

VT/vt/2270020/8616

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13th February 2020

REMEDIATION METHOD STATEMENT
Sonalyt, Unit 4, Baglan Industrial Park, Port Talbot SA12 7DJ

1. In relation to the proposed development of the above site, it has been necessary to investigate the ground conditions to satisfy standard environmental planning conditions. The proposed development comprises extensions to the existing industrial unit to the southeast and northeast with structures similar to the existing portal frame warehouse type construction.
2. The site is situated to the west of Ffordd Baglan, north east of Heol Aberavon, within the Baglan Industrial Park and may be located by Grid Reference SS 753 907.
3. The following reports have previously been undertaken in relation to the proposed development and provided for review:
 - Preliminary Investigation, reference 70545-1, dated July 2019.
 - Report on Ground Investigation, reference 70545-2, dated August 2019.
4. The above reports should be submitted to the Local Authority in relation to the current planning application.
5. Published geological maps indicate the site to be underlain by Marine or Estuarine Alluvium overlying Lower Pennant Measures.
6. The site is situated above a Secondary Undifferentiated aquifer relating to the variably permeable superficial deposits of Alluvium, over a Secondary A aquifer relating to the bedrock. The site is not located within a groundwater Source Protection Zone (SPZ). The nearest surface water is an ornamental pond in the grounds of the hospital, located approximately 213m to the south of the site. There are no licensed groundwater or surface water abstractions recorded within 1km of the site.

7. The site was vacant from before 1876 and the existing industrial unit was built to the west of the site between 1983 and 1988, whilst the site remained vacant being occupied by grassland and trees/bushes along its eastern and southern perimeters.
8. The intrusive investigation comprised two cable percussion boreholes progressed to depths of 18.15m and 16.80m below ground level (bgl), and five trial pits excavated by mechanical digger to depths of between 1.20m and 1.50mbgl. Gas and groundwater monitoring standpipes were installed in the two boreholes with response zones at between 1.00m and 3.00mbgl.
9. Made Ground was encountered to the full depths of the trial pits at between 1.20m and 1.50mbgl and to depths of 3.00m and 3.50mbgl in the boreholes, underlain by Alluvium comprising soft and firm grey silty clay and/or peat to depths of 13.00m and 13.50m, where very dense sand and gravel with occasional cobbles was encountered to the full depth of the boreholes. On return monitoring visits, groundwater was recorded at depths of between 2.56m and 2.80mbgl in the boreholes.
10. Five soil samples, all of which were representative of the Made Ground, were analysed for a suite of potential contaminants based on the conceptual site model produced in the preliminary investigation, including metals, cyanide, phenols, speciated PAH, speciated and basic carbon banded TPH and asbestos (visual screen). Leachate analysis was also conducted on two of the samples of Made Ground.
11. The results of the soil analyses, with the exception of lead, were compared to published Suitable 4 Use Levels (S4ULs) determined by LQM and CIEH. As the CLEA SGV for lead was withdrawn in 2014, the Category 4 Screening Levels (C4SL) produced by DEFRA was adopted. The Generic Assessment Criteria (GAC) for a commercial/industrial end use was selected and all of the results were below the adopted GAC. Therefore, no pollutant linkages were determined with regard to human health.
12. On the basis of the results of the soil and leachate analyses, and given the distances from the site to the closest possible receptors, the site was not considered to represent a significant risk of significant harm to controlled waters. Furthermore, as the site is proposed for continued commercial use with extensive building and hard cover, this will significantly limit the potential for infiltration and therefore the leaching of contaminants within the Made Ground to the underlying aquifer. Consequently, no further assessment was deemed necessary with regard to controlled waters.
13. Gas monitoring identified methane slightly above the critical concentration of 1%v/v of in BH01, which would indicate the site to be Characteristic Situation (CS) 2, although the recorded concentrations of carbon dioxide, flow rates and calculated Gas Screening Value (GSV) indicated CS 1. On the basis of these results, gas protection measures could be required for the proposed extensions, subject to the requirements of the Local Authority Building Control. The site is not located within an area affected by Radon gas.
14. Possible risks to plastic water supply pipes were identified from concentrations of TPH identified within the Made Ground. Consequently, barrier pipe or selection of an alternative material to plastic is likely to be required for any new potable services proposed on the site, subject to the requirements of the Local Water Supply Company.
15. None of the samples tested from the site were indicated likely to be classified as hazardous for waste disposal.
16. Provided that the Local Authority is satisfied with the investigations and reports undertaken to date, the following is recommended to address the pollutant linkages identified at the site.

Remediation Scheme

Aim

To remediate the site in accordance with the guidance provided in relation to Part IIA of the Environmental Protection Act 1990 by:

- (i) Removing or treating the pollutant;
- (ii) Breaking or removing the pathway; or
- (iii) Protecting or removing the receptor(s).

Method

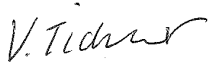
The following strategy is proposed to address the potential pollutant linkages identified at the site in relation to the proposed development. It should be noted that no soil contamination was identified that would represent a direct risk to human health based on the proposed commercial/industrial development and therefore, no remediation of the actual ground conditions is proposed.

Step	Action
1.	In accordance with standard duty of care, a watching brief will be undertaken by the developer, comprising the visual and olfactory assessment of all exposed soils during site clearance and excavations. Should any previously unidentified contamination or deleterious materials be encountered during ground works, further assessment and remedial action will be undertaken as appropriate. Where contamination is identified or suspected, consultation will be undertaken with a suitably experienced engineer to decide the most appropriate action, which may include: • The removal from site and disposal to a suitably licensed tip of all material suspected of being contaminated. The material would need to be classified prior to disposal. • Short-term storage of the suspected material while undertaking verification testing for potential contamination. The material would need to be stored in a contained area to ensure that contamination does not migrate and affect other areas of the site. Depending upon the amounts of material under consideration, this could be either a skip or a lined area. • Following removal of any suspected or contaminated soil, validation sampling will be undertaken around the base and sides of any excavation to ensure no contamination is present in the remaining soils.
2.	In accordance with standard duty of care, all waste material will be disposed of to an appropriately licensed site. The chemical testing and assessments previously carried out may be used to aid classification of any soil that is to be disposed of. Copies of the waste consignment documentation will be retained by the developer.
3.	The Local Authority Building Control will be consulted in relation to the slightly elevated concentrations of methane identified at the site to confirm whether any gas protective measures will need to be included within the proposed design. Any such measures, if required, should be approved and validated directly by the Local Authority Building Control.
4.	The Local Water Supply Company will be consulted for confirmation of any requirements for new potable water supply services, if relevant. Evidence that any such requirements have been adhered to may be requested by the Local Water Supply Company.

As no remediation of the ground conditions is required, provided that no evidence of unforeseen contamination is encountered during the development, a formal validation report should not be required. Approvals from the Local Authority Building Control and Local Water Supply Company should be sought independently by the developer.

We trust this is satisfactory for your requirements.

Yours faithfully



Victoria Tickner
Principal Environmental Engineer