



# Contaminated Land Phase One Desk Study for Whalleys Farm, Preston Road, Charnock Richard, PR7 5HR.

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Prepared for

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January 2021



## **Summary**

This report consists of a phase one contaminated land desk study produced for the land at Whalleys Farm, Preston Road, Charnock Richard, PR7 5HR.

Following the site walkover and review of the available information it has been concluded that the site is suitable and safe for its current use. However, the site has undergone numerous historical changes and has been used for commercial operations to the eastern end of the site. This same area has also been raised and levelled and contains some made ground although this appears to be inert.

It is therefore recommended that should the site be redeveloped in the future an intrusive investigation be undertaken to confirm the absence of any contamination that may impact on future site users.



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## **Introduction**

Martin Environmental Solutions has been commissioned, to carry out a phase one contaminated land desk study report in relation to site known as Whalley's Farm, Preston Road, Charnock Richard, PR7 5HR.

## **Aims and Objectives of the report**

The aims and objectives of this report are as follows:

- Assess the likelihood of contamination affecting the site,
- Identify any likely receptors to be affected by the potential contamination,
- Identify the pathways by which the receptors will be exposed to any potential contamination,
- Identify any areas where further investigation will be required.

## **Scope of works**

This report has been written in line with the 'BS 10175: 2011+A2: 2017 Investigation of potentially contaminated sites – Code of Practice' and Land Contamination Risk Management (LCRM) which has recently replaced 'The Model Procedures for the Management of Land Contamination, CLR11'.

The scope of this report covers the phase one desk study only. It will look at relevant information on: -

- the history of the site and surrounding area,
- the current use of the site and surrounding area,
- the geology and hydrogeology of the area,

A site walk-over survey has been undertaken in addition to consultations with the existing site owner, to identify any potential contamination issues.

Evaluation of the above information will be used to construct an initial conceptual model as appropriate, with the identification of any additional investigations that may be required.



### **The Site:**

**Site Address:** Whalley's Farm, Preston Road, Charnock Richard, PR7 5HR.

Grid reference: 355299; 414348

An aerial photograph of the site is included in Figure 1.

### **Current Site use:**

The site currently consists of a bungalow to the western side of the site, a commercial/industrial building to the centre and a flat parking area to the eastern section of the site. The site covers an area of approximately 0.48ha.

To the north is the main road and beyond Heaton's Farm surrounded by agricultural fields. To the west another residential property with more beyond facing onto Town Lane. To the south and east agricultural land. two-storey domestic property and attached three-storey warehouse covering an area of 0.09ha. The site lies between Fleet Street to the north and Church Street to the south. The M6 lies 600m to the west.

## **Research**

### **Details of Research**

This report has been based on information gathered from a number of reputable sources, covering details:

- on the historic and current use of the site,
- any known waste disposal activities in the area,
- any regulated industrial activities within the vicinity of the site including recorded industrial accidents,
- on the geology, hydrogeology, hydrology of the area,
- identification of any environmentally sensitive sites,
- any natural hazards.

Principle sources of this information have been:

- environmental data from Groundsure Limited
- the Local Planning Authority,
- historic maps (Groundsure Ltd),
- site walk-over survey and discussion with the current owners.



## Site History

Information on the historic uses of the site has been obtained from historic mapping information (Appendix 2), and environmental data from Groundsure Limited.

Mapping Year	Changes on Site	Changes off Site
1849	The site is identified as Barkers and consists of two buildings and part of the surrounding fields.	The area is predominantly agricultural. To the north is the main road and beyond Heaton's Farm. To the east, again on the opposite side of the road is Whittle Bridge Farm. Whittle Stocks Inn (now The Hinds Head) lies to the north on the corner of Preston Rd and Chorley Lane. There is an old coal pit located 600m to the southeast and beyond an old engine house.
1893	The two buildings are still present on site, with a shed to the southern boundary between them.	There is a mineral railway running from the southwest to the northeast along the western boundary. A gate house is shown along the road. There are three ponds within 250m of the site. A colliery is shown over 1Km to the southwest. Wood pit is shown 800m southeast
1909-10	The building in the centre has been extended.	More properties have been constructed along the road. A sewage works is located 500m to the southeast, with another to the east over 550m away. The village of Coppull/Springfield is developing to the southeast along with a brickworks ~ 1KM away. A sand pit is shown 800m south.
1928-29	The central building has been 'squared' off	A branch line from the mineral railway has been erected heading north towards the road. No other changes are shown in the area. To the east Coppull and Springfield continue to expand. The ponds to the north are drying up.
1937-38	A glass house is shown to the east of the site	Housing has been built off Town Lane to the north and to the far south at Tansley Avenue. Two ponds to the east are no longer



