
1.1.3 Records of Water Industry Referrals (potentially harmful discharges to the public sewer)	0	0	0	0
1.1.4 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters)	0	0	0	0
1.1.5 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
1.1.6 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
1.1.7 Records of Part A(2) and Part B Activities and Enforcements	0	0	0	2
1.1.8 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
1.1.9 Records of Licensed Discharge Consents	0	1	0	3
1.1.10 Records of Planning Hazardous Substance Consents and Enforcements	0	0	0	0
1.2 Records of COMAH and NIHHS sites	0	0	0	0
1.3 Environment Agency Recorded Pollution Incidents				
1.3.1 National Incidents Recording System, List 2	0	0	0	2
1.3.2 National Incidents Recording System, List 1	0	0	0	0
1.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 2: Landfill and Other Waste Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-5000
2.1 Landfill Sites						
2.1.1 Environment Agency Registered Landfill Sites	0	0	0	0	1	Not searched
2.1.2 Environment Agency Historic Landfill Sites	0	0	1	0	1	1
2.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	1
2.1.4 GroundSure Local Authority Landfill Sites Data	0	0	0	0	0	2
2.2 Landfill and Other Waste Sites Findings						
2.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
2.2.2 Environment Agency Licensed Waste Sites	0	0	0	0	2	7

Section 3: Current Land Use

	On-site	0-50m	51-250	251-500
3.1 Current Industrial Sites Data	1	1	5	Not searched
3.2 Records of Petrol and Fuel Sites	0	0	0	1
3.3 Underground High Pressure Oil and Gas Pipelines	0	0	0	0

Section 4: Geology

4.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	No
4.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	Yes
4.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 5: Hydrogeology and Hydrology

0-500m

5.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes
5.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
5.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
5.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	4	2	4	3
5.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
5.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
5.7 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	1	0	0	0	Not searched	Not searched
	On-site	0-50m	51-250	251-500	501-1000	1000-1500
5.8 Is there any Environment Agency information on river quality within 1500m of the study site?	No	No	No	No	No	Yes
5.9 Detailed River Network entries within 500m of the site	0	4	5	0	Not searched	Not searched
5.10 Surface water features within 250m of the study site	No	Yes	Yes	Not searched	Not searched	Not searched

Section 6: Flooding

6.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	Yes
6.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site?	Yes
6.3 Are there any Flood Defences within 250m of the study site?	No
6.4 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
6.5 Are there any areas used for Flood Storage within 250m of the study site?	No
6.6 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Potential at Surface
6.7 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	High

Section 7: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
7.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	0
7.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
7.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
7.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
7.5 Records of Ramsar sites	0	0	0	0	0	0
7.6 Records of Ancient Woodlands	0	0	0	0	1	0
7.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	0
7.8 Records of World Heritage Sites	0	0	0	0	0	0
7.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0
7.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
7.11 Records of National Parks	0	0	0	0	0	0
7.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
7.13 Records of Nitrate Vulnerable Zones	0	0	0	0	0	0

Section 8: Natural Hazards

8.1 What is the maximum risk of natural ground subsidence?	Moderate
8.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Very Low
8.1.2 What is the maximum Landslides hazard rating identified on the study site?	Very Low
8.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Very Low
8.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Moderate
8.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
8.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Low

Section 9: Mining

9.1 Are there any coal mining areas within 75m of the study site?

No

9.2 What is the risk of subsidence relating to shallow mining within 150m of the study site?

Negligible

9.3 Are there any brine affected areas within 75m of the study site?

No

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between GroundSure and the Client. The document contains the following sections:

1. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

2. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

3. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure underground oil and gas pipelines.

4. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

5. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

6. Flooding

Provides information on surface water flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

7. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

8. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence.

9. Mining

Provides information on areas of coal and shallow mining.

10. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, GroundSure provide a free Technical Helpline (08444 159000) for further information and guidance.

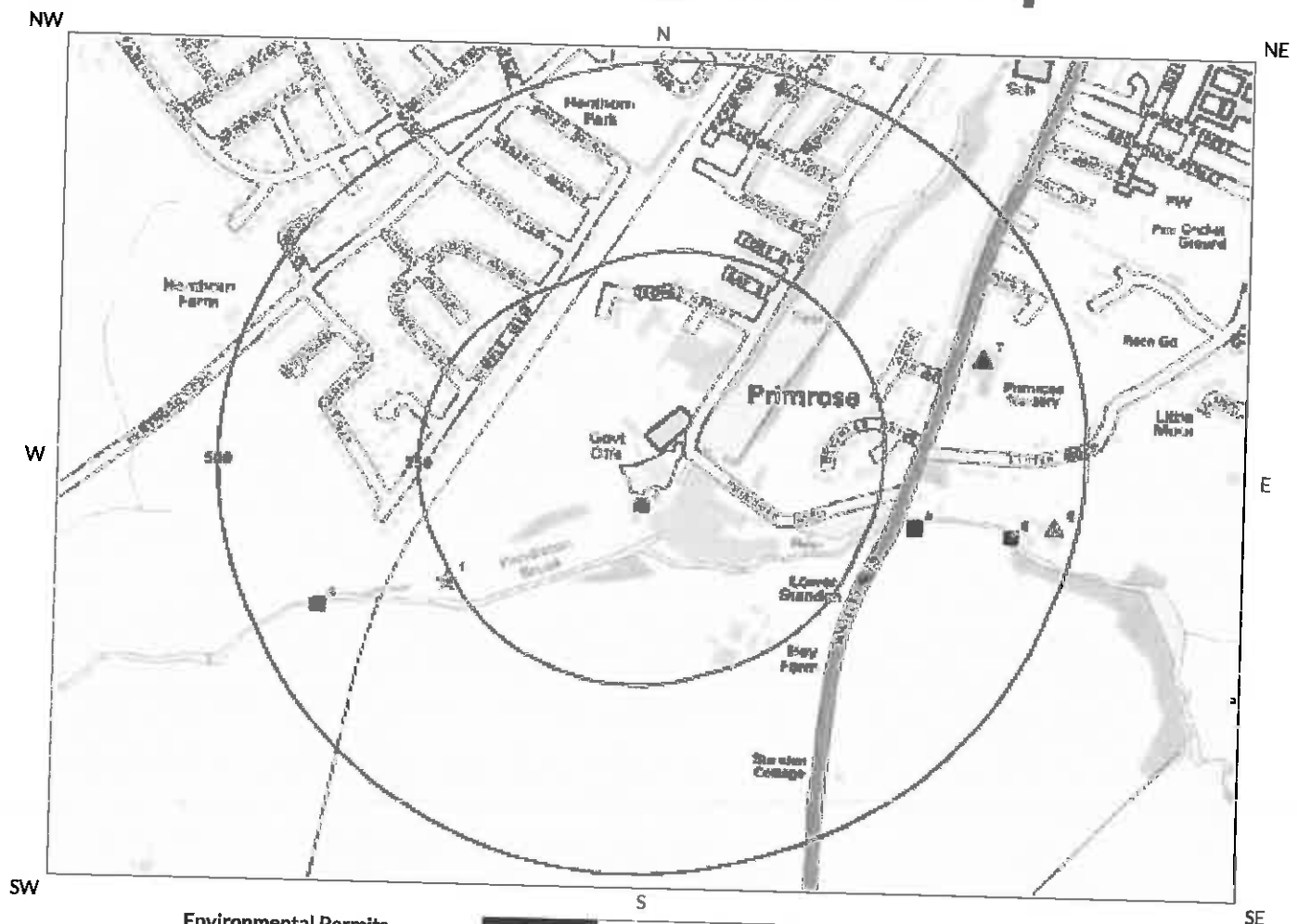
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Environmental Permits, Incidents and Registers Map



Environmental Permits,
Incidents and Registers Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100038207.

- | | |
|-----------------------------------|--|
| Recorded Pollution Incident | RAS 3 & 4 Authorisations |
| Dangerous Substances (List 1) | Part A(1) Authorised Processes and Historic IPC Authorisations |
| Dangerous Substances (List 2) | Part A(2) and Part B Authorised Processes |
| Water Industry Referrals | COMAH / NIHS Sites |
| Licensed Discharge Consents | Sites Determined as Contaminated Land |
| Red List Discharge Consents | Hazardous Substance Consents and Enforcements |
| Site Outline | |
| Search Buffers (m)
500
1000 | |



1. Environmental Permits, Incidents and Registers

1.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency and Local Authorities reveal the following information:

1.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

1.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

1.1.3 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

1.1.4 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

1.1.5 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

1.1.6 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

1.1.7 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

2

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance	Direction	NGR	Details
7	389.0	E	374120 440901	Address: Primrose Garage Limited (The Kay Group), Whalley Road, Clitheroe, BB7 1HU Process: Vapour Recovery Status: Historical Permit Permit Type: Part B Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
8	471.0	E	374213 440682	Address: Brian Dent Ltd., Littlemoor Mill, Whalley Road, Clitheroe, BB7 1PW Process: Waste Oil Burner <0.4MW Status: Current Permit Permit Type: Part B Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified

1.1.8 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

1.1.9 Records of Licensed Discharge Consents within 500m of the study site:

4

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance	Direction	NGR	Details
3	14.0	S	373700 440700	Address: Primrose Lodge, Primrose Works, Clitheroe, Lancashire Effluent Type: Trade Discharges - Process Effluent - Not Water Company Permit Number: 017190403 Permit Version: 1 Receiving Water: Trib Pendleton Brook Status: Lapsed Under Schedule 23 Environment Act 1995 Issue date: - Effective Date: - Revocation Date: 1/10/1996
4	303.0	E	374040 440680	Address: Millersdene, Whalley Rd, Clitheroe, Lancashire, BB7 1PW Effluent Type: Sewage Discharges - Final/treated Effluent - Not Water Company Permit Number: 011658 Permit Version: 1 Receiving Water: Pendleton Brook Status: Pre Nra Legislation Where Issue Date < 01-sep-89 (historic Only) Issue date: 1/4/1969 Effective Date: 1/4/1969 Revocation Date: -

ID	Distance	Direction	NGR	Details	
5	418.0	SW	373300 440560	Address: Near Clitheroe Stw, Clitheroe, Lancashire Effluent Type: Sewage Discharges - Stw Storm Overflow/storm Tank - Water Company Permit Number: 017160177 Permit Version: 1	Receiving Water: Pendleton Brook Status: Pre Nra Legislation Where Issue Date < 01-sep-89 (historic Only) Issue date: - Effective Date: 28/6/1985 Revocation Date: -
6	422.0	E	374160 440670	Address: Littlemoor Mill, Whalley Road, Clitheroe, Lancashire, BB7 1PW Effluent Type: Sewage Discharges - Final/treated Effluent - Not Water Company Permit Number: 011574 Permit Version: 1	Receiving Water: Pendleton Brook Status: Pre Nra Legislation Where Issue Date < 01-sep-89 (historic Only) Issue date: 9/10/1967 Effective Date: 9/1/1968 Revocation Date: -

1.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

1.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site:

0

Database searched and no data found.

1.3 Environment Agency Recorded Pollution Incidents

1.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

2

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance	Direction	NGR	Details	
1	259.0	SW	373460 440595	Incident Date: 05/08/2003 Incident Identification: 179200 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
2	485.0	N	373862 441256	Incident Date: 18/09/2001 Incident Identification: 31313 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Fumes	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

1.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

Database searched and no data found.

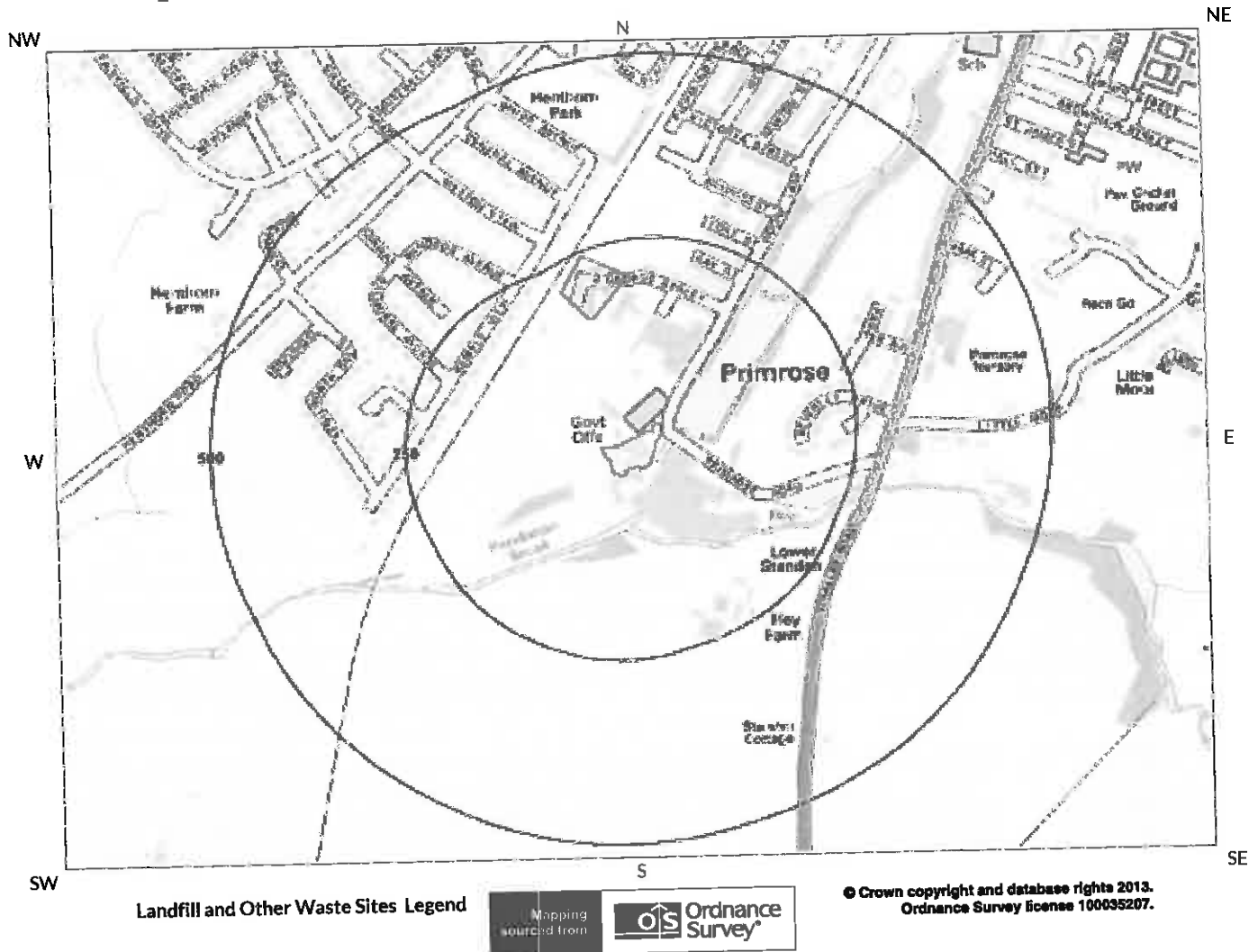
1.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site?

0

Database searched and no data found.

2. Landfill and Other Waste Sites Map





2. Landfill and Other Waste Sites

2.1 Landfill Sites

2.1.1 Records from Environment Agency landfill data within 1000m of the study site:

1

The following Environment Agency landfill records are represented as polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
Not shown	688.0	SW	372600 440300	Address: Land/premises At, Henthorn Road, Clitheroe, Blackburn, Lancashire, BB7 2QF Landfill Reference: 54102.0 Environmental Permitting Regulations (Waste) Reference: SIT007 Landfill Type: A4 : Household, Commercial & Industrial Waste Landfill Operator: Sita (Lancashire) Ltd Status: Modified IPPC Reference: EPR Reference:

2.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:

3

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
3	161.0	NW	373600 440900	Site Address: Stalwart Dying Company Limited, Off Kemple View, Near Clitheroe, Lancashire Waste Licence: - Site Reference: K1/03/034 Waste Type: Waste unknown Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: -
Not shown	843.0	SW	372700 440100	Site Address: Henthorn Tip, Hewthorn, Clitheroe, Lancashire Waste Licence: - Site Reference: - Waste Type: Commercial, Liquid sludge, Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: Clitheroe Metropolitan Borough
Not shown	1324.0	NW	373000 442000	Site Address: Ashworth's Farm, Low Moor, Clitheroe, Lancashire Waste Licence: - Site Reference: K1/03/045 Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: -

2.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

1

The following landfill records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
Not shown	1205.0	SW	37260 0.0 44020 0.0	Address: Hewthorn Tip, Hewthorn, Clitheroe, Lancs BGS Number: 1916.0 Risk: No risk to aquifer Waste Type: N/A

2.1.4 Records of Local Authority landfill sites within 1500m of the study site:

2

The following landfill records are represented as points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Site Address	Source	Data Type
Not shown	1181.0	SW		Refuse Tip	1964 mapping	Polygon
Not shown	1447.0	NE		Refuse Tip	1964 mapping	Polygon

2.2 Other Waste Sites

2.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

0

Database searched and no data found.

2.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:

9

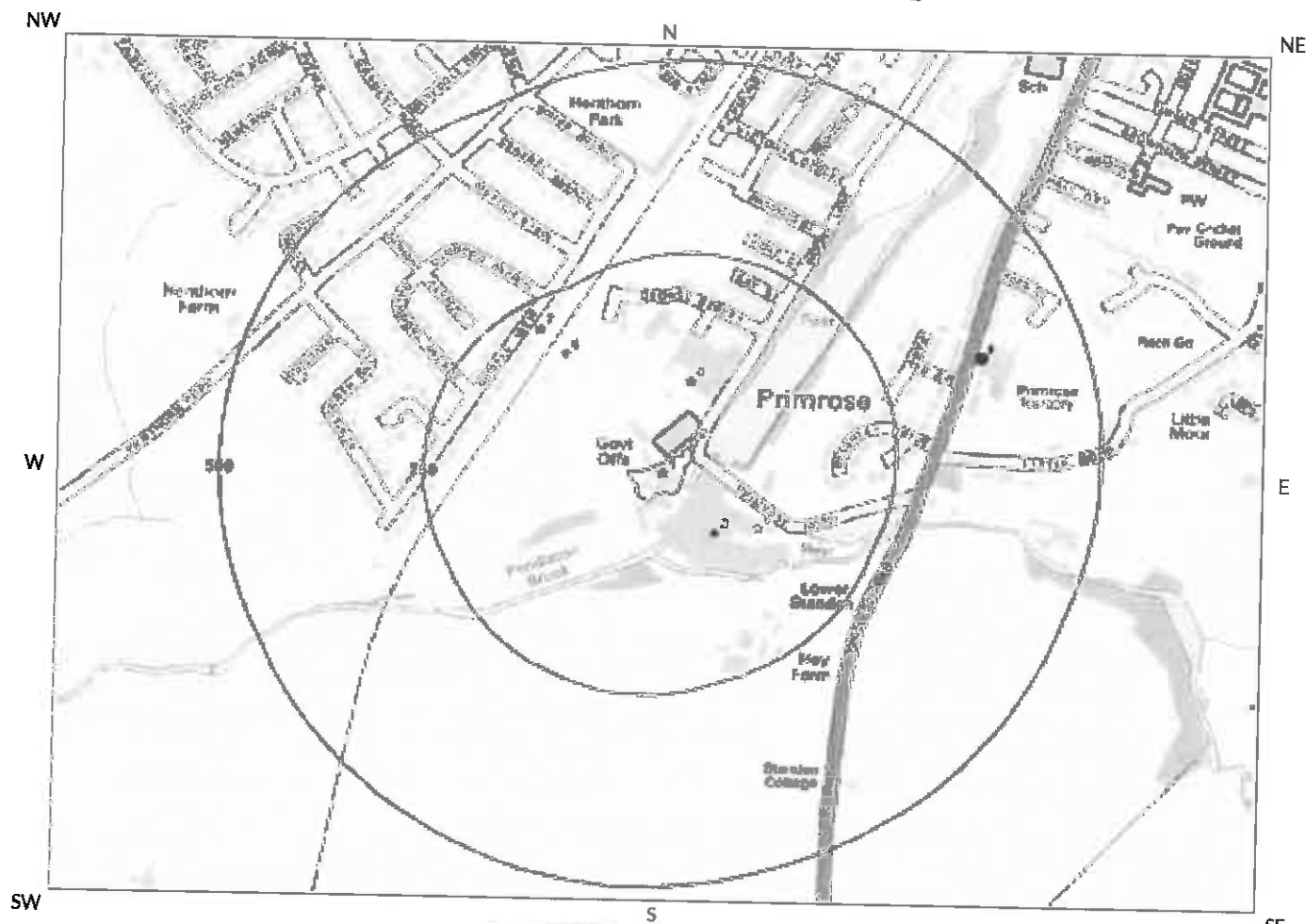
The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
Not shown	994.0	SW	373000 440000	Site Address: Henthorn Road, Clitheroe, Blackburn, Lancashire, BB7 2QF Type: Co-Disposal Landfill Site Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIT208 EPR reference: EA/EPR/MP3393ZE/A001 Operator: Sita (Lancashire) Ltd Waste Management licence No: 54494 Annual Tonnage: 1.0 Issue Date: 31/03/2006 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: IPPC Site Name: Henthorn Road L T P Correspondence Address: -, -

