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PROPOSED RESIDENTIAL DEVELOPMENT
CLITHEROE ROAD,
WHALLEY,
LANCASHIRE
BB7 9AD

PRINGLE HOMES

JULY 2025

PHASE 1 GEO-ENVIRONMENTAL DESK STUDY REPORT

24175/GEDS/03

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PHASE 1 GEO-ENVIRONMENTAL DESK STUDY REPORT

CLITHEROE ROAD, WHALLEY, LANCASHIRE

1.0 INTRODUCTION

1.1 Instructions

1.1.1 We are instructed by Pringle Homes to carry out a detailed Phase I desk study at a parcel of land off Clitheroe Road, Whalley, Lancashire, to examine the geotechnical and geoenvironmental risks associated within the proposed development of the site.

1.2 Objectives

1.2.1 This environmental assessment has been carried out in accordance with the principal recommendations of BS10175: 2011 "Investigation of Potentially Contaminated Sites" with regard to the consideration of potential soil and groundwater contamination along with the generation and migration of toxic and explosive ground gases. It is intended that the report will be submitted to the local planning authority as a preliminary risk assessment in support of a planning application. This report has been prepared to document the following: -

- Review of readily available published data which could provide information on the current status, ground conditions and site history.
- Findings of a preliminary contaminated land risk assessment.
- Findings of a preliminary geo-technical risk assessment.

1.3 Sources of Information

1.3.1 This report has been prepared using information from the following sources: -

- Groundsure Enviro+Geo Insight report dated 27th November 2024
- Groundsure historic Ordnance Survey maps.
- Environment Agency information.
- Walkover survey of the site conducted on the 5th December 2024

1.4 Development Proposals

1.4.1 The site has been proposed to be developed in a residential manner which will include the construction of seventy seven (77 No.) properties in a semi-detached and terrace configuration each with associated road access and private gardens. A copy of the proposed layout is attached to this report for reference, drawing number, 24-124-0001 Rev E.

1.4.2 It is acknowledged that the development proposals for this site are likely to be amended as a result of local planning requirements. It is however anticipated that the current proposals will be representative of the final development approval. However, if the final development proposals are radically different from the current proposals, then recommendations made within this report may become inappropriate.

1.5 Limitations of Report

1.5.1 This report is a desk study report which has been prepared using readily available information in accordance with the project stage requirements, budget and timescales. The opinions expressed in this report and the comments and recommendations given are based upon the information obtained from the desk assessment and an initial site reconnaissance. At this stage intrusive investigations have yet to be undertaken at site to establish actual ground and groundwater conditions and provide data for assessment of the environmental status of the site.

1.5.2 The information, views and conclusions drawn concerning the site are based in part on information supplied to Robert E Fry & Associates Ltd (REFA) by other parties. REFA has proceeded in good faith on the assumption that this information is accurate. REFA accepts no liability for any inaccurate conclusions, assumptions or actions taken resulting from any inaccurate information supplied to REFA from others.

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2.0 THE SITE

2.1 Location

2.1.1 The site is irregular in shape and located east of Clitheroe Road and south of the A59. It is approximately 1.1 km north of Whalley village centre and 5.5km south of Clitheroe town centre. The site extends to an area of approximately 3.9 hectares and the centre of the site is situated at National Grid Reference SD 73616 37105. The location of the site is shown in figure 1.

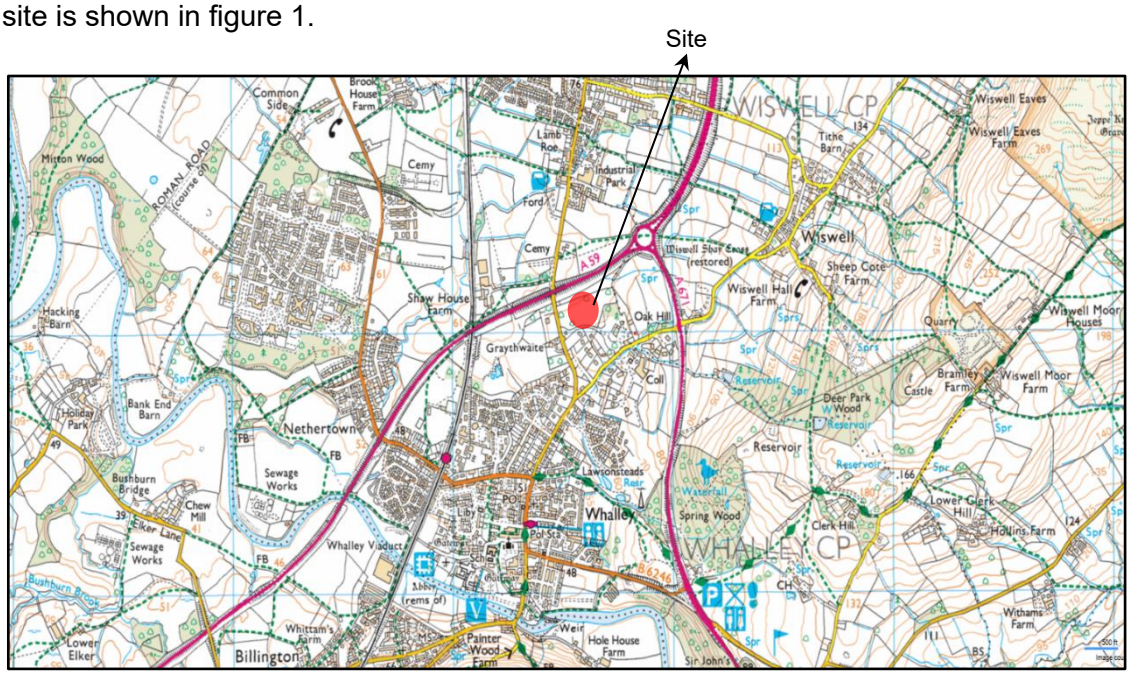


Figure 1 Site Location

2.2 Site Walkover

2.2.1 We have undertaken an initial walkover survey of the site to identify any areas which may impact upon the proposed site development works.
These features are identified upon the Walkover Survey and Photo Location Plan which is appended to this report for reference (Drawing reference: 24175/01)

2.2.2 The site walkover was conducted on the 5th December 2024 and at the time of the survey the weather conditions were overcast. The site, during the walkover survey, could be accessed through a gate off a public footpath on Clitheroe Road, Whalley, Lancashire. The majority of the site is comprised of a grassland field separated by numerous portions of dense vegetation and well established trees scattered throughout. The entirety of the site is bounded by wooden fencing with meshed wire.

2.2.3 Along the western boundary there are two site entrances, located in the north and south in the form of wooden gates. The south western entrance gate is broken and littered within close proximity are rolls of barbed wire. Along the boundary are a series of dense trees and brambles with occasional scattering of bricks and rubble. Similarly, the northern boundary consists of dense vegetation and well-established trees.

2.2.4 The eastern site boundary is not uniform in shape but is bounded predominantly by dense vegetation. A small pocket of land in the north eastern corner of the site is segmented from the remainder of the site by a small water coarse which intersects the eastern boundary and leaves through the northern boundary. A main gas pipe also runs through this section of the site. This small section of land is not easily accessible due to dense overgrown bamboo. The bamboo extends along the eastern boundary. A stock pile of leaf litter, soil and grass was present within close proximity to the eastern boundary.

2.2.5 Within the site, close to the southern boundary are a series of wooden poles with overhead service cables attached.

2.2.6 The site is somewhat intersected by a substantial series of dense trees and vegetation creating a row from the west to eastern boundary. Within this series of vegetation are sporadic well-established trees and wooden fencing. A section of dense vegetation with substantial water accumulating on the ground beneath was inaccessible.

2.2.7 Elevation varies across the site, predominantly highest in the east however it is not of significant variation.

2.3 Boundaries

2.3.1 The land is bound by the A59 in the north at a significantly higher elevation to the site, Clitheroe road in the west with a public footpath. The eastern boundary is neighboured by a mixture of grassland fields and residential gardens. A residential dwelling boarders the site in the south west. The remaining southern boundary is boarded by a residential access road.

2.4 Access

2.4.1 The site can be accessed via Clitheroe Road, a substantial tarmac road.

2.5 Topography

2.5.1 The topography of the site does not fall level; elevation increases slightly towards the east. However, it is not significant so will not pose a constraint on the proposed development.

2.6 Trees

2.6.1 Abundant mature trees and vegetation were noted along all boundaries and within the site. As such, there will be a requirement for an arboricultural report.

3.0 DESK STUDY

3.0.1 As part of our environmental desk studies we have commissioned an Enviro+Geo Insight report by Groundsure which gives details of all recorded environmental and geological features relating to the site and its immediately surrounding area. We have also obtained copies of all available old Ordnance Survey maps for the area and these also give historical guidance regarding the former usage of the site area and its immediate vicinity.

3.1 Historical Industrial Sites

3.1.1 The earliest mapping reference of the site dates back to 1848 where the area comprised of natural grassland Historical mapping indicates that the site has not undergone any significant development.

3.1.2 The Enviro-Insight report has identified thirty two (32 No.) records of potentially contaminative past land uses within 500m of the search boundary, of which seven (7 No.) are within 250m of the site. The first record relates to an unspecified Tank on the 1892 mapping and is situated 28m south of the site, further a cemetery is located 125m north west on the 1969 mapping, boundary records include cuttings 186m north east and a pumping station 240m west.

3.1.3 The environmental report has identified three (3 No.) historical tanks within 500m of the site boundary. The closest located 375m north, present on the 1977-1989 mapping.

