



AQUAflott – Controlled landfill moistening for an accelerated in situ stabilization and elution

Water deficiency and drying effects in landfills may lead to an inhibition of the biodegradation processes and a reduction of landfill gas production. Controlled moistening allows an accelerated in situ stabilization. This way, the emission and risk potential is significantly and effectively reduced. By increasing the amount of controlled water addition, elution processes will be enhanced.

Targets

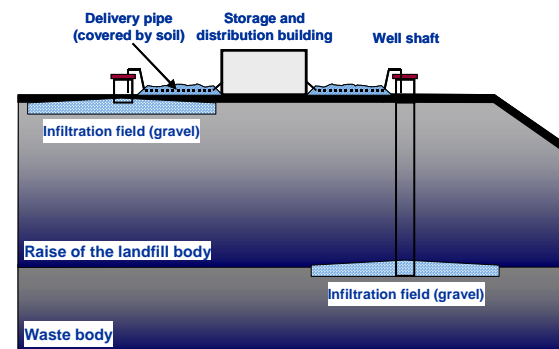
- Controlled moistening of landfill sections with biologically available waste
- Accelerated in situ stabilization by means of optimized milieu conditions
- Reduced long-term emissions and risk potential
- Reduced costs for aftercare measures
- Increased gas production
- Enhanced reduction of the emission potential by means of increased water addition

Experience, concepts and technical implementation

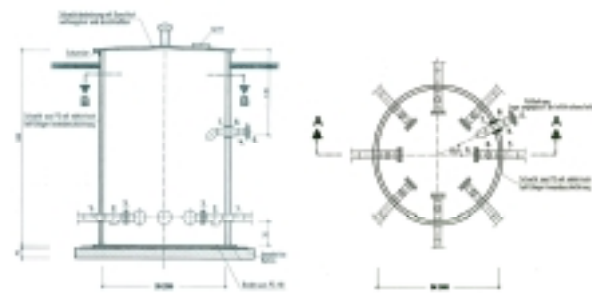
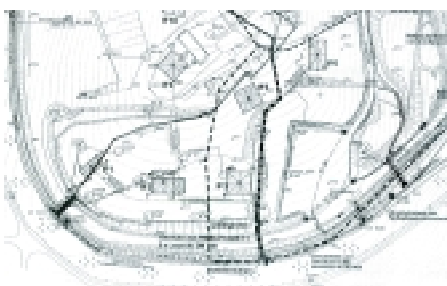
- Controlled landfill moistening via technical irrigation devices
- Program for the monitoring of the landfill leachate and landfill gas balance
- Prolonged economic use of the gas utilization systems
- Integrated, robust horizontal infiltration devices in the temporary or final surface sealing
- Utilisation of pretreated leachate

Projects / references

- Technical concept for the recirculation of landfill leachate to the landfill body of the Hängelsberge landfill (municipal waste management company, state capital Magdeburg; 2001-2003)
- Technical concept for controlled moistening / irrigation of landfill sections, approval planning for industrial-scale infiltration tests on the Leppe central landfill for the construction of an optimized infiltration system, and expert monitoring of the infiltration (BAV Leppe, Engelskirchen; 2000-2004)
- Examination of the influence of leachate recirculation on the gas balance of the Dibbersen landfill (district of Harburg, Winsen/Luhe; 1997-2004)
- Hupe, K., Heyer, K.-U., Stegmann, R. (2003): Water infiltration for enhanced in situ stabilization. In: Proceedings Sardinia 2003, CISA, Cagliari, Italy, Chapter 572.
- Further information will be available under <http://www.ifas-hamburg.de>



Controlled landfill moistening with AQUAflott: technical implementation on the BAV Leppe central landfill, Germany



Tech. drawing by pbo Ingenieurgesellschaft mbH, Aachen