ID	Distance (m)	Direction	NGR	Details
Not shown	994.0	SW	373000 440000	Site Address: Henthorn Road, Clitheroe, Blackburn, Lancashire, BB7 2QF Type: - Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIT208 EPR reference: - Operator: Sita (Lancashire) Ltd Waste Management licence No: 54494 Annual Tonnage: 0.0 Issue Date: 31/03/2006 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: IPPC Site Name: Henthorn Road L T P Correspondence Address: -, Tustin Court, Portway, Preston, Lancashire, PR2 2YQ
Not shown	1065.0	SW	372900 440000	Site Address: Henthorn Road, Clitheroe, Blackburn, Lancashire, BB7 2QF Type: Household, Commercial & Industrial Waste Landfill Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIT007 EPR reference: - Operator: Sita (Lancashire) Ltd Waste Management licence No: 54102 Annual Tonnage: 74999.0 Issue Date: 14/05/1993 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Henthorn Road L F S Correspondence Address: -, Tustin Court, Portway, Preston, Lancashire, PR2 2YQ
Not shown	1065.0	SW	372900 440000	Site Address: Henthorn Road, Clitheroe, Blackburn, Lancashire, BB7 2QF Type: Household, Commercial & Industrial Waste Landfill Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIT007 EPR reference: - Operator: Sita U K Ltd Waste Management licence No: 54102 Annual Tonnage: 74999.0 Issue Date: 14/05/1993 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Henthorn Road L F S Correspondence Address: -, Tustin Court, Portway, Preston, Lancashire, PR2 2YQ
Not shown	1065.0	SW	372900 440000	Site Address: Henthorn Road, Clitheroe, Blackburn, Lancashire, BB7 2QF Type: Household, Commercial & Industrial Waste Landfill Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIT007 EPR reference: - Operator: Sita (Lancashire) Ltd Waste Management licence No: 54102 Annual Tonnage: 0.0 Issue Date: 14/05/1993 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Henthorn Road L F S Correspondence Address: -, Tustin Court, Portway, Preston, Lancashire, PR2 2YQ
Not shown	1149.0	SW	372614 440304	Site Address: Land/premises At, Henthorn Road, Clitheroe, Lancashire, BB7 2QF Type: Special Waste Transfer Station Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIT019 EPR reference: EA/EPR/RP3391CW/V002 Operator: Sita (Lancashire) Ltd Waste Management licence No: 54114 Annual Tonnage: 24999.0 Issue Date: 14/05/1993 Effective Date: - Modified: 25/11/2002 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Henthorn Road H W D C Correspondence Address: -, -
Not shown	1163.0	SW	372600 440300	Site Address: Land/premises At, Henthorn Road, Clitheroe, Blackburn, Lancashire, BB7 2QF Type: Household, Commercial & Industrial Waste Landfill Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIT007 EPR reference: EA/EPR/AP3095SA/V003 Operator: Sita (Lancashire) Ltd Waste Management licence No: 54102 Annual Tonnage: 4999.0 Issue Date: 14/05/1993 Effective Date: - Modified: 09/01/2014 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Henthorn Road Landfill Site Correspondence Address: -, -

ID	Distance (m)	Direction	NGR	Details	
Not shown	1205.0	SW	372600 440200	Site Address: Henthorn Road, Clitheroe, Lancashire, BB7 2QF Type: Special Waste Transfer Station Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIT019 EPR reference: - Operator: Sita U K Ltd Waste Management licence No: 54114 Annual Tonnage: 24999.0	Issue Date: 14/05/1993 Effective Date: - Modified: 25/11/2002 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Henthorn Road H W D C Correspondence Address: -, Tustin Court, Portway, Preston, Lancashire, PR2 2YQ
Not shown	1205.0	SW	372600 440200	Site Address: Henthorn Road, Clitheroe, Lancashire, BB7 2QF Type: Special Waste Transfer Station Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIT019 EPR reference: - Operator: Sita (Lancashire) Ltd Waste Management licence No: 54114 Annual Tonnage: 0.0	Issue Date: 14/05/1993 Effective Date: - Modified: 25/11/2002 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Henthorn Road H W D C Correspondence Address: -, Tustin Court, Portway, Preston, Lancashire, PR2 2YQ

3. Current Land Use Map



Current Land Use Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.

- | | |
|--------------------|--|
| Site Outline | Current Industrial Sites |
| Search Buffers (m) | Petrol & Fuel Sites |
| | Underground High Pressure Oil & Fuel Pipelines |



3. Current Land Uses

3.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site:

7

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	0.0	On Site	Lodematic Components Ltd	373715 440750	Primrose Road, Clitheroe, BB7 1BS	Industrial Repairs and Servicing	Repair and Servicing
2	8.0	NE	Electricity Sub Station	373751 440791	BB7	Electrical Features	Infrastructure and Facilities
3	70.0	SE	Works	373779 440675	BB7	Unspecified Works Or Factories	Industrial Features
4	84.0	N	Depot	373747 440870	BB7	Container and Storage	Transport, Storage and Delivery
5	109.0	SE	Chimney	373832 440683	BB7	Chimneys	Industrial Features
6	170.0	NW	Depot	373595 440903	BB7	Container and Storage	Transport, Storage and Delivery
7	214.0	NW	Telsa Sheet Metal	373562 440934	47, Kemple View, Clitheroe, BB7 2QD	Metals Manufacturers, Fabricators and Stockholders	Industrial Products

3.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site:

1

The following petrol or fuel site records provided by Catalist are represented as points on the Current Land Use map:

ID	Distance (m)	Direction	NGR	Company	Address	LPG	Status
8	374.0	E	374103 440906	Texaco	Primrose Garage, Whalley Road, Whalley Road, Clitheroe, Lancashire, BB7 1HU	No	Open

3.3 Underground High Pressure Oil and Gas Pipelines

Records of high pressure underground pipelines within 500m of the study site:

0

Database searched and no data found.



4. Geology

4.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

4.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
ALV-CSSG	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

4.3 Bedrock and Solid Geology

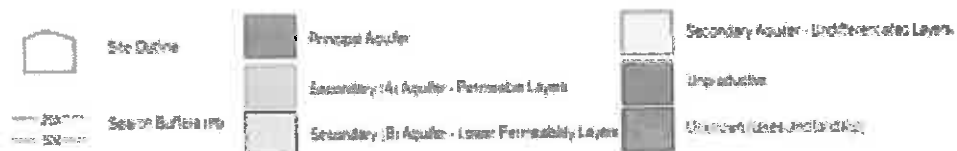
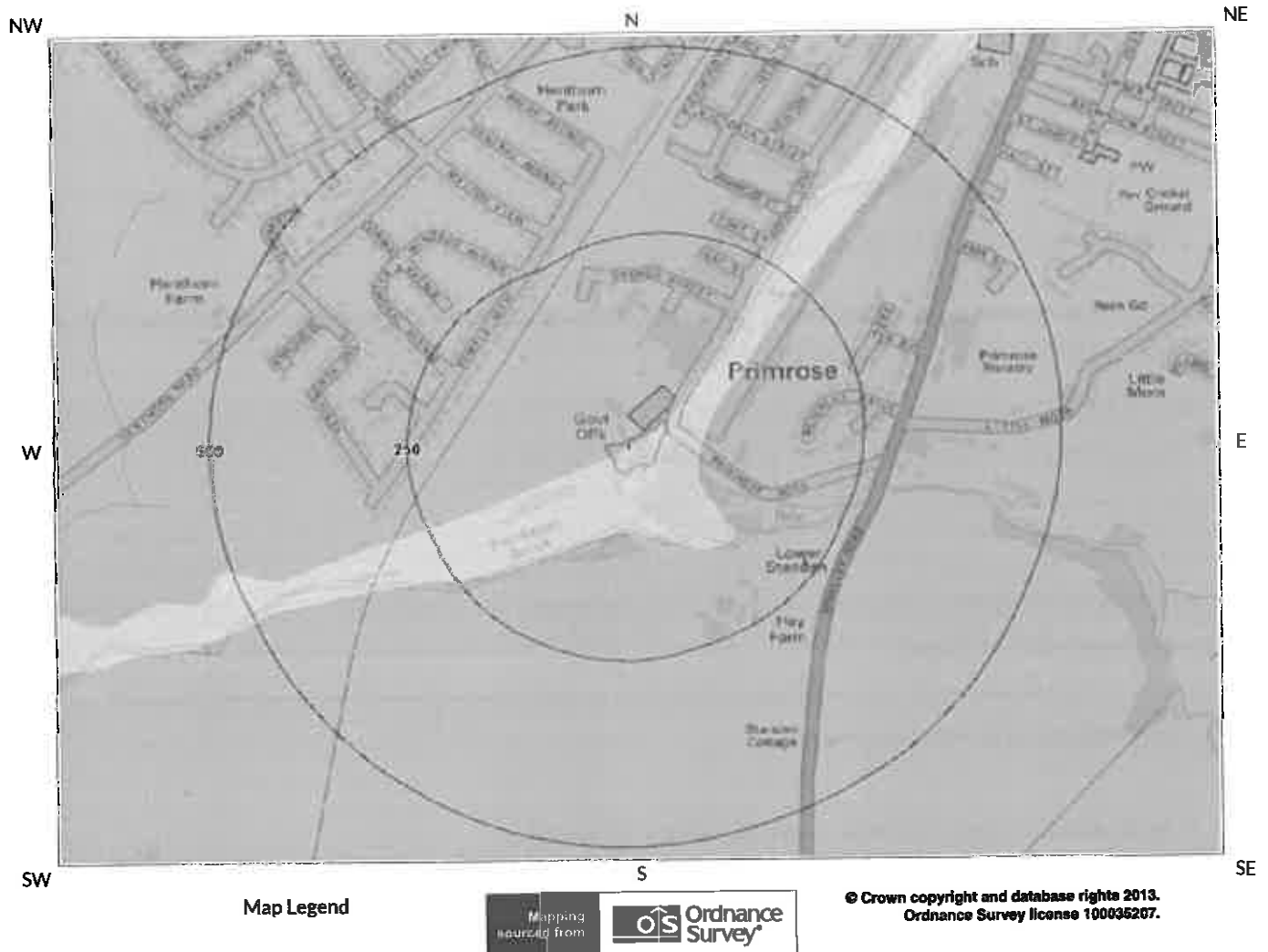
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
CLHOM-MDST	CLITHEROE LIMESTONE FORMATION AND HODDER MUDSTONE FORMATION (UNDIFFERENTIATED)	MUDSTONE

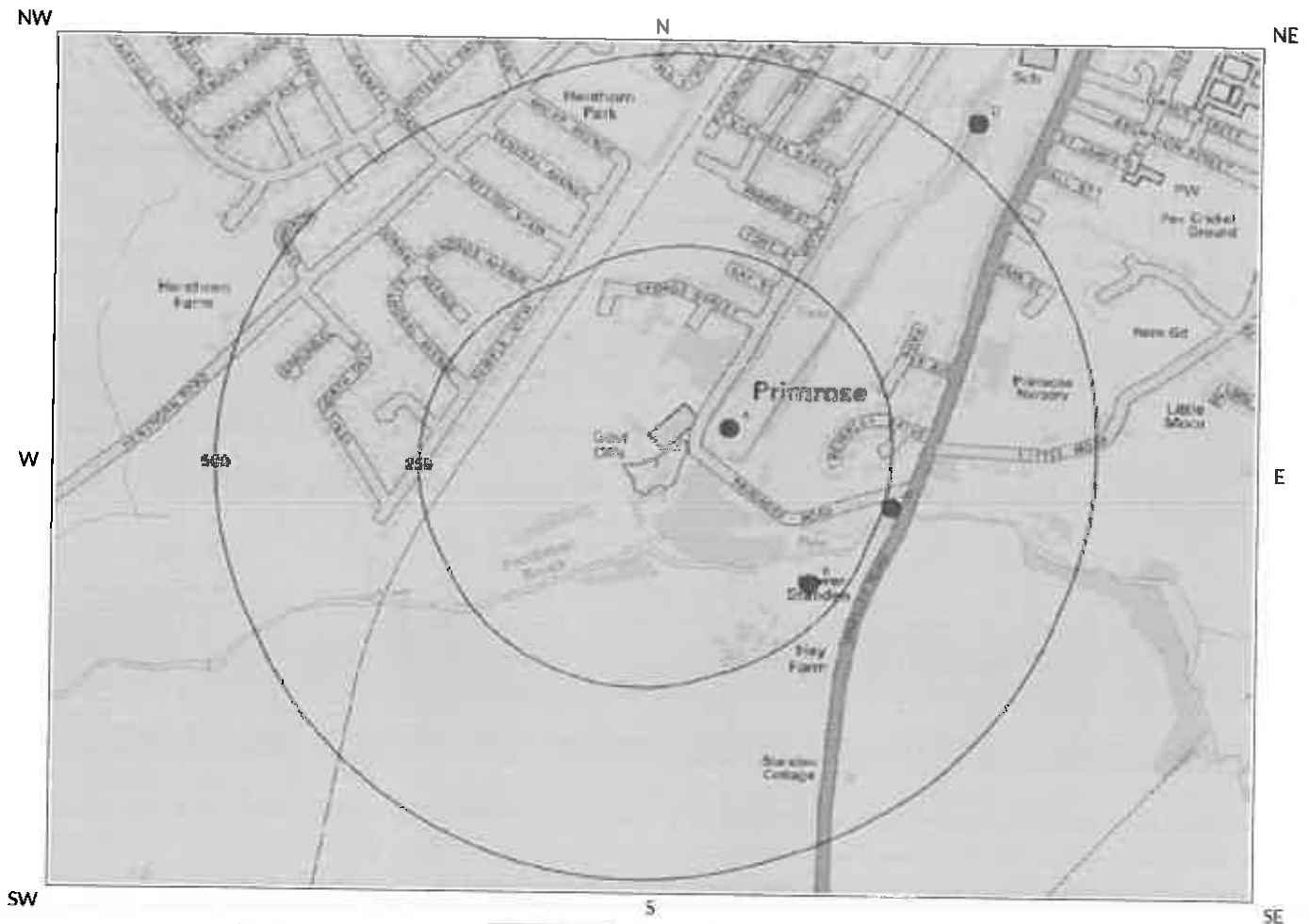
(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

5. Hydrogeology and Hydrology

5a. Aquifer Within Superficial Geology



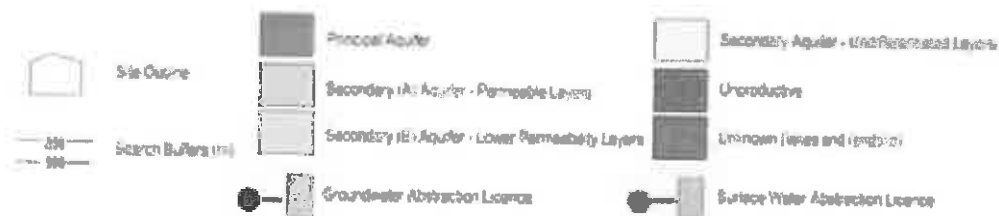
5b. Aquifer Within Bedrock Geology and Abstraction Licenses



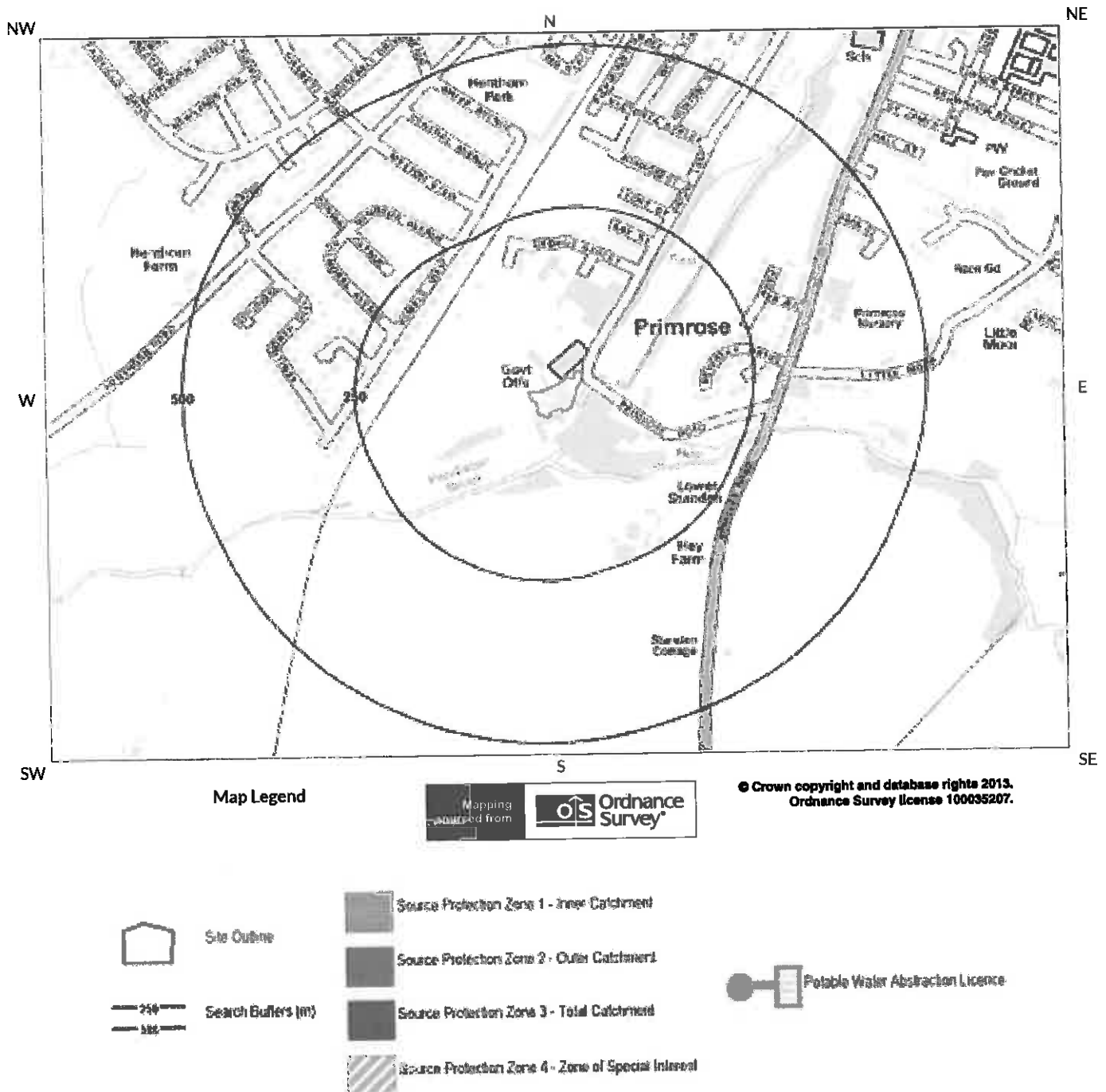
Map Legend

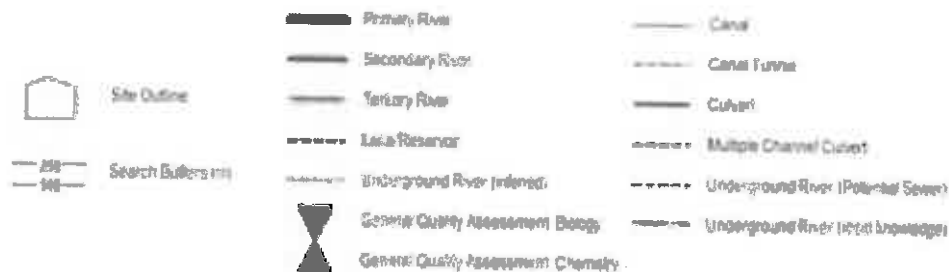


© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.



5c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses





26



5. Hydrogeology and Hydrology

5.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? **Yes**

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the GroundSure Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (5a):

ID	Distance (m)	Direction	Designation	Description
1	0.0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	0.0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
3	46.0	E	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

5.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? **Yes**

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the GroundSure Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	Designation	Description
1	0.0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

5.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site?

No

Database searched and no data found.

5.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site?