3.1.4 The environmental report has identified four (4 No.) historical energy features within 500m of the site boundary, all relating to electricity substations. The closest was present on the 1994 mapping, located 185m south.

3.1.5 The environmental report has identified no historical petrol stations within 500m of the site boundary.

3.1.6 The environmental report has identified two (2 No.) historical garage records within 500m of the site. The first record dates back to 1989 mapping in relation to a garage 363m north.

3.2 Environmental Permits & Incidents

3.2.1 The environmental report has identified no licensed industrial activities (Part A (1)) and (Part A(2)/B), within 500m of the site.

3.2.2 The report has identified one (1 No.) licensed discharges to controlled waters within 500m of the site boundary. This record relates to a miscellaneous discharge to surface waters 343m north but was revoked in 1994.

3.2.3 There are no pollutant release to public sewer records within 500m of the site.

3.2.4 The environmental report has identified two (2 No.) pollution incidents within 500m of the site. The closest incident, 297m west, occurred on the 27/08/2003 and is in association with the release sewage materials (crude sewage). However, the incident was classified as having minor impact on water but no impact on land or air. Accordingly, if the groundwater encountered is noted to be contaminated then sampling and testing will be undertaken.

3.2.5 There are no records of List 1 and List 2 dangerous substance discharges within 500m.

3.3 Landfill Sites

3.3.1 A review of present-day mapping shows no active or recent landfill records within 500m of the site.

3.3.2 The report has identified no historical landfills (LA), (BGS) or (EA/NRW) within 500m through mapping records.

3.3.3 The environmental report has identified no record of historical or licensed waste sites within 500m.

3.3.4 Eleven (11 No.) waste exemptions have been identified within 500m of the site. The first exemption correlates to Shaw House Farm for the use of waste in construction, 292m west.

3.4 Current Land Uses

3.4.1 The environmental report has identified two (2 No.) recent industrial land uses within 250m of the site boundary; 192m south an electricity sub station resided and a pumping station 238m west.

3.4.2 The report records one (1 No.) current/recent petrol stations, within 500m of the site boundary. This record is with regards to the company ‘GULF’ 401m north. Due to the distance from the site it is not considered to create an issue for development.

3.4.3 The Enviro-Insight report has no records of high pressure underground gas transmission pipeline within 500m of the site boundary.

3.4.4 No high voltage underground electricity transmission cables have been identified within 500m of the site.

3.5 Hydrogeology & Hydrology

3.5.1 The Enviro-Insight report has identified that the underlying superficial deposits are designated as a Secondary Undifferentiated aquifer. This relates to areas where it is not possible to attribute either category A or B to a rock type as the layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.

3.5.2 The underlying bedrock within the site is designated as a Secondary A aquifer also, containing 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.

3.5.3 The groundwater vulnerability map of the site shows the secondary superficial deposits to be of low vulnerability with thicknesses >10m. The underlying Secondary aquifer within the bedrock is considered to be of a low vulnerability with a flow mechanism consisting of well-connected fractures.

3.5.4 The environmental report has identified twelve (12 No.) historical surface water abstraction licenses within 2000m of the site. A point, non-tidal, source at a farm 842m east was established on the 11/03/1966, with no stated expiry date. Another license relates to Pendle View Fisheries and Holiday Park 999m north east from the reservoir at Barrow, Blackburn for Fish Farm/Cress Pond Throughflow.

3.5.5 There are thirteen (13 No.) groundwater abstraction licenses within 2000m of the site boundary. The closest is located 1156m north east for Pendle View Fisheries Ltd for general use relating to Secondary Category beginning on the 29/06/2004 and expired 31/03/2012. The remaining are over 1600m away from the site.

3.5.6 The report has identified eight (8 No.) portable water abstractions. 850m east a license relating to household use from a spring fed tank at Wiswell, Clitheroe, commenced on the 05/04/1976 with not stated expiry date.

3.5.7 The environmental report has confirmed that the site is not located within 500m of a source protection zone within confined aquifers.

3.5.8 The environmental report has identified the presence of one (1 No.) Water Framework Directive (WFD) surface water body catchments on site. These lead to the protection of inland surface waters and groundwater through river basin-level management planning. The record relates to the Calder – Pendle Water to conf Ribble catchment. The development of the site is not considered to pose a risk to these catchments, but protective measures must be put in place during construction.

3.5.9 The Enviro-Insight report has identified one (1 No.) WFD groundwater body on site, relating to the Douglas, Darwen and Calder Carboniferous Aquifers. Their chemical, and overall rating is poor.

3.5.10 The report records the presence of thirty two (32 No.) water networks within 250m of the development site. The five records situated on the site relate to an inland river not influenced by normal tidal action, with the watercourse containing water all year round in normal circumstances.

3.6 Flooding

3.6.1 The Ambiental Risk Analytics surface water FloodMap identifies areas likely to flood as a result of extreme rainfall events. The highest risk within 50m for surface water flooding is 1 in 30 years, 0.3m – 1.0m.

3.6.2 Groundwater flooding occurs when the water table rises above the ground surface or within underground structures. The highest risk to groundwater flooding on site and within 500m is low.

3.6.3 The Groundsure report identifies no risk of flooding from rivers and the sea within 500m of the site.

3.7 Environmentally Sensitive Sites

3.7.1 The site is located within a SSSI Impact Risk Zone and therefore an initial assessment of the potential risks to the SSSI are needed relating to the development proposals. The zones around each SSSI reflect particular sensitivities of the features for which could have potentially adverse impacts.

3.7.2 The report states the site does not lie in a nitrate vulnerable zone.

3.7.3 The site does not lie within a designated area of green belt. Furthermore, 1066m south of the site lies the Merseyside and Greater Manchester Green Belt, under the Ribble Valley local authority.

3.7.4 The agricultural land classification is used to access the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. The site is classified as Grade 3 relating to good to moderate quality agricultural land, with moderate limitations to agricultural use.

3.7.5 The site is recorded as being situated 42m north of a countryside stewardship scheme area, which covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment.

3.7.6 A small section of the eastern site boundary is located within a Priority Habitat Inventory where deciduous woodland is the main habitat.

3.8 Geology

3.8.1 Available mapping does not highlight the presence of any significant made ground deposits within 500m of the site.

3.8.2 The superficial deposits located within the site are likely to compose of Devensian till deposits consisting of diamicton rock. A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone shows the onsite superficial deposits having a low to high permeability of a mixed flow type.

3.8.3 The solid geology below the site comprises predominantly of mudstone (Rad brook mudstone member). The permeability of the underlying bedrock is recorded as low with a fracture flow type.

3.8.4 The report has identified no faults or linear features within 500m of the site boundary.

3.8.5 The geological report identifies that no radon protective measures are required on the site as the estimated number of properties affected is between 1% - 3%.

3.9 Ground Workings

3.9.1 The geological report has identified one (1 No.) record of BritPits (an abbreviation of British Pits) within 500m of the site boundary. This record, Whalley Brick & Tile Works, situated 320m south west, related to the commodity Clay & Shale but is stated to be ‘ceased’.

3.9.2 The report has identified two (2 No.) records of surface ground workings within 250m of the site boundary. A cemetery, 125m north west, is present in 1969 mapping and a cuttings is located 186m north east in 1973 mapping.

3.9.3 The report has stated no underground workings within 1000m of the site boundary.

3.10 Mining & Ground Stability

3.10.1 The Groundsure report stipulates that the site does not lie within a JPB mining area, which consist of areas which could be affected by former coal and other mining and include data and mine plans not always available to the Coal Authority.

3.10.2 The site is not situated within a potential development high risk area in accordance with the Coal Authority.

3.10.3 The report designates the following risk ratings: 'very low' hazard rating for shrink swell clays, 'very low' for running sands, 'negligible' for compressible deposits, 'very low' for collapsible deposits, and 'very low' for landslides. Ground dissolution of soluble rocks is recorded as 'negligible'.

3.10.4 The Geo-Insight report states two (2 No.) non-mining records within 1000m. One record is located on site relating to the commodity 'Vein mineral', class B. However, the likelihood of underground mine workings in the past or current mines at significant depth is small and potential for difficult ground conditions are unlikely and at a level where consideration is not required.

3.11 BGS Boreholes

3.11.1 There are sixteen (16 No.) BGS boreholes within 250m of the site boundary, however none reside on site. Fifteen of the records, the closest 23m west, are in relation to the A59 Walley-Clitheroe By-Pass, with the exception of one at Shaw House Farm 110m north east.

3.12 Background Soil Chemistry

3.12.1 The Geo-Insight report includes an estimated geometric mean soil concentration for various elements. Assessment of this information suggests that all the determinants are at concentrations below the current tier 1 assessment criteria.

3.13 Railways and Tunnels

3.13.1 The Groundsure report has identified no historical railway and tunnel features within 250m of the site boundary.

3.14 Site History

3.14.1

Table 1: Review of Historical Maps & Aerial Photographs

Date	Site	Adjoining Land
1848	The site is predominantly a grassland field with occasional trees and no development. A small building is present in the north west corner of the site. Along the southern boundary the 'Srigh Wall Well' is located. Parish boundary along the east of the site. The site entrance is off a road running north to south, which intersects into the south west corner of the site.	Old Cottams well 100m north east. Pipes 195m south east and 320m east of the site. Whalley cottage 200m south and Shaw house 250m west. Blackburn railway line 370m east of the site and running from the north to the south. Lamb Roe cottage and water trough 400m north Gramar school 550m south. Mixed woodland area 600m south east named 'Spring Wood'. Whalley town centre 900m south, including schools, churches and properties.

