



## **Waste Management**

### *Landfill Site Selection & Planning*

#### **Jane Van Hool**

Land fill sites don't get built just anywhere, a whole host of different experts have to get involved in selecting the best possible location. Geologists, hydrogeologists, hydrologists, chemists, soil scientists, ecologists, traffic consultants.

#### **Lesley Heasman**

A good site from an environmental point of view, is something that has absolutely the right geology and hydrogeology, and this site is an excellent example of a site where there isn't very much ground water that's usable, there's very low volumes of ground water, therefore the environmental impact of the site is limited. An unsuitable site, would be one that's in the middle of nowhere, one that's in a very sensitive location, so say something that's located right on top of a major aquifer, where that aquifer is used for water supply perhaps close by.

#### **Jane Van Hool:**

One of the main risks to consider, is pollution from leachates. If the underlying rock is too porous, and there are underground streams or aquifers beneath the site, the leachate could trickle down and eventually enter the ground water, endangering drinking water supplies, and polluting local water courses. One way of minimising the risk from leachates, is to engineer a liner for the site with a high degree of impermeability. Modern liners, are often synthetic, but with luck, the site chosen will have its own source of highly impermeable clay.

#### **Lesley Heasman**

Got to make sure you use the right quality of clay when you're making an engineered liner. This material here, is still quite shaley, you can see how it splits apart, you can see the different lines of the structure that's there. There's not very weathered at all, and that obviously wouldn't compact very well. If you look at this material over here, you can see that it's beginning to break down into a more powdery structure. But again, even if you compress that, it doesn't stick together. Even more weathered material that we've got down here, is much more sticky, much more broken down, and you can begin to mould it, and form a plastic clay.