



Contaminated Land Phase Two Intrusive Investigation for Proposed Residential development at 615 Edenfield Road, Rochdale, OL11 5XE.

Prepared for:

Building Design Services
418 Bury Road
Rochdale
OL11 5EU.

September 2026



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Introduction

Martin Environmental Solutions has been commissioned, to carry out a phase two intrusive investigation for a proposed residential development at 615 Edenfield Road, Rochdale, OL11 5XE into a mixed retail/residential development.

The Phase II Intrusive investigation follows a phase I report ref: 2682-1 by Martin Environmental Solutions (MES) produced in March 2024, which identified a potential risk relating to the potential for shallow coal mining and/or made ground to exist on site.

The Site:

Site Address: 615 Edenfield Road, Rochdale, OL11 5XE.

Grid reference: 386314; 414446

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

Current Site use:

The site consisted of a single-storey brick building used as a taxi office which lied to the west for the site. The east slopes up from the roadside and is covered in asphalt.

History of the Site & Summary of the Phase I report

A summary of the history of the site and surrounding area and the findings of the Phase I report are presented below.

Site History	On-Site	A small building is shown on the 1851 historical mapping, removed by 1890. A building is then shown in 1928-30, extended slightly in to the rear by 1956 and removed by 1965. A building, the taxi office was the erected by 1990 with no further changes.
	Beyond Site Boundary	The earliest mapping identifies a smithy to the east of the site, and sandstone quarry to the southeast, a cotton mill 450m southwest and a colliery 400m northeast. By 1890 the colliery is shown as two “old” shafts and the quarry extended. By 1928 the quarry to the southwest is a sanitation works. Lots of housing is developed in the are over the years.
Geological Appraisal	Made Ground	No Made Ground is recorded.
	Geology	Pennine Lower Coal Measures Formation of Mudstone, Siltstone and Sandstone, with Till, Devensian, Diamicton in the superficial geological on site.
	Subsidence hazard	The hazard rating for compressible deposits, running sands shrink swell and landslides is very low/negligible.
	Mining	No Coal mining activities have been identified. The area is not within a high risk area.
	Radon	1-3% of properties are above the action level of 200 Becquerel’s per cubic metre. Basic Radon protection are not required.
Environmental Appraisal	Industrial Land Uses	Potentially contaminative sites identified include a sign company 242m south.
	Landfill Sites	No current or historic landfill sites exist within 250m of the site.
	Hydrogeology	Secondary A Aquifer in the Bedrock with secondary undifferentiated aquifer in the superficial layer. Groundwater vulnerability is low in all geographical layers. The ground water abstractions licences are located over 967m away.
	Hydrology	There are no nearby watercourses



	Flood Risk	Site lies is not located within a flood zone and the risk of flooding is negligible.
	Other relevant details	-



Initial Conceptual Model

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



Investigation Context

As a result of the Phase I report a potential for made ground on site and shallow coal seams were identified.

A coal investigation was undertaken which confirmed no evidence of any coal seams or voids down to 30m depth.

The Phase II investigation was undertaken on the 26th August 2026 to investigate the potential presence of contaminants. The weather at the time was damp, and it had been raining prior to the survey.

It is understood that the current site levels approximately represent the finished site level, with the main road and access point being lower than the site and the road to the west being higher.

The previous building had been demolished, and it can be seen that the site is “dug” into the hillside from the road. Site clearance and preparation of the site has identified it siting of sandstone rock with the rear being elevated from the front.

As a result, the intrusive investigation has concentrated on the potential for contamination from the following contaminants across the site;

- Total Petroleum Hydrocarbons, e.g. oils and fuel
- Polyaromatic Hydrocarbons e.g. Made Ground, burning,
- Heavy metals, finishes and preservatives
- Asbestos, e.g. building structure.



The Investigation

A site visit was conducted on the 26th August 2026 to undertake an intrusive investigation. Three sample locations were chosen across the site, the locations are shown in Figure 2.

Recovered samples were sent to Chemtech environmental a UKAS and MCERTs laboratory and each analysed for heavy metals, Total Petroleum Hydrocarbons (TPH) and Polyaromatic Hydrocarbons (PAH), and Asbestos.

It was originally planned to take two samples from each location, however on arrival the site preparation work undertaken had revealed clean sandstone below a thin asphalt layer to the rear of the site. One sample was therefore recovered in each area to the rear by digging horizontally into the banking. Two samples were recovered from the front of the site.