Table 1: Review of Historical Maps & Aerial Photographs (Cntd)		
Date	**Site**	**Adjoining Land**
1892	Slight increase in dense vegetation onsite. Two small buildings along the eastern boundary. Small access road running along the southern boundary for the residential developments close to the site. Due to a misplot from Groundsure the small access road is shown to be within the site boundary but lies just outside of the site boundary in the south.	Increase in the number of residential properties within a 500m radius. Grassland residing just below the southern boarder called 'Bramley Meade' and 100m east named 'Luke Wood'. Brick and Tile works 320m south west. A reservoir is situated 550m south east Train station and cricket ground 700m south west.
1910	Small water course intersecting the north east corner of the site.	Old clay pit situated where the Brick and Tiles works were located. An increase in the number of residential developments within 500m south of the site. Private railway 600m north west, attached to the main 'Blackburn' line. Filter tanks 500m south east.
1912	No significant change	No significant change
1932-1933	Access road now labelled 'Clitheroe Road'	Residential development 60m south west called 'Graythwaite'. Creation of a hospital and football ground 800m west.
1938	Partial mapping shows no significant change	Partial mapping shows no significant change.
1950	No significant change	Numerous springs within a 750m radius. An increase in the size of the woodlands 650m south east extending 1000m.
1966-1968	Removal of buildings along the eastern boundary	Bramley Meade Maternity Home within 100m south east of the site. A cemetery is present approximately 150m north west of the site.
1969	No significant change	Residential development within Bramley Meade 0-300m south of the site. Pumping station situated 250m west. Corn mill 400m north. Council depot 500m south west and transport depot 700m west. Whiteacre school 600m north.
1973	No significant change	Development of a main road 65m north of the site, along with a substantial roundabout 120m north east. The road runs from the north east to south west of the site, with another road 200m north east connected to the roundabout running towards the south.
1975-1977	Partial mapping shows the small building in the north western corner has been removed.	Partial mapping shows no significant change.
1989-1994	No significant change	No significant change.
2001	No significant change	The new main road is labelled as the A59 and the connecting road is labelled as the A671 – Accrington Road. Whalley industrial Park 350m north. A college is located 200m south east. A nursery 300m north. The private railway is now dismantled. Wiswell Shay Farm is located 300m east. 750m north west of the site is a cattle breeding centre.
2010	No significant change	Caravan and camping site at Wiswell Shay Farm 300m east.
2024	No significant change	Large residential development 500m – 1200m north. Nursery in the north called 'Lamb Roe Gardens' Residential development 400m south.

3.14.2 Careful appraisal of all available historical information shows significant site development has not been established. A small water course, not influenced by normal tidal action, is present in the north east of the site.

Two small buildings were present on the 1982 mapping however they were absent in mapping from 1966 onwards. Similarly, a small building in the north western corner of the site was present in mapping from 1848 to 1975. Multiple buildings, both residential and industrial, have been demolished and constructed within close proximity to the site boundary. A cemetery has been present, and still in existence, in mapping from 1966 and is located approximately 150m north west of the site. Bramley Meade Lodge and Bramley Meade Maternity Home are both within very close proximity to the southern boundary. The A59 is illustrated in mapping from 1973 and located approximately 65m north of the site, creating a main access road into the Whalley area.

4.0 REVIEW OF GEO-ENVIRONMENTAL RISK

4.1 Introduction

4.1.1 This element of the report is aimed at identifying possible risks, if any, arising from substances used or deposited on site or from other sources of land contamination. Both past and current potentially contaminative land uses have been considered.

4.1.2 The risk assessment utilises a source-pathway-receptor methodology for assessing whether a source of contamination could potentially lead to harmful consequences. This requires that there be a pollutant linkage from source to receptor for harm to be caused. The source-pathway-receptor methodology relationship allows an assessment of the environmental risk to be determined based upon the nature of the source, the degree of exposure of the receptor of the source and the sensitivity of the receptor.

Table 2: Statutory Receptors & Pathways

Target (Receptor)	Potential Source – Pathway Linkage
Site Users / Residents	Inhalation of soil gas, odours or dust. Ingestion of, and skin contact with, contaminated soil. Ingestion of contaminants in vegetables etc. or in soils adhering to vegetable etc.
Construction / Maintenance Workers	Inhalation of soil gas, odours or dust. Ingestion of, and skin contact with contaminated soil.
Plants	Adverse effects on growth caused by presence of contaminants in soil.
Buildings & Structures	Flow of ground gas into buildings. Asphyxiation, toxicity, explosion & fire hazards. Sulphate attack of foundations. Hydrocarbons penetration plastic water supply pipes.
Groundwater	Migration of soluble contaminants into groundwater on/off site. Migration of oils into groundwater on/off site.
Surface water	Migration of soluble contaminants and/or direct run off of contaminants. Migration of oils into groundwater on/off site.

4.1.3 A conceptual model of plausible pollutant linkages has been formulated for the site in accordance with the risk assessment approach applied to contaminated land assessment.

4.2 Potential Sources of Contamination

4.2.1 The desk study information has indicated that in essence the site has not undergone any significant development. Various residential properties are present within proximity to the site and the A59 is within very close proximity north of the site. A cemetery is located 125m north west. Access to the site is gained via Clitheroe Road.

4.2.2 The likelihood of widespread soil contamination is expected to be moderate / low.

4.2.3 Potential sources of contamination could be limited to the following:-

- Naturally occurring elevated concentrations of contaminants within the topsoil and natural strata.
- Potential contaminants associated with the developed A59, approximately 65m North of the site boundary. Also from the surrounding residential dwellings and farmlands.
- Potential migration of ground gases associated with Whalley, Wiswell & Barrow Cemetery but due to the distance of the cemetery, 125m north west, ground gas monitoring is not required.

4.3 Pathway for Migration

4.3.1 It is recognised that the migration pathways could change during the development of the site. These pathways are summarised below:-

- Migration of contamination (if present) via the un/saturated zones;
- Migration of contamination (if present) via buried services and foundations;
- Run-off from adjacent site areas;
- Migration of ground gas via soil pores;
- Direct contact with contaminated materials.

4.3.2 This list recognises that it is plausible that there are pathways associated with the presence of both on-site and off-site contamination. The above list recognises that the new development may not affect certain migration pathways such as migration in the saturated zone from an offsite source but could create new pathways such as the presence of services and foundations.

4.3.3 It is anticipated that, if a potential risk is identified, it can be reduced to an acceptable level by using a combination of mitigation measures during construction and in the building design. Site workers may be exposed to bare ground and existing building fabrics when clearing and redeveloping this site. Precautions should be taken to reduce the risks associated with these pathways including the adoption of personnel protective equipment (PPE), being rigorous in matters of personnel hygiene and adopting safe practices for workers entering enclosed underground cavities. Environmental management practices should be implemented to prevent potential impact associated with dust generation and dispersion and surface water run-off for example.

4.4 Potential Receptors

4.4.1 The principal receptors are considered to be as follows:-

- Humans – future site users;
- Humans – construction and maintenance workers;
- Controlled waters;
- Building structures and services.

4.5 Assessment of Plausible Pollutant Linkages

4.5.1 The overall risk associated with future site users is considered to be moderate/low.

4.5.2 The risk of contamination is considered to be moderate/low at this site, though nevertheless site workers should adopt a precautionary approach in respect of potential land contamination. On the basis of the current assessment and recommendations the overall risk to site workers is considered to be low.

4.5.3 The overall risk associated with the water environment is considered to be low. The presence of secondary superficial aquifer of low vulnerability overlying a secondary bedrock aquifer suggests a low potential risk to groundwater.

4.5.4 Substances that may be involved in chemical attack upon building materials, structures and services may be present in the ground and there is the potential for ground gas to migrate through permeable deposits and accumulate in enclosed spaces. Currently the overall risk associated with this category of hazard is considered to be low.
The building's design and the materials used in its construction should be compliant with the prevailing ground conditions in order to mitigate potential harm from chemical attack where identified.

4.5.5 A review of the risks associated with toxic and hazardous ground gases into the development is considered to be low. The Groundsure report has identified a cemetery 125m north west of the site, however due to the distance the risk is not significant enough to implement a series of ground gas monitoring.

4.5.6 The superficial geology of the area is indicated to be Devensian Till which typically comprise of cohesive deposits which act as a natural barrier to protect from ground gas related issues. Consequently, due to the distance to the proposed development, it is considered that the works will pose a low risk to the final development.

4.5.7 Careful assessment of all currently available information has enabled a preliminary conceptual model to be prepared, and this is detailed in table 3 below:

Table 3: Preliminary Conceptual Model

Potential Source	Potential Receptor	Possible Pathway	Probability	Consequence	Risk	Mitigation / Investigation
Contaminated Soils	Site personnel during construction	Direct contact of soils Inhalation or ingestion of soil / dust	Lw	Md	Moderate / Low	Soil sampling during intrusive investigations. Laboratory analysis of samples. Low vulnerability superficial deposits and underlying secondary aquifers.
	Future site users	Direct contact of soils Inhalation or ingestion of soil / dust	Lw	Md	Moderate / Low	
	Surface water in the vicinity of the site	Leaching of contaminants through drainage system	Lw	Md	Moderate / Low	
	Groundwater in aquifer	Leaching of contaminants to ground water	Ul	Md	Low	
	Future site users	Vapour migration from soils	Ul	Mr	Very Low	
	Proposed buildings and services	Direct contact with contaminated soils	Lw	Mi	Low	
	Plants in gardens and soft landscaping	Direct contact	Lw	Mi	Low	

Table 3: Preliminary Conceptual Model						
Potential Source	**Potential Receptor**	**Possible Pathway**	**Probability**	**Consequence**	**Risk**	**Mitigation / Investigation**
Contaminated groundwater	Site personnel during construction	Water entering excavations	Lw	Mi	Low	Sampling of groundwater should visual or olfactory contamination be observed.
	Future site Users	Retained surface water	Lw	Mi	Low	
Toxic and explosive gasses	Proposed buildings and occupiers	Ground gas migration into buildings	Ul	Md	Low	No ground gas monitoring required. Reassess if deep made ground is identified.
Radon Gas	Proposed buildings and occupiers	Ground gas migration into buildings	Ul	Md	Low	Site is located in an area where between 1% to 3% of properties are affected by radon
Key: Sv = Severe, Md = Medium, Mi = Mild, Mr = Minor Hi = High, Li = Likely, Lw = Low Likelihood, Ul = Unlikely						

4.5.8 In this qualitative risk assessment a moderate / low risk implies that remedial action may be necessary at the site, although until a full intrusive investigation is carried out, this cannot be positively confirmed. Any investigations should look into the potential for deep made ground deposits.