Yes

The following Surface Water Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	NGR	Details	
3A	53.0	NE	373800 440800	Licence No: 2671309033 Details: Transfer between sources Direct Source: Surface, Non-tidal - North West Region Point: Mearley Brk Feeding Primrose Lodge At Clitheroe \$314 Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Application No: 4549 Original Start Date: 16/12/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1966 Version End Date:
4A	53.0	NE	373800 440800	Licence No: 2671309033 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Surface, Non-tidal - North West Region Point: Mearley Brk Feeding Primrose Lodge At Clitheroe \$314 Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Application No: 4549 Original Start Date: 16/12/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1966 Version End Date:
5B	210.0	SE	373900 440600	Licence No: 2671309032 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Surface, Non-tidal - North West Region Point: Pendleton Brk@clitheroe Feeding Mill Pond,primrose Wks \$313 Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Application No: 4549 Original Start Date: 16/12/1966 Expiry Date: - Issue No: 100 Version Start Date: 1/12/1993 Version End Date:
6B	210.0	SE	373900 440600	Licence No: 2671309032 Details: Transfer between sources Direct Source: Surface, Non-tidal - North West Region Point: Pendleton Brk@clitheroe Feeding Mill Pond,primrose Wks \$313 Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Application No: 4549 Original Start Date: 16/12/1966 Expiry Date: - Issue No: 100 Version Start Date: 1/12/1993 Version End Date:
7C	259.0	E	374000 440700	Licence No: 2671309032 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Surface, Non-tidal - North West Region Point: Pendleton Brk@clitheroe Feeding The Mill Pond, Primrose Wks Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Application No: 4549 Original Start Date: 16/12/1966 Expiry Date: - Issue No: 100 Version Start Date: 1/12/1993 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
8C	259.0	E	374000 440700	Licence No: 2671309032 Details: Transfer between sources Direct Source: Surface, Non-tidal - North West Region Point: Pendleton Brk@clitheroe Feeding The Mill Pond, Primrose Wks Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Application No: 4549 Original Start Date: 16/12/1966 Expiry Date: - Issue No: 100 Version Start Date: 1/12/1993 Version End Date:
9D	546.0	NE	374100 441200	Licence No: 2671309033 Details: Transfer between sources Direct Source: Surface, Non-tidal - North West Region Point: Mearley Brk Feeding Primrose Lodge At Clitheroe Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Application No: 4549 Original Start Date: 16/12/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1966 Version End Date:
10D	546.0	NE	374100 441200	Licence No: 2671309033 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Surface, Non-tidal - North West Region Point: Mearley Brk Feeding Primrose Lodge At Clitheroe Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Application No: 4549 Original Start Date: 16/12/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1966 Version End Date:
Not shown	687.0	NE	374200 441300	Licence No: 2671309025 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Surface, Non-tidal - North West Region Point: Mearley Brk At Clitheroe Data Type: Point	Annual Volume (m³): 227300 Max Daily Volume (m³): 981.936 Application No: 3198 Original Start Date: 11/11/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1966 Version End Date:
Not shown	687.0	NE	374200 441300	Licence No: 2671309025 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Surface, Non-tidal - North West Region Point: Mearley Brk At Clitheroe Data Type: Point	Annual Volume (m³): 227300 Max Daily Volume (m³): 981.93 Application No: 3198 Original Start Date: 11/11/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/11/1966 Version End Date:
Not shown	1688.0	E	375300 440100	Licence No: 2671309021 Details: General use relating to Secondary Category (Medium Loss) Direct Source: "surface, Non-tidal - North West Region" Point: "pendleton Brk, North Of Pendleton Village" Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Application No: 4005 Original Start Date: 20/5/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/5/1966 Version End Date:
Not shown	1688.0	E	375300 440100	Licence No: 2671309021 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Surface, Non-tidal - North West Region Point: Pendleton Brk, North Of Pendleton Village Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Application No: 4005 Original Start Date: 20/5/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/5/1966 Version End Date:

ID	Distance (m)	Direction	NGR	Details
Not shown	1688.0	E	375300 440100	Licence No: 2671309021 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Surface, Non-tidal - North West Region Point: Pendleton Brook North Of Pendleton Village Data Type: Point Annual Volume (m³): 59098 Max Daily Volume (m³): 163.65 Application No: 4005 Original Start Date: 20/5/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/5/1966 Version End Date:

5.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site?

No

Database searched and no data found.

5.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site?

No

Database searched and no data found.

5.7 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency information on groundwater vulnerability and soil leaching potential within 500m of the study site?

Yes

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Minor Aquifer/Low Leaching Potential	L	Soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have the ability to attenuate diffuse pollutants.

5.8 River Quality

Is there any Environment Agency information on river quality within 1500m of the study site?

Yes

5.8.1 Biological Quality:

Biological Quality data describes water quality in terms of 83 groups of macroinvertebrates, some of which are pollution sensitive. The results are graded from A ('Very Good') to F ('Bad').

The following Biological Quality records are shown on the Hydrology Map (5d):

ID	Distance (m)	Direction	NGR	River Quality Grade	Biological Quality Grade				
					2005	2006	2007	2008	2009
Not shown	1304.0	NW	372800 441720	River Name: Bashall Brook Reach: Qsl Bashall Hall To Ribble End/Start of Stretch: End of Stretch NGR	B	B	B	B	A
Not shown	1339.0	SW	372500 440100	River Name: Ribble Reach: Clitheroe Stw To Hodder End/Start of Stretch: Start of Stretch NGR	C	B	B	B	B
Not shown	1339.0	SW	372500 440100	River Name: Ribble Reach: Stock Beck To Clitheroe Stw End/Start of Stretch: End of Stretch NGR	B	B	B	A	A
Not shown	1405.0	NE	374600 441900	River Name: Pimlico Brook Reach: Qsl At Chatburn I.e. To Mearley Bk. End/Start of Stretch: End of Stretch NGR	C	B	B	B	B

5.8.2 Chemical Quality:

Chemical quality data is based on the General Quality Assessment Headline Indicators scheme (GQAHI). In England, each chemical sample is measured for ammonia and dissolved oxygen. In Wales, the samples are measured for biological oxygen demand (BOD), ammonia and dissolved oxygen. The results are graded from A ('Very Good') to F ('Bad').

The following Chemical Quality records are shown on the Hydrology Map (5d):

ID	Distance (m)	Direction	NGR	River Quality Grade	Chemical Quality Grade				
					2005	2006	2007	2008	2009
Not shown	1304.0	NW	372800 441720	River Name: Bashall Brook Reach: Qsl Bashall Hall To Ribble End/Start of Stretch: End of Stretch NGR	A	A	A	A	B
Not shown	1339.0	SW	372500 440100	River Name: Ribble Reach: Stock Beck To Clitheroe Stw End/Start of Stretch: End of Stretch NGR	A	A	A	A	A
Not shown	1339.0	SW	372500 440100	River Name: Ribble Reach: Clitheroe Stw To Hodder End/Start of Stretch: Start of Stretch NGR	A	A	A	A	A
Not shown	1395.0	NW	372752 441799	River Name: Bashall Brook Reach: Qsl Bashall Hall To Ribble End/Start of Stretch: Sample Point NGR	A	A	A	A	B
Not shown	1405.0	NE	374600 441900	River Name: Pimlico Bk. Reach: Qsl At Chatburn I.e. To Mearley Bk. End/Start of Stretch: End of Stretch NGR	A	A	A	A	A

5.9 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site?

Yes

The following Detailed River Network records are represented on the Hydrology Map (5d):

ID	Distance (m)	Direction	Details
1	12.0	E	River Name: Mearley Brook Welsh River Name: - Alternative Name: - River Type: Primary River Main River Status: Currently Undefined
2	12.0	E	River Name: Mearley Brook Welsh River Name: - Alternative Name: - River Type: Culvert Main River Status: Currently Undefined
3	17.0	E	River Name: Mearley Brook Welsh River Name: - Alternative Name: - River Type: Lake/Reservoir Main River Status: Currently Undefined
4	17.0	E	River Name: - Welsh River Name: - Alternative Name: - River Type: Primary River Main River Status: Currently Undefined
5	55.0	SE	River Name: Mearley Brook Welsh River Name: - Alternative Name: - River Type: Primary River Main River Status: Currently Undefined
6	67.0	S	River Name: Pendleton Brook Welsh River Name: - Alternative Name: - River Type: Secondary River Main River Status: Currently Undefined
7	67.0	S	River Name: Pendleton Brook Welsh River Name: - Alternative Name: - River Type: Primary River Main River Status: Currently Undefined
8	73.0	S	River Name: Pendleton Brook Welsh River Name: - Alternative Name: - River Type: Primary River Main River Status: Currently Undefined
9	73.0	S	River Name: Drain Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined

5.10 Surface Water Features

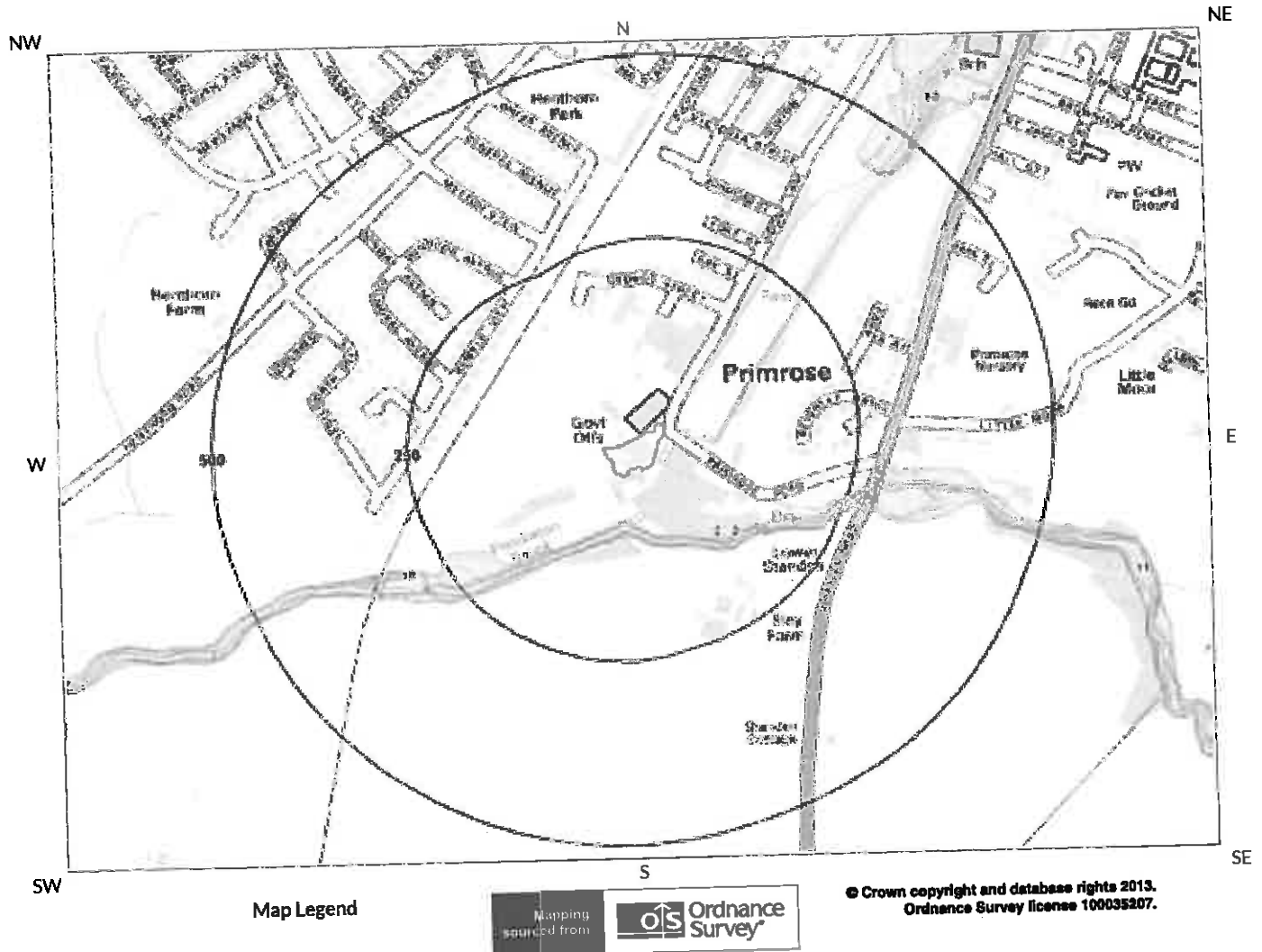
Are there any surface water features within 250m of the study site?

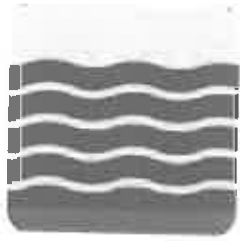
Yes

The following surface water records are not represented on mapping:

Distance (m)	Direction
8.0	E
11.0	E
50.0	E
52.0	SE
75.0	S
168.0	SE

6. Environment Agency Flood Map for planning (from rivers and the sea)





6. Flooding

6.1 Zone 2 Flooding

Environment Agency Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 1 – Environment Agency Flood Map for Planning:

Is the site within 250m of an Environment Agency Zone 2 floodplain?

Yes

The following floodplain records are represented as green shading on the Flood Map:

ID	Distance (m)	Direction	Update	Type
1	58.0	S	11-Sep-2014	Zone 2 - (Fluvial Models)
2	122.0	SE	11-Sep-2014	Zone 2 - (Fluvial Models)
3	142.0	SE	11-Sep-2014	Zone 2 - (Fluvial Models)
4A	165.0	SE	11-Sep-2014	Zone 2 - (Fluvial Models)

6.2 Zone 3 Flooding

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 1 – Environment Agency Flood Map for Planning.

Is the site within 250m of an Environment Agency Zone 3 floodplain?

Yes

The following floodplain records are represented as blue shading on the Flood Map:

ID	Distance (m)	Direction	Update	Type
8	62.0	S	11-Sep-2014	Zone 3 - (Fluvial Models)
9A	166.0	SE	11-Sep-2014	Zone 3 - (Fluvial Models)

6.3 Flood Defences

Are there any Flood Defences within 250m of the study site?

No

Database searched and no data found.

6.4 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

6.5 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? No

6.6 Groundwater Flooding Susceptibility Areas

6.6.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site?

Yes

Does this relate to Clearwater Flooding or Superficial Deposits Flooding? Superficial Deposits Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

6.6.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Potential at Surface

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

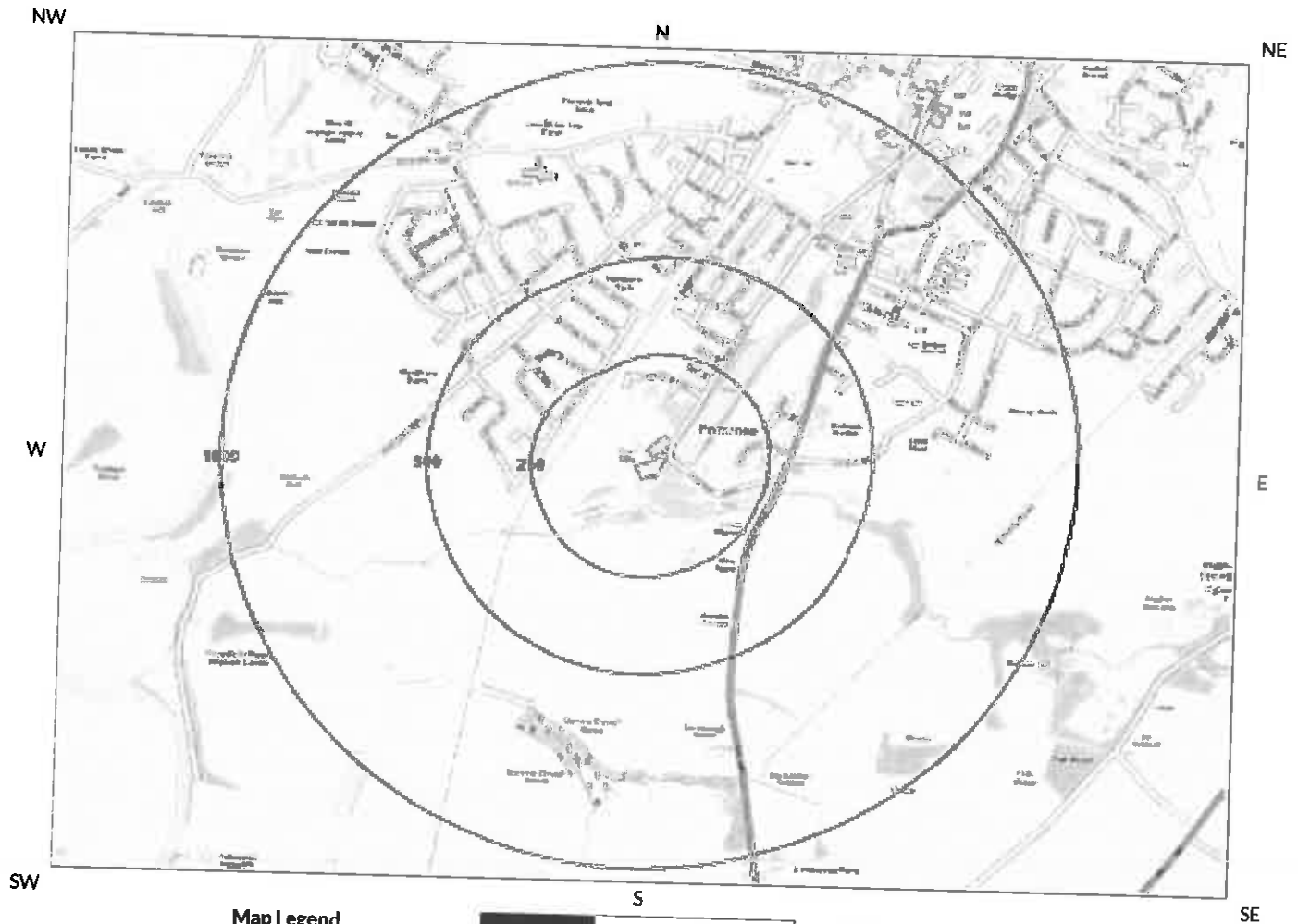
6.7 Groundwater Flooding Confidence Areas

What is the British Geological Survey confidence rating in this result? High

Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

7. Designated Environmentally Sensitive Sites Map

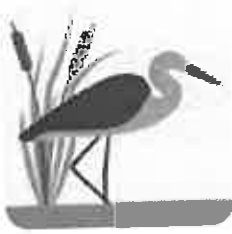


Map Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.

See Datafile	SAC	SSSI	NNR	World Heritage Sites
Areas of Outstanding Natural Beauty	SPA	Ramsar	LNR	Environmentally Sensitive Areas
	Nitrate Vulnerable Zones	Nitrate Sensitive Areas	National Parks	Ancient Woodlands



7. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? Yes

7.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site: 0

Database searched and no data found.

7.2 Records of National Nature Reserves (NNR) within 2000m of the study site: 0

Database searched and no data found.

7.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site: 0

Database searched and no data found.

7.4 Records of Special Protection Areas (SPA) within 2000m of the study site: 0

Database searched and no data found.

7.5 Records of Ramsar sites within 2000m of the study site: 0

Database searched and no data found.

7.6 Records of Ancient Woodland within 2000m of the study site:

1

The following Ancient Woodland records are supplied by English Nature/Scottish Natural Heritage/Countryside Council for Wales and are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
1	644.0	SW	UNKNOWN	Ancient and Semi-Natural Woodland

7.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

0

Database searched and no data found.

7.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

7.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

7.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

7.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

7.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

7.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

0

Database searched and no data found.



8. Natural Hazards Findings

8.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a **GroundSure GeoInsight**, available from our website. The following information has been found:

8.1.1 Shrink Swell

What is the maximum Shrink-Swell** hazard rating identified on the study site?

Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

8.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site?

Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

* This indicates an automatically generated 50m buffer and site.

8.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site?

Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Significant soluble rocks are present. Problems unlikely except with considerable surface or subsurface water flow. No special actions required to avoid problems due to soluble rocks. No special ground investigation required or increased construction costs are likely. An increase in financial risk due to potential problems with soluble rocks is unlikely.

8.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site?

Moderate

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Extra construction costs are likely. For existing property possible increase in insurance risk from compressibility, especially if water conditions or loading of the ground change significantly.

8.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site?

Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

8.1.6 Running Sand

What is the maximum Running Sand** hazard rating identified on the study site?

Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property no significant increase in insurance risk due to running sand problems is likely.

* This indicates an automatically generated 50m buffer and site.



9. Mining

9.1 Coal Mining

Are there any coal mining areas within 75m of the study site?

No

Database searched and no data found.

9.2 Shallow Mining

What is the subsidence hazard relating to shallow mining on-site*?

Negligible

*Please note this data is searched with a 150m buffer.

9.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site?

No

Guidance: No Guidance Required.

Contact Details

GroundSure Helpline
 Telephone: 08444 159 000
 Info@groundsure.com



British Geological Survey Enquiries

Kingsley Dunham Centre
 Keyworth, Nottingham NG12 5GG
 Tel: 0115 936 3143
 Fax: 0115 936 3276
 Email: enquiries@bgs.ac.uk
 Web: www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries



Environment Agency

National Customer Contact Centre, PO Box 544
 Rotherham, S60 1BY
 Tel: 08708 506 506
 Web: www.environment-agency.gov.uk
 Email: enquiries@environment-agency.gov.uk



Public Health England

Public information access office
 Public Health England, Wellington House
 133-155 Waterloo Road, London, SE1 8UG
<https://www.gov.uk/government/organisations/public-health-england>
 Email: enquiries@phe.gov.uk
 Main switchboard: 020 7654 8000



The Coal Authority

200 Lichfield Lane
 Mansfield
 Notts NG18 4RG
 Tel: 0345 7626 848
 DX 716176 Mansfield 5
www.coal.gov.uk



Ordnance Survey

Adanac Drive, Southampton
 SO16 0AS
 Tel: 08456 050505



Local Authority

Authority: Ribble Valley Borough Council
 Phone: 01200 425111
 Web: www.ribblevalley.gov.uk
 Address: Council Offices, Church Walk, Clitheroe, Lancashire, BB7 2RA

Gemapping PLC

Virginia Villas, High Street, Hartley Wintney,
 Hampshire RG27 8NW
 Tel: 01252 845444



Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, English Nature who retain the Copyright and Intellectual Property Rights for the data. PointX © Database Right/Copyright, Thomson Directories Limited © Copyright Link Interchange Network Limited © Database Right/Copyright and Ordnance Survey © Crown Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028]. This report has been prepared in accordance with the GroundSure Ltd standard Terms and Conditions of business for work of this nature.

