



## **Waste Management**

### *Landfill Closure & After-care*

#### **Jane Van Hool**

Once a land fill cell has been filled up, it's cover by a cap of clay, or a geo membrane. This keeps out rain water, thereby reducing the amount of leachate that will form, and keeps in any land fill gas that might collect. The cap is then covered with soil and landscaped, but it doesn't end there.

#### **Lesley Heasman**

Well once a land fill site's closed, it's really only the beginning of another phase in the management of the site, even when waste isn't coming in any more and the site has been fully restored, there is a long term plan of monitoring and maintenance, not just the bits that you can see, but also all the control systems that still operate, and are still present underground. That's gas control, leachate control, ground water and gas monitoring, and also maintaining the quality of the restored surface of the site.

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

With proper aftercare, monitoring and record keeping, land fill sites can be turned over to agriculture, forest or community amenities. The eventual fate of the site will have been decided well before completion, based on the original site plans and licence.

#### **Paul Tomes,**

Operations Director, Hanson Waste Management

Currently the land fill has now progressed down to about here, and then, this part of the quarry from here to here, has enough capacity for about another fifty or sixty years land filling. But when the thing is fully restored in about fifty or sixty years time, the thing will look completely different, and this model quite conveniently, we can remove this, and that's what it'll look like in the future. This here, this section is actually the quarry in the land fill site, which will be restored to basically a golf course in this area, an event arena here which will really be for football, cricket Etc. and the areas across here will be for industrial uses, for either the use of the company or local business and industry.

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

Such a redevelopment has already been carried out by Grundens at another of their old sites. Getting from a model to reality poses a number of technical challenges.

#### **Ron Scammell,**

Golf Course Constructor, Grundon Waste Ltd

Well this is Thorny Park golf course, which ten years ago was a land fill site, which was nearing its completion. After actually going the clay capping, and inserting the gas wells for the gas collection system, the restoration of these subsoils and top soils was carried out. Behind me you see what is known in the industry as a gas flair or burner. The land fill when it's completed after restoration, we put in a series of gas wells, which are connected with pipe work, and end up at the gas flair to burn off any methane gas, to stop migration from the site. We actually monitor the site on a weekly basis for land fill gas migration. and leachate monitoring is also done on a monthly basis, and ground water monitoring is done on a monthly basis. The environment agency do an independent monitoring their own, to keep a check on what we actually monitor as well.

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

The EU directive requirement to reduce biodegradable waste, should speed up the process of restoring land to a useful purpose once it's been closed. Since less degradation will take place, and less methane will be produced.