5.0 PRELIMINARY GEOTECHNICAL ASSESSMENT

5.1 Details of The Site

5.1.1 The site currently comprises of a large grassland field, containing a small water course in the north east and intersected by a substantial series of trees and shrubbery. The A59 neighbours the site to the north, Clitheroe Road in the west, residential developments and access roads in the south and grassland fields in the east.

5.1.2 It is likely that the development of the site will require the following stages: -

- Provision of foundations typically extending to depths of some 0.9m below ground level.
- Construction of drainage.
- Construction of residential property.
- Preparation of hard standing areas.

5.2 Geotechnical Hazards & Foundation Considerations

5.2.1 Based upon the information available to this desk study the anticipated ground conditions present within this site are outlined in table 4 overleaf.

Table 4: Anticipated Ground Conditions	
Ground Material	**Anticipated Condition**
Made Ground	Small made ground deposits on the surface along the western boundary, if present it is anticipated to be laterally discontinuous.
Topsoil	Topsoil is expected across the whole site area at varying depths.
Superficial Deposits	Deposits comprising of cohesive Devensian Till.
Bedrock	Rad Brook Mudstone Member – Mudstone
Groundwater	Natural groundwater could possibly lie at depth within bedrock.

It will be essential for intrusive ground investigation works to be undertaken to confirm that the anticipated ground conditions are an accurate appraisal of the true ground conditions.

5.2.2 A summary of potential geo-technical hazards is detailed within table 5:

Table 5: Summary of Potential Geotechnical Hazards		
Hazard Category (excluding contamination issues)	**Hazard Status**	**Engineering Considerations**
Highly compressible / low bearing capacity soils (soft clays)	Possible	• Cohesive glacial till deposits
Ground subject to or at risk of landslides	Unlikely	• Insignificant topological change across site
High ground water table	Unlikely	• Secondary undifferentiated aquifer in superficial deposits. • Secondary A aquifer in bedrock. • Groundwater is expected to lie at depth within the bedrock.
Surface water retention	Possible	• Low to high permeability superficial deposits.
Surface water run off	Possible	• Low permeability superficial deposits.
Coal mining risk assessment (CMRA)	Unlikely	• Not within a coal mining report area
Volume change potential of soils	Possible	• Cohesive glacial till deposits.
Adverse ground chemistry	Unlikely	• Low possibility of substantial made ground deposits across the site.
Live services	Likely	• No current onsite development but there are overhead services in the south and a gas pipeline in the east.

5.2.3 It is anticipated that the ground conditions present within this site will consist of topsoil over superficial glacial till with a mudstone bedrock. There are slight made ground deposits at the western boundary. As a result, shallow strip foundations may be possible if a safe bearing capacity can be achieved.

5.2.4 Whilst the presence of significant thicknesses of made ground is not anticipated to be present within this site, it is nevertheless likely that the properties within this site should be provided with a suspended ground floor construction.

This may be of a pre-cast concrete beam and block type arrangement or of a cast in-situ construction, though properties which are affected by the presence of tree roots may specifically require the provision of a sub floor void.

5.3 Drainage

5.3.1 The geological information relating to the site suggests that the superficial strata is likely to consist predominantly of low to high permeability till deposits. Based upon the currently available information, it is considered that the ground conditions present within the site are not conductive to the adoption of ground infiltration method of surface water disposal.

6.0 PROPOSED GROUND INVESTIGATIONS

6.1 Ground Investigation

6.1.1 By undertaking an intrusive ground investigation an assessment of the ground and groundwater profiles may be carried out and the geo-technical and geo-environmental risks associated with this site identified. The investigation will allow a quantitative assessment as to whether any of the potential risks identified in this study are present and are of material concern to the proposed development. The works should be undertaken in accordance with the recommendations laid down in BS 10175 : 2011 “Investigation of Potentially Contaminated Sites”

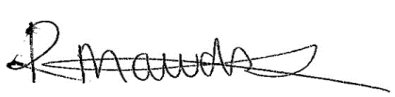
6.2 Proposed Scope of Ground Investigations

6.2.1 On the basis of the currently available information regarding the geo-environmental setting of the site and to confirm the assumptions made, an intrusive ground investigation should be carried out. This should be utilised to confirm the geological succession and engineering properties of the sub surface materials. The scope of works for the ground investigation should comprise of the following: -

- Programme of ground investigations to identify the strata sequence and assess engineering properties;
- Sampling of the existing strata for chemical and civil engineering laboratory test purposes;
- Programme of chemical analyses upon representative samples of the strata to determine their suitability for reuse within a commercial/ residential environment;
- Reinstatement;
- Preparation of factual and interpretative report.

6.2.2 These ground investigation proposals are intended to represent a preliminary assessment only and it is important that where unusual or suspicious ground conditions are identified, the design of the intrusive investigations should be amended to assess these areas.

Signed for and on behalf of
R E FRY & ASSOCIATES LIMITED



Rachael Mawdsley B.Sc. (Hons), MSc

APPENDIX A

A59

GAS

Area edged red:
8.46 acres / 3.42ha

Clitheroe Road

Brick Rubble Pile

The Lodge

White Lees

KEY

- Site Boundary
  Surrounded by wooden / mesh fencing
- Collapsed fences
- Grass
- Dense vegetation
- Inaccessible area
- Established Tree
- Stream
- Gated Access
- Overhead power lines and poles
- GAS — Mains gas pipe location
- X — Photo Direction & Reference No.

REV	DESCRIPTION	BY	DATE

DRAWING-STATUS

REFA CONSULTING ENGINEERS
45 Bridgeman Terrace
Wigan
Lancashire
WN1 1TT
01942 826020
info@refa.co.uk
www.refa.co.uk

Pringle Homes

Clitheroe Road
Whalley

Walkover Survey and Photo Location Plan

Sheet	Scale @A3	Date	Drawn By	Checked By
A3	nts	10.02.25	AW	

Project Number	Drawing Number	Revision
24175	24175/01	

APPENDIX B

REFA

Photographs

Site: Clitheroe Road, Whalley, Clitheroe

Client: Pringle Homes

Report Number: 24175

Sheet: 1/8

Survey Date: 05.12.2024

WALKOVER SURVEY PHOTOGRAPHS

1

2

3

4

5

6

REFA

Photographs

Site: Clitheroe Road, Whalley, Clitheroe

Client: Pringle Homes

Report Number: 24175

Sheet: 2/8

Survey Date: 05.12.2024

WALKOVER SURVEY PHOTOGRAPHS

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8

9

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11

12

REFA

Photographs

Site: Clitheroe Road, Whalley, Clitheroe

Client: Pringle Homes

Report Number: 24175

Sheet: 3/8

Survey Date: 05.12.2024

WALKOVER SURVEY PHOTOGRAPHS

13

14

15

16

17

18

REFA

Photographs

Site: Clitheroe Road, Whalley, Clitheroe

Client: Pringle Homes

Report Number: 24175

Sheet: 4/8

Survey Date: 05.12.2024

WALKOVER SURVEY PHOTOGRAPHS

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21

22

23

24

REFA

Photographs

Site: Clitheroe Road, Whalley, Clitheroe

Client: Pringle Homes

Report Number: 24175

Sheet: 5/8

Survey Date: 05.12.2024

WALKOVER SURVEY PHOTOGRAPHS

25

26

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REFA

Photographs

Site: Clitheroe Road, Whalley, Clitheroe

Client: Pringle Homes

Report Number: 24175

Sheet: 6/8

Survey Date: 05.12.2024

WALKOVER SURVEY PHOTOGRAPHS

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REFA

Photographs

Site: Clitheroe Road, Whalley, Clitheroe

Client: Pringle Homes

Report Number: 24175

Sheet: 7/8

Survey Date: 05.12.2024

WALKOVER SURVEY PHOTOGRAPHS

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39

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41

42

REFA

Photographs

Site: Clitheroe Road, Whalley, Clitheroe

Client: Pringle Homes

Report Number: 24175

Sheet: 8/8

Survey Date: 05.12.2024

WALKOVER SURVEY PHOTOGRAPHS

43

44

APPENDIX C

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo Insight

THE LODGE, CLITHEROE ROAD, WHALLEY, LANCASHIRE, BB7 9AD

Order Details

Date: 27/11/2024

Your ref: 24175

Our Ref: GS-CB2-4NM-YVZ-9NG

Site Details

Location: 373616 437105

Area: 3.9 ha

Authority: Ribble Valley Borough Council ↗

Contact us with any questions at:
info@groundsure.com ↗
01273 257 755

Certified B Corporation

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
14 >	1.1 >	Historical industrial land uses >	0	2	5	25	-
16 >	1.2 >	Historical tanks >	0	0	0	3	-
16 >	1.3 >	Historical energy features >	0	0	2	2	-
17	1.4	Historical petrol stations	0	0	0	0	-
17 >	1.5 >	Historical garages >	0	0	0	2	-
17	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
18 >	2.1 >	Historical industrial land uses >	0	2	6	31	-
20 >	2.2 >	Historical tanks >	0	0	0	4	-
20 >	2.3 >	Historical energy features >	0	0	2	3	-
21	2.4	Historical petrol stations	0	0	0	0	-
21 >	2.5 >	Historical garages >	0	0	0	3	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
22	3.1	Active or recent landfill	0	0	0	0	-
22	3.2	Historical landfill (BGS records)	0	0	0	0	-
23	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
23	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
23	3.5	Historical waste sites	0	0	0	0	-
23	3.6	Licensed waste sites	0	0	0	0	-
23 >	3.7 >	Waste exemptions >	0	0	0	11	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
25 >	4.1 >	Recent industrial land uses >	0	0	2	-	-
26 >	4.2 >	Current or recent petrol stations >	0	0	0	1	-
26	4.3	Electricity cables	0	0	0	0	-
26	4.4	Gas pipelines	0	0	0	0	-
26	4.5	Sites determined as Contaminated Land	0	0	0	0	-