The first trial hole was located to the southwest rear corner of the site. Below a surface layer of asphalt was sandstone rock down to the base of the wall at 0.85m bgl. The sample taken at 0.35m

The second sample was located to the rear southeast corner with a surface of asphalt, then concrete sand stone rock was again found down to the base at 0.9m bgl, the sample taken between 0.35-0.6m

The third sample was located to the front northeast of the site. This trial hole was excavated vertically with sandstone throughout. Two samples were recovered one at 0.35m bgl and the second at 0.6m

No ground water was encounter.

Results

The full sampling results are presented in Appendix 1, the sampling locations in Figure 3. The results have been compared against the LQM/CIEH S4UL's & for lead the C4SL value. In each case the residential with homegrown produce end use scenario has been used. Soil organic matter ranged across the site ranged from 1.12-1.36%. The results of the sampling have been compared to the 1% organic matter values for each sample.

The below table provides the range of monitoring results for the site along with the relevant criterion for each contaminant. Details of each trail pits, including photographs are shown in Appendix 2. No ground water was encountered in any of the trail pits.

No obvious contamination was encountered in any of the trail holes.

The results of the samples identified no asbestos fibres present, in any of the samples.

No elevated levels of Polyaromatic Hydrocarbons or Total Petroleum Hydrocarbons were identified.

Elevated levels of lead were however found in Trail holes 1, 2 and the shallow sample of trail hole three.

Contaminant	Assessment Criteria (residential with home grown) (mg/Kg)	Range identified on site (mg/Kg)	Pass/Fail
Arsenic	37	4.0-6.8	Pass
Cadmium	11	<1.1	Pass
Chromium	910	51.6-32.0	Pass
Copper	2400	4.2-18.2	Pass
Lead	200	11.1-28.2	Pass
Mercury	40	<0.6-0.6	Pass
Nickel	180	9.4-28.2	Pass
Selenium	250	<3.0	Pass
Zinc	3700	29.9-49.0	Pass
Asbestos	N/A	N/A	Pass

Petroleum Hydrocarbons					
>C5-C6 Aliphatic (HS_1D_AL)	42-160			<0.1	Pass
>C6-C8 Aliphatic (HS_1D_AL)	100-230			<0.1	Pass
>C8-C10 Aliphatic (HS_1D_AL)	27-65			<0.1	Pass
>C10-C12 Aliphatic (EH_2D_AL)	130-760			<1.0	Pass
>C12-C16 Aliphatic (EH_2D_AL)	1100-4300			<4.3	Pass
>C16-C21 Aliphatic (EH_2D_AL)	65000-110000			<2.5-3.3	Pass
>C21-C35 Aliphatic (EH_2D_AL)	65000-110000			<5.2-8.9	Pass
>C35-C44 Aliphatic (EH_2D_AL)	65000-110000			<2.6-4.6	Pass
>C5-C7 Aromatic (HS_1D_AR)	70-300			<0.01	Pass
>C7-C8 Aromatic (HS_1D_AR)	130-660			<0.01	Pass
>C8-C10 Aromatic (HS_1D_AR)	34-190			<0.01	Pass
>C10-C12 Aromatic (EH_2D_AR)	74-380			<5.0	Pass
>C12-C16 Aromatic (EH_2D_AR)	140-660			<5.5	Pass
>C16-C21 Aromatic (EH_2D_AR)	260-930			<4.5	Pass
>C21-C35 Aromatic (EH_2D_AR)	1100-1700			<11.0	Pass
>C35-C44 Aromatic (EH_2D_AR)	1100-1700			<5.2	Pass
Polyaromatic hydrocarbons					
	SOM				
	1%	2.5%	6%		
Naphthalene	2.3	5.6	13	<0.016	Pass
Acenaphthylene	170	420	920	<0.015	Pass
Acenaphthene	210	510	1100	<0.013	Pass
Fluorene	170	400	860	<0.013	Pass
Phenanthrene	95	220	440	<0.014	Pass
Anthracene	2400	5400	11000	<0.017-0.054	Pass
Fluoranthene	280	560	890	<0.017-1.180	Pass
Pyrene	620	1200	2000	<0.016-1.300	Pass
Benzo(a)anthracene	7.2	11	13	<0.012-0.827	Pass
Chrysene	15	22	27	<0.028-0.689	Pass
Benzo(b)fluoranthene	2.6	3.3	3.7	<0.020-1.110	Pass
Benzo(k)fluoranthene	77	93	100	<0.025-0.453	Pass



Benzo(a)pyrene	2.2	2.7	3.0	<0.019-0.894	Pass
Indeno(1,2,3-cd)pyrene	27	36	41	<0.019-0.751	Pass
Dibenzo(a,h)anthracene	0.24	0.28	0.3	<0.017-0.114	Pass
Benzo(g,h,i)perylene	320	340	350	<0.019-0.565	Pass



Conclusions & Recommendations

Following the phase II investigation no elevated levels of any pollutants were identified on site.