Standard Terms and Conditions

1 Definitions

In these terms and conditions unless the context otherwise requires:

"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.

"Client" means the party or parties entering into a Contract with GroundSure.

"Commercial" means any building or property which is not Residential.

"Confidential Information" means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

"Support Services" means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

"Contract" means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

"Third Party Data Provider" means any third party providing Third Party Content to GroundSure.

"Data Reports" means reports comprising factual data with no accompanying interpretation.

"Fees" has the meaning set out in clause 5.1.

"GroundSure" means GroundSure Limited, a company registered in England and Wales under number 03421028.

"GroundSure Materials" means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

"Intellectual Property" means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

"Mapping" means a map, map data or a combination of historical maps of various ages, time periods and scales.

"Order" means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.

"Ordnance Survey" means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

"Order Website" means the online platform through which Orders may be placed by the Client and accepted by GroundSure.

"Report" means a Risk Screening Report or Data Report for Commercial or Residential property.

"Residential" means any building or property used as or intended to be used as a single dwelling.

"Risk Screening Report" means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.

"Services" means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.

"Site" means the area of land in respect of which the Client has requested GroundSure to provide the Services.

"Third Party Content" means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.

"User Guide" means the user guide, as amended from time to time, available upon request from GroundSure and on the website (www.GroundSure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 GroundSure agrees to provide the Services in accordance with the Contract.

2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions

implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by GroundSure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

3 The Client's obligations

3.1 The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to GroundSure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1 The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,

(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),

(iv) the first purchaser or first tenant of the Site, and

(v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1 GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

- (i) full payment of all relevant Fees and
- (ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the GroundSure Materials shall:

- (i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services;
- (ii) use the Information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;
- (iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);
- (iv) not combine the Services with or incorporate such Services into any other information data or service;
- (v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);
- (vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and
- (vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7 Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

- (i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or subcontractors;
- (ii) any use made of the Reports, Services, Materials or any part of them; and
- (iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death

or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for

- (i) loss of profits;
- (ii) loss of business;
- (iii) depletion of goodwill and/or similar losses;
- (iv) loss of anticipated savings;
- (v) loss of goods;
- (vi) loss of contract;
- (vii) loss of use;
- (viii) loss or corruption of data or information;
- (ix) business interruption;
- (x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;
- (xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;
- (xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;
- (xiii) loss or damage to a computer, software, modem, telephone or other property; and
- (xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.

7.5 GroundSure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

8 GroundSure's right to suspend or terminate

8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:

- (i) the Client fails to pay any sum due to GroundSure within 30 days of the Payment Date; or
- (ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or
- (iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or
- (iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

- (i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and
- (ii) the Reports and/or Mapping provided under this Contract are
 - (a) supplied to the Client's specification(s) and in any event
 - (b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

- (i) GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in

GroundSure's possession or control; and

(ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of GroundSure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to GroundSure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.

12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.

12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

- (i) the Client or Beneficiary's failure to provide facilities, access or information;
- (ii) fire, storm, flood, tempest or epidemic;
- (iii) Acts of God or the public enemy;
- (iv) riot, civil commotion or war;
- (v) strikes, labour disputes or industrial action;
- (vi) acts or regulations of any governmental or other agency;
- (vii) suspension or delay of services at public registries by Third Party Data Providers;
- (viii) changes in law; or
- (ix) any other reason beyond GroundSure's reasonable control.

In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English

law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law. © GroundSure Limited June 2013

APPENDIX C GROUNDSURE REPORT- GEOINSIGHT

PSA Design

The Old Bank House, 6 Berry Lane,
Longridge,
Preston, PR33JA

GroundSure Reference: HMD-336-1660989

Your Reference: D1990 - Lodematic

Report Date 12 Sep 2014

Report Delivery Method: Email - pdf

GroundSure Geolinsight

Address: LODEMATIC COMPONENTS LTD, PRIMROSE ROAD, CLITHEROE, BB7 1BS

Dear Sir/ Madam,

Thank you for placing your order with GroundSure. Please find enclosed the **GroundSure Geolinsight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above GroundSure reference number.

Yours faithfully,



Managing Director
Groundsure Limited

Enc.
GroundSure Geolinsight



GroundSure GeoInsight

Address: LODEMATIC COMPONENTS LTD, PRIMROSE ROAD, CLITHEROE, BB7 1BS
Date: 12 Sep 2014
Reference: HMD-336-1660989
Client: PSA Design

NW

N

NE

W

E



SW

S

SE

Aerial Photograph Capture date: c.2002
Grid Reference: 373715,440750
Site Size: 0.26ha

Contents Page

Overview of Findings.....	5
1 Geology.....	8
1.1 Artificial Ground Map.....	8
1 Geology.....	9
1.1 Artificial Ground.....	9
1.1.1 Artificial/ Made Ground.....	9
1.1.2 Permeability of Artificial Ground.....	9
1.2 Superficial Deposits and Landslips Map.....	10
1.2 Superficial Deposits and Landslips.....	11
1.2.1 Superficial Deposits/ Drift Geology.....	11
1.2.2 Permeability of Superficial Ground.....	11
1.2.3 Landslip.....	11
1.2.4 Landslip Permeability.....	11
1.3 Bedrock and Faults Map.....	12
1.3 Bedrock, Solid Geology & Faults.....	13
1.3.1 Bedrock/ Solid Geology.....	13
1.3.2 Permeability of Bedrock Ground.....	13
1.3.3 Faults.....	13
1.4 Radon Data.....	14
1.4.1 Radon Affected Areas.....	14
1.4.2 Radon Protection.....	14
2 Ground Workings Map.....	15
2 Ground Workings.....	16
2.1 Historical Surface Ground Working Features derived from Historical Mapping.....	16
2.2 Historical Underground Working Features derived from Historical Mapping.....	17
2.3 Current Ground Workings.....	17
3 Mining, Extraction & Natural Cavities Map.....	18
3 Mining, Extraction & Natural Cavities.....	19
3.1 Historical Mining.....	19
3.2 Coal Mining.....	19
3.3 Johnson Poole and Bloomer.....	19
3.4 Non-Coal Mining.....	19
3.5 Non-Coal Mining Cavities.....	20
3.6 Natural Cavities.....	20
3.7 Brine Extraction.....	20
3.8 Gypsum Extraction.....	20
3.9 Tin Mining.....	20
3.10 Clay Mining.....	21
4 Natural Ground Subsidence.....	22
4.1 Shrink-Swell Clay Map.....	22
4.2 Landslides Map.....	23
4.3 Ground Dissolution Soluble Rocks Map.....	24
4.4 Compressible Deposits Map.....	25
4.5 Collapsible Deposits Map.....	26
4.6 Running Sand Map.....	27
4 Natural Ground Subsidence.....	28
4.1 Shrink-Swell Clays.....	28
4.2 Landslides.....	28
4.3 Ground Dissolution of Soluble Rocks.....	28
4.4 Compressible Deposits.....	29
4.5 Collapsible Deposits.....	29
4.6 Running Sands.....	29
5 Borehole Records Map.....	31
5 Borehole Records.....	32

6 Estimated Background Soil Chemistry.....	33
7 Railways and Tunnels Map.....	34
7 Railways and Tunnels.....	35
7.1 Tunnels	35
7.2 Historical Railway and Tunnel Features	35
7.3 Historical Railways.....	36
7.4 Active Railways.....	36
7.5 Railway Projects.....	36

Overview of Findings

The GroundSure GeoInsight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Shallow Mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and GroundSure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1:Geology

1.1 Artificial Ground	1.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	No
	1.1.2 Are there any records relating to permeability of artificial ground within the study site* boundary?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?	Yes
	1.2.2 Are there any records relating to permeability of superficial geology within the study site boundary?	Yes
	1.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	1.2.4 Are there any records relating to permeability of landslips within the study site boundary?	No
1.3 Bedrock, Solid Geology & Faults	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records relating to permeability of bedrock within the study site boundary?	Yes
	1.3.3 Are there any records of faults within 500m of the study site boundary?	Yes
1.4 Radon data	1.4.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is in a Radon Affected Area, as between 1 and 3% of properties are above the Action Level
	1.4.2 Is the property in an area where Radon Protection Measures are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary

Section 2:Ground Workings	On-site	0-50m	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	0	1	23	Not Searched	Not Searched
2.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	0
2.3 Current Ground Workings	0	0	0	0	0
Section 3:Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining	0	0	0	0	0

Section 3: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
--	---------	-------	--------	---------	----------

3.2 Coal Mining	0	0	0	0	0
3.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
3.4 Non-Coal Mining	1	0	0	0	1
3.5 Non-Coal Mining Cavities	0	0	0	0	0
3.6 Natural Cavities	0	0	0	0	0
3.7 Brine Extraction	0	0	0	0	0
3.8 Gypsum Extraction	0	0	0	0	0
3.9 Tin Mining	0	0	0	0	0
3.10 Clay Mining	0	0	0	0	0

Section 4: Natural Ground Subsidence	On-site
--------------------------------------	---------

4.1 Shrink Swell Clay	Very Low
4.2 Landslides	Very Low
4.3 Ground Dissolution of Soluble Rocks	Very Low
4.4 Compressible Deposits	Moderate
4.5 Collapsible Deposits	Very Low
4.6 Running Sand	Low

Section 5: Borehole Records	On-site	0-50m	51-250
-----------------------------	---------	-------	--------

5 BGS Recorded Boreholes	0	0	0
--------------------------	---	---	---

Section 6: Estimated Background Soil Chemistry	On-site	0-50m	51-250
--	---------	-------	--------

6 Records of Background Soil Chemistry	2	1	2
--	---	---	---

Section 7: Railways and Tunnels	On-site	0-50m	51-250	251-500
---------------------------------	---------	-------	--------	---------

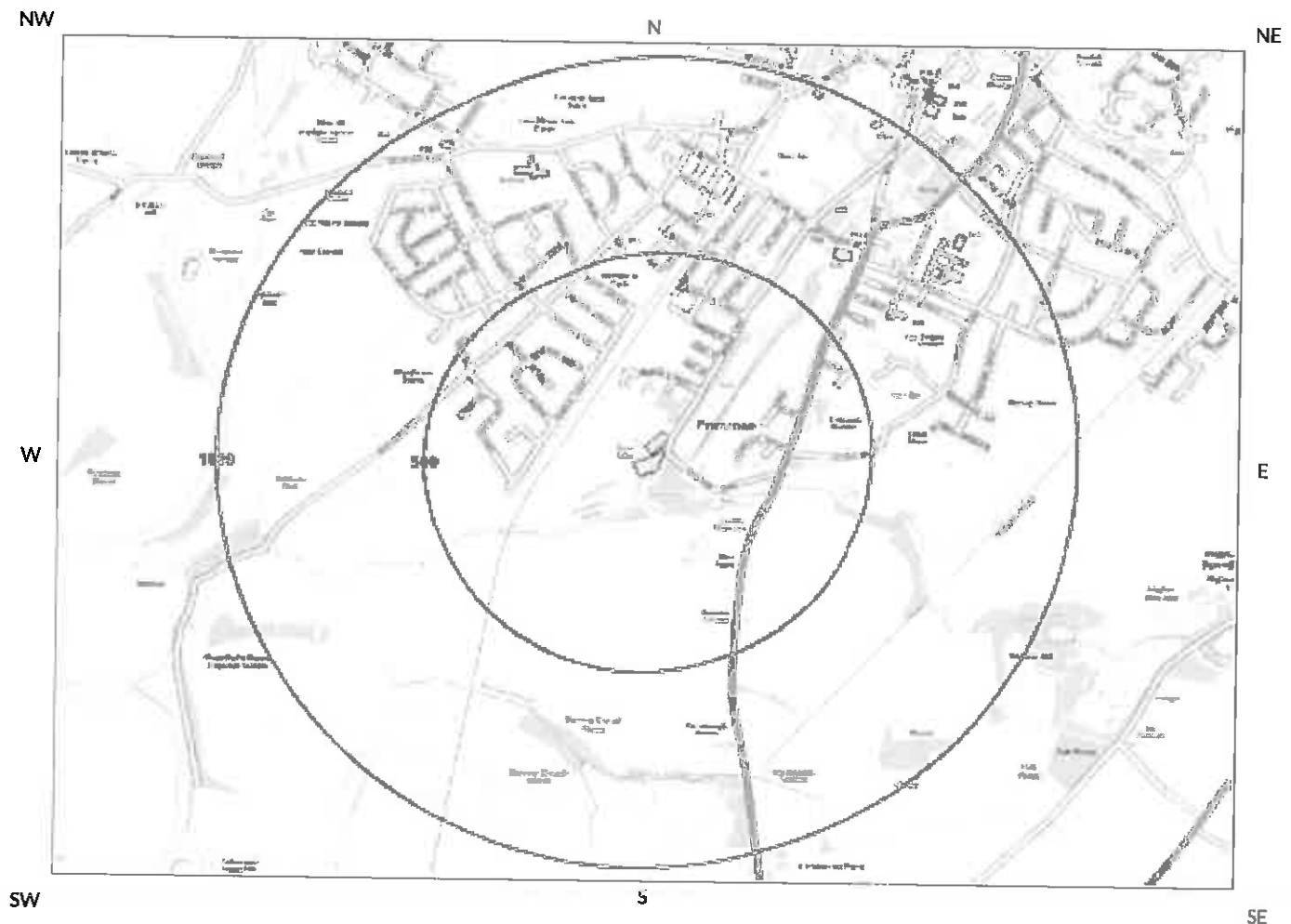
7.1 Tunnels	0	0	0	Not Searched
7.2 Historical Railway and Tunnel Features	0	0	4	Not Searched
7.3 Historical Railways	0	0	0	Not Searched
7.4 Active Railways	0	0	2	Not Searched



Section 7: Railways and Tunnels	On-site	0-50m	51-250	251-500
7.5 Railway Projects	0	0	0	0

1 Geology

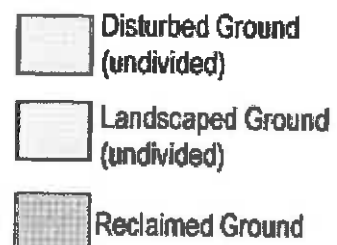
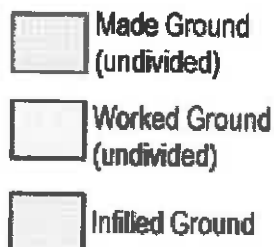
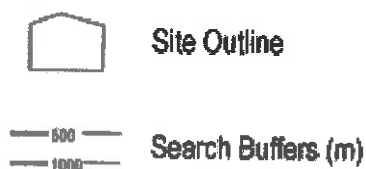
1.1 Artificial Ground Map



Artificial Ground Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.





1 Geology

1.1 Artificial Ground

1.1.1 Artificial/ Made Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:068

Are there any records of Artificial/Made Ground within 500m of the study site boundary? No

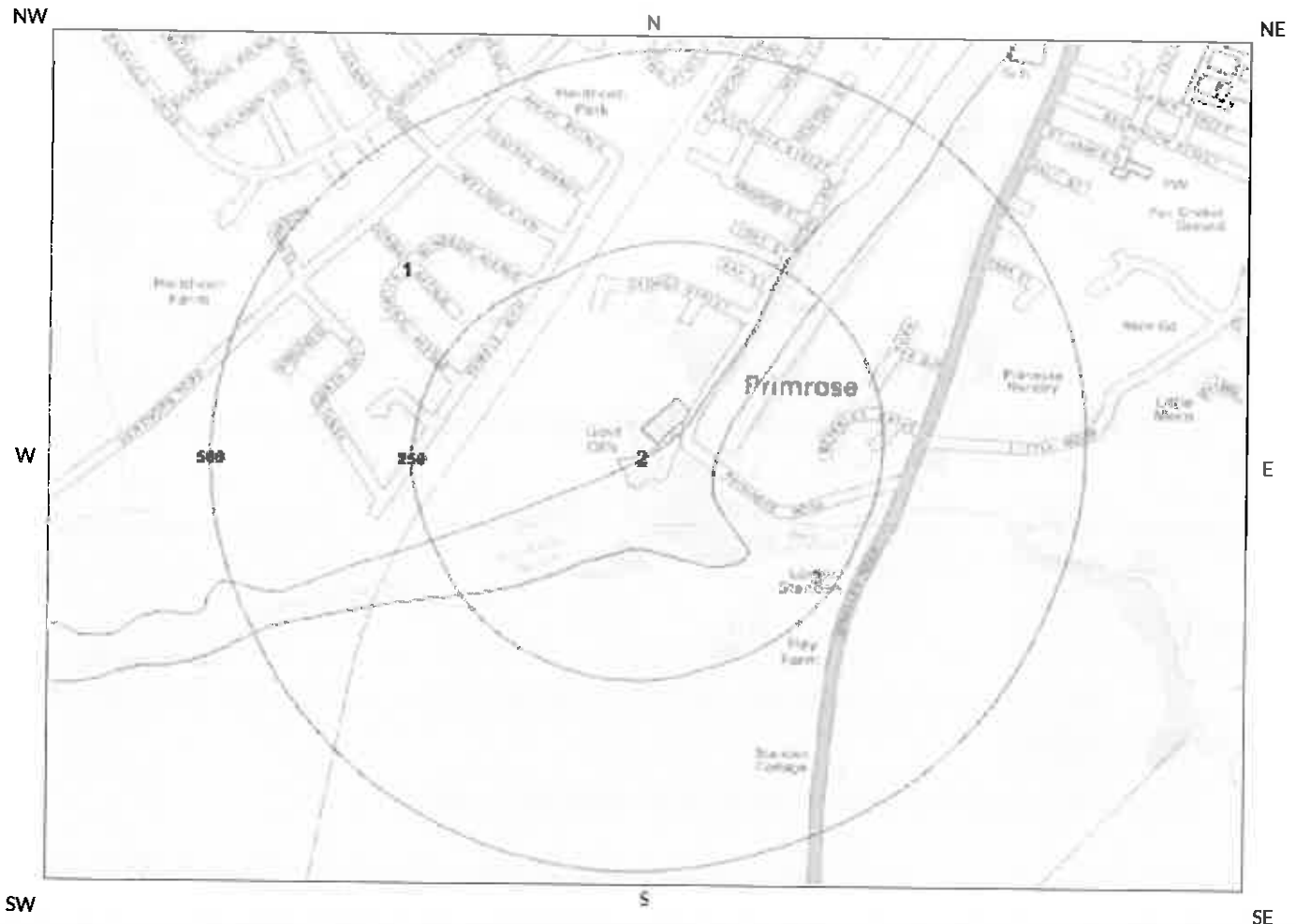
Database searched and no data found.

1.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary? No

Database searched and no data found.

1.2 Superficial Deposits and Landslips Map



Superficial Deposits and Landslips Legend

Mapping
sourced from

OS Ordnance
Survey

© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.



Site Outline



Search Buffers (m)

1.2 Superficial Deposits and Landslips

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? **Yes**

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
2	0.0	On Site	ALV-CSSG	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
3	46.0	E	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

1.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? **Yes**

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Intergranular	High	Very Low
0.0	On Site	Mixed	High	Low
46.0	E	Mixed	High	Low

1.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary? **No**

Database searched and no data found.

This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

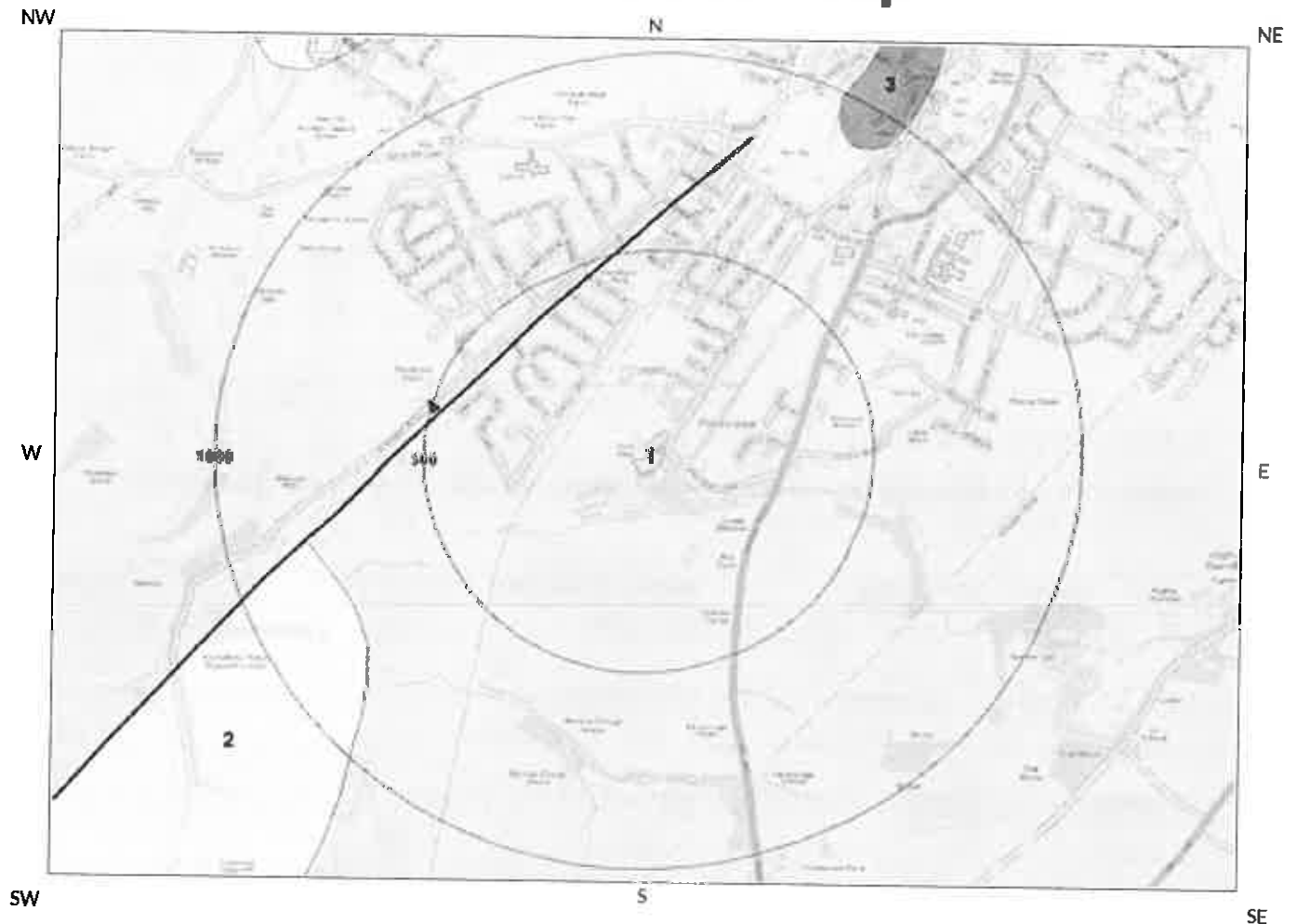
1.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site* boundary? **No**

Database searched and no data found.