26	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
27	4.7	Regulated explosive sites	0	0	0	0	-
27	4.8	Hazardous substance storage/usage	0	0	0	0	-
27	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
27	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
27	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
28	4.12	Radioactive Substance Authorisations	0	0	0	0	-
28 >	**4.13 >**	**Licensed Discharges to controlled waters >**	0	0	0	1	-
28	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
28	4.15	Pollutant release to public sewer	0	0	0	0	-
29	4.16	List 1 Dangerous Substances	0	0	0	0	-
29	4.17	List 2 Dangerous Substances	0	0	0	0	-
29 >	**4.18 >**	**Pollution Incidents (EA/NRW) >**	0	0	0	2	-
29	4.19	Pollution inventory substances	0	0	0	0	-
30	4.20	Pollution inventory waste transfers	0	0	0	0	-
30	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	**Hydrogeology >**	On site	0-50m	50-250m	250-500m	500-2000m
31 >	**5.1 >**	**Superficial aquifer >**	Identified (within 500m)				
32 >	**5.2 >**	**Bedrock aquifer >**	Identified (within 500m)				
34 >	**5.3 >**	**Groundwater vulnerability >**	Identified (within 50m)				
35 >	**5.4 >**	**Groundwater vulnerability- soluble rock risk >**	Identified (within 0m)				
36	5.5	Groundwater vulnerability- local information	None (within 0m)				
37 >	**5.6 >**	**Groundwater abstractions >**	0	0	0	0	13
41 >	**5.7 >**	**Surface water abstractions >**	0	0	0	0	12
44 >	**5.8 >**	**Potable abstractions >**	0	0	0	0	8
46	5.9	Source Protection Zones	0	0	0	0	-
47	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	**Hydrology >**	On site	0-50m	50-250m	250-500m	500-2000m
48 >	**6.1 >**	**Water Network (OS MasterMap) >**	5	0	27	-	-

51 >	6.2 >	Surface water features >	1	0	10	-	-
51 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
52 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
52 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-

Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
53	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
53	7.2	Historical Flood Events	0	0	0	-	-
53	7.3	Flood Defences	0	0	0	-	-
54	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
54	7.5	Flood Storage Areas	0	0	0	-	-
55	7.6	Flood Zone 2	None (within 50m)				
55	7.7	Flood Zone 3	None (within 50m)				

Page	Section	Surface water flooding >	
56 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)

Page	Section	Groundwater flooding >	
58 >	9.1 >	Groundwater flooding >	Low (within 50m)

Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
59 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	0	1
60	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
60	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
60	10.4	Special Protection Areas (SPA)	0	0	0	0	0
60	10.5	National Nature Reserves (NNR)	0	0	0	0	0
61	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
61 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	7
61	10.8	Biosphere Reserves	0	0	0	0	0
62	10.9	Forest Parks	0	0	0	0	0
62	10.10	Marine Conservation Zones	0	0	0	0	0
62 >	10.11 >	Green Belt >	0	0	0	0	2
62	10.12	Proposed Ramsar sites	0	0	0	0	0

63	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
63	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
63	10.15	Nitrate Sensitive Areas	0	0	0	0	0
63	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
64 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
65 >	10.18 >	SSSI Units >	0	0	0	0	1
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
66	11.1	World Heritage Sites	0	0	0	-	-
66	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
66	11.3	National Parks	0	0	0	-	-
66	11.4	Listed Buildings	0	0	0	-	-
67	11.5	Conservation Areas	0	0	0	-	-
67	11.6	Scheduled Ancient Monuments	0	0	0	-	-
67	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
68 >	12.1 >	Agricultural Land Classification >	Grade 3 (within 250m)				
69	12.2	Open Access Land	0	0	0	-	-
69	12.3	Tree Felling Licences	0	0	0	-	-
69 >	12.4 >	Environmental Stewardship Schemes >	1	0	0	-	-
69 >	12.5 >	Countryside Stewardship Schemes >	0	1	2	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
71 >	13.1 >	Priority Habitat Inventory >	1	4	5	-	-
72	13.2	Habitat Networks	0	0	0	-	-
72	13.3	Open Mosaic Habitat	0	0	0	-	-
72	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
73 >	14.1 >	10k Availability >	Identified (within 500m)				
74	14.2	Artificial and made ground (10k)	0	0	0	0	-
75	14.3	Superficial geology (10k)	0	0	0	0	-

75	14.4	Landslip (10k)	0	0	0	0	-
76	14.5	Bedrock geology (10k)	0	0	0	0	-
76	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	**Geology 1:50,000 scale >**	On site	0-50m	50-250m	250-500m	500-2000m
77 >	**15.1 >**	**50k Availability >**	Identified (within 500m)				
78	15.2	Artificial and made ground (50k)	0	0	0	0	-
78	15.3	Artificial ground permeability (50k)	0	0	-	-	-
79 >	**15.4 >**	**Superficial geology (50k) >**	1	0	0	0	-
80 >	**15.5 >**	**Superficial permeability (50k) >**	Identified (within 50m)				
80	15.6	Landslip (50k)	0	0	0	0	-
80	15.7	Landslip permeability (50k)	None (within 50m)				
81 >	**15.8 >**	**Bedrock geology (50k) >**	1	1	2	0	-
82 >	**15.9 >**	**Bedrock permeability (50k) >**	Identified (within 50m)				
82	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	**Boreholes >**	On site	0-50m	50-250m	250-500m	500-2000m
83 >	**16.1 >**	**BGS Boreholes >**	0	7	9	-	-
Page	Section	**Natural ground subsidence >**					
85 >	**17.1 >**	**Shrink swell clays >**	Very low (within 50m)				
86 >	**17.2 >**	**Running sands >**	Very low (within 50m)				
87 >	**17.3 >**	**Compressible deposits >**	Negligible (within 50m)				
88 >	**17.4 >**	**Collapsible deposits >**	Very low (within 50m)				
89 >	**17.5 >**	**Landslides >**	Low (within 50m)				
91 >	**17.6 >**	**Ground dissolution of soluble rocks >**	Negligible (within 50m)				
Page	Section	**Mining and ground workings >**	On site	0-50m	50-250m	250-500m	500-2000m
93 >	**18.1 >**	**BritPits >**	0	0	0	1	-
94 >	**18.2 >**	**Surface ground workings >**	0	0	2	-	-
94	18.3	Underground workings	0	0	0	0	0
94	18.4	Underground mining extents	0	0	0	0	-
95	18.5	Historical Mineral Planning Areas	0	0	0	0	-

95 >	18.6 >	Non-coal mining >	1	0	0	0	1
95	18.7	JPB mining areas	None (within 0m)				
96	18.8	The Coal Authority non-coal mining	0	0	0	0	-
96	18.9	Researched mining	0	0	0	0	-
96	18.10	Mining record office plans	0	0	0	0	-
96	18.11	BGS mine plans	0	0	0	0	-
97	18.12	Coal mining	None (within 0m)				
97	18.13	Brine areas	None (within 0m)				
97	18.14	Gypsum areas	None (within 0m)				
97	18.15	Tin mining	None (within 0m)				
97	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
98	19.1	Natural cavities	0	0	0	0	-
98	19.2	Mining cavities	0	0	0	0	0
98	19.3	Reported recent incidents	0	0	0	0	-
98	19.4	Historical incidents	0	0	0	0	-
99	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
100 >	20.1 >	Radon >	Between 1% and 3% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
102 >	21.1 >	BGS Estimated Background Soil Chemistry >	4	5	-	-	-
103	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
103	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
104	22.1	Underground railways (London)	0	0	0	-	-
104	22.2	Underground railways (Non-London)	0	0	0	-	-
104	22.3	Railway tunnels	0	0	0	-	-
104	22.4	Historical railway and tunnel features	0	0	0	-	-
104	22.5	Royal Mail tunnels	0	0	0	-	-

105	22.6	Historical railways	0	0	0	-	-
105	22.7	Railways	0	0	0	-	-
105	22.8	Crossrail 2	0	0	0	0	-
105	22.9	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 03/04/2023

