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5th July 2024

Report: S1761-2

FI Construction Ltd,
Canal Mill,
Botany Brow,
Chorley,
PR6 9AF

Dear Sirs,

Re: **Kingmoor, Wrexham Industrial Estate**

Introduction

FI Real Estate Management intend to develop their Kingmoor site in the Wrexham Industrial Estate by constructing three industrial units and associated infrastructure in the configuration shown on Figure 1. A condition of the Planning Approval is that a contamination survey must be carried out to the satisfaction of the Planning Authority and SP Associates have been appointed to carry out that study. This report details the work carried out and concludes with an assessment of risk associated with soil contamination. This study is supplemental to a Phase I Assessment carried out in September 2021 by SP Associates (Report S1761) and that report should be referenced for details of land use history and environmental data.

The Site and Site History

The majority of the site has remained in agricultural use or has remained fallow since the publication of the first Ordnance Survey map in 1873. A small area in the south-eastern corner of the site was developed in the early 1970s with some small structures associated with a larger factory present to the south. It is possible that a few tanks were located on the concrete slab in this area.

At the time of the current study the small industrial buildings and possible tanks previously present in the south-eastern area of the site had long since been demolished and removed leaving only the remnants of a concrete ground floor slab. There were no olfactory or visible signs of contamination on the slab or immediately around it. The remaining site area comprises a mixture of hedgerows, ponds, grassland and scrub.

Site Work

The site work comprised a trial pitting exercise carried out on the 15th and 20th June 2024 using a tracked excavator. A total of 23 trial pits were sunk in the locations shown on Figure 2 with each being taken to a depth of 2m into natural soil. The work was supervised by a qualified Geotechnical Engineer who logged the soil arisings at the pit side and also collected representative samples of all strata encountered. The samples were placed in amber glass jars which were then stored in a cool box for transportation to the laboratories of

Envirolab. Trial pits 1 and 2 were taken through the concrete slab located in the site's southern corner with the remainder positioned so as to give general site coverage.

Geology and Ground Conditions

The site is underlain by the Salop Formation of Permian and Carboniferous age which in turn is overlain with Devensian Glacial Till.

Trial pits 1 and 2 encountered a degraded concrete slab some 0.2m in thickness underlain by sandy hardcore gravel to a depth of about 0.4m. The hardcore was underlain by stiff, gravelly glacial clay.

The remainder of the trial pits encountered only natural soils consisting of soft, dark brown, gravelly clay with roots (Topsoil) underlain by stiff, brown and grey, gravelly glacial clay. No pockets of Made Ground were encountered.

Trial pit logs are enclosed within Appendix A.

Laboratory Testing

Although the site has predominantly remained as agricultural land or has remained fallow it is bounded on two sides by industrial development which could potentially have resulted in some contaminant impact to soil. As a consequence of this samples from each of the trial pits were subject to the following suite of tests for potential contaminants of concern:

Asbestos, phenols, metals, 16US EPA PAHS, TPH (Aromatic/Aliphatic), BTEX and MTBE.

Test results are enclosed within Appendix B.

Risk Screening

Human Site Occupiers and Construction Workers - In terms of risk to human health, the chemical testing data enclosed within Appendix B have been compared to the Tier 1 chemical screening criteria for an industrial/commercial land use as shown on Table 1. Reference to that table shows that none of the potential contaminants of concern that constitute the test suite are present at concentrations that exceed their chemical acceptance criteria values. The risk to human health at the site resulting from the potential presence of contaminants of concern within the near surface soils is therefore considered to be very low.

Infrastructure - Measured water soluble sulphate values within the near surface soil samples range from <0.01g/l to 0.2g/l whilst pH values lie in the range 6.61 – 7.30. These values represent benign conditions with respect to sulphate and acid attack on buried concrete and based upon these measured values the risk to buried structures at the site is considered to be very low.

None- barrier buried potable water supply pipework can be attacked by acids and they can be penetrated by hydrocarbons and other substances such as phenols which can have the effect of tainting water supplies. The concentrations of these substances at this site are such that the risk to non-barrier pipework is considered to be very low.

Controlled Waters - A low risk to controlled waters is considered to be appropriate based upon the findings of the ground investigation. The low risk category has been arrived at on the basis that it is unlikely that any significant harm would occur, even in the very long term, due to the presence of the predominantly low permeability formation that has been encountered within the trial pits. It is also unlikely that any significant contamination would migrate to sensitive surface water receptors, and the Secondary A Aquifer is not considered to be overly sensitive.

Proposed Remedial Measures

The risk screening exercise has shown that the risk to human health and sensitive receptors at the site from potential contaminants of concern within the soil is low and consequently no specific soil remedial measures are proposed. However, as a precaution it is recommended that construction workers wear appropriate PPE and that a protocol is put in place for any currently unidentified soil contaminants hat may be revealed by construction activities.

Faithfully

Steven Peters B.Sc., M.Sc., C.Eng.

Director