

**DESK STUDY  
FOR  
UNIT 1, SIMONSIDE INDUSTRIAL ESTATE  
SOUTH SHIELDS  
TYNE & WEAR, NE34 9PD**

**CLIENT:** SOIL INVESTIGATION (EASTERN) LTD

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**K F GEOTECHNICAL**

CONSULTING GEOTECHNICAL  
ENGINEERS

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W. J. C. WALLACE B.Eng (Hons.)

70a Lysons Road  
Aldershot  
Hants  
GU11 3ED

**Email:** [info@kfgeotechnical.co.uk](mailto:info@kfgeotechnical.co.uk)

*Consultant*  
G. L. Martin B.Sc., M.Sc., C.Eng., M.I.C.E.

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**1. INTRODUCTION**

- 1.1 We were instructed by Soil Investigation (Eastern) Limited, acting on behalf of the proposed developers of the site to carry out a desk study for Unit 1, Simonside Industrial Estate South Shields.
- 1.2 The purpose of the desk study is to determine the risk of any contamination on the site and make recommendations as to further investigation and subsequent remediation. The desk study is related to the redevelopment of the site from an existing car wash to a drive through fast food outlet with associated car parking and small areas of landscaping.

**2. THE SITE**

- 2.1 Simonside Industrial Estate lies to the south and the west of South Shields centre. It occupies a corner plot with Newcastle Road to the south and Shaftsbury Avenue to the east and it lies immediately adjacent to an existing McDonalds restaurant to the southwest. Further to the southwest from the McDonalds restaurant is a Tesco Superstore.
- 2.2 Access to the site is from Towers Place to the rear and the site is currently clad in tarmac with a small grass verge around three sides. The car wash itself lies on the northeast boundary.
- 2.3 The natural slope of the ground is downwards very slightly from south to the north but the site is basically level. There is an area of bush and shrubs marking the south east boundary and there are a few small silver birch trees along the northeast boundary towards the northern end.
- 2.4 The Geological Survey Sheet indicates that the naturally occurring subsoil is Pelow Clay which overlies the bedrock consisting of the Middle Pennine Coal Measures. This consists of mudstone, siltstone and sandstone.

**3. DESK STUDY**

- 3.1 We carried out an internet based desk study which has been based on a Sitecheck report obtained by the client and a copy of this is attached.
- 3.2 A Sitecheck report does not specifically include the historical maps but does access the maps for potentially contaminated historical uses, infill land and tanks, energy facilities and other areas of potential infill. These maps extend back to 1868 leading up to the present day. This study has revealed no tanks, pits or ponds having been on the site itself and the nearest electrical substation is on the opposite side of Shaftsbury Road approximately 60m from the site. There is a potential area of made ground at the southeast corner of the site where there appears to have been some terracing to provide a level hardstanding.
- 3.3 Historical potentially contaminative land uses only indicate a factory or works of unspecified use on the site from the 1992 map. All the other activity is at least 100m from the site consisting of brick and tile manufacture, road haulage businesses and the railway.
- 3.4 **Environmental Data**
- 3.4.1 The detailed sheets are appended at the rear of this report but the salient points are as follows.
- 3.4.2 There is no water feature within 250m of the site.
- 3.4.3 There are no discharge consents, water abstractions, local authority pollution prevention and controls within 500m of the site.
- 3.4.4 The site lies within a minor aquifer.
- 3.4.5 The site does lie within a coal mining affected area although there are no records of any coal mining or subsidence issues within the immediate vicinity since 1862.

3.4.6 There is a very low potential for landslide or collapsible ground and a low potential for shrinking or swelling clay.

3.4.7 The site does not lie within a radon affected area and no radon protective measures are required for the construction of new buildings.

3.4.8 There are no landfill sites within 250m of the site although there is a licensed waste management facility approximately 100m to 150m to the east.

3.4.9 The contemporary trade directory has numerous entries due to the site being within an industrial estate. Most, if not all of these, are light industrial activities. The nearest is at the previous Solar and Wind Applications Ltd which occupied the site prior to it being changed to a car wash and fast food outlet.

### **3.5 Risk Assessment and Conceptual Model**

3.5.1 The desk study indicates that this site was largely undeveloped before being occupied by a warehouse after 1967. A light industrial unit which is presumably the solar and wind power business is shown from 2006 and the car wash occupied the site at some point after that.

3.5.2 The proposed development is for a drive-through fast food outlet which still constitutes a commercial end use. There will be no change to the verges as they are now are and the site will still be largely hard covered for car parking but with a re-sited building at the centre of the site as opposed to close to one of the boundaries.

3.5.3 Following the source, pathway receptor model, there will be no risk to end users as there is virtually no likelihood of contact by this group with the soil as this is only feasible within the grass verges and any such contact in these areas would be short lived.

3.5.4 Based on the desk study the most likely source of any contamination would be from fill material brought in to make up levels across the site and this is a potential source of heavy metals and PAH.

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3.5.5 There has been car washing activities and car parking on the site which would give rise to the potential for fuel spillages. The site has been hard covered which would prevent most of these spillages reaching the soil but there is always the possibility of runoff to the grass verges and via leaking drains and gullies. This is a potential source of heavy metals and PAH.

3.5.6 Considering the past uses of the site, the underlying soil and the lack of any proximity of landfill sites leading to the risk of soil gas as very low.

3.5.7 We give below a graphical representation of our conceptual model.

**Table 1 – Conceptual Model**

<b>Potential Contamination Source</b>	<b>Potential Contaminands</b>	<b>Potential Pathways</b>	<b>Likely Receptors</b>
Fill material	<ul style="list-style-type: none"> <li>• Heavy metals</li> <li>• PAH</li> </ul>	<ul style="list-style-type: none"> <li>• Digestion</li> <li>• Ingestion</li> <li>• Dermal contact</li> </ul>	<ul style="list-style-type: none"> <li>• End users</li> <li>• Groundworkers</li> <li>• Services</li> </ul>
Fuel Spillages	<ul style="list-style-type: none"> <li>• Heavy metals</li> <li>• PAH</li> <li>• TPH</li> <li>• Vapours</li> </ul>	<ul style="list-style-type: none"> <li>• Ingestion</li> <li>• Inhalation</li> <li>• Dermal contact</li> </ul>	<ul style="list-style-type: none"> <li>• End users</li> <li>• Groundworkers</li> <li>• Services</li> </ul>

3.5.8 The greatest at-risk group would be staff using the site and customers, in particular small children, that might come in contact with the soil. Considering the proposed development the risk of any short, medium or long term contact with the soil by any of these groups is virtually negligible. There is a potential of contact by maintenance or landscape personnel but any such contact will be short lived and harm can be prevented by the appropriate use of personal protective equipment and a sensible hygiene regime.

3.5.9 The site lies within a minor aquifer but there is no effective change of use and therefore no change of risk to the aquifer from the activities on the site. The new building will be on shallow foundations with no new pathway to the aquifer and we would consider the risk as negligible.

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3.5.10 For the reasons given above there is a negligible risk of any soil gas.

3.5.11 In summary, we would consider that the risk of any harm to end users of this site from its continuing commercial end use is negligible and we would not envisage there to be a need for any remediation on the site. However, if during the course of the work, contaminated soil is encountered evidenced either by sight or smell, then this material should be set aside for further testing and evaluation either by ourselves or representatives of the local authority etc.



**W J C Wallace**