* This includes an automatically generated 50m buffer zone around the site

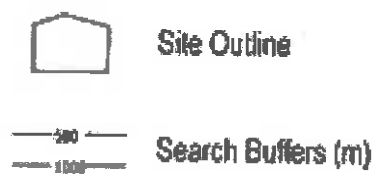
1.3 Bedrock and Faults Map



Bedrock and Faults Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.



1.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:068

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/ Solid Geology within 500m of the study site boundary:

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	CLHOM-MDST	Clitheroe Limestone Formation And Hodder Mudstone Formation (undifferentiated) - Mudstone	Holkerian / Chadian

1.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site* boundary? **Yes**

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	Low	Low

1.3.3 Faults

Are there any records of Faults within 500m of the study site boundary? **Yes**

ID	Distance (m)	Direction	Category Description	Feature Description
4	410.0	NW	FAULT	Normal fault, inferred

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

* This includes an automatically generated 50m buffer zone around the site

1.4 Radon Data

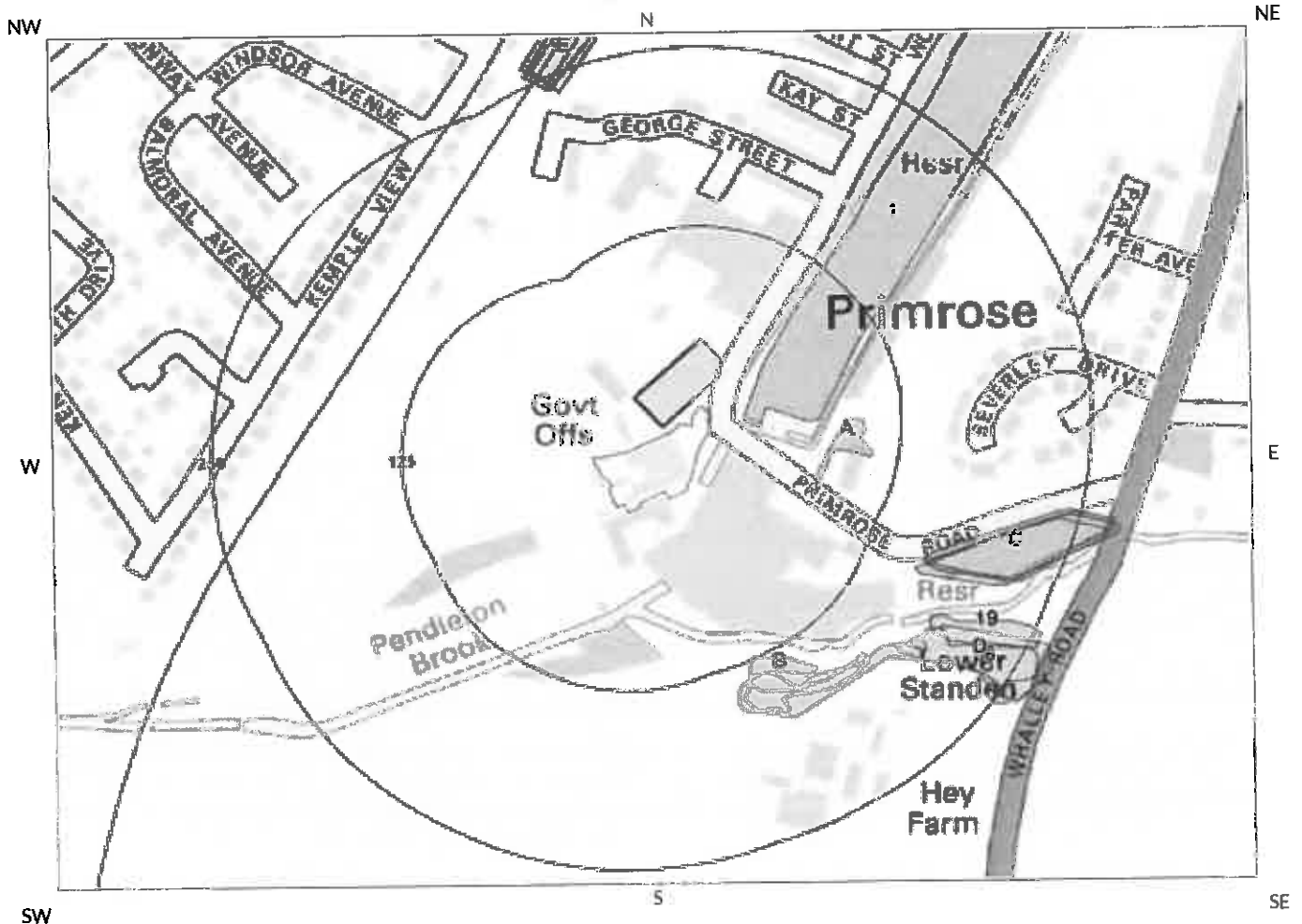
1.4.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is in a Radon Affected Area, as between 1 and 3% of properties are above the Action Level

1.4.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary

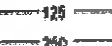
2 Ground Workings Map



Ground Workings Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.

-  Site Outline
-  Search Buffers (m)
-  Historic Surface Ground Workings
-  Historic Underground Workings
-  Current Ground Workings



2 Ground Workings

2.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on GroundSure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping.

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? **Yes**

The following Historical Surface Ground Working Features are provided by GroundSure:

ID	Distance (m)	Direction	NGR	Use	Date
1	20.0	E	373929 440986	Water Body	1971
2A	76.0	E	373830 440753	Unspecified Ground Workings	1930
3A	76.0	E	373830 440753	Unspecified Heap	1910
4A	76.0	E	373830 440753	Unspecified Heap	1938
5B	124.0	SE	373795 440599	Unspecified Heap	1971
6	135.0	SE	373794 440600	Unspecified Ground Workings	1950
7B	137.0	SE	373785 440591	Unspecified Ground Workings	1910
8B	137.0	SE	373785 440591	Unspecified Ground Workings	1930
9B	137.0	SE	373785 440591	Unspecified Ground Workings	1938
10C	161.0	E	373947 440683	Mill Pond	1938
11C	161.0	E	373947 440683	Mill Pond	1930
12C	161.0	E	373947 440683	Pond	1910
13C	165.0	E	373953 440688	Pond	1911
14C	168.0	E	373955 440685	Pond	1971
15C	168.0	E	373955 440685	Mill Pond	1950
16D	177.0	SE	373917 440604	Unspecified Ground Workings	1910
17D	177.0	SE	373917 440604	Unspecified Ground Workings	1930
18D	177.0	SE	373917 440604	Unspecified Ground Workings	1938
19	184.0	SE	373929 440627	Unspecified Ground Workings	1971
20E	237.0	N	373741 441168	Cuttings	1950
21E	240.0	NW	373735 441165	Cuttings	1938

ID	Distance (m)	Direction	NGR	Use	Date
22E	240.0	NW	373735 441165	Cuttings	1930
23E	240.0	NW	373735 441165	Cuttings	1910
24	246.0	NW	373697 441112	Cuttings	1911

2.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the GroundSure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? No

Database searched and no data found.

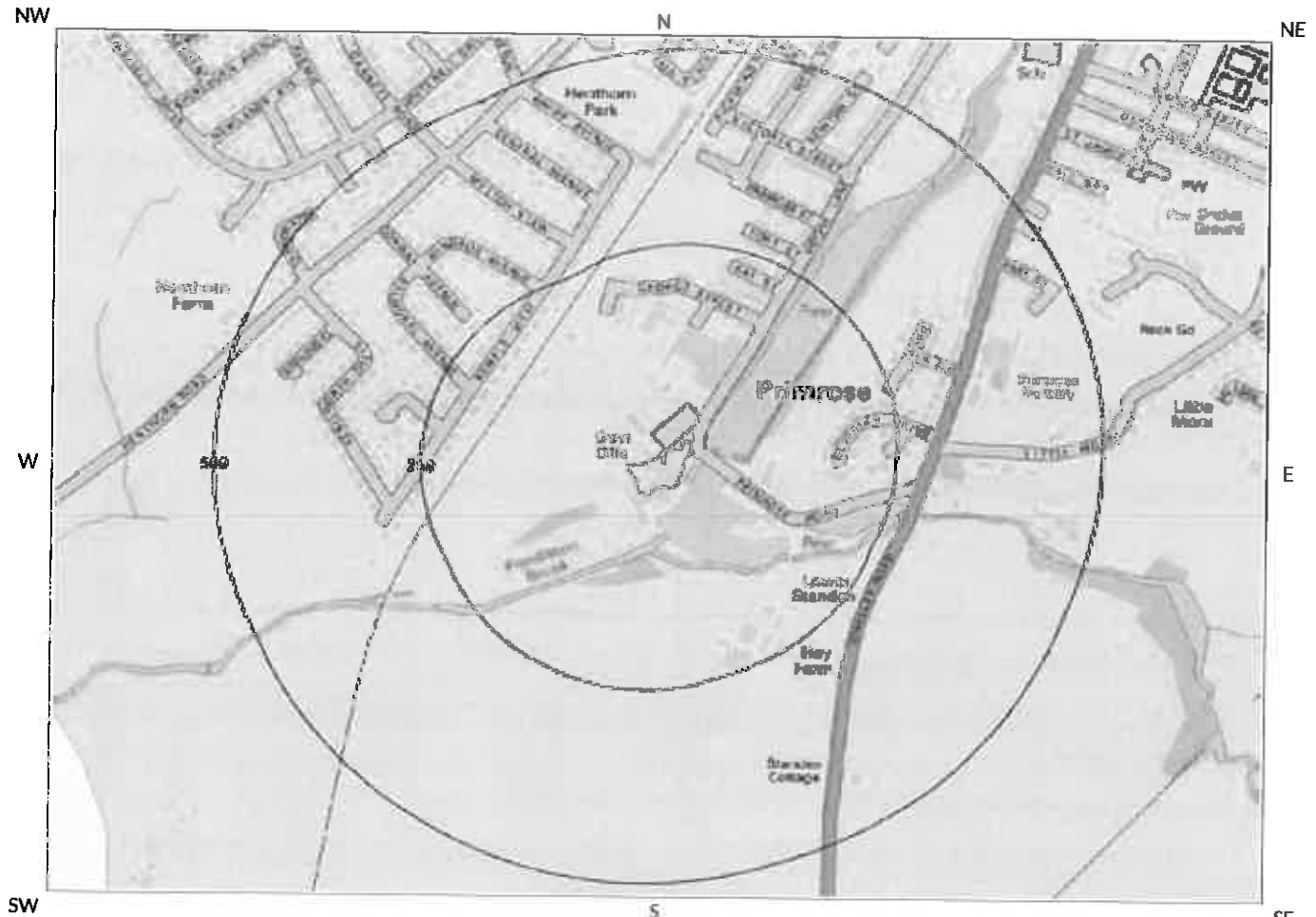
2.3 Current Ground Workings

This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

Are there any BGS Current Ground Workings within 1000m of the study site boundary? No

Database searched and no data found.

3 Mining, Extraction & Natural Cavities Map



Mining, Extraction and Natural Cavities Legend

Mapping sourced from **Ordnance Survey**

© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.





3 Mining, Extraction & Natural Cavities

3.1 Historical Mining

This dataset is derived from GroundSure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary? No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

3.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	0.0	On Site	Not available	Vein Mineral	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
Not shown	713.0	S	Not available	Vein Mineral	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.

3.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled "Review of mining instability in Great Britain, 1990" PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? No

Database searched and no data found.

3.6 Natural Cavities

This dataset provides information based on Peter Brett Associates natural cavities database.

Are there any Natural Cavities within 1000m of the study site boundary? No

Database searched and no data found.

3.7 Brine Extraction

This dataset provides information from the Brine Compensation Board which has been discontinued and is now covered by the Coal Authority.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.9 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level.

Are there any Tin Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.10 Clay Mining

This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

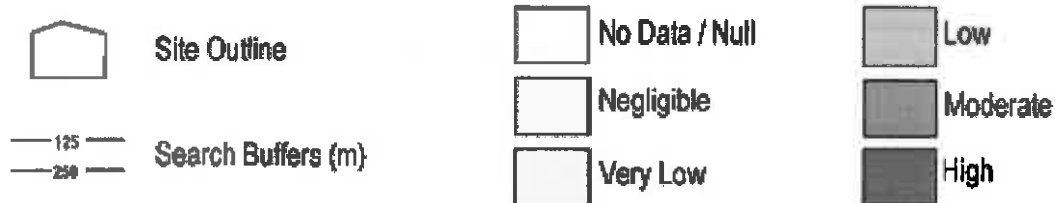
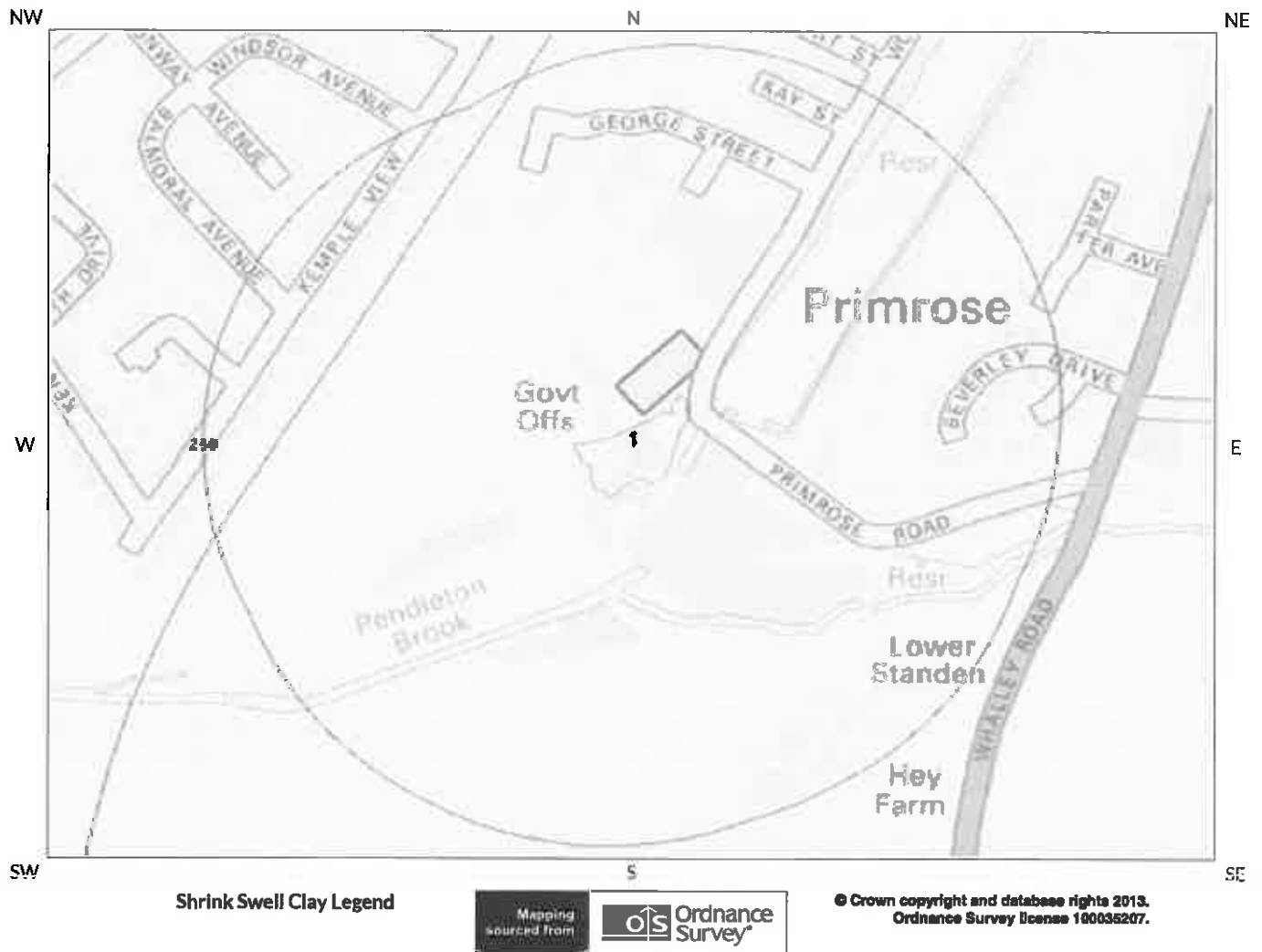
Are there any Clay Mining areas within 1000m of the study site boundary?

No

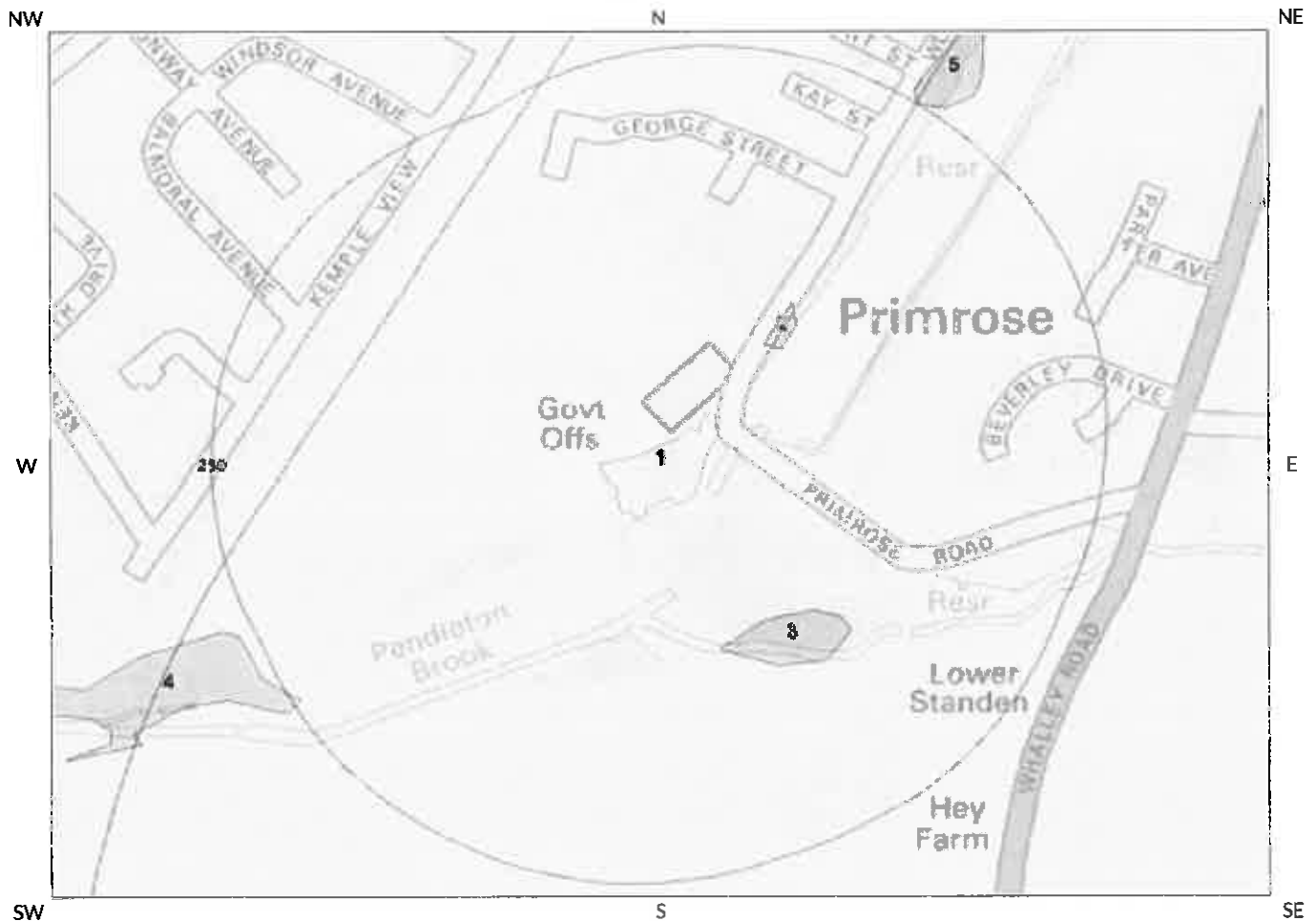
Database searched and no data found.