		shown 1, being built over the over n a larger field.
1955-59	The glass house has been removed	No significant changes
1965-68	No change	The railway has been dismantled, The M6 has been built to the west ~600m
1980-84	No change	Heatons Farm has expanded at the rear of the farm away from the site with the addition of 3 barns. Coppull has expanded further in the southeast.
1992	The site has been redeveloped. The existing bungalow has been built. Three small out buildings are shown in addition to the original larger one in the centre of the site.	Additional development at Heatons farm, including a silage tank
2001-2021	A new large 'commercial building' is shown to the southern boundary. A number of smaller sheds are present to the rear and side of this building. Three of these disappear by 2009 according to aerial photography. Leaving those identified during the walkover.	Heatons farm is redeveloped and extended. The tank is removed by 2005.
Aerial photography	Aerial photography shows a number of wagon's parked to the western side of the site from 2000 onwards.	



## **Regulatory Information**

Relevant information obtained from the Groundsure report (Appendix 1) is summarised below.

One permitted activity has been identified within 500m of the site as defined in the Environmental Permitting (England and Wales) Regulations 2016 or previous legislation. This being a historical waste handling site located 89m southeast of the site at Ian Mccarthy Haulage Ltd

Two pollution incidents have been identified in the surrounding area, occurring in April 2001 311m southeast from the site involving slurry and April 2002, 201m southeast of the site involving fumes.

No discharge consents are reported.

The above identified sites are unlikely to impact on the development site.

No current landfill site record have been found in the area, two historic records have been identified located 184m north at Heatons farm from 31<sup>st</sup> Dec 1988 t 31<sup>st</sup> Dec 1988. and 468m southwest at Ruttle plant hire- waste incineration in 1977.

67 waste exemptions have been identified, two reportedly on site involving the spreading of waste on agricultural land and the secure storage of waste. To the north at Heatons Farm a further 23 waste exemptions are identified, linked to the spreading of waste on agricultural land, burning waste as a fuel, treatment of waste wood, and storage of waste. A further 8 exemptions are recorded again at Heatons farm but 110m away from the site involving the same activities.

15 exemptions at Haydocks Farm 126m south, and an addition 17 exemptions for the same farm at 170m from the site. All covering similar exemptions to those at Heatons farm above. The 1st three sites are also linked to Haydock Farm for the storage of sludge and are 216m south, 268m southwest and 343m southwest

Given the distances and nature of the sites it is unlikely that the above sites will pose any risk to the development.





Three current potentially contaminative sites have been identified within 250m of the site. These consist of;

- An Electricity Substation 190m northwest
- A distribution and haulage company 202m southeast
- An obsolete petrol station 268m northwest.

These are unlikely to impact on the site.

Historical potentially contaminative land uses have been identified within 250m of the site from the purchased information; most of these have been identified from the historical mapping and include:

The mineral railway sidings to the north

A depot located 104m northwest in 1981

Ground workings located 168m north in 1927-38, and 246m northeast in 1907. The only sign on the historical maps is the areas of the former ponds.

A unspecified heap in 1955 located 247m northeast, this is later shown with a railway sidings

### **Geology and Hydrogeology**

Information from the British Geology Survey 1:50,000 mapping identifies the bedrock in the area as Pennine Lower Coal Measure Formations overlaid with Till, Devensian Clay, sandy, gravelly, silty deposits.

The information obtained on the hydrogeology of the area identifies the site as having a Secondary A aquifer in the bedrock 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, with a Secondary undifferentiated aquifer in the superficial layer.

Two groundwater abstraction licenses have been identified, both historical located 1117m south at Staveley Eggs Ltd. Last used in 1990. all potable supplies and all linked to United Utilities and are located 223m, 322m, 1124m, 1424m north of the site.

No surface water abstraction licenses are identified.

The site is not located within a Source Protection Zone.

The Groundwater vulnerability is described as low in both the superficial and bedrock geology.



## **Hydrology**

There are a number of watercourses surrounding the site, to the south, southeast of the site. The nearest point being 29m east of the site.

The site is not within a floodplain, and the risk of flooding is classified as low.

## **Environmental Sensitivity**

A number of Environmental Sensitivity sites are identified within 2000m of the site. These include two Sites of Special Scientific Interest (SSSI). The first located 1392m northeast at Charnock Richard Pasture and the second 1505m southwest at Wrightington Bar Pasture.

In addition a Local Nature Reserve is located at Hic Bibi 1980m southeast and the site is located within the Liverpool and Manchester Greenbelt.