The independent coal investigation identified no signs of coal seams or voids beneath the site.

As a result, the site is considered to be free from any contamination likely to result in a Significant Possibility of Significant Harm to the identified receptors, and is safe for the intended use.



Updated Conceptual Model

Pathway	Description	Identified sources	Receptor at risk	Probability	Consequence	Risk
1	Run off and seepage into groundwater	N/A	Watercourse/ Environment	Unlikely	Medium	Low
2	Migration of gases into the building.	N/A	Future users	Unlikely	Medium	Low
3	Inhalation of gases/ vapours outside	N/A	Construction workers/future users	Unlikely	Mild	Very Low
4	Inhalation of fine particles	N/A	Construction workers/future users	Unlikely	Medium	Low
5	Direct ingestion of contaminated soil	N/A	Future users	Unlikely	Medium	Low
6	In-direct ingestion of contaminated soil	N/A	Future users	Unlikely	Medium	Low
7	Absorption via direct dermal contact with contaminated soil	N/A	Future users	Unlikely	Mild	Very low

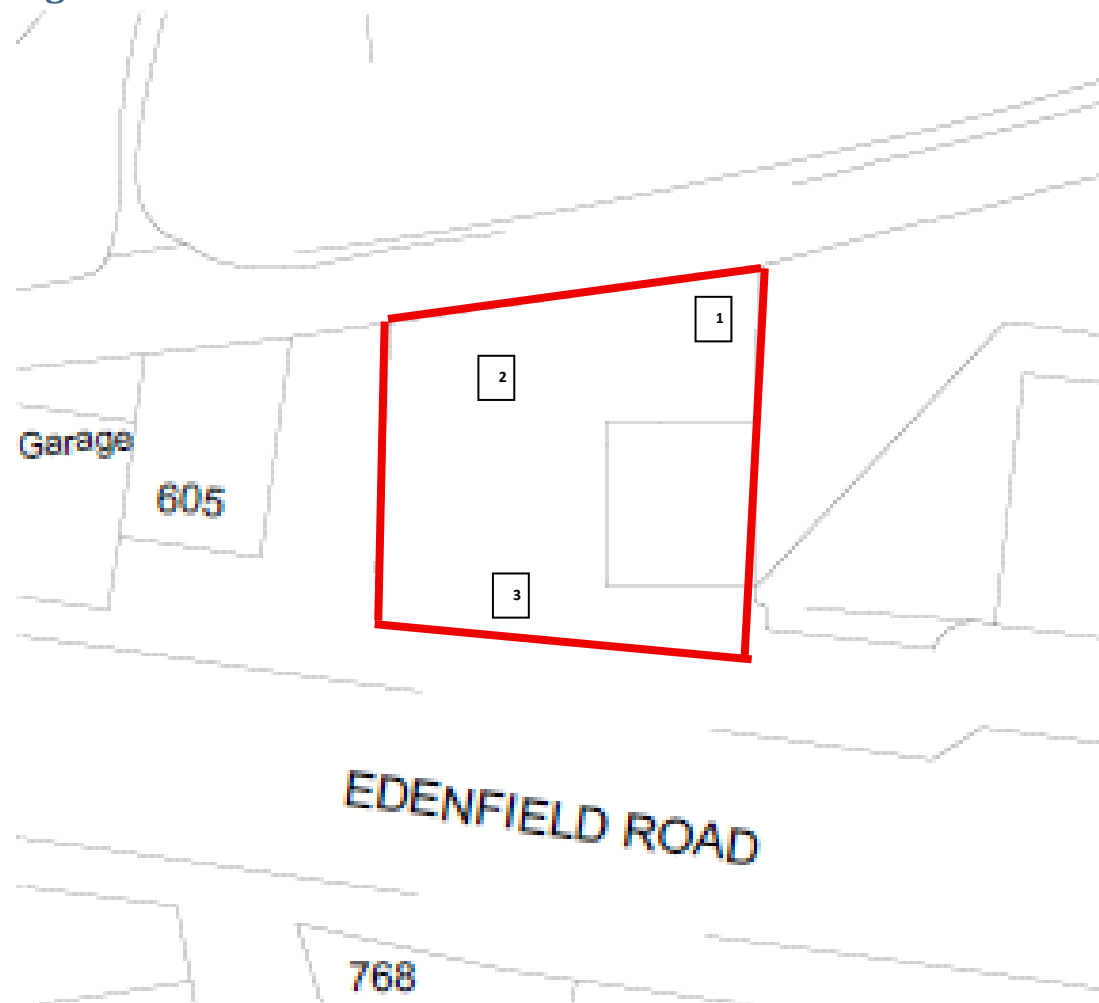


		CONSEQUENCE			
		Severe	Medium	Mild	Minor
PROBABILITY	High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate / Low Risk
	Likely	High Risk	Moderate Risk	Moderate / Low Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate / Low Risk	Low Risk	Very low Risk
	Unlikely	Moderate / Low Risk	Low Risk	Very low Risk	Very low Risk