4 Natural Ground Subsidence

4.1 Shrink-Swell Clay Map



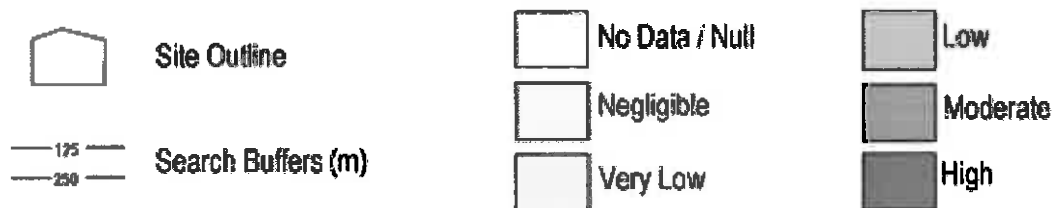
4.2 Landslides Map



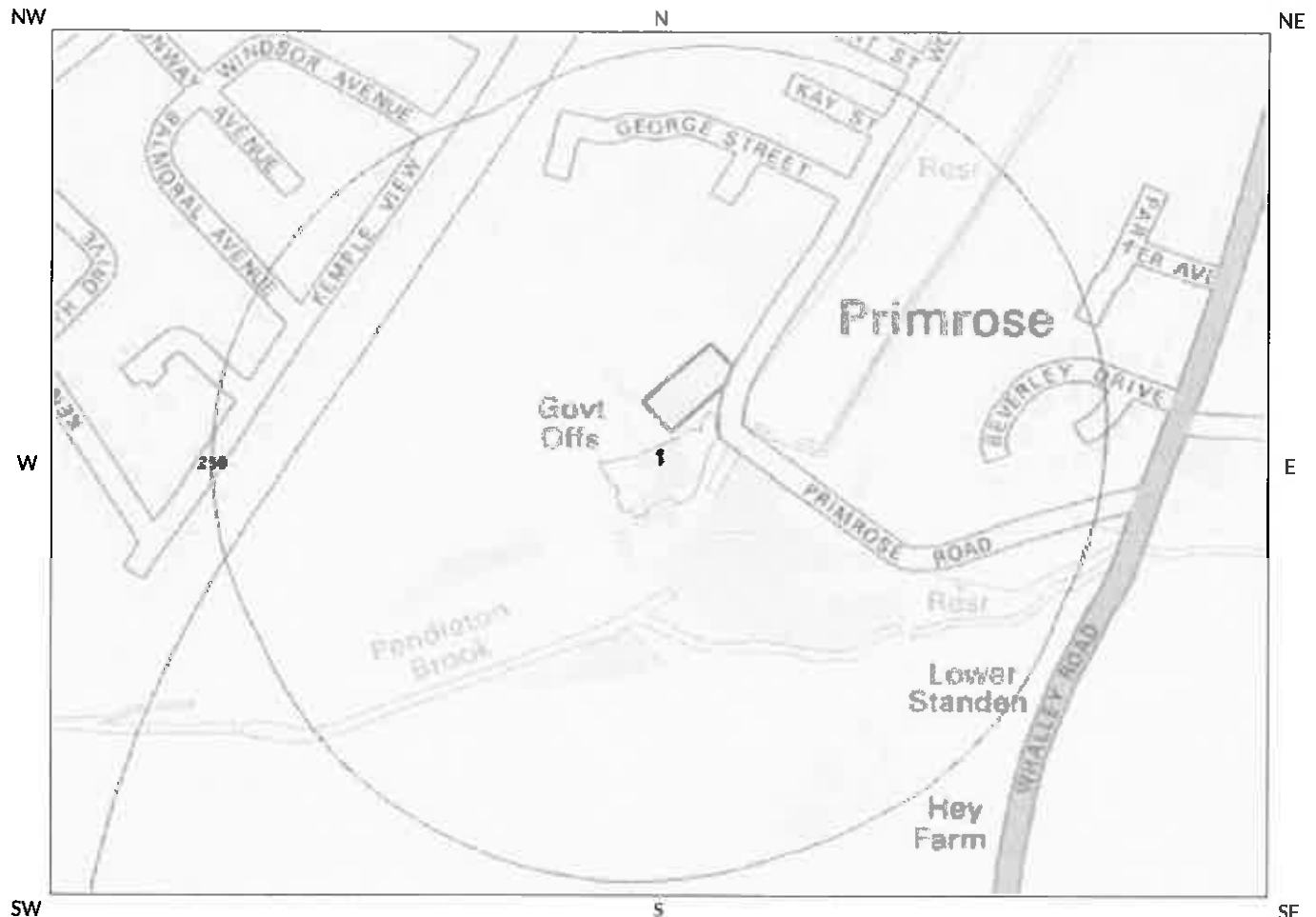
Landslides Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100036207.



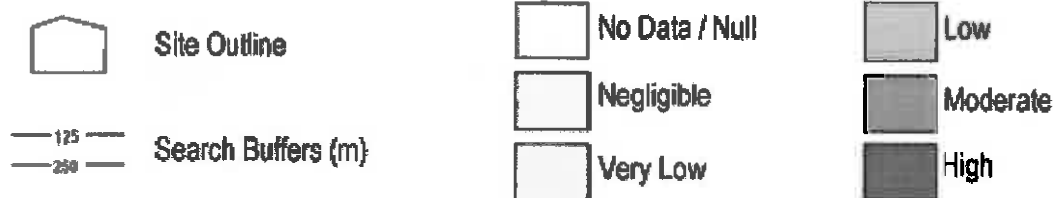
4.3 Ground Dissolution Soluble Rocks Map



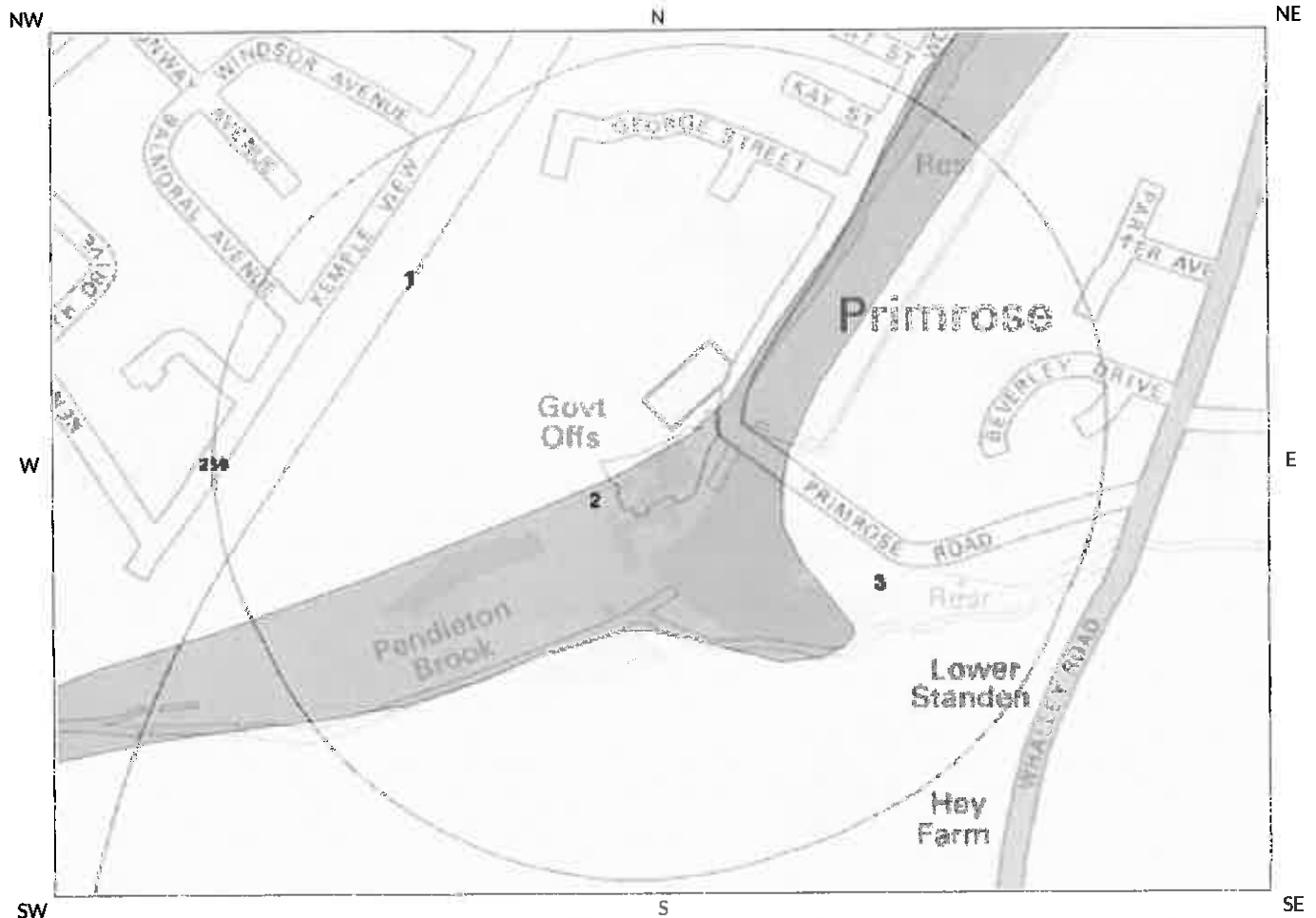
Ground Dissolution
Soluble Rocks Legend

Mapping
sourced from
OS Ordnance
Survey

© Crown copyright and database rights 2015.
Ordnance Survey license 100035207.



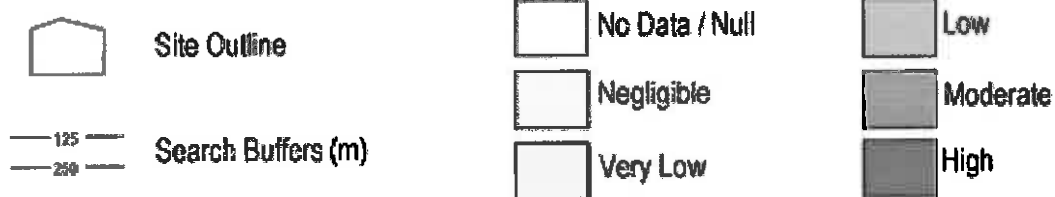
4.4 Compressible Deposits Map



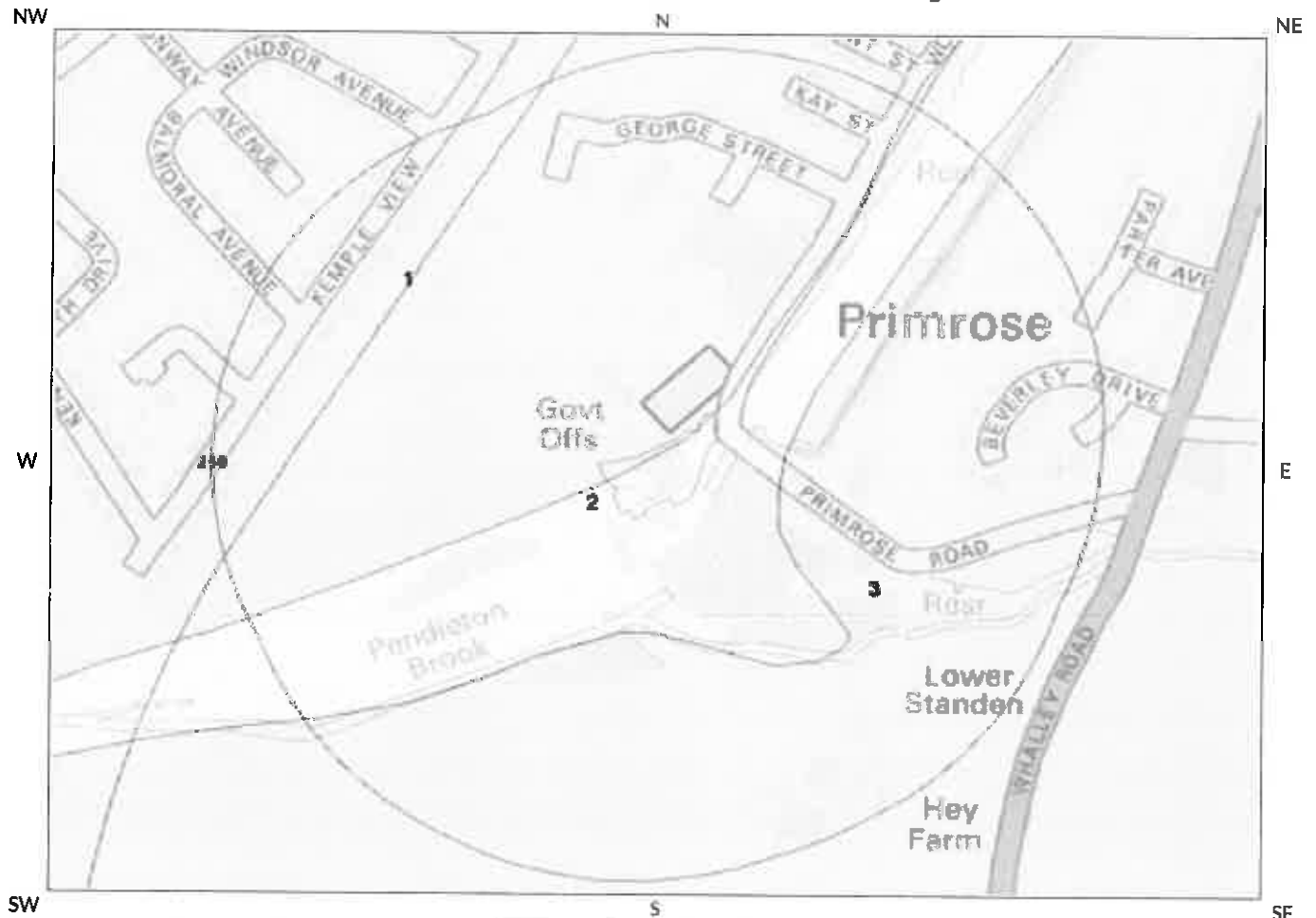
Compressible Deposits Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100036207.



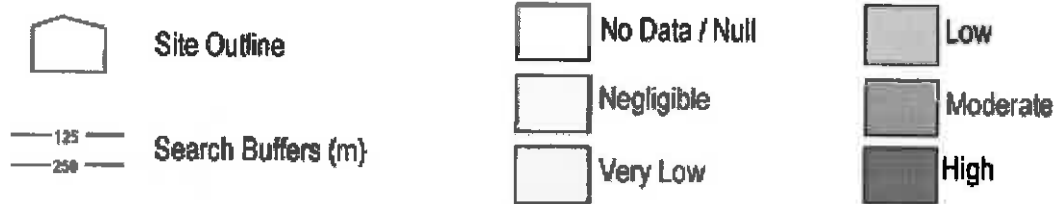
4.5 Collapsible Deposits Map



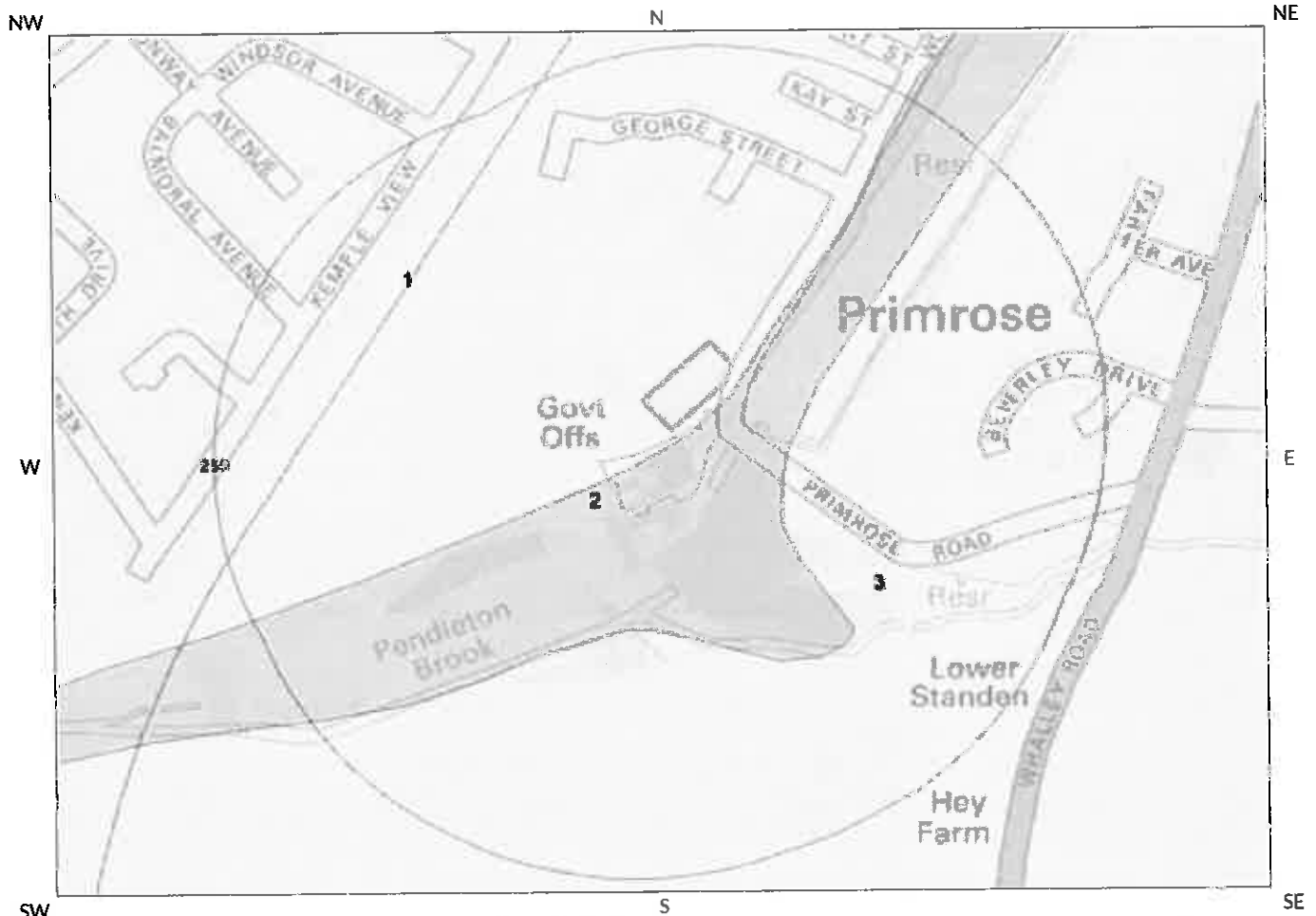
Collapsible Deposits Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100036207.



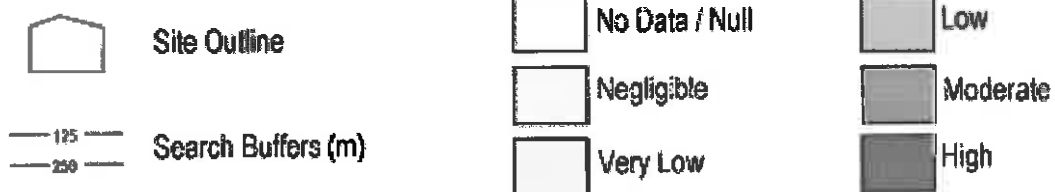
4.6 Running Sand Map



Running Sand Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.





4 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site* boundary? **Moderate**

4.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

4.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

4.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Significant soluble rocks are present. Problems unlikely except with considerable surface or subsurface water flow. No special actions required to avoid problems due to soluble rocks. No special ground investigation required or increased construction costs are likely. An increase in financial risk due to potential problems with soluble rocks is unlikely.