Five ancient woodlands have also been identified two to the southwest 1372m, Chisnall Wood, and 1392m Wet Oaks Wood. One to the northwest, 1778m and two to the northeast 1853m Parker's Wood and 956m Burgh Wood.

It is unlikely that the site will impact on these areas.

The property is in an area identified as having less than 1% of properties above the action level of 200 Becquerel's per cubic metre, based on specific property search. Radon protection measures are not required in line with BR211.

No additional natural hazards have been identified & the site has very low/negligible risk of shrink swell, running sand, and compressible ground.

## **Mining**

Mining has been identified in the wider area, Welch Whittle Colliery had a number of deep pits located 256m north, 279m north, 308m northeast and 418m north. While the site is identified by the coal authority as being in an area affected by mining there is not evidence to suggest that any mining has occurred on the site.



## **Site Walkover**

A site walkover was undertaken on the 13<sup>th</sup> January 2021, and confirmed much of what had already been identified from the purchased information. The photographs in Appendix 3 provide some indication of the current layout and condition of the site.

The site is accessed from the main road to the north of the site, by a concrete drive. It is significantly higher than the road and surrounding land to the east but roughly the same level as the fields to the south and the property to the west.

From the access drive a large commercial unit is located in front of the access along the southern boundary. Constructed from a metal frame with stone and metal walls and roof. To the rear south of this building is a metal container and behind that a wooden dog house/run.

To the west a lawn at the front of the site, a bungalow to the centre along the western boundary and another lawn to the rear of this. At the side of the lawn and located between the lawn and the commercial unit is a domestic garage with constructed from concrete panels and a metal roof. The bungalow is a brick built rendered building and is elevated from the rest of the site.

There was no sign, visual or olfactory contamination of any distressed, or dying vegetation or other contamination sources identified during the walkover survey.



## **Conclusions**

Following the site walk-over survey there are no contaminants identified on or off site that are likely to present a significant possibility of significant harm to any identified receptor.

The site has been historically redeveloped and currently contains a commercial unit replacing former units on site. To the east of the site the land has been raised to make the site level. There is therefore the potential for contamination on site within the made ground or from the former industrial units, this could potentially include heavy metals, and petroleum hydrocarbons from fuel and oils and maintenance to machinery on site or Polyaromatic hydrocarbons within the made ground.

However the site is considered to be safe and suitable for its current use as a commercial yard.

## **Receptors and Pathways**

Potential receptors which may be affected by any unknown contamination on site will include:

- Construction workers who are likely to be affected by any potential contamination as they will initially be working in the ground and are likely to be the ones who unearth any potential contaminants.
- Future users of the site, including residents, staff and visitors to the site. For the purpose of evaluating any effects from any contamination found during any intrusive investigation future users/visitors to the site should be regarded as the 0-6-year-old female child.
- Any building on site e.g., foundations which may be attacked by any contaminants in the ground or services.
- The underlying groundwater which may be contaminated by migrating pollutants present on the site. There is also the potential for further pollution of the groundwater or the watercourse from disturbing any potential contaminants on site.

The pathways by which these receptors may be exposed to any unforeseen potential contamination will include:



- Inhalation, of gases or vapours released during ground work or fine particles.
- Ingestion of the contaminants, principally from cross contamination with contaminated soil and inadequate hand washing before smoking and eating.
- Absorption through the skin following contact with contaminated soil.

#### Future users and visitors

- Inhalations of gas/vapours or fibres, particularly if these are allowed to enter the new structures through the ground, and build up in an enclosed area.
- Ingestion of contaminants, through the ingestion of contaminated soil from the garden area via direct contact, e.g., playing in the garden.
- Absorption of contaminants from dermal contact with contaminated soil.

#### Buildings

Contaminants on site have the potential to affect the foundations to the new building or the services supplying it.

#### Watercourses

As discussed above, if they exist on site, there is a potential for any contaminants to migrate through the ground into the groundwater and aquifer or via run-off into the watercourse.



### Conceptual Model

The table represents a basic conceptual model. It highlights the potential sources of pollutants identified from the gathered information, and potential pathways in which any contaminants could reach the identified receptors.

Pathway	Description	Identified sources	Receptor at risk	Likelihood
1	Run off and seepage into groundwater from any spillages	Made ground, commercial units	Watercourse/ Environment	Medium
2	Migration of gases into the building.	-	Future users	V. Low
3	Inhalation of gases/ vapours outside	-	Construction workers/future users	V. low
4	Inhalation of fine particles	Made ground, commercial units	Construction workers/future users	Medium
5	Direct ingestion of contaminated soil	Made ground, commercial units	Construction workers/future users	Medium
6	In-direct ingestion of contaminated soil	Made Ground, commercial units	Future users	Medium
7	Absorption via direct dermal contact with contaminated soil	Made ground, commercial units	Construction workers/future users	Medium



## **Recommendations**

As a result of the investigation into the historical use of the site and surrounding area it has been identified that the site has been built up, particularly in the eastern corner. Historically a number of units were also present on site. While the suit is considered suitable and safe for its current use, should it be redeveloped in the future it is recommended that an intrusive investigation be undertaken to confirm the absence of any contamination on site.