Figure 1 – Aerial Photograph



Figure 2 - Trail Hole Locations.



Appendix 1 – Soil Sample Results

See separate Document

Lab Number			129132	129133	129134	129135
Sample ID			TP1A	TP2A	TP3A	TP3B
Depth (m)			0.40	0.50	0.35	0.60
Sampling Date			26/08/2026	26/08/2026	26/08/2026	26/08/2026
Test	Method	Units				
Asbestos						
Asbestos Identification	SUBCO N	-	NAD	NAD	NAD	NAD
Metals						
Arsenic	CE264	mg/kg	6.8	4.0	5.4	4.9
Cadmium	CE264	mg/kg	< 1.1	< 1.1	< 1.1	< 1.1
Chromium	CE264	mg/kg	32.0	15.6	18.2	17.8
Copper	CE264	mg/kg	18.2	4.2	6.0	7.1
Lead	CE264	mg/kg	21.3	11.1	28.2	16.5
Mercury	CE264	mg/kg	0.6	< 0.6	< 0.6	< 0.6
Nickel	CE264	mg/kg	28.2	9.4	11.7	15.5
Selenium	CE264	mg/kg	< 3.0	< 3.0	< 3.0	< 3.0
Zinc	CE264	mg/kg	49.0	29.9	42.6	29.9
Combustion						
Moisture Content	CE001	%	11.5	18.5	20.1	14.8
Soil Organic Matter	CE192	%	1.19	1.14	1.36	1.12

Polyaromatic hydrocarbons						
Naphthalene	CE087	mg/kg	< 0.016	< 0.016	< 0.016	< 0.016
Acenaphthylene	CE087	mg/kg	< 0.015	< 0.015	< 0.015	< 0.015
Acenaphthene	CE087	mg/kg	< 0.013	< 0.013	< 0.013	< 0.013
Fluorene	CE087	mg/kg	< 0.013	< 0.013	< 0.013	< 0.013
Phenanthrene	CE087	mg/kg	< 0.014	< 0.014	< 0.014	< 0.014
Anthracene	CE087	mg/kg	< 0.017	< 0.017	< 0.017	0.054
Fluoranthene	CE087	mg/kg	< 0.017	< 0.017	0.028	1.180
Pyrene	CE087	mg/kg	< 0.016	< 0.016	0.032	1.300
Benzo(a)anthracene	CE087	mg/kg	< 0.012	< 0.012	0.013	0.827
Chrysene	CE087	mg/kg	< 0.028	< 0.028	< 0.028	0.689
Benzo(b)fluoranthene	CE087	mg/kg	< 0.020	< 0.020	0.043	1.110
Benzo(k)fluoranthene	CE087	mg/kg	< 0.025	< 0.025	< 0.025	0.453
Benzo(a)pyrene	CE087	mg/kg	< 0.019	< 0.019	0.035	0.894
Indeno(1,2,3-cd)pyrene	CE087	mg/kg	< 0.019	< 0.019	< 0.019	0.751
Dibenzo(a,h)anthracene	CE087	mg/kg	< 0.017	< 0.017	< 0.017	0.114
Benzo(g,h,i)perylene	CE087	mg/kg	< 0.019	< 0.019	< 0.019	0.565
Total PAH(16)	CE087	mg/kg	< 0.280	< 0.280	< 0.280	7.940