* This includes an automatically generated 50m buffer zone around the site

4.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.
2	0.0	On Site	Moderate	Significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build - consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Extra construction costs are likely. For existing property - possible increase in insurance risk from compressibility, especially if water conditions or loading of the ground change significantly.
3	46.0	E	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

4.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.
2	0.0	On Site	Negligible	No indicators for collapsible deposits identified. No actions required to avoid problems due to collapsible deposits. No special ground investigation required, or increased construction costs or increased financial risk due to potential problems with collapsible deposits.
3	46.0	E	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

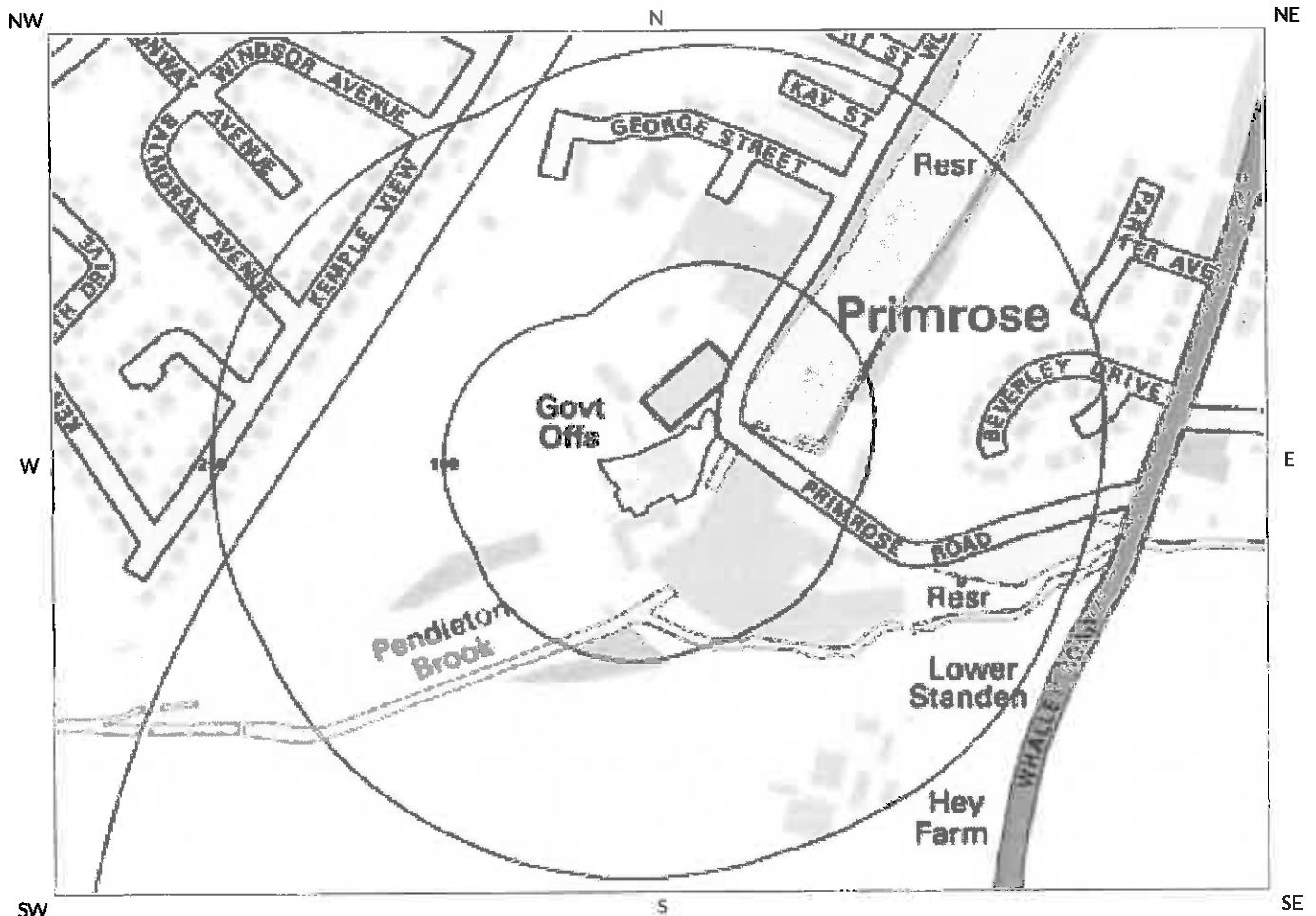
4.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
2	0.0	On Site	Low	Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build - consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property - no significant increase in insurance risk due to running sand problems is likely.

ID	Distance (m)	Direction	Hazard Rating	Details
3	46.0	E	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

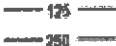
5 Borehole Records Map



Borehole Records Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100036207.

-  Site Outline
-  Borehole Locations
-  Search Buffers (m)



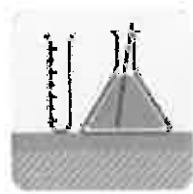
5 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

0

Database searched and no data found.



6 Estimated Background Soil Chemistry

Records of background estimated soil chemistry within 250m of the study site boundary:

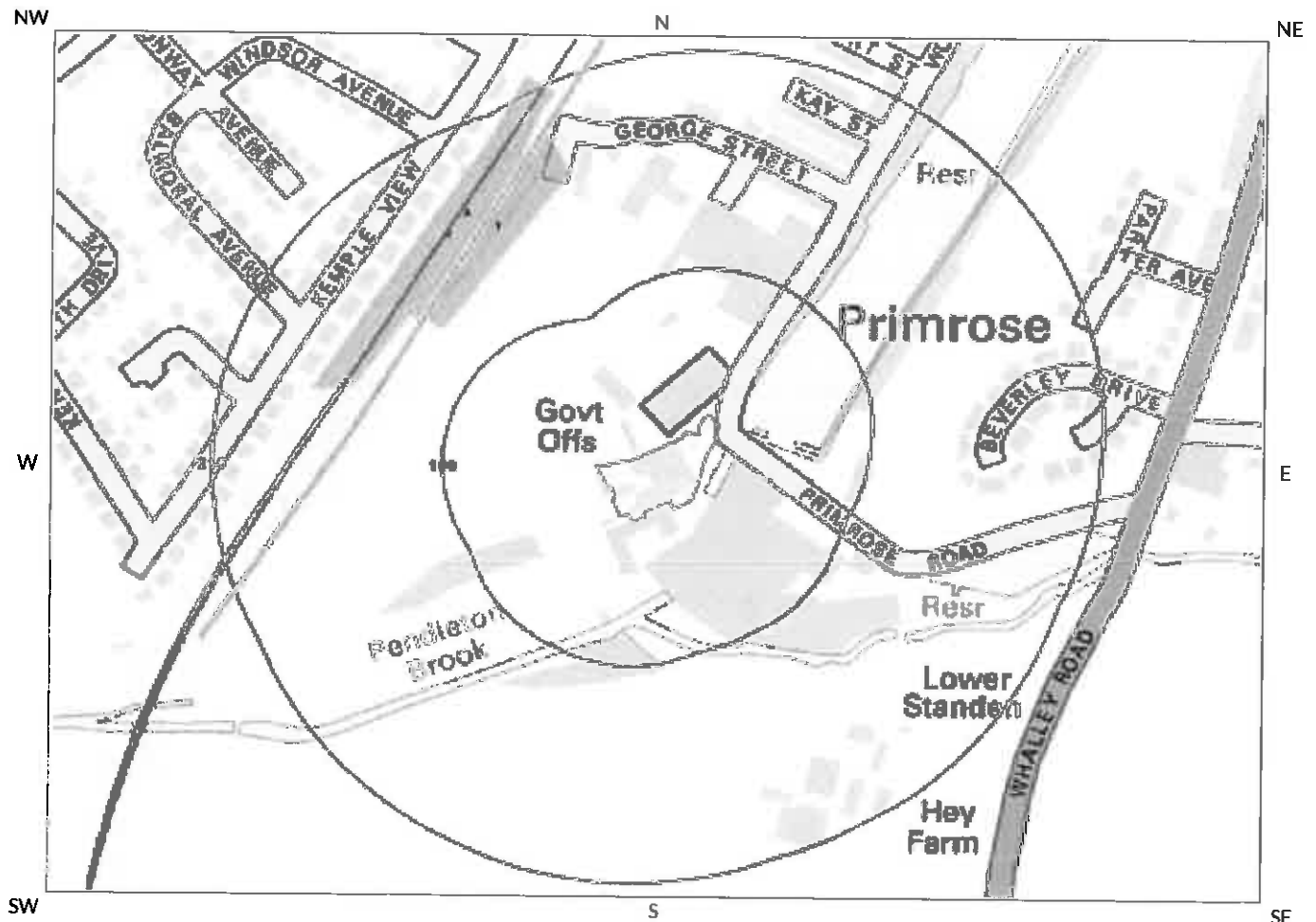
5

For further information on how this data is calculated and limitations upon its use, please see the GroundSure GeolInsight User Guide, available on request.

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<150 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<150 mg/kg
46.0	E	Sediment	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<150 mg/kg
214.0	N	Sediment	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<150 mg/kg
249.0	E	Sediment	<15 mg/kg	<1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg	<150 mg/kg

*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

7 Railways and Tunnels Map



Railways and Tunnels Legend



© Crown copyright and database rights 2013.
Ordnance Survey license 100035207.
© OpenStreetMapContributors

	Underground or Partially Underground Railway / Subway System		Railway Track (OpenStreetMap)
	Railway Tunnel (OS Mapping)		High Speed 2
	Abandoned or Dismantled Railway (OpenStreetMap)		Crossrail
	Railway Track (OS Mapping)		Railway and/or Tunnel Feature from Historical Mapping
	Search Buffers (m)		
	Site Outline		



7 Railways and Tunnels

7.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary? No

Have any underground railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary? No

Have any other railway tunnels been identified within 250m of the site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

7.2 Historical Railway and Tunnel Features

This data is derived from GroundSure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary? No

Have any historical railway or tunnel features been identified within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Details	Date
1	136	NW	373604 440913	Railway Sidings	1955
2	152	NW	373565 440910	Railway Sidings	1911
3A	164	NW	373584 440923	Railway Sidings	1886
4A	164	NW	373584 440923	Railway Sidings	1908

Any records that have been identified are represented on the Railways and Tunnels Map.

7.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary? **No**

Have any historical railway lines been identified within 250m of the study site boundary? **No**

Database searched and no data found.

Note: multiple sections of the same track may be listed in the detail above

Any records that have been identified are represented on the Railways and Tunnels Map.

7.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary? **No**

Have any active railway lines been identified within 250m of the study site boundary? **Yes**

Distance (m)	Direction	Name	Type
148	NW	Ribble Valley Line	Rail
168	NW	Not given	Multi Track

Note: multiple sections of the same track may be listed in the detail above

Any records that have been identified are represented on the Railways and Tunnels Map.

7.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail.

Is the study site within 5km of the route of the High Speed 2 rail project? **No**

Is the study site within 500m of the route of the Crossrail rail project? **No**

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a GroundSure HS2 and Crossrail Report.

Contact Details



GroundSure Helpline
Telephone: 08444 159 000
info@groundsure.com



British Geological Survey Enquiries

Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email: enquiries@bgs.ac.uk
Web: www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries



British Gypsum
British Gypsum Ltd
East Leake
Loughborough
Leicestershire
LE12 6HX



The Coal Authority
200 Lichfield Lane
Mansfield
Notts NG18 4RG
Tel: 0345 7626 848
DX 716176 Mansfield 5
www.coal.gov.uk



Public Health England

Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
<https://www.gov.uk/government/organisations/public-health-england>
Email: enquiries@phe.gov.uk
Main switchboard: 020 7654 8000



Johnson Poole & Bloomer Limited

Harris and Pearson Building, Brettell Lane
Brierley Hill, West Midlands
DY5 3LH
Tel: +44 (0) 1384 262 000
Email: enquiries.jp@jpb.co.uk
Website: www.jpb.co.uk



Ordnance Survey

Adanac Drive, Southampton
SO16 0AS
Tel: 08456 050505
Website: <http://www.ordnancesurvey.co.uk/>



Getmapping PLC

Virginia Villas, High Street, Hartley Witney,
Hampshire RG27 8NW
Tel: 01252 845444
Website: <http://www1.getmapping.com/>



Peter Brett Associates

Caversham Bridge House
Waterman Place
Reading
Berkshire RG1 8DN
Tel: +44 (0)118 950 0761 E-mail: reading@pba.co.uk
Website: <http://www.peterbrett.com/home>



Acknowledgements: Ordnance Survey © Crown Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028]. This report has been prepared in accordance with the GroundSure Ltd standard Terms and Conditions of business for work of this nature.

Report Reference: HMD-336-1660989
Client Reference: D1990 - Lodematic

Standard Terms and Conditions

1 Definitions

In these terms and conditions unless the context otherwise requires:

"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.

"Client" means the party or parties entering into a Contract with GroundSure.

"Commercial" means any building or property which is not Residential.

"Confidential Information" means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

"Support Services" means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

"Contract" means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

"Third Party Data Provider" means any third party providing Third Party Content to GroundSure.

"Data Reports" means reports comprising factual data with no accompanying interpretation.

"Fees" has the meaning set out in clause 5.1.

"GroundSure" means GroundSure Limited, a company registered in England and Wales under number 03421028.

"GroundSure Materials" means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

"Intellectual Property" means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

"Mapping" means a map, map data or a combination of historical maps of various ages, time periods and scales.

"Order" means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.

"Ordnance Survey" means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

"Order Website" means the online platform through which Orders may be placed by the Client and accepted by GroundSure.

"Report" means a Risk Screening Report or Data Report for Commercial or Residential property.

"Residential" means any building or property used as or intended to be used as a single dwelling.

"Risk Screening Report" means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.

"Services" means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.

"Site" means the area of land in respect of which the Client has requested GroundSure to provide the Services.

"Third Party Content" means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.

"User Guide" means the user guide, as amended from time to time, available upon request from GroundSure and on the website (www.GroundSure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 GroundSure agrees to provide the Services in accordance with the Contract.

2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by GroundSure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order

shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

3 The Client's obligations

3.1 The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to GroundSure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1 The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

- (i) the Beneficiary,
- (ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),
- (iv) the first purchaser or first tenant of the Site, and
- (v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1 GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

- (i) full payment of all relevant Fees and
- (ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the GroundSure Materials shall:

- (i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services;
- (ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;
- (iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);
- (iv) not combine the Services with or incorporate such Services into any other information data or service;
- (v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);
- (vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and
- (vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7. Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

- (i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or subcontractors;
- (ii) any use made of the Reports, Services, Materials or any part of them; and
- (iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for

- (i) loss of profits;
- (ii) loss of business;
- (iii) depletion of goodwill and/or similar losses;
- (iv) loss of anticipated savings;
- (v) loss of goods;
- (vi) loss of contract;
- (vii) loss of use;
- (viii) loss or corruption of data or information;
- (ix) business interruption;
- (x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;
- (xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;
- (xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;
- (xiii) loss or damage to a computer, software, modem, telephone or other property; and
- (xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.

7.5 GroundSure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

8 GroundSure's right to suspend or terminate

8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:

- (i) the Client fails to pay any sum due to GroundSure within 30

days of the Payment Date; or

- (ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or
- (iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or
- (iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

- (i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and
- (ii) the Reports and/or Mapping provided under this Contract are
 - (a) supplied to the Client's specification(s) and in any event
 - (b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

- (i) GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in GroundSure's possession or control; and
- (ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

- (i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;
- (ii) comply with such of GroundSure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and
- (iii) promptly report to GroundSure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.

12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.

12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

- (i) the Client or Beneficiary's failure to provide facilities, access or information;
- (ii) fire, storm, flood, tempest or epidemic;
- (iii) Acts of God or the public enemy;
- (iv) riot, civil commotion or war;
- (v) strikes, labour disputes or industrial action;
- (vi) acts or regulations of any governmental or other agency;
- (vii) suspension or delay of services at public registries by Third Party Data Providers;
- (viii) changes in law; or
- (ix) any other reason beyond GroundSure's reasonable control.

In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly

given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law

APPENDIX D ENVIRONMENT AGENCY WEBSITE INFORMATION

Enter a postcode or place name:

BB7 1BS

Go

Other topics for this area...

Landfill

Waste

Map legend

Click on a feature for details of that site

☒ Authorised Landfill

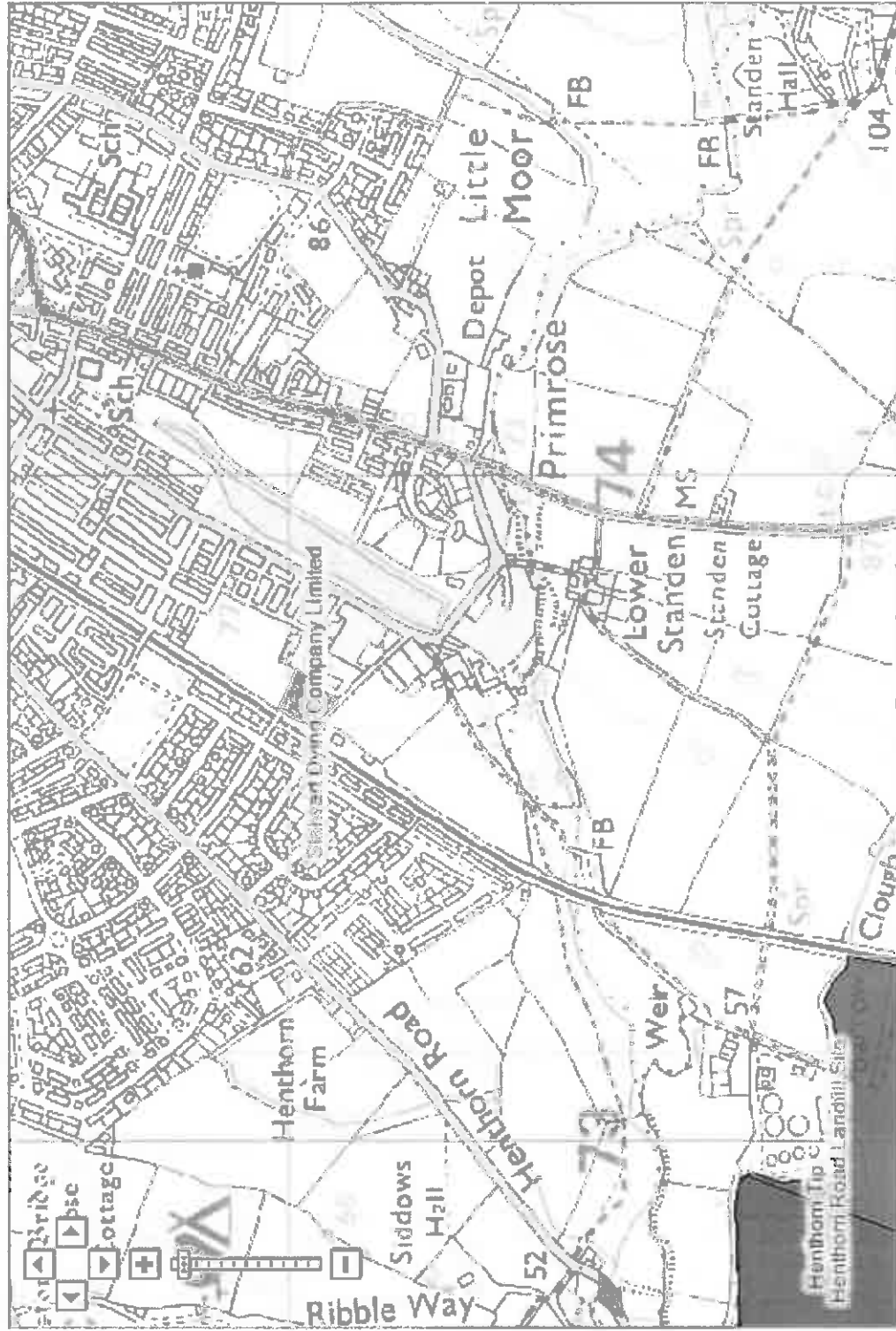
☐ Site boundary

☒ Historic landfill

☐ Site boundary

BB7 1BS at scale 1:10,000

Other maps Data search Text only version



Enter a postcode or place name:

Go

Other topics for this area...