Site Area: 3.9ha

Recent site history - 2020 aerial photograph

Capture Date: 16/04/2020

Site Area: 3.9ha

Recent site history - 2017 aerial photograph

Capture Date: 03/04/2017

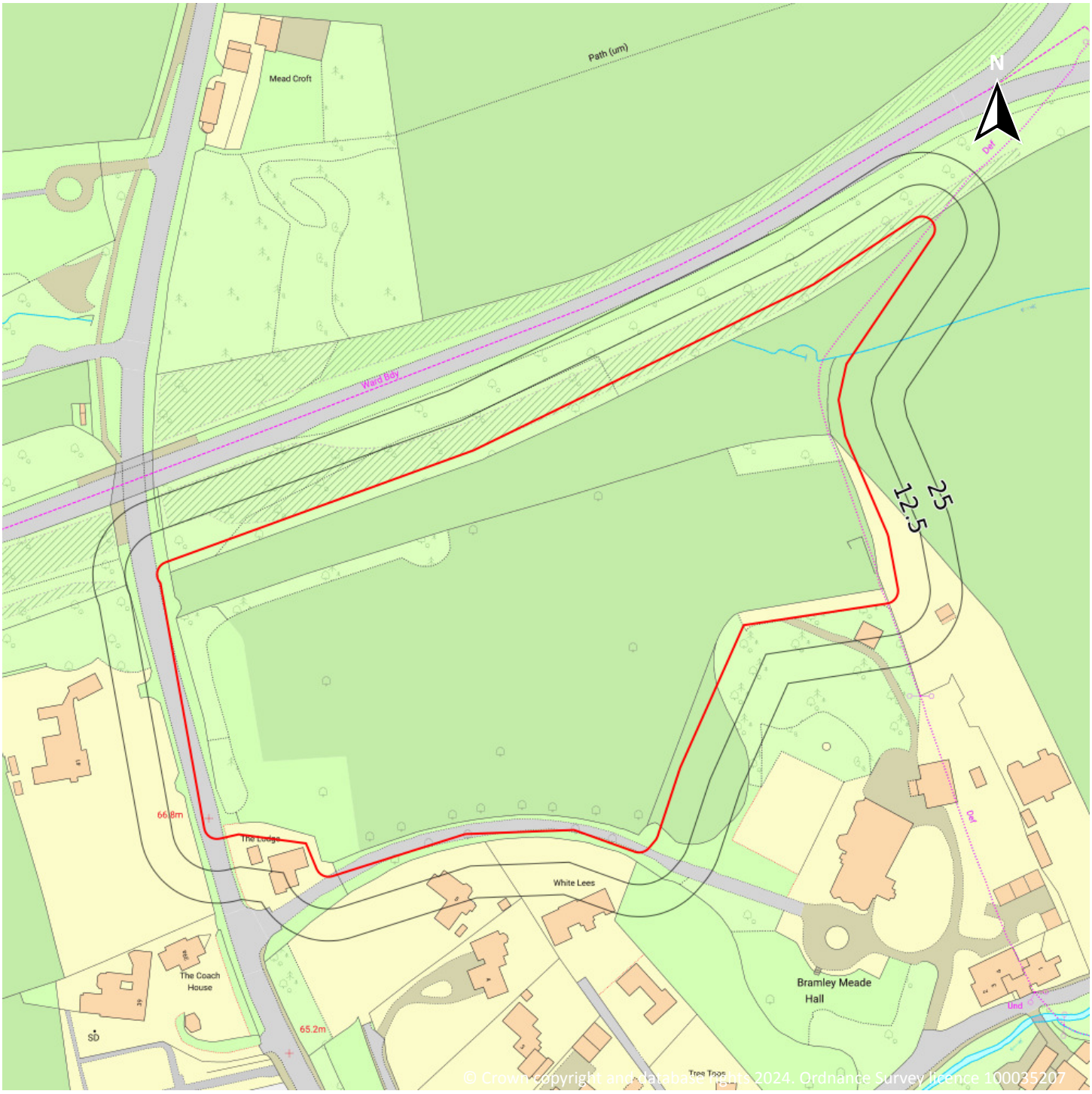
Site Area: 3.9ha

Recent site history - 1999 aerial photograph

Capture Date: 10/09/1999

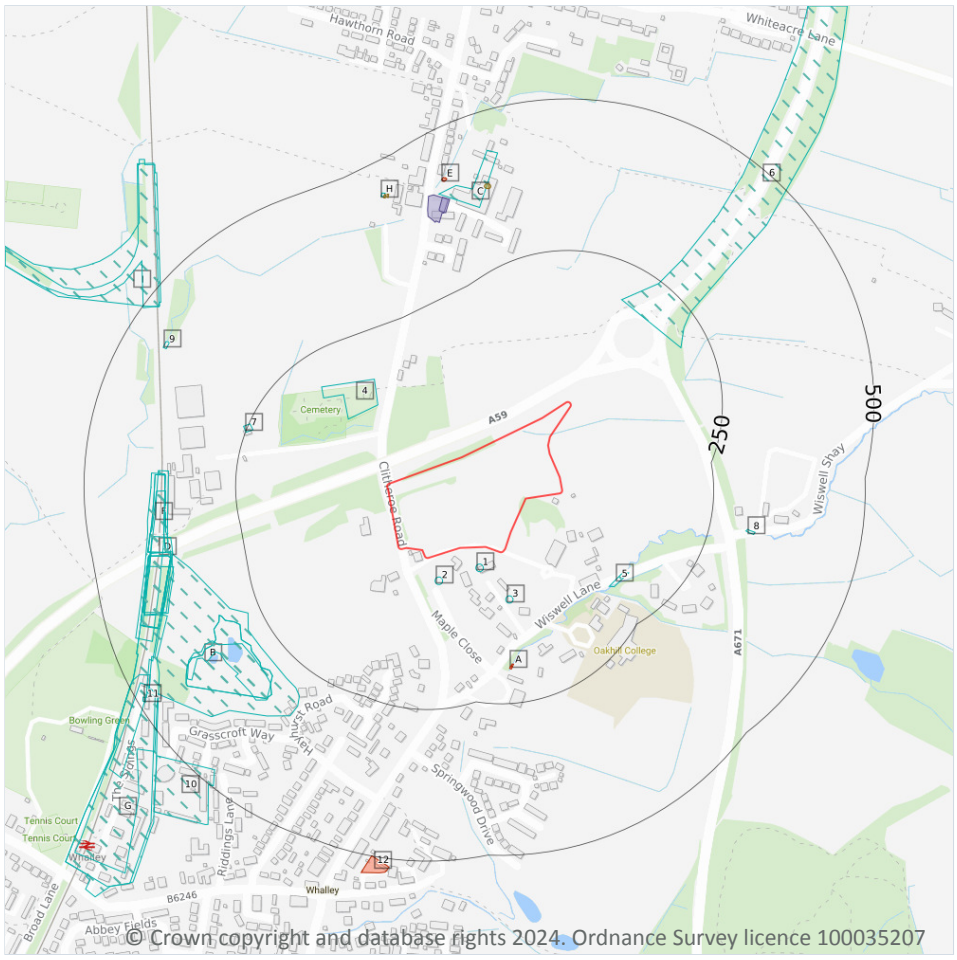
Site Area: 3.9ha

OS MasterMap site plan



Site Area: 3.9ha

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

1.1 Historical industrial land uses

Records within 500m	32

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14 >**

ID	Location	Land use	Dates present	Group ID
1	28m S	Unspecified Tank	1892	698561

ID	Location	Land use	Dates present	Group ID
2	35m SW	Unspecified Tank	1892	698562
3	73m S	Unspecified Tank	1892	698560
4	125m NW	Cemetery	1969	658705
5	167m SE	Pipes	1848	665878
6	186m NE	Cuttings	1973	653396
7	240m W	Pumping Station	1969 - 1973	713990
B	271m SW	Brick and Tile Works	1892	657484
B	291m SW	Old Clay Pit	1910	654281
B	291m SW	Unspecified Pit	1933	759524
B	300m SW	Unspecified Pit	1892	777016
8	310m E	Pipe	1848	701272
C	352m N	Corn Mill	1969 - 1973	730869
D	361m W	Cuttings	1950	747735
D	366m W	Cuttings	1892	784861
F	366m W	Cuttings	1910	732095
F	366m W	Cuttings	1932	783040
D	367m W	Cuttings	1969	801957
D	367m W	Cuttings	1848	792075
D	371m W	Cuttings	1973	764573
G	372m W	Railway Sidings	1933 - 1950	727356
D	373m W	Cuttings	1910	726404
D	373m W	Cuttings	1933	738038
G	373m W	Railway Sidings	1910	771281
9	429m NW	Pipe	1848	701166
H	442m N	Unspecified Tank	1911	698566
G	461m SW	Railway Sidings	1892	713066
G	471m SW	Railway Sidings	1973	764723
10	476m SW	Council Depot	1969 - 1973	728417

ID	Location	Land use	Dates present	Group ID
I	478m NW	Railway Sidings	1910	719778
I	478m NW	Railway Sidings	1932 - 1950	795321
11	485m SW	Railway Building	1910 - 1933	763989

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**3**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14 >**

ID	Location	Land use	Dates present	Group ID
C	375m N	Unspecified Tank	1977 - 1989	94971
H	438m N	Unspecified Tank	1894	85639
H	440m N	Unspecified Tank	1892	88345

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**4**

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14 >**

ID	Location	Land use	Dates present	Group ID
A	185m S	Electricity Substation	1994	57341
A	188m S	Electricity Substation	1989	61806

ID	Location	Land use	Dates present	Group ID
E	416m N	Electricity Substation	1977 - 1989	56362
12	500m S	Electricity Substation	1989 - 1994	58646

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	2

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14 >**

ID	Location	Land use	Dates present	Group ID
E	363m N	Garage	1989	19929
E	371m N	Garage	1966 - 1977	17366

This data is sourced from Ordnance Survey / Groundsure.

