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# Contaminated Land Phase One Desk Study for proposed residential development at 1133 Rochdale Road, Manchester, M9 7FW.

Prepared for

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## Summary

This report consists of a phase one contaminated land desk study produced in support of a planning application for proposed residential accommodation on land at 1133 Rochdale Road, Blackley, Manchester, M9 7FW.

The report has been updated following a change in the proposed development. Publicly available datasets from the Environment Agency and British geological Society, Magic Map, Google Earth etc have been reviewed for any changes in the locality.

Following the site walkover and review of the available information it has been concluded that there is a low chance of ground gases affecting the site, but it is recommended that a gas membrane be installed to the ground floor as a precaution.

The report further recommends that a watching brief is maintained throughout the construction of the new dwellings and any signs of potential contamination found are fully investigated, with appropriate remedial action taken as necessary.

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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 a proposed residential development at 1133 Rochdale Road, Blackley, Manchester, M9 7FW.

The report has been updated following a change in the proposed development.

## 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).

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:** 1133 Rochdale Road, Blackley, Manchester, M9 7FW.

Grid reference: 385775; 402974

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

## Current Site use:

The wider site currently consists of a large detached property accessed from Rochdale Road to the east, with the development to be situated to the north on a currently open piece of land. To the north there is a steep drop to an open and slightly overgrown plot accessed from Middleton Old Road to the rear (west). To the south additional residential buildings. Beyond the road to the west industrial units and to the east housing, with open land to the northeast.

# 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 |
|---|---|---|
| 1848 | The site is undeveloped | The roads to the front and rear are present. Properties to the south are shown and a culvert is identified east and west.<br>Bleach works are identified to the northeast on the now open land, approx. 150m away, with a sand pit beyond 350m away.<br>Land to the east and south is generally open and undeveloped a print works is located to the southwest ~300m away with housing and a church to the west at Blackley. |
| 1891-93 | Properties are shown on the site to the south, the existing buildings. No development is shown on the proposed construction site. | The bleach works are now Lion Field Works with associated reservoirs. The lion mills are located to the immediate southwest of the site.<br>A steel works is shown to the northwest ~400m away.<br>A grave yard is shown at the church 120m away.<br>There is one pond to the north and two reservoirs to the northeast shown within 250m of the site. A water course from the east is shown running via a culvert along the northern boundary and off to the southwest.<br>Additional properties are shown to the immediate north, on the opposite side of the road to the west and to the south. |
| 1907-09 | No change. The Red Lion Hotel PH is identified. This is believed to be on site. | Tram tracks are shown running along the main road to the east.<br>Additional residential properties are sown to the north of the Lion Mills to the west. The field works to the northeast is identified as disused. |
| 1915 | No change | No significant changes |
| 1922-23 | No change | No significant changes |

| | | |
|---|---|---|
| 1932-38 | The Public house is identified on site. | The Lion Field Works is back in use identified as pickle.<br>There are more residential developments in the surrounding area. |
| 1951-56 | No change | The site of the former Lion works is starting to be redeveloped along the Rochdale Road, with changes to the Reservoir. A sand pit is identified next toe h works ~200m away.<br>More housing in all directions.<br>A refuse heap is shown 50m to the northeast |
| 1964-68 | No change | No significant changes, more housing the refuse heap is no longer shown.<br>Some properties to the immediate north have been demolished. |
| 1977-81 | No Change | No significant changes, housing to the south has been demolished. |
| 1985-88 | No Change | No significant changes |
| 1992-95 | No change | No significant changes, more housing to the north |
| 2001-03 | No Change | No significant changes |
| 2010-22 | No Change | No significant changes |
| Aerial photos | No Change | No significant changes |

## Regulatory Information

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

The only permitted activity identified within 500m of the site as defined in the Environmental Permitting (England and Wales) Regulations 2016 or previous legislation is a petrol station located 133m Northeast of the site, no enforcement records area held for this site.

Four pollution incidents have been identified in the surrounding area. All relating to one incident located 27m north of the site in June 2001 having a minor impact on land and no impact on water or air. Involving tyres and biodegradable/commercial.

11 discharge consents are reported, all are linked to water company sewage discharges and the nearest is 95m south of the site. All but the furthest are to the south with the last one being 472m east of the site.

The above identified site is unlikely to impact on the development site.

No active landfill site records have been found in the area, three historic landfill records are detailed, located 167m northeast 304m west and 492m south. No further information is available.

Five further waste sites have been identified a refuse pit in 1932, 226m northeast and another 252m northeast at the same state. To the south 494m away a refuse destructor from 1933 to 1975.

Since the previous 2022 report a number of waste carriers and brokers have been identified. These include Blackley Fast Food, a fast food takeaway to the north of the site, and Recycle Office Furniture to the rear of the site.

A further two waste exemptions are detailed located 297m west and 361m west both for pharmacies.

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

Ten current potentially contaminative sites are identified these include:

Vehicle repair and testing located 34m & 41m north and 113m east

Phone mast 44m east

Unspecified works 52m west

Recycling and reclamation site 100m south

Electrical sub-station 102m north and 230m southwest,

A petrol station 128m northeast

These is 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 works to the east ~ 20m in 1891, disused by 1915 and the main site being much further away.