Total Petroleum Hydrocarbons						
>C5-C6 Aliphatic (HS_1D_AL)	CE267	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10
>C6-C8 Aliphatic (HS_1D_AL)	CE267	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10
>C8-C10 Aliphatic (HS_1D_AL)	CE267	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10
>C5-C7 Aromatic (HS_1D_AR)	CE267	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010
>C7-C8 Aromatic (HS_1D_AR)	CE267	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010
>C8-C10 Aromatic (HS_1D_AR)	CE267	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010
>C10-C12 Aliphatic (EH_CU_1D_AL)	CE286	mg/kg	< 2.5	< 2.5	< 2.5	4.2
>C12-C16 Aliphatic (EH_CU_1D_AL)	CE286	mg/kg	< 4.3	< 4.3	< 4.3	< 4.3
>C16-C21 Aliphatic (EH_CU_1D_AL)	CE286	mg/kg	< 2.5	2.8	< 2.5	3.3
>C21-C35 Aliphatic (EH_CU_1D_AL)	CE286	mg/kg	< 5.2	8.9	7.8	< 5.2
>C35-C44 Aliphatic (EH_CU_1D_AL)	CE286	mg/kg	4.6	4.1	< 2.6	4.1
>C10-C12 Aromatic (EH_CU_1D_AR)	CE286	mg/kg	< 5.0	< 5.0	< 5.0	< 5.0
>C12-C16 Aromatic (EH_CU_1D_AR)	CE286	mg/kg	< 5.5	< 5.5	< 5.5	< 5.5
>C16-C21 Aromatic (EH_CU_1D_AR)	CE286	mg/kg	< 4.5	< 4.5	< 4.5	< 4.5
>C21-C35 Aromatic (EH_CU_1D_AR)	CE286	mg/kg	< 11.0	< 11.0	< 11.0	< 11.0
>C35-C44 Aromatic (EH_CU_1D_AR)	CE286	mg/kg	< 5.2	< 5.2	< 5.2	< 5.2
>C5-C44 Total (EH_CU+HS_1D_Total)	CE286	mg/kg	< 21.4	< 21.4	< 21.4	< 21.4

 =exceedances



Appendix 2 – Trial pit logs



SAMPLE LOG TP1

PROJECT NUMBER 3315-1		DRILLING DATE 26/08/26		COORDINATES 386314; 414445	
PROJECT NAME EDENFIELD		COMPANY Martin Environmental Solutions		COORD SYS	
CLIENT Building Design Services		OPERATIVE Neil Martin		SURFACE ELEVATION	
ADDRESS 24 Egyptian Drive Rochdale, OL11 3FW.		METHOD Hand Dug		LOGGED BY Neil Martin	
		TOTAL DEPTH 1.0		CHECKED BY	
COMMENTS					
Depth (m)	Samples	Graphic Log	Material Description	Additional Observations	
			ASPHALT	No Groundwater Encountered	
			SANDSTONE		
	TP1A				
0.5					
1			Termination Depth at: 0.95 m		
1.5					

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SAMPLE LOG TP2

PROJECT NUMBER 3315-1 PROJECT NAME EDENFIELD CLIENT Building Design Services ADDRESS 24 Egyptian Drive Rochdale, OL11 3FW.		DRILLING DATE 25/08/26 COMPANY Martin Environmental Solutions OPERATIVE Neil Martin METHOD Hand Dug TOTAL DEPTH 1.0		COORDINATES 386314; 414446 COORD SYS SURFACE ELEVATION LOGGED BY Neil Martin CHECKED BY	
COMMENTS					
Depth (m)	Samples	Graphic Log	Material Description	Additional Observations	
0.5	TP2A		ASPHALT	No Groundwater Encountered	
			CONCRETE		
			SANDSTONE		
1			Termination Depth at: 0.90 m		
1.5					

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SAMPLE LOG TP3

PROJECT NUMBER 3315-1 PROJECT NAME EDENFIELD CLIENT Building Design Services ADDRESS 24 Egyptian Drive Rochdale, OL11 3FW.			DRILLING DATE 26/08/26 COMPANY Martin Environmental Solutions OPERATIVE Neil Martin METHOD Hand Dug TOTAL DEPTH 0.6		COORDINATES 386314; 414446 COORD SYS SURFACE ELEVATION LOGGED BY Neil Martin CHECKED BY	
COMMENTS						
Depth (m)	Samples	Graphic Log	Material Description	Additional Observations		
0.5	TP3A TP3B		SANDSTONE	No Groundwater Encountered		
1			Termination Depth at: 0.60 m			
1.5						

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Appendix 3 – Trial Pit Photographs

	
P1: TP1, Southwest corner surface level	P2: TP1 – face of banking/wall
	
P3: TP1 – height of excavation and asphalt layer	P4: Sampling point, distance from the base
Notes / Comments:	Notes / Comments:



P5: TP2, depth of wall



P6: TP 2 face of banking



P7: TP2 depth of sample



P8: TP2 asphalt and concrete surface layers

Notes / Comments:



P9: TP3 location



P10: TP3A depth of sample A



P11: TP3 excavated material



P12: TP3B depth of second sample



P13: TP3B



P14: TP3 base of excavation.