Pollution

Pollution

Map legend

Click on a feature for details of that site

☐ Pollution Incidents ⓘ

☒ Major

☒ Significant

☐ Industrial Pollution ⓘ

☒ Fuel & Power

☐ Metal

☐ Mineral

☐ Chemical

☐ Waste

☐ Water

☐ Radioactive

☐ Associated

☐ Other

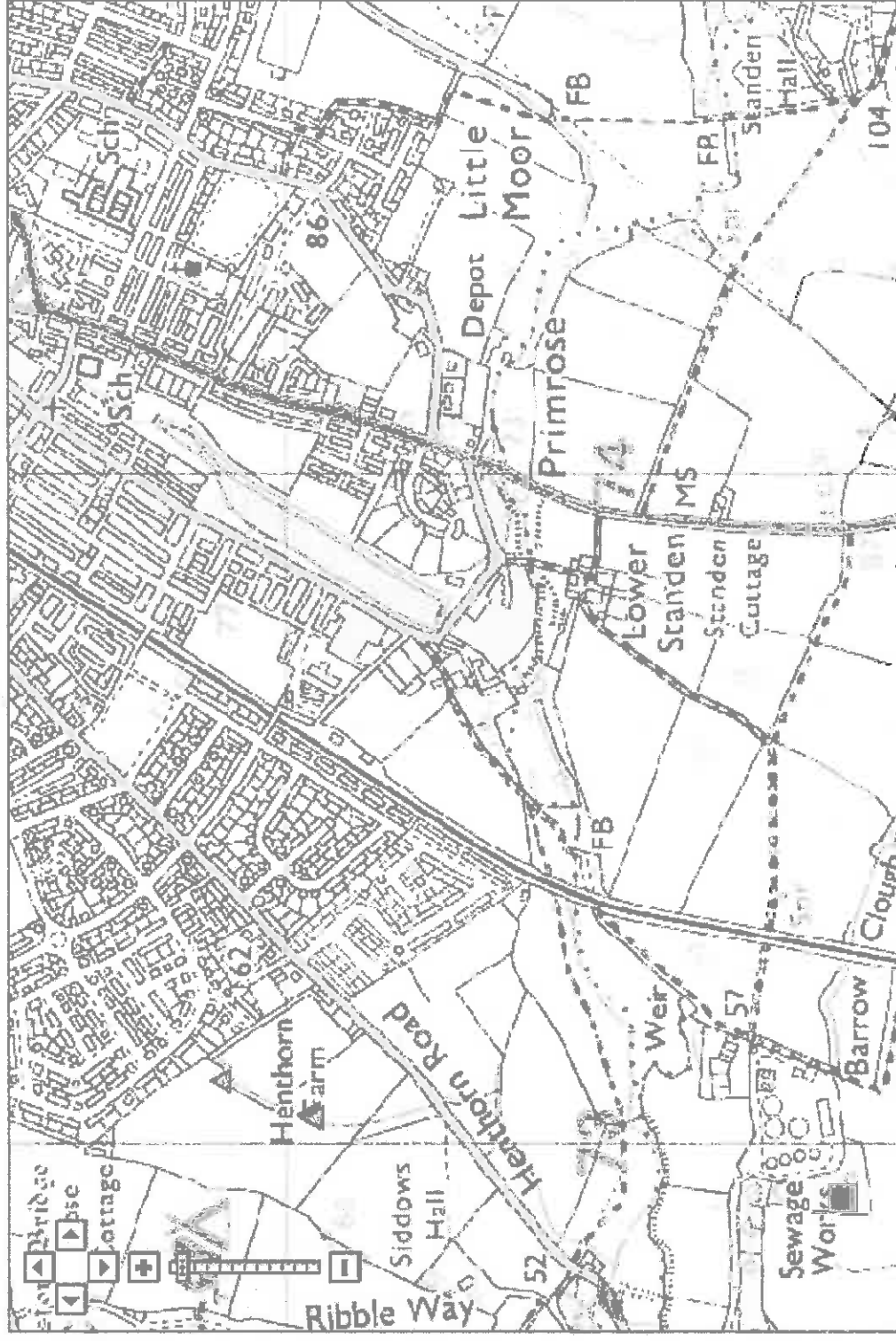
☐ Not Classified

☐ Industrial Operator Scores (OPRA) 2011 ⓘ

☒ Band A

Map of X: 373,715; Y: 440,750 at scale 1:10,000

Other maps ⓘ Data search ⓘ Text only version ⓘ



Enter a postcode or place name:

Go

Other topics for this area...

Risk of Flooding from Rivers and Sea

View other interactive Maps

Risk of Flooding from Rivers and Sea

River flooding happens when a river cannot cope with the amount of water draining into it from the surrounding land. Sea flooding happens when there are high tides and stormy conditions.

The shading on the map shows the risk of flooding from rivers and the sea in this particular area

Click on the map for a more detailed explanation.

Map of X: 373,715; Y: 440,750 at scale 1:10,000

Data search

Map legend

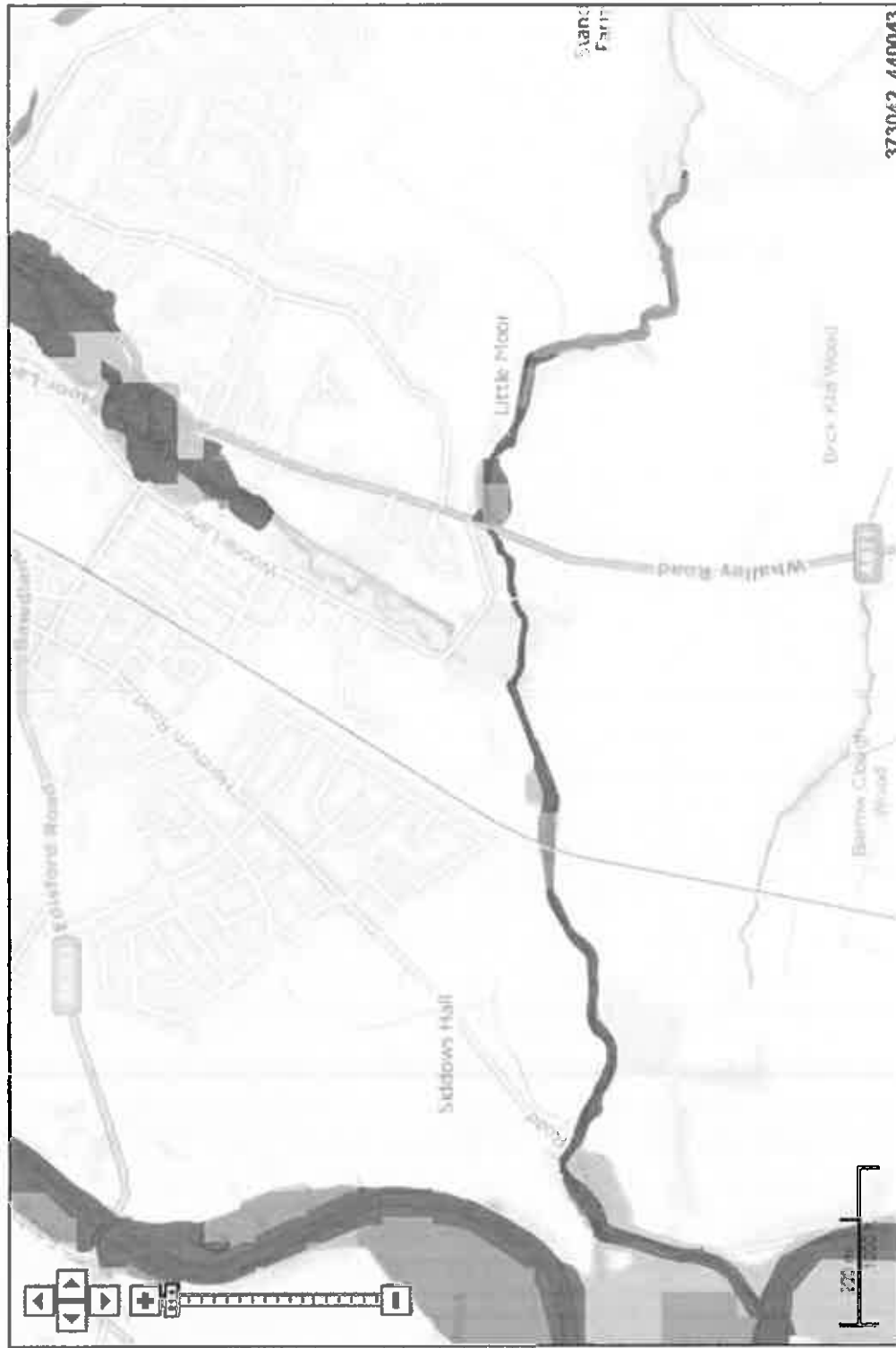
☒ Risk of Flooding from Rivers and Sea

High

Medium

Low

Very Low



Enter a postcode or place name:



Other topics for this area...

Groundwater

Groundwater

Other maps Data search Text only version

X: 373,715; Y: 440,750 at scale 1:10,000

Map legend

Groundwater source protection zones

Inner zone (Zone 1)

Inner zone - subsurface activity only (Zone 1c)

Outer zone (Zone 2)

Outer zone - subsurface activity only (Zone 2c)

Total catchment (Zone 3)

Total catchment - subsurface activity only (Zone 3c)

Special interest (Zone 4)

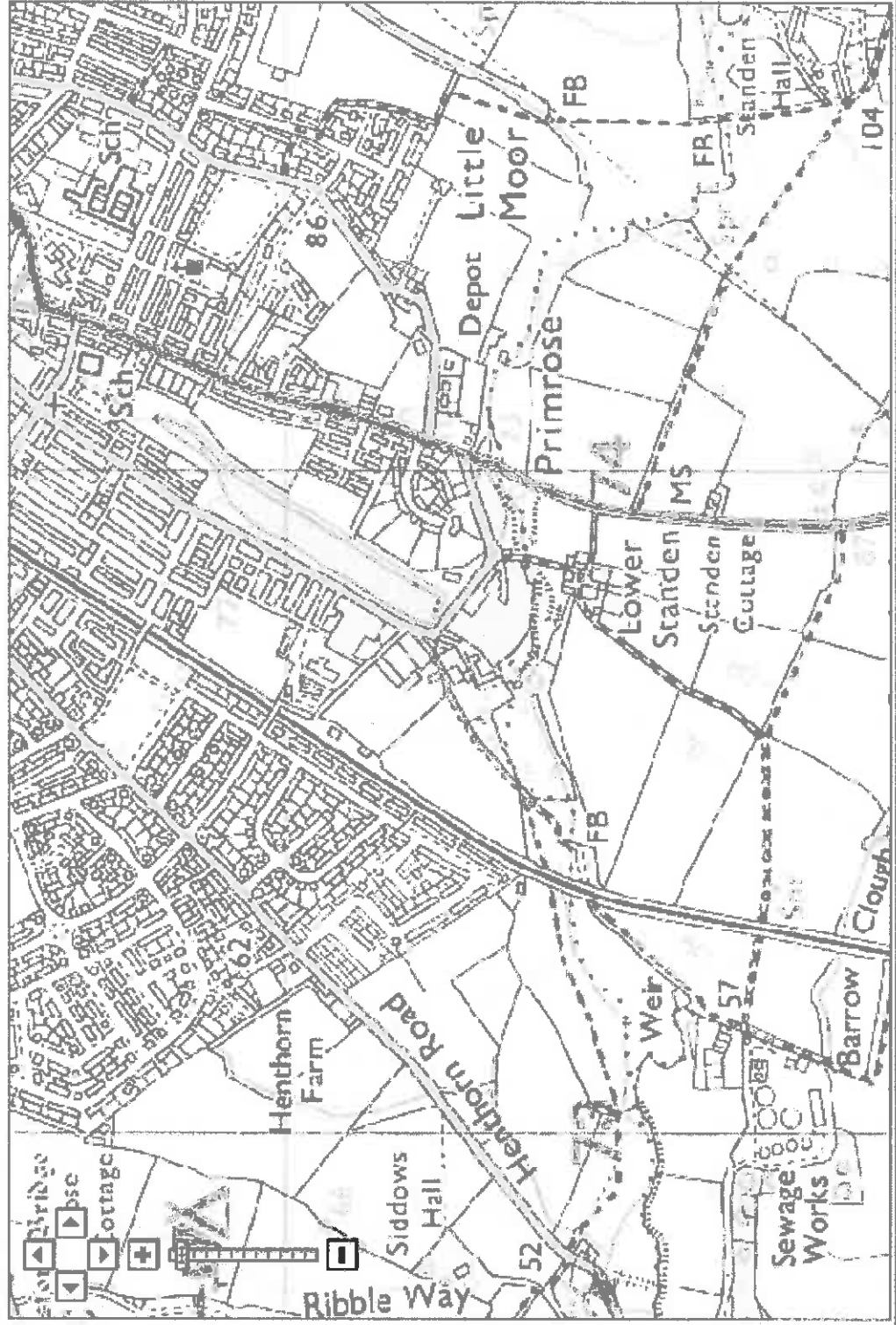
Aquifer Maps - Superficial Deposits Designation

Principal

Secondary A

Secondary B

Secondary (undifferentiated)



APPENDIX E

RISK ASSESSMENT METHOD

Table 6.3 **Classification of Consequence**

Classification	Definition	Examples
Severe	Short-term (acute) risk to human health likely to result in "significant harm" as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem (note: the definitions of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000).	High concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled water. Explosion, causing building collapse (can also equate to a short-term human health risk if buildings are occupied)
Medium	Chronic damage to Human Health ("significant harm" as defined in DETR, 2000). Pollution of sensitive water resources (note: Water Resources Act contains no scope for considering significance of pollution). A significant change in a particular ecosystem, or organism forming part of such ecosystem. (Note: the definitions of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000).	Concentrations of a contaminant from site exceed the generic, or site -specific assessment criteria. Leaching of contaminants from a site to a major or minor aquifer. Death of a species within a designated nature reserve.
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ("significant harm" as defined in the <i>Draft Circular on Contaminated Land</i> , DETR, 2000). Damage to sensitive buildings/structures or the environment.	Pollution of non-classified groundwater. Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).
Minor	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to health (easily prevented by means such as personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services.	The presence of contaminants at such concentrations that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discoloration of concrete.

Table 6.4 **Classification of Probability**

Classification	Definition
High Likelihood	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such an event would take place, and is less likely in the shorter term.
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term.

Table 6.5 Comparison of consequence against probability

		consequence			
		severe	medium	mild	minor
probability	high likelihood	very high risk	high risk	moderate risk	moderate/ low risk
	likely	high risk	moderate risk	moderate/ low risk	low risk
	low likelihood	moderate risk	moderate/low risk	low risk	very low risk
	unlikely	moderate/ low risk	low risk	very low risk	very low risk

Table 6.6 Description of the classified risks and likely action required

Very high risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent Investigation (if not undertaken already) and remediation are likely to be required.
High risk	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent Investigation (if not undertaken already) is required and remedial work may be necessary in the short term and are likely over the longer term.
Moderate risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, if it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Low risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very low risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

APPENDIX F PHOTOGRAPH



Photo 1 – Lodematic (southern) Building, looking NW.



Photo 2 –Lower southern car park, looking W.



Photo 3 – Eastern edge of buildings, with steps leading up the steep slope, looking NW.



Photo 4 –Vehicle access into building off Primrose Road, looking NE.



Photo 5 – Track running along N boundary of site, looking E.



Photo 6 – S & Central building from NE yard, looking S.



Photo 7 – Disused tank outside NE corner of main buildings, looking N.



Photo 8 – Smaller detached building within NE corner of site, looking NE.



Photo 9 –Internals of NE Building, with concrete floors, looking E.



Photo 10 – Electrical sub-station adjacent to NE boundary of site, looking SE.

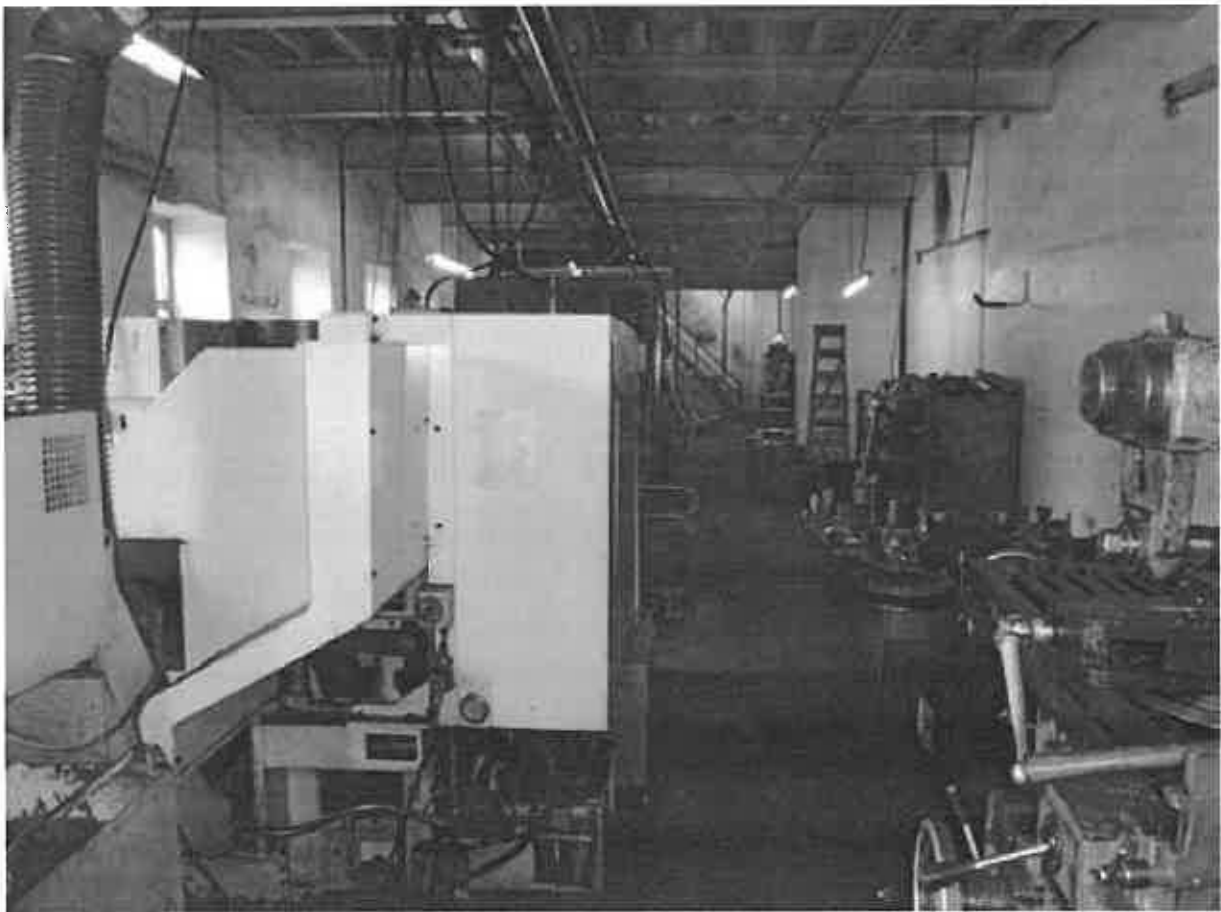


Photo 11 – Internals of basement floor of southern building, looking W.



Photo 12 –Oil drum on basement floor, looking S.



Photo 13 – Basement with concrete floors, looking E.



Photo 14 – Gas fired boiler within W end of basement, looking NE.



Photo 15 – Overgrown yard on slope, to W of S building, looking N.

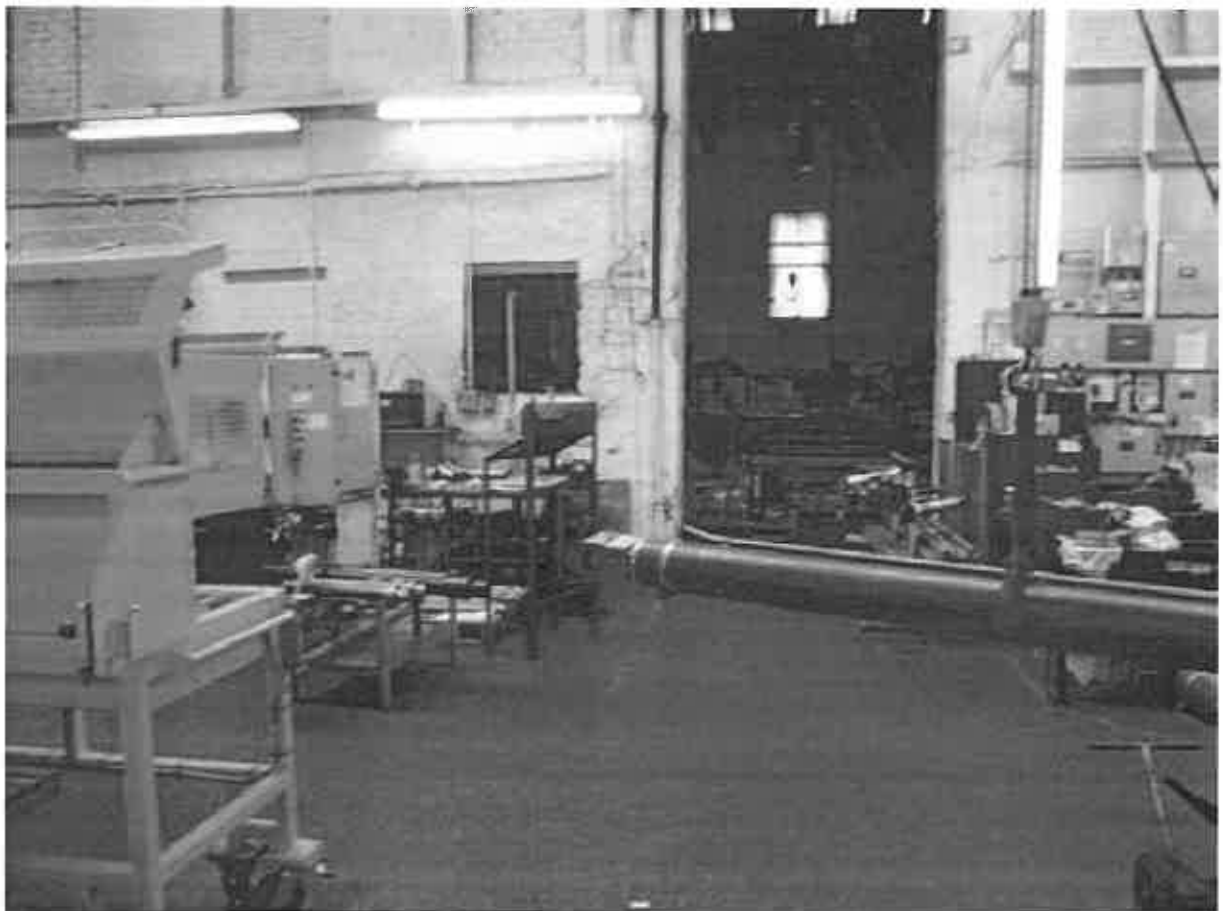


Photo 16 – Internals of Central building with concrete floors, looking N.



Photo 17 – Internals of paint shop in W area of Central Building, looking W.



Photo 18 – Internals of N building, looking E.

