Soil Contamination Analysis

Under the EU Waste Framework Directive any removal of soil from a site implies that 'your intention is to discard material' and the soil becomes classified as a waste. Even if someone wants that material, it remains classified as a waste.

Part of the waste duty of care for a waste producer is the correct classification of that waste. Identity of any hazardous properties will need to be considered in order that the waste can be classified. To establish if the waste has any hazardous properties, it must be subjected to a robust chemical analysis. A waste can only be classified as either Hazardous or Non-Hazardous.

HWM makes the decision of whether to accept the waste at our treatment facility depending on the EWC code that the waste has been classified with. Our treatment facility has a list of permitted EWC codes and these can be found on the Environment Agency permit. (Download available on our website)

In order to make an accurate classification of waste soil HWM require, as the waste disposal point, that the minimum requirements for chemical testing of soil will be as follows:

1. As, B (water soluble), Cd, Cr (III), Cr (VI), Cu, Hg (inorganic), Ni, Pb, Se, V, Zn
2. EPA 16 Polycyclic Aromatic Hydrocarbons (PAH, by GC-MS)
3. Total petroleum hydrocarbons by GC-FID comprising aliphatic /aromatic split and the following carbon banding:

   Aliphatic TPH >C5 - C6, TPH >C6 - C8, TPH >C8 - C10, TPH >C10 - C12, TPH >C12 - C16, TPH >C16 - C21, TPH >C21 - C35, Aliphatic TPH (C5 - C35).

   Aromatic TPH >C5 - C7, TPH >C7 - C8, TPH >C8 - C10, TPH >C10 - C12, TPH >C12 - C16, TPH >C16 - C21, TPH >C21 - C35, Aromatic TPH (C5 - C35)
4. Total TPH C6-C40
5. pH
6. BTEX & MTBE
7. Full asbestos screen
8. Total sulphate
9. Moisture content.
10. Total Cyanide
11. Total Phenols

*Some discretion of the testing may be allowed in certain cases, depending on whether there has been a Site Investigation Report (SIR) submitted to HWM. The SIR gives important information to the assessor regarding the previous use of the site. From this, a better interpretation of the chemical data can be made, in some cases, leading to reduced costs for the disposal of soil.

HWM are regularly audited by the EA and other companies to show compliance in accepting waste into our treatment facility. Therefore, it is imperative that we ensure the correct classification of all waste that we receive.

In our experience, there has been an over-reliance on the use of Waste Acceptance Criteria (WAC) testing when it comes to the disposal of waste soils generated by development. A commonly held misconception is that the result of a WAC test can be used to obtain an accurate waste classification. A WAC test can not be used to classify waste, it is purely used for the determination of how a waste will behave once buried in a landfill. This is carried out primarily through analysis of the leachate derived from the waste during specific laboratory testing.