The works to the west ~20m

Banking around the works shown on the map identified as a pit

The refuse heap to the northeast in 1956

A smithy in 1923 152m west

Another heap 181m northeast in 1923

Groundworks to the south – banking to the land

The print works 92m southwest 1851

The bleach works 1851

## Geology and Hydrogeology

Information from the British Geology Survey 1:50,000 mapping identifies the bedrock in the area as Manchester Marls Formation – Mudstone overlaid with Till, Devensian and Diamicton deposits. The presence of made ground is also recorded on site. Confirmed by nearby boreholes to the south

The information obtained on the hydrogeology of the area identifies the site as having a Secondary B aquifer in the bedrock which may store/yield limited amounts of groundwater due to localised features such as fissures, with a Secondary undifferentiated aquifer in the superficial layer.

A total of eight groundwater abstraction licenses have been identified, the nearest 766m west is historic, 874m west two boreholes for general cooling and finally 1155m west further boreholes for general cooling.

There are no surface water abstraction licenses identified.

The site is not located within a Source Protection Zone.

The Groundwater vulnerability is described as low within all geological layers.

## Hydrology

There is a watercourse running from the northwest to the south east along the northern boundary which is culverted.

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

## Environmental Sensitivity

The only Environmental Sensitivity site identified are three Local Nature Reserves, 217m southeast at Boggart Hole Clough, 1269m west at Blackley Forest and 1597m Alkrington Woods., In addition, two ancient woodlands have been identified 353m southeast and 521m east.

The property is in an area identified as having between 1% -3% 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.

There are no mining activities identified in the immediate area although the site is located within a coal mining area as identified by the Coal Authority. The previously identified sand pits are recorded.

# Site Walkover

## Original Walkover Survey

A site walkover was undertaken on the 22nd July 2022 and confirmed much of what had already been identified from the information obtained on the site. The photographs in Appendix 3 provide some indication of the current layout and condition of the site.

The site is accessed to the front from Rochdale Road and from the rear on Middleton Old Road which is much lower than the front of the property. To the north the adjacent open site has a steep drop and is accessed from Middleton Old Road with a retaining wall along Rochdale Road.

The development site is level with the existing building consisting of a roughly triangular shape with an overgrown asphalt base. A new concrete retaining wall runs along the north boundary to the adjacent site, and from the other side the remains of a brick wall can be seen.

An inspection chamber for the culvert running along the northern boundary is present to the rear within the footpath.

No signs of contamination, discoloration or olfactory evidence, dead or dying vegetation were seen during the walkover.

The current owners are unaware of any issues on site which could have led to contamination.

## February 2024 Walkover Survey

There have bene little changes to the site or surrounding area. Vegetation still covers the northern yard area. There is no sign of any contamination, discoloration or olfactory evidence of contamination across the site.

The current owners have confirmed that there have been no issues since the previous survey which could have lead to contamination of the site.

# Conclusions

## Potential Contaminants

Following a review of the information gathered on the history of the site and the surrounding area and following the site walk-over survey there are no contaminants identified on site that are likely to present a significant possibility of significant harm to any identified receptor.

The area has a varied history and the present of the reservoirs, sand pits and to a lesser extent the refuse heaps present a slim but possible risk of ground gas to the proposed building. As such basic gas protection measures in the form of a gas membrane are recommended, purely as precaution.

Some made ground may also existing on site given the height difference with Middleton Road. However, give the age of the site and existing buildings and nature of the development (no gardens), this is not considered to present any significant risk

## 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:

Construction workers

- 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.

Neighbouring sites

If present on site contaminates have the potential to migrate to neighbouring sites through ground water or air blown transfer.

## 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 | - | Culvert along northern bank | Low |
| 2 | Migration of gases into the building. | Reservoir, sand pit refuse heaps | Future users | Low, |
| 3 | Inhalation of gases/ vapours outside | Reservoir, sand pit refuse heaps | Construction workers/future users | V. Low |
| 4 | Inhalation of fine particles | Infilled / made ground | Construction workers/future users | Low |
| 5 | Direct ingestion of contaminated soil | Infilled / made ground | Construction workers | Low |
| 6 | In-direct ingestion of contaminated soil | Infilled / made ground | Future users | V. Low |
| 7 | Absorption via direct dermal contact with contaminated soil | Infilled / made ground | Construction workers/future users | V. Low |

## Recommendations

As a result of the investigation into the historical use of the site and surrounding area no potential sources of contamination have been identified on site. However, the site is likely to have some historic made-ground and a watching brief is recommended throughout the construction of the new building and any signs of potential contamination found are fully investigated, with appropriate remedial action taken as necessary and the local planning authority informed of the findings.

Off-site the historic sand pits, refuse heaps and reservoirs have the potential to emit ground gases, although given the ages this is considered unlikely. It is further recommended that gas protection measures be included within the construction of the new proposed apartments, purely as a precaution

## Figure 1 – Aerial Photograph

# Appendix 1 – Groundsure Data

# Appendix 2 – Historical Mapping

# Appendix 3 – Site Walkover Photographs

## Original Walkover Survey (Sep 2022)

A view of the front (east) of the site onto Rochdale Road, looking north then south

The development site, the front looking south

Looking west along the northern boundary

Looking east along the northern boundary

Looking across the site from rear to front south corner.

The rear of the site

The adjacent site to the north, showing the retaining wall.

## February 2024 Walkover Survey

Front of the existing building (east) looking south then north

Northern section fo the site looking south towards the existing building

Northern boundary looking west

looking west over the northern section of the site

looking north along the eastern boundary

Looking

east along the northern boundary

Looking down the stes from the front higher section to the rear of the site.

The rear fo the site looking south then north

The southern bounary looking east

The rear of the site looking towards the north

looking south

Looking down from the front northern corner to the site next door and much lower than the development site.

# 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 James Campbell Associates 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.