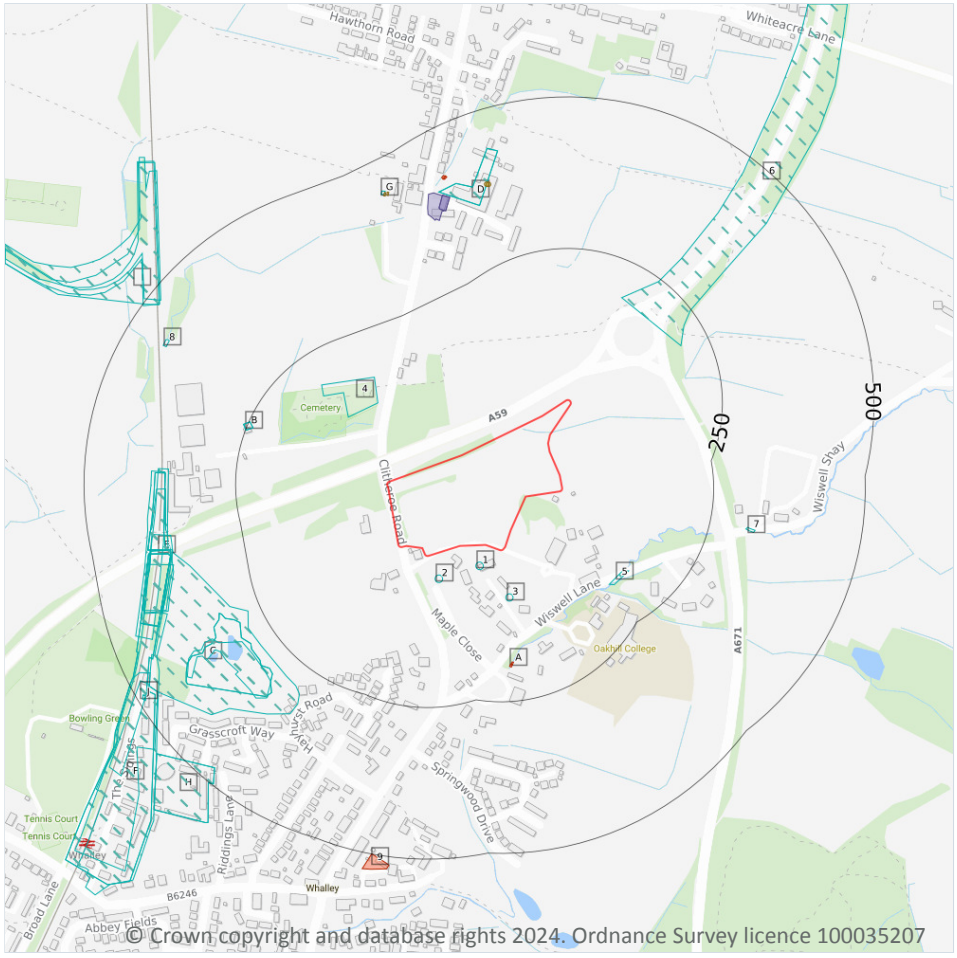
1.6 Historical military land

Records within 500m	0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.

2 Past land use - un-grouped



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

Historical garages

2.1 Historical industrial land uses

Records within 500m	39

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 18 >**

ID	Location	Land Use	Date	Group ID
1	28m S	Unspecified Tank	1892	698561
2	35m SW	Unspecified Tank	1892	698562
3	73m S	Unspecified Tank	1892	698560

ID	Location	Land Use	Date	Group ID
4	125m NW	Cemetery	1969	658705
5	167m SE	Pipes	1848	665878
6	186m NE	Cuttings	1973	653396
B	240m W	Pumping Station	1973	713990
B	240m W	Pumping Station	1969	713990
C	271m SW	Brick and Tile Works	1892	657484
C	291m SW	Unspecified Pit	1933	759524
C	291m SW	Old Clay Pit	1910	654281
C	300m SW	Unspecified Pit	1892	777016
7	310m E	Pipe	1848	701272
D	352m N	Corn Mill	1973	730869
D	352m N	Corn Mill	1969	730869
E	361m W	Cuttings	1950	747735
E	366m W	Cuttings	1892	784861
E	366m W	Cuttings	1932	783040
E	366m W	Cuttings	1910	732095
E	367m W	Cuttings	1969	801957
E	367m W	Cuttings	1848	792075
E	368m W	Cuttings	1892	784861
E	371m W	Cuttings	1973	764573
F	372m W	Railway Sidings	1950	727356
E	373m W	Cuttings	1933	738038
E	373m W	Cuttings	1910	726404
F	373m W	Railway Sidings	1933	727356
F	373m W	Railway Sidings	1910	771281
8	429m NW	Pipe	1848	701166
G	442m N	Unspecified Tank	1911	698566
F	461m SW	Railway Sidings	1892	713066

ID	Location	Land Use	Date	Group ID
F	471m SW	Railway Sidings	1973	764723
H	476m SW	Council Depot	1973	728417
H	476m SW	Council Depot	1969	728417
I	478m NW	Railway Sidings	1910	719778
I	478m NW	Railway Sidings	1932	795321
I	480m NW	Railway Sidings	1950	795321
J	485m SW	Railway Building	1933	763989
J	485m SW	Railway Building	1910	763989

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**4**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 18 >**

ID	Location	Land Use	Date	Group ID
D	375m N	Unspecified Tank	1977	94971
D	376m N	Unspecified Tank	1989	94971
G	438m N	Unspecified Tank	1894	85639
G	440m N	Unspecified Tank	1892	88345

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**5**

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 18 >**

ID	Location	Land Use	Date	Group ID
A	185m S	Electricity Substation	1994	57341
A	188m S	Electricity Substation	1989	61806
D	416m N	Electricity Substation	1977	56362
D	417m N	Electricity Substation	1989	56362
9	500m S	Electricity Substation	1994	58646

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	**0**

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	**3**

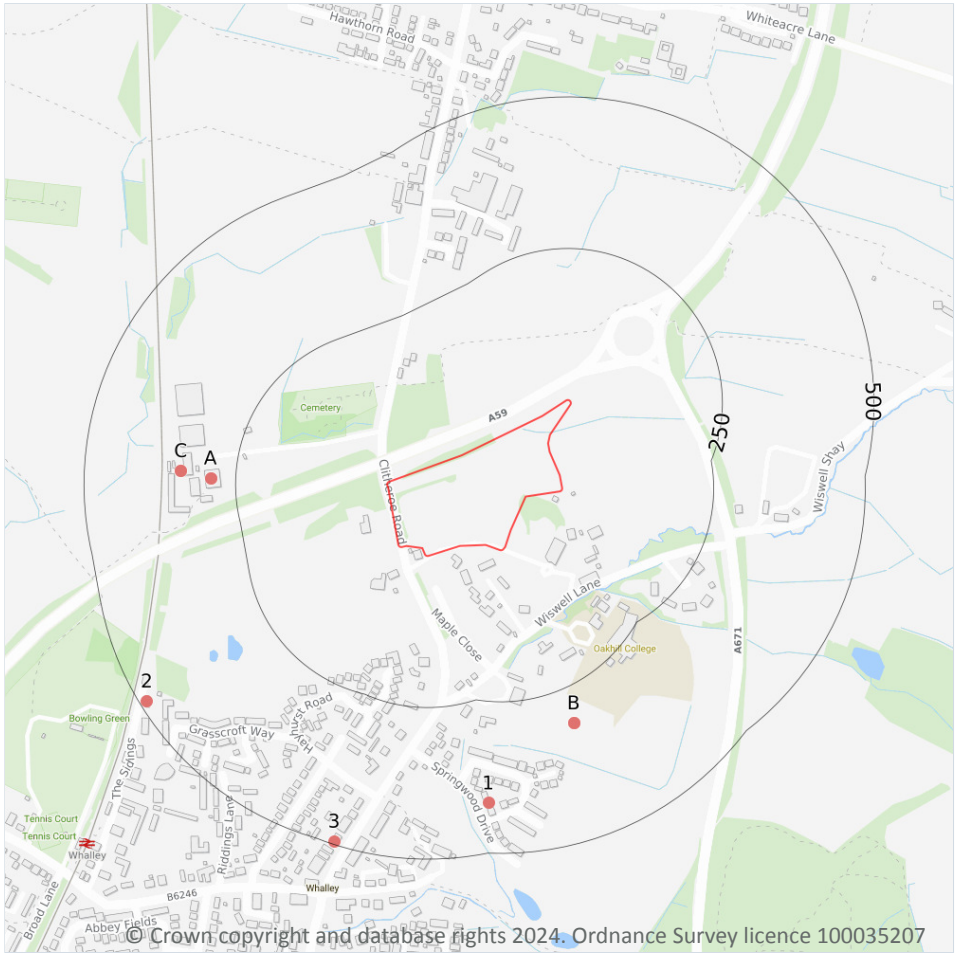
Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 18 >**

ID	Location	Land Use	Date	Group ID
D	363m N	Garage	1989	19929
D	371m N	Garage	1966	17366
D	371m N	Garage	1977	17366

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



Site Outline

Search buffers in metres (m)

Waste exemptions

3.1 Active or recent landfill

Records within 500m	0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m	0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	0

Landfill sites identified from Local Authority records and high detail historical mapping.

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m	0

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m	0

Waste site records derived from Local Authority planning records and high detail historical mapping.