**Figure 1 - Aerial Photograph**







## **Appendix 1 – Groundsure Data**



## **Appendix 2 – Historic Maps**

## Appendix 3 – Walkover Photographs

The entrance and northern boundary







The eastern section of the site, looking along the northern, eastern and southern boundary

















The commercial unit







Units behind the commercial unit and the domestic garage









The bungalow and lawns















## Appendix 4 Report limitations and exclusions

### Basis of Risk Assessment

The methods used follow a risk-based approach with the potential risk assessed using the 'Source – pathway – receptor pollution linkage concept.

### Limitations and Exceptions of this Report

This report was undertaken for at the request of MPD Built Environment Consultants Limited and as such should not be entrusted to any third party without written permission of **Martin Environmental Solutions**. No other third parties may rely upon or reproduce the contents of this report without the written permission of **Martin Environmental Solutions**. If any unauthorised third party comes into possession of this report they rely on it at their own risk and the authors do not owe them any duty of care or skill.

This report has been compiled from a number of sources, within the time constraints of the programme, which **Martin Environmental Solutions** believes to be trustworthy. However, **Martin Environmental Solutions** is unable to guarantee the accuracy of information provided by third parties.

The findings and opinions provided in this document are made in good faith and are based on data provided by third parties (Groundsure, Environment Agency, The Coal Authority, and Regulatory Bodies) and the report should be read in conjunction with the limitations on the document control form. The accuracy of map extracts cannot be guaranteed and it should be recognised that different conditions on /adjacent to the site may have existed between and subsequent to the various map surveys.

This report is prepared and written in the context of the purposes stated above and should not be used in a different context. Furthermore, new information, improved practices and legislation may necessitate an alteration to this report in whole or in part after its submission.

The conclusions and recommendations of this report are based on the development described, for any other development the report may require revision.

All of the comments and opinions contained in this report, including any conclusions, are based on the information obtained by **Martin Environmental Solutions**. The conclusions



drawn by **Martin Environmental Solutions** could therefore differ if the information obtained is found to be misrepresentative, inaccurate, or misleading. **Martin Environmental Solutions** reserves the right to amend their conclusions and recommendations in the light of further information that may become available.

The report should be read in its entirety, including all associated drawings and appendices.

**Martin Environmental Solutions** cannot be held responsible for any misinterpretations arising from the use of extracts that are taken out of context.

This report does not comprise a geotechnical assessment of the strata underlying the site.

Any borehole data from the British Geological Survey sources is included on the following basis: 'The British Geological Survey accept no responsibility for omissions or misinterpretations of the data from their Data Bank as this may be old or obtained from non-BGS sources and may not represent current interpretation'.

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Any risks identified in a Phase I Desk Study Report are perceived risks. Actual risks can only be assessed following a physical investigation of the site.

The findings of this report are based on finite information obtained from research and consultations. Martin Environmental Solutions cannot guarantee the reliability of all such information and the searches should not be considered exhaustive. The findings of the report may need to be reviewed as any future exploratory investigations progress and in the event that additional archive information becomes available.

Notwithstanding the findings of this study (and any subsequent investigations), if any indication of contaminated soil (visual or olfactory) is encountered at any stage of the development further investigation may be required.





Arboricultural Survey and advice on arboricultural issues are considered to be outside the scope of this report except for their effect on the foundations to the proposed buildings.

Where identification of any species is made, especially invasive plants such as Japanese Knotweed, Himalayan Balsam or Giant Hogweed, this should only be considered as a preliminary assessment and subject to confirmation by a professional Arboriculturist. Martin Environmental Solutions takes no responsibility for failing to identify, or the incorrect identification of, any tree or plant species on site.

Our investigations exclude surveys to identify the presence or indeed absence of asbestos in buildings/infrastructure on site. If asbestos is suspected to be present, we recommend specialists in the identification and control / disposal of asbestos are appointed prior to commencement of any works on site or, if appropriate, purchase of the site. The presence of asbestos on site may have considerable effects on the cost / timescale in developing the site. There is good guidance in relation to Asbestos available on the Health and Safety Executive (HSE) web site.

Whilst a site walkover has been undertaken as part of this report, the survey does not constitute either an asbestos or structural survey and all areas of the site may not have been visited / inspected.