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m	0

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.7 Waste exemptions

Records within 500m	11

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 22 >**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	292m W	Shaw House Farm, Clitheroe Road, Whalley, Clitheroe, Bb7 9ad	WEX237954	Using waste exemption	On a farm	Use of waste in construction

ID	Location	Site	Reference	Category	Sub-Category	Description
A	292m W	Green Lane, Wardle, Nantwich, Cw5 6db	WEX094423	Using waste exemption	On a farm	Use of waste in construction
B	309m SE	-	WEX388536	Using waste exemption	Not on a farm	Use of waste in construction
B	309m SE	-	WEX388536	Treating waste exemption	Not on a farm	Screening and blending of waste
B	309m SE	-	WEX258364	Using waste exemption	Not on a farm	Use of waste in construction
B	309m SE	-	WEX258364	Treating waste exemption	Not on a farm	Screening and blending of waste
C	341m W	Shaw House Farm (Mr Wearden) Clitheroe Road Clitheroe Lancs Bb7 9ad	EPR/DE5240EP /A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste for a specified purpose
C	341m W	Shaw House Farm (Mr Wearden) Clitheroe Road Clitheroe Lancs Bb7 9ad	EPR/DE5240EP /A001	Using waste exemption	Both agricultural and non-agricultural waste	Spreading waste on agricultural land to confer benefit
1	418m S	-	WEX408033	Using waste exemption	Not on a farm	Use of waste in construction
2	489m SW	Bowland House, The Sidings, Whalley, Clitheroe, Bb7 9se	WEX247277	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
3	496m S	29 Clitheroe Road Lancashire Bb7 9aa	EPR/RF0635DL /A001	Using waste exemption	Non-agricultural waste only	Use of waste in construction

This data is sourced from the Environment Agency and Natural Resources Wales.

4 Current industrial land use

Site Outline

Search buffers in metres (m)

Recent industrial land uses

Current or recent petrol stations

Licensed Discharges to controlled waters

Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m	2

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 25 >**

ID	Location	Company	Address	Activity	Category
1	192m S	Electricity Sub Station	Lancashire, BB7	Electrical Features	Infrastructure and Facilities
2	238m W	Pumping Station	Lancashire, BB7	Water Pumping Stations	Industrial Features

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	1

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 25 >**

ID	Location	Company	Address	LPG	Status
5	401m N	GULF	Clitheroe Road, Barrow, Clitheroe, Lancashire, BB7 9AQ	Not Applicable	Obsolete

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m	0

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m	0

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.13 Licensed Discharges to controlled waters

Records within 500m	1

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on **page 25 >**

ID	Location	Address	Details	
4	343m N	WHITBREADBOWLAN DINNS,NRWHALLEY,L ANCASHIRE	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 01719190201 Permit Version: 1 Receiving Water: TRIB FOR DRAINAGE AREA 72	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 08/09/1986 Revocation Date: 01/11/1994

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Pollutant release to surface waters (Red List)

Records within 500m	0

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 List 1 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 2 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m	2

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on **page 25 >**

ID	Location	Details	
3	297m W	Incident Date: 27/08/2003 Incident Identification: 185371 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
6	466m N	Incident Date: 30/11/2001 Incident Identification: 45751 Pollutant: Agricultural Materials and Wastes Pollutant Description: Slurry and Dilute Slurry	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution inventory substances

Records within 500m	0

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m	0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

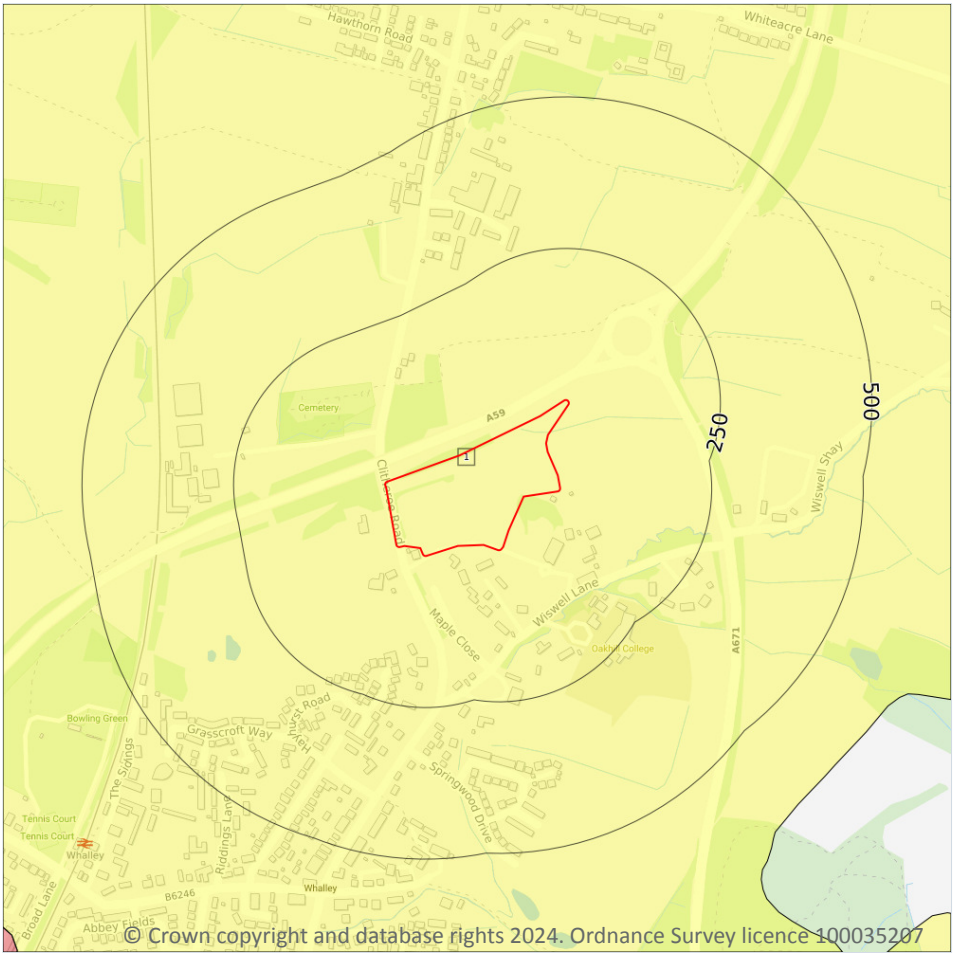
4.21 Pollution inventory radioactive waste

Records within 500m	0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive
- Unknown

5.1 Superficial aquifer

Records within 500m	1

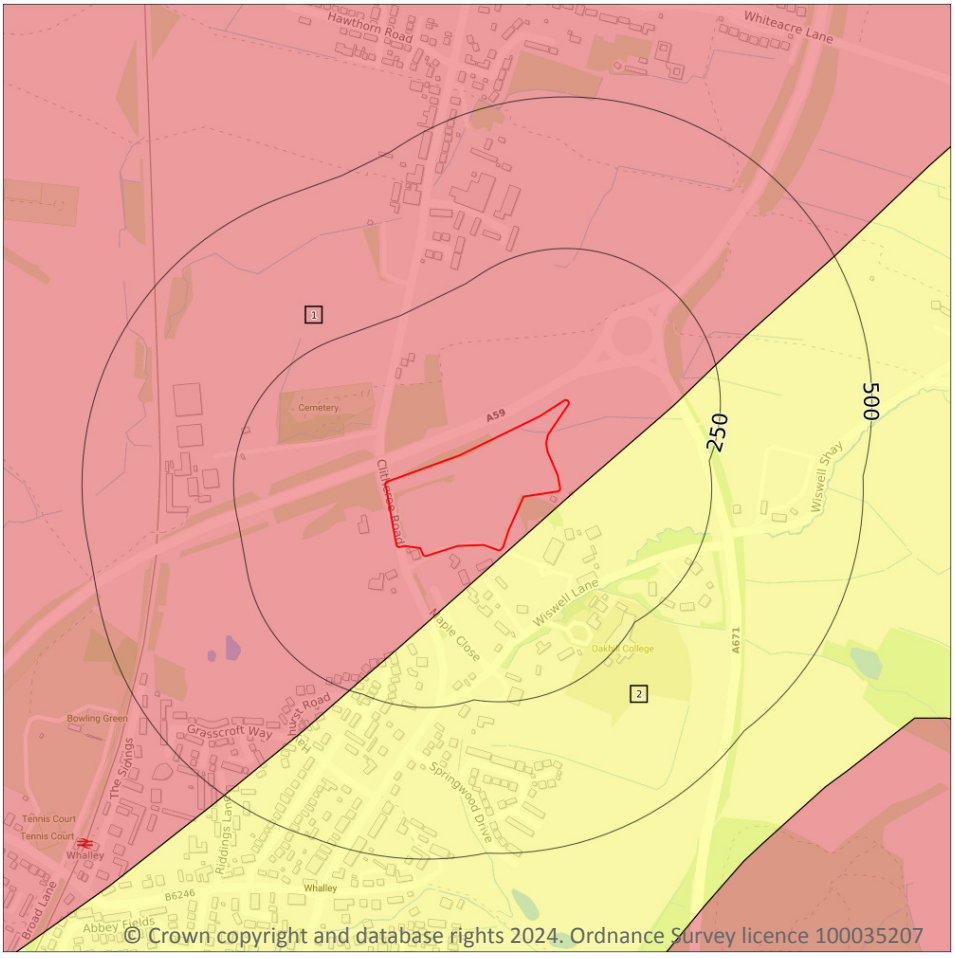
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 31 >**

ID	Location	Designation	Description
1	**On site**	**Secondary Undifferentiated**	**Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type**

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Bedrock aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

5.2 Bedrock aquifer

Records within 500m	2

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 32 >**

ID	Location	Designation	Description
1	**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	9m SE	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.